

2-10-77 1000

Sixth Legislature State of Arizona

Joint Committee on Investigation
of Condition and Affairs
of Lyman Dam Project

REPORT

THE ARIZONA PRINTERS, INC., PHOENIX

EXHIBIT
RELEASED

3403
HISTORICAL SOCIETY

79221

251

The following report from the Special Committee on Lyman Dam was read:

INDEX.

- EXHIBIT A—
Correspondence from Governor George W. P. Hunt to Sixth Legislature and the Lyman Dam Investigating Committee Report.
- EXHIBIT B—
Map.
- EXHIBIT C—
Officials connected with loans and recommendattions.
- EXHIBIT D—
Summary of Typical Loan File.
- EXHIBIT E—
Funds from which the State Loans were obtained.
- EXHIBIT F—
Ownership and cultivation of lands.
- EXHIBIT G—
Financial.
- EXHIBIT H—
Engineer's Report.
- EXHIBIT I—
Statements of Officials of Lyman Land Co.
- EXHIBIT J—
Available records of Minutes of Loan Boards pertaining to Lyman Dam.

QINTON, CODE AND HILL

Consulting Engineers
1106-10 W. I. Hollongsworth Bldg.
Los Angeles, California.

January 18, 1923.

The Honorable Geo. W. P. Hunt,
Governor of the State of Arizona,
Phoenix, Arizona.

My Dear Governor:—

Before work was started on the St. Johns dam on the Little Colorado River, we were asked to pass on the plans which had been prepared by Mr. Hinderlider and to settle a dispute on some of the details between Mr. Hinderlider and Mr. Frank Asplind. The latter took but a very few minutes, but we spent quite a little time with Mr. Hinderlider going over the plans and suggested a few improvements which were accepted by Mr. Hinderlider and some that he advocated were incorporated in the final design.

This report was made and forwarded to Mr. D. F. Johnson, Treasurer of the State Loan Board on November 16, 1918.

Some time later, a year or more possibly, we received a wire one day asking whether Mr. Sellew could build the dam and we wired back to the following effect:

Feb. 22, 1919.

"Mr. H. F. Ross
State Treasurer
Phoenix, Arizona.

Sellew has had wide engineering experience and successfully accomplished difficult engineering work at Yuma. Believe he will be satisfactory.

LOUIS C. HILL."

It was understood from the wire from the State of Arizona that Mr. Sellew's job was to build the dam, not to design it.

The dam was not built according to the original plans nor to one that we have ever considered safe in that location. After the dam was practically completed we were again asked to make a report on it and this time Mr. Quinton made a personal visit to the dam site and we made further recommendations with a view to making the dam as constructed as safe as possible. We understand that these recommendations have not been carried out.

One of them at least is vitally important. We recommended that at least the upper portion of the dam be changed somewhat so as to increase the height. This could have been done, and can still be done. The object in increasing its height is not to store more water behind it but to permit a greater depth of flow through the spillway before the water overtops the dam. ^{As you} ^{know} ^{the} ^{dam} ^{is} ^{not} ^{designed} ^{to} ^{store} ^{water} ^{behind} ^{it} ^{but} ^{to} ^{permit} ^a ^{greater} ^{depth} ^{of} ^{flow} ^{through} ^{the} ^{spillway} ^{before} ^{the} ^{water} ^{overtops} ^{the} ^{dam.} ^{As} ^{you} ^{know} ^{the} ^{dam} ^{is} ^{not} ^{designed} ^{to} ^{store} ^{water} ^{behind} ^{it} ^{but} ^{to} ^{permit} ^a ^{greater} ^{depth} ^{of} ^{flow} ^{through} ^{the} ^{spillway} ^{before} ^{the} ^{water} ^{overtops} ^{the} ^{dam.} tops this dam, and however small an amount flows, the almost immediate destruction of the dam will follow with the consequent loss of life and great damage to property.

A masonry dam, such as the Roosevelt Dam, can overflow in case the spillway capacity is not sufficient without doing any damage to the structure, but an earth dam or a rockfill dam is doomed to destruction as soon as water begins to pass over the top in any quantity.

We are not at all sure of our statement that the dam has not been raised to the elevation which we suggested and that the other recommendations have not been carried out, but we have been so informed and we do not think that it is fair to the State of Arizona to have this information and not forward it to you.

Hoping for your success during your administration
I am

Very truly yours

Signed:

LOUIS C. HILL.

REPORT OF THE JOINT COMMITTEE OF INVESTIGATION OF THE CONDITION AND AFFAIRS OF THE LYMAN DAM PROJECT.

HISTORY OF INVESTIGATION.

January 18th, 1923, L. C. Hill of the firm of Quinton, Code & Hill, Consulting Engineers of Los Angeles, wrote the Hon. George W. P. Hunt, Governor of the State of Arizona, suggesting the vital importance of certain conditions relative to the Lyman Dam, near St. Johns, Arizona.

January 21st, 1923, the Governor addressed the above information to the Sixth Legislature.

January 23rd, 1923, the Senate appointed Pierce, Claypool and Sims, and the House appointed Rogers, Orme and Householder to make up members of a Joint Committee to investigate the Lyman Dam Project.

Pursuant to such instructions, this Joint Committee examined the correspondence, reports, maps, etc., in the files of the Governor's Office, the office of the State Treasurer, and also in the State Highway Department. We also interviewed the officers of the Lyman Land Company and other owners of the property under this project, and obtained statements from them. We further corresponded with interested parties and County officials of Apache County. The information available was most voluminous—Certain facts being well substantiated and others with little, if any, information upon them.

It was found absolutely necessary to make a personal examination of the project in conjunction with a man thoroughly qualified to pass upon the construction, operation, and maintenance of such project. Consequently, three members of your Joint Investigating Committee, Messrs. Pierce, Rogers and Householder, together with John J. Granville of the Southwestern Engineering Company and C. C. Small, Chief Location Engineer of the State Highway Department, made an examination of this project. Our conclusions follow:

The financing of this project by the State of Arizona was not consistent with the known standards of good business policy, from either an engineering or legal view point. The loaning of the Permanent School Fund, the University Land Fund and University Timber Fund, which are trust funds under the Enabling Act and Constitution of the State of Arizona, in so reckless a manner constitutes a breach of trust not only to the United States Government but also affects the education of the children of this State.

The correct interpretation and enforcement of the Constitution of Arizona was evaded by the officers of the Land Companies as well as by the highest officials of the State, holding office from the years 1918 to 1922, inclusive.

The most serious and costly mistake was in ignoring the original plans and specifications of the firm of Consulting Engineers, Quinton, Code & Hill. These plans were

very carefully worked out by recognized experts. This change took place in March, 1919.

The Lyman Dam was not built according to the original and correct plans and specifications, nor to one that we consider safe under conditions existing in that locality. The construction of the Dam is a condition which cannot be changed but must be met.

Given an assured supply of water for irrigation, 10,000 acres, or two thirds of the land under this project, can be farmed and made to maintain the project, and also to repay a portion of the State's loans thereon.

It is questionable if those lands (7000 Acres) under the "Long Hollow" canal will come under irrigation within the next ten (10) years—the topography of the lands, the length of the canal and the necessarily very high maintenance cost of the canal will preclude any profitable efforts to put water upon these lands within that period.

This, therefore, leaves about 8,000 Acres of lands under State loans to repay the loans and interest, and about 1,000 acres not under State mortgage which receive the benefits from this project, but are under no obligation to the State.

These lands are 68 miles from the railroad with a fifteen-dollar-a-ton rate to such railroad point and are then still a "long haul" to centers of population, consequently the success of this project must depend:

- 1—Upon placing available acreage under cultivation, and
- 2—Upon marketing of these crops "On the hoof" and as dairy products.

The present management of the project is by a Board of Directors of the Lyman Water Company, (J. F. Church of Denver being President). This Company owns about 60% of the land under the entire project and 40% per cent of the land under the main canal. They have a local Superintendent, J. Fred Johnson, in charge of the work.

The Northern Arizona Land Company, (Fred T. Colter and others) own about 1,700 acres.

Individual holdings amount to about 5,000 acres.

These three divisions of land owners apparently operate with entire co-operation.

