

THE NEWTOWN SHOALS.

First Step Toward Improving the Channel of the Sacramento.

Report of Engineer Nurse on Their Removal.

Also That of Commissioner of Public Works Leake.

Read Before the Auditing Board at Its Meeting Yesterday.

The Auditing Board to the Commissioner of Public Works met in Commissioner Leake's office yesterday for the purpose of receiving the report of the Commissioner and his engineers regarding the proposed work on the river, and for transacting any other business which might come before it.

On motion of Mr. Markley, the invitation was accepted. Besides the Auditing Board and the officials of the Public Works Department, there were present J. R. Price, Highway Commissioner, and P. A. Krull, W. J. Hinsdale, J. B. Cave, Dr. Snider, J. King and others representing the property owners along the river.

LAND OWNERS TALK. Messrs. Krull and Hinsdale addressed the board, and evidently had an idea that no steps whatever had been taken by that body along the lines laid down by the Act of the Legislature which created and defined its duties.

Mr. Hinsdale also had a plan for reopening Jacob's Slough, which was formerly the outlet for the Yolo Basin, and stated that a canal could be put through, insuring the drainage of the basin for a sum not exceeding \$100,000.

Chairman Corcoran explained to the farmers that if they would perfect an organization and insure that levees along the river would be raised above the easements under consideration, the board would have something definite to work upon, and would, he had no doubt, respond to the wishes of the land owners and assist in confining the water to the natural channel of the river.

Then the board got down to work, and after the minutes of the previous meeting had been read and approved, Chairman Corcoran called for Commissioner Leake's report upon the surveys and boring recently made under his direction at Newtown Shoal, above Rio Vista, and other work authorized and recommended by the board.

Commissioner Leake submitted and read his report, as follows: COMMISSIONER LEAKE'S REPORT. To the Auditing Board of the Commissioner of Public Works—Gentlemen:

In response to your resolution, requesting that this office report a plan for the improvement of the Sacramento River, showing various works to be performed in the order of their necessity, etc., I submit herewith the report of the engineer in charge, prepared after as thorough an investigation of the matters relating thereto as was possible in the time at command.

Your honorable board has heretofore been acquainted with the fact that there is not sufficient data in this office from which to formulate a plan for the rectification and improvement of the San Joaquin River and Stockton and Mormon Channels, and from which to estimate the cost thereof. The only survey of those streams ever commenced by a State engineer is yet incomplete and very indefinite.

Captain C. E. Gillette of the Government Engineers promised this office a blue print, which would furnish the necessary data, but it has not yet been received, and until it comes to hand, I submit herewith the report of the engineer in charge, prepared after as thorough an investigation of the matters relating thereto as was possible in the time at command.

The State has obtained a sufficient guarantee that the levees on the right bank of the river in Yolo County will be maintained at a proper height and the right of way afforded by the property-owners, that the Auditing Board authorize this department to construct easements in accordance with the recommendations and plans of the engineers.

I further recommend that a full and accurate survey be made with a view to preparing plans of work and estimates of cost for strengthening and enlarging the levees to such dimensions as will be necessary to carry the regulated flood volume that will follow the construction of the proposed easement in the vicinity of Elkhorn ranch.

I recommend that a copy of the engineer's report be furnished to the Government Engineers, and that they be requested to consider the same and fix a time when they will confer with representatives of the Auditing Board and the Commissioner of Public Works, with a view of harmonizing opinions and co-operating in the work of river improvement. Respectfully submitted,

ED. E. LEAKE, Commissioner of Public Works.

REPORT OF ENGINEER IN CHARGE. Commissioner Leake proceeded to read the report made to him by Engineer Nurse, which was as follows: Hon. Ed. E. Leake, Commissioner of Public Works—Sir: I herewith respectfully transmit my report upon matters communicated from you bearing date of June 2, 1897, relative to supplying such information as was requested by resolution of the Auditing Board at a meeting held May 31, 1897. Such resolution recites:

First—That the Commissioner of Public Works be requested to supply to this board at its next meeting, a plan for the improvement of the Sacramento River, showing various works to be performed in their order of necessity, together with an estimate of the cost by items and all other information available touching upon the subject.

Second—That the Commissioner be requested to supply this board with a plan at its next meeting for the rectification and improvement of the San Joaquin River and Stockton and Mormon Channels, showing cost by items of the different works necessary in the order of their importance, together with such other information touching upon the subject as may be available.