The State loans made upon the lands are as follows:

January 9th, 1918—\$10.00 per acre or....	\$123,040.00
April 25th, 1919—\$10.00 per acre or....	126,930.00
Dec. 15th, 1919—\$25.00 per acre or....	379,702.66

Total of	629,672.66
Total of interest due Dec. 31st, 1922.....	84,989.10

Total indebtedness to State.....	714,661.76
----------------------------------	------------

These funds were derived from the following sources:

First loan Lyman Dam made from Permanent School Fund.....	123,040.00
Second loan Lyman Dam made from Permanent School fund (Total includes first loan	
Permanent School Fund.....	\$189,970.00—
University Timber	60,000.00— 249,970.00
<hr/>	
Third loan Lyman Dam	
Permanent School Fund....	495,125.66—
University Land Fund.....	20,640.00—
University Timber Fund....	113,907.00— 629,672.66

(Total includes first and second loan.)

The assessed valuation of these lands, upon which \$714,661.76 is now due the State, is \$155,400.00.

The assessed valuation of Apache County lands under irrigation DECREASED from that of \$253,105.00 in 1918 to \$246,811.00 in 1922: During that period dry farming and grazing lands INCREASED from \$211,275.00 to \$608,556.00.

There is now in the State Treasury, credited to the Lyman Dam account, \$22,263.83.

The State has a controlling interest or equity in this project.

This State should seriously consider the safety and protection of its respective people. It should always, however, keep within the strict interpretation of our Constitution and Statutes, and also within the jurisdiction of a sound business policy.

THE PROJECT.

Your Committee, after the most careful consideration of this project, recognizes the following factors:

1—The only way in which this State can obtain any substantial returns upon its moneys loaned to this project is by having the major portion of these lands, which are feasible of irrigation, owned and cultivated by individuals, and under an efficient and properly supervised irrigation plan.

2—The present indebtedness is such a burden that it precludes the probability of the present owners being successful, or of interesting prospective settlers.

3—Conditions do not justify nor do our laws allow of the State investing any additional funds in the project, other than those already belonging to this project.

4—It is imperative that some plan be devised through which the present burden of indebtedness can be partially relieved and that the State will, for this consideration be assured that these lands will be placed under cultivation,

by actual settlers, within a specified period and remain in cultivation.

5—That the Loan Board consists of the Governor, Secretary of State and State Treasurer.

6—That "Dummies" were used by the large land owners in order to evade our laws and obtain loans of State funds upon these lands. That this condition was known by the Loan Boards making such loans. That such acts by large land owners and State officials cannot be too severely criticized.

7—That the loaning of the Permanent School Funds to this project places this State in a most precarious position with the Federal Government, due to the restriction placed upon such funds in the Enabling Act.

—That the State has, by the acts of some of its officials, been made to assume a very serious liability, and that such a condition be eliminated at the earliest possible date.

RECOMMENDATIONS.

The Dam and Canals:

The height of the main Dam should be raised an additional two (2) feet. This will necessitate the placing of about 500 cubic yards of dirt upon the top of the present dam. The top surface should first be plowed to allow of obtaining a good bond. This work should not cost to exceed \$500.00. This should be done as a safe-guard to handle possible "Peak Flood" waters, and this portion of the Dam will be subjected to such waters for less than one hour's duration, providing that the project is properly supervised.

The recommendations as regards the supervision of the Dam in the attached report of John J. Granville should be carefully followed. It is imperative that this reservoir do not fill too rapidly and only to such heights as advised in that report.

The North dike should be protected from "Wave Action" by hand-laid rock riprap. This cost should not exceed \$5,000.00.

The main canal should be cleaned out and such structures repaired as need repairs. These structures are all of wooden construction, and necessarily not permanent. There was not sufficient time to study in detail this phase of the needed repairs, so that only a rough cost estimate can be stated. This cost should be about \$2,500.00.

Where the main canal goes through that section known as the "Berry Cut" the grade is not according to plan nor is it uniform. This can be partially remedied by raising the banks of the canal on the up-stream side of the "Cut". Later, when the project is self-sustaining, the necessary grade can be obtained.

The balance of the moneys in this fund should be kept intact for an emergency call.

That our Statutes as regards the State loaning of funds be amended so that a repetition of so serious a mistake cannot again occur.

That the Attorney General make a most careful investigation of the acts of the Loan Boards which handled these loans and if such officials' acts are proven to show the misuse and misappropriation of trust funds, that such State officials at once be sued upon their bonds.

That, if after a reasonable time from the date of this report such relief acts or measures as may be passed by this Legislature are proven unconstitutional, thereupon the State instigate immediate foreclosure proceedings.

Your committee wish to express their appreciation for the courtesies extended them by the people of St. Johns, the State Officials, the State Highway Department and the Highway Investigating Committee.

Respectfully submitted,

Sixth Legislature Joint Committee
of Investigation of Condition and
Affairs of Lyman Dam Project.

By: Senators C. A. Pierce,
Chairman.

W. D. Claypool.

W. P. Sims.

Representatives Rogers.

Orme.

Housholder.

LOAN BOARD.

1916.

Gov. Geo. W. P. Hunt,
Sidney P. Osborn,
Mitt Sims.

1917.

Thos. E. Campbell,
Sidney P. Osborn,
D. F. Johnson.

1918.

Geo. W. P. Hunt,
Sidney P. Osborn,
D. F. Johnson.

First loan of \$10.00 per acre

Jan. 9th, 1918\$123,040.00

Quinto, Code & Hill, Consulting Engineers approved plans.

Frank Asplind in charge.

Lamar Cobb, State Engineer.

1919-1920.

Thos. E. Campbell,
Mitt Sims.

H. S. Ross.

Second loan of \$10.00 per acre

April 25, 1919\$126,930.00

F. L. Shaw, replaced.
Frank Asplind. Entire change in plans, etc.
Third loan of \$25.00 per acre
Dec. 15th, 1919\$379,702.00
Tom Maddock, State Engineer.
1921-1922.

Thos. E. Campbell,
Ernest Hall,
Raymond Earhart.

SUMMARY OF TYPICAL FILE.

File No. 703.

Contains.

Abstract which now shows land belonging to Individuals,
date of August 9th, 1920.

Note:—

May 10th, 1920.

15 years after date I promise to pay to the State of Arizona, \$_____ pursuant to the provisions of the Public Land Code. Interest at 6%, payable annually. Commencing with the 6th year hereafter, there shall be paid in addition to said interest on unpaid principal, a sum which, when paid annually in equal installments will, at the end of 15 years fully satisfy and discharge said debt.

Certificate for _____ shares of the Capital Stock of the Lyman Water Co., Issued to the Lyman Land Co., and to the Lyman Reservoir Co.

Realty Mortgage:—

Individuals of Denver, Colorado.

Covers 40 acres and 38 shares of Capital Stock of Lyman Water Co., for \$1720.00 of State Funds, etc., etc. Agrees to pay all taxes and assessments against stock.

May 10th, 1920.

Proxy:—

Making State Treasurer or State Loan Board his attorney to vote 38 shares stock.

Letter of Instruction to State Treasurer:—

Authorizing spending of money for benefits of Lyman Water Co. Instructed to return stock not to me but to Lyman Land Co.

Claim Against the State of Arizona, July 29, 1920.

Permanent School Fund for \$1720.00 account of Loan on Farm Lands.

LYMAN DAM PROJECT.

Report to the Select Committee to Investigate all
Matters Affecting the Lyman Dam Project

BY

JOHN J. GRANVILLE.

February 27, 1923.

Hon. C. A. Pierce,
Chairman of the Select Committee to Investigate
all matters affecting the Lyman Dam Project:

Dear Sir:

Agreeable to your request to make an examination of matters pertaining to the Lyman Dam Project, I beg to submit to you the following brief report:

As you are aware, the time available for an examination and study of the project was very limited, so that only a superficial survey could be made; but from a visit to the dam, and an examination of the canals and laterals, on the 24th and 25th of this month, together with a study of the reports and other data on file at the State offices, which you furnished me, a fairly comprehensive idea has been arrived at as to past, and present conditions and future needs.

A brief historical review of the project from an inspection in 1910 to the present time, follows:

The building of the Lyman Dam, (which is located about 10 miles almost south of St. Johns), and canal system, was started in the fall of 1910. The plans were prepared by the engineering firm of Field, Fellow and Hinderlider, of Denver, Colorado, and the work carried on under their general direction, with Engineer Robert Craig and later Engineer Odoni, in direct charge of construction.

So far as I have been able to learn this work was done on force account and was completed in August, 1912, except a part of the distributing system and the north dike; and water was actually applied to some of the lands near St. Johns during the season of 1912.

There was expended on this work \$190,153.74, borne entirely by the land owners and no outstanding indebtedness was left against the project.

I have been unable to find the original plans of the Dam, but infer that it was an earth-filled dam with the center line located about 80 feet west of the center line of the present structure.

On the 14th of April, 1915, a portion of the dam washed out, and late in the fall of 1916, after an investigation by Field, Fellows and Hinderlider, reconstruction was started. The engineer estimated that \$100,00.00 would be required to repair the system.

A levy of \$7.83 was then made upon the 15,000 shares of the capital stock of the company, which levy produced \$117,500.00, all of which was spent under the direct supervision of Engineer Hinderlider.

It is not necessary to go into detail as to construction; but owing to war conditions much higher labor and material prices prevailed, and late in the fall of 1917, after about one year's work, it was found that the funds were depleted and a deficit of about \$68,000.00 existed. Early in

the year 1918 an appeal was made to the State Loan Board for assistance, which, after proper consideration and investigation, came to the aid of the project, and on January 9th, 1918, loaned it \$123,040.00, secured by first mortgage on the water stock and most of the lands under the project.

State Engineer Lamar Cobb, with Quinton, Code & Hill of Los Angeles, as consulting engineers, approved the plans prepared by Engineer Hinderlider, after some few changes in them had been made.

About this time the State Loan Board placed Engineer Frank Asplind in charge of construction, who purchased a large equipment for prosecuting the work, the cost of which, together with the \$68,000.00 deficit mentioned above, left available for construction only \$17,858.68.

During January and February, 1919, the work remained at a standstill and on March 1st of that year, F. L. Sellow replaced Mr. Asplind as engineer in charge, and, it is said, discarded the approved plans for the dam, and adopted another method of procedure as to construction. This change in plans and procedure caused a large loss in the preparatory work and purchases made by Mr. Asplind.

Shortly after Mr. Sellow took charge, the small balance remaining from the first loan had been expended and under date of April 25th, 1919, a second loan of \$126,930.00 was negotiated with the State Loan Board. It was estimated by Engineer Sellow that \$85,000.00 to \$90,000.00 would be required to complete the dam, and the balance would be used in repairing the main canal and making an extension across "Long Hollow."

Mr. Sellow's administration terminated February 1st, 1920, during which period there was expended \$174,391.53.

Mr. H. B. Fleshman was then appointed construction engineer, to succeed Mr. Sellow, and on the 15th day of May, 1920, bids were received by the Lyman Water Company, and a contract was entered into with Parks and Johnson, by the Water Company and the State Loan Board, for the completion of the construction of the dam. This work was carried on under the supervision of Engineer Fleshman.

On December 15th, 1919, a third loan was made by the State Loan Board, making a total loan to date of \$629,672.00. This loan, after the absorption of previous loans, was nearly all expended under the supervision of Engineer Fleshman, whose services terminated September 1st, 1922. I am informed that there remains an unexpended balance of about \$20,000.00.

The reconstruction of the dam was completed May, 1921, and about 400 acres watered that year.

During Mr. Fleshman's administration nearly all work, except that of maintenance was performed under contract, and it was during this period that the main canal, and laterals 1 and 2, were completed and the extension of the

canal from the drop at the "saddle" around and to the west of "Long Hollow", together with the laterals were constructed.

There has been constructed to date 45 miles of main canal and 19 miles of laterals.

The foregoing, briefly, gives you the history of the project to date.

As stated above, I visited the dam on the 24th inst., but could only give it a superficial examination; however, the dam is in practically the same condition as when visited by Mr. Quinton in March, 1921, just previous to its completion, and who made a report to the State Loan Board as to his findings, the latter part of that month. I refer you to this report for complete and more detailed information than I can give.

The dam as constructed was not at all in accordance with the plans approved by Mr. Hill in 1918.

The bottom width, up and down stream as approved by Mr. Hill was to have been 480 feet, whereas it has a bottom width of only about 300 feet. The top of the dam was to have been constructed to elevation 150, but was constructed to elevation 144, which with subsequent settlements of about three-fourths of a foot, makes its present elevation about 143. The spillway as recommended was to have had its floor elevation at 140 with a bottom width of 150 feet. It was constructed to elevation 134 with a bottom width of 100 feet, and during Mr. Fleshman's administration a trench 20 feet wide and five feet deep was cut through the rock, on the northerly side, and for the full length of the spillway.

As conditions now exist, when the water in the reservoir reaches the floor of the spillway (elev. 134) there will be 9 feet free board on the dam, but by making a lighter and lower dam than that first contemplated, the reservoir capacity has been greatly reduced, and the danger from full reservoir greatly increased.

With the water in the reservoir standing at elevation 140 (as originally designed) at which point it would begin to waste, there would be impounded, with perfect safety, 36,690 acre feet, a quantity sufficient to care for the 15,000 acres, which hold a water right.

With the water at elevation 134 there would be impounded but 27,083 acre feet, which would care for about 11,500 acres, and at this elevation of the water the dam might be in some danger.

At this time the bottom lands immediately below the dam have been drained to some extent by means of open trenches, and the water in these trenches is about 2½ feet below the surface, but the drainage has not been carried to the extent contemplated by Mr. Quinton, and the safety of the dam necessitates the further lowering of the ground water at some early date.

The upper face of the dam has been partially paved from the crest down, but below the paving the face was given a coating of gravel, most of which has disappeared by wave action. The paving of this face should be completed as soon as possible to prevent further wearing away of the slope by the action of the water upon it. The same comment applies to the slope on the north dike, facing the reservoir. I am informed that this slope was paved at one time, but the paving was removed when the dike was strengthened and never replaced.

The other conditions mentioned in Mr. Quinton's report are substantially the same at this time as at the time of his visit, except that there is no evidence of a leak at the north end of the dam.

An examination, at a number of points, was made of the main canal from the dam down through the Berry Cut to the drop at the saddle and the extension of this canal around Long Hollow down towards its end.

All of the ditches, demand considerable work, and some of the laterals have become partially obliterated through lack of maintenance and use. Inadequate provision has been made to care for the cross drainage from the area above the main canal. This matter will have to be attended to in the near future, to reduce maintenance cost, and safe guard the canal.

Appended you will find a few photographs of the dam, and other structures, and of some of the country under the canal.

I believe I am fairly well informed as to general conditions concerning this project, financial and otherwise, and that it is the desire of your committee to recommend to the Senate some legal plan by which the losses may be kept down as much as possible, and give relief to those who have been struggling along under a heavy burden for many years, and with the prospect of many more year of struggle.

Under present conditions, I can see no hope for more financial aid from the State or any other source, nor would I deem advisable to spend much more money on the project at this time, until it can be demonstrated that the lands will be put under cultivation and use the water for which the project was constructed.

The dam as constructed is not as originally designed. That is a condition which cannot be changed, but must be met. Nearly \$1,000,000.00 has been expended on the project, two-thirds of which has been met by State funds, in addition to which many years' interest on this expenditure is a charge against it.

I am informed that of the 15,000 acres under the project, only about 2500 will be in readiness to use water this year, but that with an assured water supply, additional acreage would be added each year until ultimately (perhaps in from five to ten years) the full acreage which could

be supplied with water would be brought under cultivation, and these considerations lead to the following suggestions:

For financial reasons the dam cannot be constructed to the lines originally intended, hence, it must be used to the greatest extent possible as constructed and the greatest extent to which it can be used is when it reaches its limit of safety.

It is suggested that this year the water be not allowed to exceed elevation 112, but be maintained at that level. This will store 5606 acre feet, an ample supply for the contemplated 2500 acres. Next year if the acreage is increased say to 3500, the maximum elevation can be carried to 115, thus storing 7672 acre feet, and so on each year increasing the amount of stored waters, as the cultivated acreage may warrant, until the maximum has been reached. Never forgetting the fact that the dam must be closely watched for evidence of weakness and to anticipate possible floods that may reach the dam at times, and be prepared for them by opening the gates and discharging through the tunnel.

If my information is correct that there remains about \$20,000.00 unexpended balance from the last loan, a portion of this can be used to clean out the canals and repair such structures as may be need it, to the extent that may be necessary to supply water to the 2500 acres, also to complete the paving of the upper slope of the dam, and any balance remaining held for an emergency call.

An annual charge should be made upon the lands benefitted and to be benefitted to create a fund which can be used for the extension of maintenance operations to cover lands which may demand water in the succeeding years, and in this way the project will become self sustaining.

The construction of the extension of the main canal around and to the west of "Long Hollow", with its attendant laterals, seems to me to have been an ill-advised business venture, and should never have been undertaken, for the reason that a large part of the lands lying west of "Long Hollow" are rolling and rough, and although some of the land could have been put in shape to irrigate, at a reasonable cost, much of it could not, but will ever remain grazing land. The work on this part of the system was completed two years ago, and no attempt has ever been made to deliver water through it, nor do I understand that there has ever been any demand for water.

Respectfully submitted,

JOHN J. GRANVILLE,
For Southwestern Eng. Co., Inc.

Phoenix, Arizona.
February 27th, 1923.

Extract from report of Quinton, Code & Hill, Consulting Engineers, Los Angeles, Cal., Date of March 28th, 1921.

"6. Instead of making the proposed cut in the wasteway, we recommend that two feet of good gravelly earth be placed on top of the dam. This should be done cheaply, as there is a large pile of suitable material at the south end of the dam handy for hauling. The cut proposed through the wasteway might cost four or five thousand dollars, and the advantage to be gained would not be commensurate with this cost, especially as the same object, viz: adding to the capacity of the wasteway, may be attained by raising the dam at a cost of two or three hundred dollars.

7. We recommend that no attempt be made to fill the reservoir, or to keep it full for two or three years, until the north dyke, and the dam itself has had time to settle.

In case of a great storm coming suddenly, the gates leading into the north chamber of the tunnel should be opened to their full capacity, and the water in the reservoir lowered to the level necessary to insure sufficient water for the lands to be irrigated that season.

Respectfully submitted,

(Signed)

J. H. QUINTON,
Consulting Engineer."

Reports of this firm under dates of November 16th, 1918, and March 28th, 1921, are on file in Governor's office and State Treasurer's Office.

Phoenix, Arizona, Oct. 15, 1917.

A meeting of the Loan Board was held Monday, Oct. 15, 1917, at 10:00 A. M., in the office of the Governor, at which were present:

Governor Thomas E. Campbell.
Secretary of State, Sidney P. Osborn.
State Treasurer, D. F. Johnson.
Deputy Treasurer, A. E. Stelzer.

Minutes of the meetings held June 3, July 11, July 13, July 16 and August 2 were read and approved, subject to a change in the minutes of August 2, substituting the word "Board" for "Commission" at the bottom of page 91.

The Secretary of this Board explained that conditions have arisen making it difficult to comply in all respects to the regulations of the Board governing the handling of applications for loans. After considerable discussion by all members, the Chair directed the Secretary to make memoranda of the changes required and submit a draft of the amended regulations at the next regular meeting.

Seventeen applications, recommended favorably by the Commissioner, were presented by the Secretary of the Board who desired to know, if other loans would be approved prior to the making of the loan on the Lyman Project.

The Board decided to consider all applications recommended by the Land Commissioner, received by the State Treasurer prior to September 28th., the date on which

the Committee from the Lyman Project met with the State Land Department at Phoenix.

Excerpts from minutes of State Loan Board meeting held Friday, November 9, 1917, at 10:00 A. M. in the office of the Governor.

.....“Mr. Lamar Cobb was asked to attend the meeting and gave additional verbal information relative to the Lyman Project. A letter from the Land Commissioner addressed to the members of the Loan Board was read and, as it was the unanimous desire of the Board to conclude this loan, provided sufficient security can be offered, the Board decided to address a letter to Mr. A. S. Gibbons and Mr. M. P. Peterson of St. Johns and Mr. D. E. Thomas of Holbrook, requesting certain information essential to the Loan Board before further action can be taken relative to the Lyman Project Loan.”

Phoenix, Arizona, April 23, 1918.

A meeting of the State Loan Board was held in the office of the Governor on April 23rd., at 2 P. M., at which were present:

Governor, Geo. W. P. Hunt.

Secretary of State, Sidney P. Osborn.

State Treasurer, D. F. Johnson.

Deputy State Treasurer, A. E. Stelzer.

The minutes of the preceding meetings were not read.

There were submitted by the Secretary of the Board applications Nos. 429 to 441, both inclusive, and Nos. 469 to 524, both inclusive, all for State Loans on Lands lying under the Lyman Project. The appraiser's general report, dated April 8, 1918, and signed by W. A. Moeur, Commissioner, State Land Department; Guy D. Acuff, State Land Appraiser and Alfred C. Sieboth, State Land Appraiser and Engineer to Committee, was read and discussed.

The 69 applications bore recommendations for a total amount of \$140,015.00 and each application was recommended by the Commissioner for a loan, but subject to this proviso, that the whole irrigation system be constructed as per recommendations in general report, dated April 8, 1918. These recommendations in brief are that “The builders of the Lyman Project file with the State Loan Board a map of the definite location of the proposed extension to the Lyman Canal, together with a profile of the same”..... Also evidence to show that water can actually be delivered on lands to be irrigated from this extension of the Lyman Canal and, lastly, that all lands under the Lyman Project will have an equal water right, i.e., that there be no preferential water rights, but all acres to share equally, acre for acre.

A further condition is that “the storage reservoir, canals and distributing laterals, including all extensions of the system necessary to provide water for all of the rights thereunder be immediately constructed and utilized”

and, that the work of the completion of the Dam and all other work mentioned be done under and with the approval of an Engineer-inspector in the employ of the State, who is "to pass upon and regulate all things concerned in the construction of the Project, and to have the right to examine into the payments of money made for such construction."

Subject to the above qualifying conditions, all of the following applications were approved for the amounts recommended by the State Land Commissioner, all for a term of five years.

No. 429 Stansell Greer	\$ 400.00
No. 430 Fred Conley	4800.00
No. 431 Ernest W. Crow	4800.00
No. 432 Jeff Goodman	4800.00
No. 433 Harry Hayden	4800.00
No. 434 David K. Udall	2000.00
No. 435 Nancy L. Gibbons	1200.00
No. 436 W. D. Rencher	2380.00
No. 437 J. F. Quinn	4800.00
No. 438 Robert Leroy Shortz	4800.00
No. 439 Lily B. Stannaway	4800.00
No. 440 R. H. Sainsbury	1000.00
No. 441 Martin Tandy	4800.00
No. 469 L. R. Gibbons	2245.00
No. 470 Wm. M. Harris	300.00
No. 471 George C. Grimes	1200.00
No. 472 B. Y. Peterson	1000.00
No. 473 Babbit & Saunders	500.00
No. 474 Sadie C. Hamblin	800.00
No. 475 Lavenie Peterson	1400.00
No. 476 Alex Shreeve	830.00
No. 477 Marinus Christensen	500.00
No. 478 Andrew V. Gibbons	500.00
No. 479 M. P. Peterson	1800.00
No. 480 J. W. Brown	800.00
No. 481 W. H. Gibbons	2200.00
No. 482 D. P. Overson	700.00
No. 483 David K. Udall	650.00
No. 484 Joy B. Peterson	1600.00
No. 485 Joseph H. Pearce	800.00
No. 486 Margaret Jarvis	800.00
No. 487 W. I. Burk	1000.00
No. 488 Heber Jarvis	750.00
No. 489 Willard Farr	1200.00
No. 490 P. C. Covington	1600.00
No. 491 Lorin M. Farr	1070.00
No. 492 Monico Garcia	1400.00
No. 493 Julia S. Greer	800.00
No. 494 Anna L. Anderson	1200.00
No. 495 Grover C. Udall	680.00
No. 496 John A. Mineer	200.00
No. 497 Henry C. Overson	730.00
No. 498 Martin Jensen	570.00
No. 499 Erminio Perea	4800.00
No. 500 Carmine De Luzio	5000.00
No. 501 J. N. Overson	4000.00
No. 502 Ellis Palmer	4800.00
No. 503 Luiz Rodriques	4800.00
No. 504 Jesus Torrez	4800.00

No. 505 Lyman Overson	5000.00
No. 506 W. A. Saunders	4530.00
No. 507 David K. Udall	2400.00
No. 508 Hiram J. Knight	2800.00
No. 509 Fred Johnson	910.00
No. 510 H. C. Johnson	2040.00
No. 511 B. Y. Duke	500.00
No. 512 Fred W. Nelson	800.00
No. 513 Fred T. Colter	1600.00
No. 514 Fred T. Colter	1600.00
No. 515 Fred T. Colter	1600.00
No. 516 Neadice Thompson	1600.00
No. 517 Neadice Thompson	1600.00
No. 518 Neadice Thompson	1600.00
No. 519 Willie Murray	800.00
No. 520 Willie Murray	2000.00
No. 521 Willie Murray	2000.00
No. 522 James G. Colter	1000.00
No. 523 James G. Colter	690.00
No. 524 James G. Colter	1540.00

At the conference held at Holbrook on January 19, 1918, between the applicants for the State Loans and State officials, it was agreed that the State would lend, provided the applications would be recommended by the Commissioner and regularly approved by the State Loan Board, an amount not in excess of \$120,000.00. As the above mentioned applications total \$140,015.00, the Secretary of this Board was directed to ascertain whether it was the will of the borrowers to withdraw sufficient applications to bring the total to an amount not in excess of \$120,000.00. or whether the amount approved should be reduced on a pro rata basis sufficient to bring it within the agreed amount.

It was the will of the Board that the Chairman confer with B. M. Atwood, State Engineer, to determine what engineer is to be sent to the Lyman Project to represent the State.

The Secretary of this Board was authorized to direct the Auditor to draw his warrant payable out of any available land grant funds, in accordance with Sections 108 to 116, of the Public Land Code.

Inasmuch as the "Appraiser's General Report" is made a part of the recommendations of the Commissioner on the applications above listed this report is made a part of the minutes of this Board.

APPRAISER'S GENERAL REPORT TO BE APPENDED
TO LOAN APPLICATIONS IN LYMAN PROJECT.

—Apache County, Arizona—

To
Governor Geo. W. P. Hunt
Hon. Sidney P. Osborn
Hon. D. F. Johnson.

STATE LOAN BOARD.

April 8, 1918.

Sirs:

Pursuant to the order of your Board, we have examined

into, inspected and appraised each tract of land under the Lyman Project near St. Johns, Apache County, Arizona, upon which applications for State Loans have been filed, and we beg to submit the following report.

LOCATION.

The lands embraced in the project lie in the rolling country so common to the Plateau of Northern Arizona. The mean elevation of the Lyman Project is about 6000 above sea datum. The climate is temperate and not subjected to excess of heat or cold.

SOIL.

The soil throughout the irrigation district is a regular reddish mellow loam of volcanic origin and is of sufficient depth to insure a habitat for the deep-rooted crops as alfalfa, etc. The soil contains a liberal sprinkling of fine gravel and does not harden or bake after the application of water by irrigation, but rather dries to a loose and mellow texture. The soil contains a high measure of fertility which, with the equable climate indicates that substantial crops of alfalfa, small grains, fruits, etc., may be raised with minimum of water and cultivation.

HISTORY AND GENERAL.

The history of this county indicates that alfalfa, grains and hay have been grown with profit to the industrious farmer. Water of exceptionally excellent quality for domestic purposes, may be had from wells drilled to a depth of 200 feet in which the water usually rises to about 40 to 50 feet from the ground surface. The supply from wells already installed would demonstrate that the quantity is sufficient for stock purposes also; The rainfall approximates 14 inches annually.

METHOD OF APPRAISAL.

In fixing a valuation upon the land in the Lyman Project as a basis upon which a State Loan may safely lie, we have assumed the proposed new Lyman Dam and Irrigation Project have been fully investigated by the State authorities, concerning the engineering standards used by the builders of the Project and as to an adequate supply of irrigation water for equal distribution to all of the lands pledged to support the proposed State Loan.

We have made two distinct classes of the lands in the Project:

1st. Patented lands lying under the water distributing system for which water rights have been secured by purchase or contract.

2nd. Patented lands lying under the project for which no water rights have been secured by purchase or contract.

To the lands of the first class we have fixed a uniform value of \$25.00 per acre, regardless of geographical position in the irrigation district or of the earlier history as to water rights, assuming that under the new Project all lands will receive water in strict equality.

To the lands of the second class we have fixed a uniform grazing value of \$6.00 per acre.

RECOMMENDATIONS.

We urge and recommend that the builders of the Lyman Project be directed to file with the State Loan Board, a map of the definite location of the proposed extension to the Lyman Canal together with a profile of the same. Also affidavits from proper persons which will tend to prove the physical ability of the water rights under the proposed extension to receive irrigation water to the equal satisfaction of those rights of the older project or old Lyman Canal, in order that all of the water rights may simultaneously receive water and thus further the stability of the loan.

We recommend in conformity with the agreement reached between the Committee of Land Owners and State Officials at the Conference held in Holbrook, Arizona, January 19, 1918; that the storage reservoir, Canals and distributing laterals, including all extensions of the system necessary to provide water for all of the rights thereunder be immediately constructed and utilized. We urge that this step be taken to insure the value of the collateral offered for the State Loan. We also recommend that the State be represented by an Engineer-inspector, who shall have power to pass upon and regulate all things concerned in the construction of the project and to have the right to examine into the payments of money made for such construction.

CONCLUSION.

Upon the basis as outlined in the foregoing, we believe the lands of the first class will bear a conservative loan of \$10.00 per acre and successfully pay out and discharge the obligation.

The lands of the second class being included with the first class as a further surplusage of value and thus furnishing additional stability to the loan.

Respectfully submitted,

(Signed)

W. A. Moer, Com. State Land Dept.
Guy D. Acuff, State Land Appr.
Alfred C. Sieboth, State Land Appr.
and Engineer to Committee.

Phoenix, Ariz., May 14, 1918.

A meeting of the State Loan Board was held in the office of the Governor at 2:30 P. M. May 14, 1918. There were present:

Governor, Geo. W. P. Hunt.
Secretary of State, Sidney P. Osborn.
State Treasurer, D. F. Johnson.
Deputy State Treasurer, A. E. Stelzer.

The minutes of the preceding meetings were not read.

The Secretary of the Board presented the request of Mr. Sherman, speaking for the applications for State Loans

under the Lyman Project, that the loans be made for a period of fifteen (15) years instead of five (5) years as recommended by the Commissioners and approved by the Board. It was moved, seconded and unanimously carried, that applications Nos. 429 to 441, both inclusive, and Nos. 469 to 524, both inclusive, all under the Lyman Project and approved by the Board at its meeting held April 23rd., be made for a period of fifteen years instead of five years.

The following applications were considered and disposed of as indicated:

(Applications listed)

Excerpts from minutes of State Loan Board meeting held in the office of the Governor December 10, 1918, at 2 P. M.

.....“At the meeting held April 23rd., the Loan Board approved loans on the Lyman Project for an amount not in excess of \$120,000.00 on a total recommended by the Commissioner amounting to \$140,015.00. The Treasurer was authorized to conclude loans on the Lyman Project on the applications approved at that meeting for an additional amount not to exceed in all the amount recommended by the Commissioner, \$140,015.00.

All the loans on applications approved at the meeting held April 23rd., were made for a period of fifteen years while the recommendation was for five years. This change from five to fifteen years is hereby approved.

The Secretary of this Board was authorized to direct the Auditor to draw his warrants payable out of any available land grant funds, in accordance with Sections 108 to 116 of the Public Land Code.”

February 18, 1919.

Forward\$152,900.00

There is a good chance to cut the cost of the first two items below .30 per cu. yd., and if we can get away with safety from the heel core another item is saved. Up to date I can't figure out of it.

Temporary Spillway \$2000. to \$2500., say.....	2,500.00
Drainage below dam probably not over.....	5,000.00
Spillway, concrete floor and end walls, otherwise timber, as cheap as possible, \$4000.00 North Dike; upper part of fill be rebuilt in new flatter slope rip rap removed, etc.....	3,000.00
	<hr/>
	\$167,400.00

Canal:

First 1½ miles, least possible.....	\$10,000.00
Berry Cut enlarged—least.....	8,000.00
Several other items, mainly at Arroya Crossings, say	5,000.00

There seems to be no way out for less than \$175,000.00, but it could possibly be held to that amount.

I am,

Respectfully yours,

(Signed) R. S. COOKINHAM.

Inasmuch as it will take approximately \$100,000.00 to complete the Dam the Secretary was thereupon requested to communicate with the Lyman Land Company at Denver, and the Lyman Reservoir Company at St. Johns, to ascertain if it would be agreeable with them to arrange to put up their proportion of this additional \$100,000.00 as mentioned in Mr. Cokinham's report.

The Board further instructed the Secretary to advertise in the Apache County papers to creditors of the Lyman Dam Project asking them to forward an itemized statement of any moneys due them for the project.

There being no further business to come before the Board, the meeting adjourned.

THOMAS CAMPBELL,

Chairman.

H. S. ROSS,
Secretary.

Phoenix, Arizona,

March 8, 1919.

A meeting of the State Loan Board was held in the office of the Governor, March 8th., 1919, at 11:30 A. M. There were present:

Governor Thos. E. Campbell.
Secretary of State Mit Simms.
Treasurer H. S. Ross, also
Mr. F. L. Sellev, of Yuma, Ariz.

It was moved by Treasurer Ross and seconded by Secretary Simms and unanimously carried that an audit of the books of the Lyman Dam Project be made going back over the entire period of construction; also that the Loan Board take charge of building the dam and main canals and raise an additional \$100,000.00 on the same basis as the \$150,000.00 already appropriated and that the Lyman Land Company and the local people under the Project pay their proportion in cash or security and that the balance due on the \$150,000.00 appropriation be paid on or before April the first.

The additional \$100,000.00 to be paid as follows:

20 per cent to be paid on May 1st, 1919.

20 per cent to be paid on June 1st, 1919.

20 per cent to be paid on July 1st, 1919.

20 per cent to be paid on August 1st, 1919.

20 per cent to be paid on September 1st, 1919.

This will be on the basis of, the State—\$80,000.00, to be paid in monthly payments commencing May first:

May 1st, \$16,000.00.

June 1st, \$16,000.00.

July 1st, \$16,000.00.

August 1st, \$16,000.00.

September 1st, \$16,000.00.

The Lyman Land Company—\$12,000.00.

May 1st, \$2400.00.

June 1st, \$2400.00.

July 1st, \$2400.00.

August 1st, \$2400.00.

September 1st, \$2400.00.

St. Johns People—\$8,000.00.

May 1st, \$1600.00.

June 1st, \$1600.00.

July 1st, \$1600.00.

August 1st, \$1600.00.

September 1st, \$1600.00.

It was moved by Secretary Simms, seconded by Treasurer Ross, and carried unanimously that the State Loan Board employ Mr. Francis L. Sellev as consulting engineer to build the dam and main canals for the sum of \$5000.00 and actual travelling expenses when on business connected with the Lyman Dam Project.

It was moved by Treasurer Ross, seconded by Secretary Simms and unanimously carried, that a request be made of the Lyman Land Company and Mr. Hinderlinder their engineer, to turn over to this Board all engineering data, books, accounts and receipted bills, etc.

There being no further business coming before the Board the meeting adjourned to meet at 2:00 P. M. Saturday the 8th.

THOMAS E. CAMPBELL,
Chairman.

ATTEST:
H. S. ROSS,
Secretary.

Phoenix, Arizona, Apr. 25, 1919.

A meeting of the State Loan Board was held in the office of the Governor, April 25, 1919, at 2 P. M. There were present:

Governor Thos. E. Campbell.
Secretary of State Mit Simms.
Treasurer H. S. Ross.

The matter of an additional loan on the Lyman Dam, as set forth in the minutes of the meeting of this Board on

march 8th, 1919, was brought up for reconsideration. Treasurer Ross, who had just returned from the Project, reported that the additional \$100,000.00 recommended in the minutes in the above mentioned meeting, would not complete the Project, and recommended that the loan be increased to \$150,000.00, he therefore moved that the old loan be doubled or this loan be for \$150,000.00 on the same basis as the first State loan; motion seconded by Secretary Simms and after due consideration by the Board was carried unanimously.

No further business coming before the Board, the meeting adjourned.

THOMAS E. CAMPBELL,
Chairman.

ATTEST:

H. S. ROSS,
Secretary.

Phoenix, Arizona, March 13, 1920.

A meeting of the State Loan Board was called to order by Chairman Thomas E. Campbell in the office of the Governor at 10:00 A. M., Saturday, March 13, 1920. Those present were:

Governor Thos. E. Campbell.
Secretary of State Mit Simms.
State Treasurer H. S. Ross.
State Engineer Thomas Maddock.

State Treasurer Ross explained conditions regarding the first two miles of the Lyman Main Canal and after a thorough investigation of the cheapest and best method of completing the above mentioned work, it was decided that it be done by force account under the direction of the engineer. It was also decided that the gates of the tunnel be ordered hung and that the first 50 feet of the canal be cemented.

After consulting with the share holders under the Lyman Project, it was decided to place an additional mortgage against the lands and water shares of \$25.00 per acre and the State Treasurer is hereby authorized to prepare the new mortgages and procure the necessary signatures thereon.

State Engineer Maddock was asked to draw up a new set of specifications and the State Treasurer was authorized to call for bids as soon as the new specifications have been prepared.

There being no further business to come before the meeting, the same was duly adjourned until 10:30 A. M., Tuesday, March 16th.

THOMAS E. CAMPBELL,
Chairman.

ATTEST:

H. S. ROSS,
Secretary.

STATEMENT AS TO LOANS SECURED FROM STATE
OF ARIZONA.

STATE OF ARIZONA,
COUNTY OF MARICOPA, ss.

J. F. Church states that he is the President of the Lyman Land Company, a corporation, which Corporation is the owner of nine thousand (9000) shares of the Capital Stock of the Lyman Water Co., a corporation, which corporation is the owner of the Lyman Dam Project in Apache County, Arizona, and that your affiant is also the President of the Lyman Water Co.

That for the purpose of securing money from the State of Arizona, to reconstruct the Lyman Dam, the Lyman Land Company to secure said loans, with the full knowledge and consent of the State Loan Board, conveyed said lands to individuals and said individuals mortgaged said lands to the State of Arizona, and later reconveyed said lands to the Lyman Land Company, this procedure was followed in each of the three loans made by the State of Arizona, the procedure in each instance being as follows:

Lyman Land Co. conveyed by Warranty Deed to individual (dummy) Individual (dummy) mortgaged to State of Arizona.

Individual reconveyed by Warranty deed to Lyman Land Co.

Then on the 2nd. and 3rd. State Loans the same procedure was followed with the addition of the release of the former mortgage by the State of Arizona.

The number of loans made in each instance are as follows:

FIRST LOAN: 44 loans made to 16 individuals.

SECOND LOAN: 59 loans made to 33 individuals.

THIRD LOAN: 114 loans made to 104 individuals.

Respectfully submitted,

J. F. CHURCH.

STATEMENT OF J. FRED JOHNSON.

Phoenix, Arizona, February 4, 1923.

J. Fred Johnson, states that he is the Supt. of the Lyman Water Company, the owner of the "Lyman Dam" in Apache County, Arizona, and as such is familiar with what has been done in the past as regards cultivation, and what is anticipated to be done this year, and respectfully states:

Amount of land reclaimed and farmed under the Lyman Project prior to the breaking of the dam in April 1915, is as follows:

Lyman Reservoir Co. (local people) 1990 acres
(Approx)

Lyman Land Co., 1860 acres.

The estimated acreage that will be cultivated for the 1923 season is as follows:

Approximately 2500 acres by all stockholders.

The land sales made to date by the Lyman Land Co. for lands under the Lyman Project, since the year 1915, are as follows:

Noel & Son—60 acres @ \$125.00 per acre with water, which includes State loan, in year 1920.

Mohr Bros.—122 acres @ \$125.00 per acre, in August 1921.

Various parties—6 one acre tracts @ \$125.00, in 1920.

Prior to the breaking of the dam, there had been sold 1 section with 480 shares of water, which is now owned by H. W. Bingham of Denver, Colo.

Also 160 acres is included in Denver sub-division town-site, which was not mortgaged to State.

Respectfully submitted,

J. FRED JOHNSON,
Supt. Lyman Water Co.

STATEMENT OF J. F. CHURCH.

J. F. Church states that he is the President of the Lyman Land Company, the owner of the 9000 shares (originally) in the Lyman Water Company, and in response to the request of the Committee of the Senate and House investigating the Lyman Dam, respectfully states that:

About the year 1910 the Lyman Land Company purchased lieu selection railroad land from the Santa Fe Pacific R. R. Company, to the amount of approximately 35,000 acres, included within this acreage was some choice lands now lying under the Lyman Project, being a part of the odd numbered sections of said railroad land, the lands now under the canal system are under mortgage to the State of Arizona, and are owned by the Lyman Land Company.

Respectfully submitted,

J. F. CHURCH.

REPORT OF THE LYMAN WATER COMPANY ON THE "LYMAN DAM PROJECT" APACHE COUNTY, ARIZONA.

TO THE JOINT COMMITTEE OF THE SENATE AND
HOUSE OF THE ARIZONA STATE LEGISLATURE:

GENTLEMEN:

Pursuant to your request, we hand you herewith report covering briefly a history of the project, and our recommendations as to the proper course for the legislature to pursue in the handling of this project so that in the ultimate outcome the State of Arizona will be protected in its investment and the Stockholders can meet their obligations.

ORIGINAL CONSTRUCTION:

The building of the Lyman Dam and Canal System was first commenced in the fall of the year 1910, and except for a part of the canal and distributing system and a portion of the "North Dike", was completed in the month of August 1912. Water being actually applied to a portion of the lands under the project near St. Johns, during the season of 1912.

The original capacity of the dam was 36,000 acre feet, and the completed dam contained a total yardage of 190,000 cubic yards. The entire cost of the first construction was as follows:

Dirt yardage in main dam.....	\$63,500.00
Rip rap on same.....	13,003.74
North dike including rip rap.....	6,750.00
Canal system including expensive rock construction.....	70,000.00
Rights of way, engineering, tools.....	37,000.00

TOTAL Original Cost of Project..... \$190,153.74

This made a total cost per acre of approximately \$13.00, which was borne entirely by the land owners, without leaving any indebtedness against the project.

The original plans for the first dam were drawn by the Engineering firm of FIELD, FELLOWS AND HINDERLIDER, of Denver, Colorado, who indirectly supervised the construction, Engineers Robert Craig and later Engineer Odoni having the direct supervision of the construction work, the first dam cost within \$5000.00 of the original estimate.

RECONSTRUCTION.

On April 14th., 1915, a portion of the dam washed out, taking approximately 2-5 of the total yardage, or 76,000 cubic yards of material with it. In the late fall of the year 1916, after a thorough investigation by the Engineering firm of Field-Fellows and Hinderlider, who drew the original plans, reconstruction was commenced. The Engineers at that time estimating that it would take \$100,000.00 to repair the system. A levy was then made on the stockholders of the 15,000 shares of the capital stock of the Company of \$7.83 per share, which levy produced \$117,500.00. This money was all spent under the direct supervision of Engineer Hinderlider.

Owing to the washing away of the foundation of the dam, and the depositing of a great amount of silt, it became necessary for the Engineer to drive two rows of WAKE-FIELD piling to bedrock, at an average depth of 22 ft. approximately 50,000 feet of lumber being used. The earth was removed between the two rows of piling to bed rock and in its place, concrete to a height of 3½ ft. was placed, from there to the top of the trench it was filled with selected clay and "puddled in". This trench extended for a distance of about 275 feet; from the end of the trench to the North abutment, a distance of about 150 feet, there were three rows of two inch pipe jetted down to bedrock and a mixture

of cement and water injected under pressure of 50 pound to the square inch; this same method was pursued on each hillside to overcome any percolation; several carloads of cement being used.

A large tunnel on the south side 8 ft. square, lined with re-inforced concrete, being 380 feet long, with large concrete tower and operating gates was installed to replace the small 36 inch outlet pipe. Great care was exercised to properly bond the dam to the hillside by cutting drift trenches into the hill three in number on each hill 20 ft. long and 12 ft. wide, filled with choice clay, well puddled.

Expensive machinery had to be purchased, and due to war conditions and high prices prevailing for wages and materials, this money did not go as far as anticipated.

Approximately 5000 yds. of big rock were placed just outside of slope stakes of upper toe of dam, and about 12,000 yds. of earth embankment was placed at front toe of new dam, and about 12,000 yds. at lower toe, these embankments were for the purpose of holding hydraulic fill. This front toe later became a part of the main dam. In order to protect this construction work from being damaged by floods coffer dam of about 10,000 yds. was constructed to divert the water through the tunnel. This work was carried on until the late fall of the year 1917, when a halt was called, it being found that the funds were depleted and a deficit existing of about \$68,000.00. This money to date had all been raised by the stockholders themselves in a personal way, without incumbering the project, much of this money was borrowed from local banks at a high rate of interest, first 8 per cent and a good portion of this money is still owing and unpaid.

ASSISTANCE RENDERED BY THE STATE OF ARIZONA.

Early in the year 1918, appeal was made to the State Loan Board of Arizona, consisting of Gov. Geo. W. P. Hunt, State Treasurer D. F. Johnson and Secretary of State Sidney P. Osborn for assistance. They graciously came to the rescue and after due consideration and proper investigation voted to advance money on the project to be secured by a first mortgage on water stock and the lands under the project. The State Engineering Dept. under Lamar Cobb in consultation with the Engineering firm of Quinton, Code and Hill of Los Angeles, who were employed by the State as consulting Engineers, approved the plan of contemplated construction of a hydraulic dam, practically as prepared by Engineer Hinderlider, these plans also had the approval of the Lyman Water Co. Board of Directors. It being estimated that to complete the dam under the plans adopted would not cost to exceed \$65,000.00, this with the existing deficit of \$68,000.00, necessitated the raising of about \$150,000.00; of which amount the State of Arizona loaned on April 12th. 1918, some \$123,040.00.

Engineer Frank Asplind was selected by the State Loan Board and placed in direct charge of the construction work. Under his direction, needed new machinery was purchased, consisting of steam shovel, dinky engine, dump cars, steel rails, ties and pumps. This machinery and equipment

was hauled in 80 miles off the railroad under adverse winter conditions. The necessary sluice boxes that were to be used, with trestles, were constructed. Railroad tracks from borrow pits to dam were laid, pumps and engines were placed read for operation. In fact, everything was in readiness for the carrying on of the construction of a hydraulic dam. No yardage was added to the dam and prior to the time that Engineer Asplind took charge, the foundation was completed, the tunnel built and all that remained to be done was above the ground. These preliminary preparations of Mr. Asplind, with the prior deficit of \$68,000.00, reduced the proceeds of the first loan to \$17,858.68.

When the new administration came in on January 1st, 1919, work remained at a standstill until March 1st, 1919, when Engineer F. L. Sellew replaced Engineer Frank Asplind. At this time, the plans heretofore adopted and approved were discarded and entirely abandoned by Engineer Frank L. Sellew. All preparatory work of Mr. Asplind's became a total loss and most of the expensive machinery that had been purchased became valueless to the company. At this time funds available from the first loan were depleted so that during the period May to July, 1919, the second loan of \$10.00 per acre was made by the State Loan Board consisting of Gov. Thos. E. Campbell, State Treasurer H. S. Ross and Secretary of State Mitt Simms, this amount of approximately \$150,000.00 it was estimated by Engineer Sellew, would entirely complete the project, including the extension canal and the main dam. It being estimated that it would take \$85,000.00 to \$90,000.00 to complete the dam and the balance would be used in repairing the main canal and constructing the Extension Canal across the "Big Hollow."

At this time the first loan was taken up, principal and interest, and absorbed in the second loan for \$20.00 per acre, the State refused to advance the money on the second loan until first mortgages were given, and proxies giving them full power and authority. From this time on the Board of Directors of the Lyman Water Company were powerless to stop the wasteful expenditure of money, and had no say whatever as to the methods pursued, having been curtly informed that "they had had their opportunity and failed to succeed."

Engineer F. L. Sellew had charge of the work from the 1st of March, 1919, to February 1st, 1920, all of which was carried on under force account; during Sellew's administration, there was expended \$174,391.53, according to the State Treasurer's report; this was some of the most expensive work for the least results of any that was carried on.

Engineer H. B. Fleshman was appointed by the State Loan Board to replace Engineer Sellew, taking charge on February 1, 1920, and continuing until September 1st, 1922. At this time all plans heretofore adopted were abandoned and new plans and specifications were drawn. During this period there was expended \$340,537.47, this required a THIRD STATE LOAN of \$25.00 per acre or a total STATE LOAN of approximately \$45.00 per acre. This loan was made during the period of June 1st, 1920, to July 1st, 1921.

We feel that had the Hinderlider, Asplind plans, as approved by Quinton, Code and Hill been carried out that according to the estimates then made the completed dam would not have cost to complete over \$90,000.00, adding to this the cost of the canal system amounting to \$127,707.00, making a grand total of \$217,707.00; whereas there was actually expended under Engineers Sellew and Fleshman the sum of \$514,929.00, leaving an excess cost of \$297,222.00 which amount we maintain is that much in excess of what the project should have cost. In addition to this due to the delay in the completion of the project the stockholders lost some two seasons, which has resulted in great hardships to the community and an inestimable loss in dollars and cents.

In view of the fact that the cost of the original construction was approximately \$195,000.00 and a large portion of this is still being carried as individual loans at a high rate of interest and the principal of the present state loan is \$629,672.66, and in addition, there is some \$80,000.00 in delinquent interest which it is impossible for the stockholders to meet at this time; in view of the enormous excess cost in the reconstruction, we feel that the only possible solution of the problem, so as to validate the loan made by the State of Arizona, and make it possible for them to be repaid the principal, and to give the owners of the project a chance to recuperate their losses, and have sufficient time in which to bring under cultivation develop and improve their farms, will be to cancel the interest for a period of ten years or more from the date of the last loan about July, 1919, and defer all payments on the principal for the same period of time.

If this is done the people will take hold of the project with a renewed determination to improve their farms and make them productive, and thus be enabled to pay off the principal sum of the money now borrowed from the State of Arizona, together with their other heavy obligations incurred for the original construction. Furthermore in this ten years of time the assessed valuation will increase over a million dollars, and the project will make homes possible for several hundred farmers.

We feel that if such action were taken, the principal can and will be paid, and then if the Loan Board will complete the project, as we feel it should be completed with the over \$20,000.00 of funds remaining in the hands of the State Treasurer to the credit of the Lyman Water Company that then the project will be a success.

Very respectfully submitted,

J. F. CHURCH,
A. M. PATTEN,
LEVI S. UDALL,

Members of the Board of Directors of the Lyman Water Company.

Superintendent, J. FRED JOHNSON,
Secretary and Treasurer, W. A. SAUNDERS.

Section 28. That it is hereby declared that all lands hereby granted, including those which, having been heretofore granted to said Territory, are hereby expressly transferred and confirmed to the said State, shall be by the said State held in trust, to be disposed of in whole or in part only in manner as herein provided and for the several objects specified in the respective granting and confirmatory provisions, and that the natural products and money proceeds of any of said lands shall be subject to the same trusts as the lands producing the same.

Disposition of any of said lands, or of any money or thing of value directly or indirectly derived therefrom, for any object other than for such particular lands, or the lands from which such money or thing of value shall have been derived, were granted or confirmed, or in any manner contrary to the provisions of this Act, shall be deemed a breach of trust.

A separate fund shall be established for each of the several objects for which the said grants are hereby made or confirmed, and whenever any moneys shall be in any manner derived from any of said land the same shall be deposited by the State Treasurer in the fund corresponding to the grant under which the particular land producing such moneys was by this Act conveyed or confirmed. No money shall ever be taken from one fund for deposit in any other, or for any object other than that for which the land producing the same was granted or confirmed. The State Treasurer shall keep all such moneys invested in safe, interest-bearing securities, which securities shall be approved by the Governor and Secretary of State of said proposed State, and shall at all times be under a good and sufficient bond or bonds conditioned for the faithful performance of his duties in regard thereto, as defined by this Act and the laws of the State not in conflict herewith.

Twelfth. The State of Arizona and its people hereby consent to all and singular the provisions of the Enabling Act approved June 20, 1910, concerning the lands thereby granted or confirmed to the State, the terms and conditions upon which said grants and confirmations are made, and the means and manner of enforcing such terms and conditions, all in every respect and particular as in the aforesaid Enabling Act provided.

Sec. 108. State Treasurer to Invest: The State Treasurer, with the approval of the Governor and the Secretary of State shall have the power, and it shall be his duty from time to time to invest any moneys belonging the permanent funds by this Act created and established.

Sec. 109. Investment Authorized: Such moneys shall be invested in the bonds of the United States; bonds of the State of Arizona, or of the Counties, Municipalities or School Districts thereof, or first mortgages on farms lands in the State of Arizona, or as otherwise provided in this act. Provided, that the provisions with respect to first mortgages on farms lands shall not be held or construed to prohibit investment of such moneys in farm lands, under any irrigation project constructed by the United States Government

and liable, under the United States Reclamation Act and Acts amendatory thereof, for the repayment of the construction cost of such project. All applications for loans on farm lands shall be made on blank form, to be prepared and furnished by the State Treasurer, and shall be filed with the State Treasurer; provided, that no application for a loan shall be accepted for filing by the State Treasurer unless such application is accompanied by the sworn statement of three (3) disinterested owners of land situate within the County in which the land offered as security for the loan lies, who shall set forth in said statement their estimate of the actual cash value of the land offered, together with such other information as may be required by the rules and regulations to be adopted by the State Treasurer and Commissioner. If the value of the land as fixed by the three (3) disinterested owners of land, as herein provided, is less than 200 per cent of the amount of the loan applied for the State Treasurer shall reject the application and refund the fee therefor to the applicant. If the value of the land offered as security, as fixed by the County Assessor, equals 200 per cent, or more, of the amount of the loan applied for, the application shall be by the State Treasurer transmitted to the Commissioner for appraisal and recommendation as in this act provided.

Sec. 110. Rate of Interest: None of said moneys shall be loaned for a lower rate of interest than four per cent per annum and no loans on farms lands shall be made at a lower rate of interest than six per cent per annum.

Sec. 111. Loans on first mortgages on farm lands shall not exceed in amount one-half of the actual value of any tract of land the loan may cover, which value shall be determined by appraisal by the Commissioner, and without such appraisal and the recommendation of the Commissioner the loan shall not be made. There shall not be loaned on one parcel of property, or to any person, association or corporation, more than five thousand dollars. No loan shall be made upon lands without the State of Arizona, nor on lands of which the appraised value is less than ten dollars per acre, and when loans are made on unimproved farm lands they shall be conditioned upon the entire amount loaned being employed, under regulations to be adopted by the Governor, Secretary of State and State Treasurer, in the improvement of the lands forming the basis of security.

Sec. 112. Terms and Conditions of Mortgages: Said mortgages shall run for a period of not less than five years nor exceeding fifteen years; provided, that any such loan may be paid in full and discharged at any time by the payment of three months' interest in advance, in addition to the interest due at the time of said payment. In case of a loan extending over a period longer than five years, the payments for the first five years shall consist only of interest, to be paid annually, but commencing with the sixth year there shall be paid in addition to said interest, a sum which, when paid annually during the remainder of the life of the loan, will at the expiration thereof fully satisfy and discharge the debt.

Sec. 113. State Laws to Apply to Mortgages: All proceedings relating to the investment of state money in real estate mortgages shall conform to and be governed by the laws of the State of Arizona in such case made and provided. They may be foreclosed in the same manner and upon the same notice as required in other real estate foreclosures, and when foreclosure is made by action, said action shall be brought and prosecuted in the name of the State. When any such foreclosure shall be made, the farm land so becoming the property of the State shall be administered by the commissioner for the benefit of the fund from which the moneys loaned on said land were derived, as provided by law for the administration of other lands of similar character.

Sec. 114. Assignment of Mortgages: The State Treasurer, by and with the approval of the Governor and Secretary of State and Commissioner, is hereby authorized and empowered to assign any or all of said mortgages, whenever in their judgment it will be for the best interests of the State so to do; provided, however, that they shall not accept as a consideration for said assignment any amount less than the principal and interest due upon said mortgage or mortgages. Such assignments when made shall be executed by the Governor and attested by the Secretary of State with the great seal of the State of Arizona attached.

Sec. 115. Warrants on Permanent Funds: In the investment of the permanent funds as herein provided, the State Auditor is authorized to draw his warrant on the State Treasurer, payable out of the proper fund, for the purchase of the bonds or mortgages or for a loan, as the case may be, which warrant, previous to delivery to the person entitled thereto, shall be registered by the State Treasurer in a book provided for the purpose.

Sec. 116. Record of Investments: The State Treasurer in a book provided for that purpose, shall keep an accurate account of all investments of permanent funds, and of all payments of principal and interest thereon. He shall collect all moneys due and owing on any and all of the securities held by him for permanent funds and shall semi-annually, on the first day of June and the first day of December of each year, and at such other times as the Governor may direct, make a statement showing in detail the status and condition of all such investments, and when any such moneys shall remain unpaid for thirty days after the same shall become due and payable, he shall report the same in detail at once, and whenever it shall seem to be for the best interests of the State so to do, the Governor and Secretary of State shall place the claim in the hands of the Attorney General for appropriate action, and it shall be the duty of the Attorney General to proceed to collect the sum owing and due the State, in a civil action to be brought and prosecuted in the name of the State.