Owing to the limited time given in which to collect and prepare the necessary data and detail of estimates requested by the Auditing Board, I have been compelled to direct attention to such features of the river improvement problem as have been heretofore partially investigated and pronounced most injurious to the navigation and drainage interests of the lower Sacramento Valley. Hence, the report here presented is devoted exclusively to such data of estimate of the least possible cost required to execute the essential features of a general and complete plan of river improvement submitted in the report of J. R. Price to you, under date of November 15, 1896.

In the report of State Engineer Ham Hall, to the Legislature of 1880, it is represented that "although the ground work for the study of drainage has been in a great measure laid in the San Joaquin Valley, I have not been able to secure data concerning flood phenomena which are necessary for the discussion of this particular subject in that valley." Furthermore, while the deficiency in navigation facilities is an ever present inconvenience and serious drawback to the welfare of the valley, it must ever remain a delicate work to establish and maintain the best possible conditions in the channels of this river for purposes of navigation, and the volume of water habitually carried by it is barely sufficient to admit of its successful treatment as a navigable stream.

To properly discuss this matter of flood volumes and channel capacities would necessitate much more data than is at my command. Thus it will be seen that the San Joaquin river as a flood phenomena non-navigable had been sufficiently investigated by the State Engineer Department to justify the formulation or submission of a plan for even partially successful treatment in the line of commercial needs or greater flood carrying capacity.

It is thus absolutely impossible to offer any meritorious plan of improvement, estimate of cost, or suggest in detail the location of any system of improvement of the San Joaquin River or navigable sloughs referred to in your resolution, requesting such plan until such actual surveys as may be required to complete the insufficient data of this office have been made and completed.

If the Government engineers will collect and compile the data and indicate the nature of the improvement to be made, it shall be my effort to devise a plan for effective treatment of the difficulties, and prepare estimates of cost for such improvement. The present Commissioner instituted researches in the San Joaquin for essential data in the early part of his administration and earnestly sought to extend such investigations throughout the scope of commercial need and drainage interests, but was prevented in the further prosecution of such work by conditions over which he had no control.

The Chairman of the Auditing Board, with yourself and Messrs. Price and Manson, as advisory engineers, called upon the Government Engineers, so I am informed, and at that meeting Captain Gillette, then in charge of the San Joaquin River, stated that he would in the future furnish his report of the necessary data for San Joaquin River work. Not having received any report from the Government Engineers, it renders it impossible for me to give any estimate of the cost of, or set forth the nature of the work required on the San Joaquin River.

jetty system aided by efficient dredger work through the shoals and along the westerly shore of Wood Island fully serving the interests of navigation and becoming as well an important factor of relief to the flood devastated country above.

In order to determine the character of material composing these shoals, a series of wells at irregular distances apart have been bored to a depth of twenty-five feet (and in some instances nearly forty) below the low tide elevation of Suisun Bay on fixed lines extending from the right bank out into the channel for over 1,000 feet, and samples of each stratum in determinate order secured, properly labeled and presented for your inspection and guidance.

Still, sand and gravel strata of variable depth overlying a substratum of clay that in very few places rises to an elevation within eighteen feet of low tide in Suisun Bay constitute the shoals.

From the material as shown by the map delineating the character and depth of each stratum, and the samples shown by the samples themselves, it is conclusively determined that a considerable depth and portion of the shoals may be removed in time by the scouring force of the concentrated volume following the construction of a thorough jetty system from selected points in the left bank and extending outward so as to confine the flow to effective limits.

Though such system of jetties alone would probably bring about no violent or sudden improvement to the river channel, it would at once arrest the injurious agencies now at work and steadily aid the force of nature in opening, enlarging and maintaining an improved channel through the shoals.

In pursuance of said resolution passed by your board, I desire to name the work as to its importance as follows: First—The reduction of the Newtown Shoals to conform to a channel of a mean depth of twenty feet below low tide in Suisun Bay, and of a uniform width of 1,000 feet.

Second—The closure of the Hershey Butcher crevasses on the right bank of the Sacramento River, and the Elkhorn ranch and the confluence of the Feather and Sacramento rivers and the substitution thereof of a concrete and rock easement of a length of 3,000 feet and with a crest or elevation five feet below the high water line of January, 1894.

The importance of these particular works cannot be separated for by the union of action of the two, I regard the success of river improvement. A beginning, however, must be made and I would very respectfully suggest that the work on the Newtown Shoals be commenced and immediately executed to a successful termination.

The plan of improvement I would recommend will consist of a system of jetties assisted by such dredging as may be found necessary to produce the required channel way. I would recommend the construction of a system of curtain jetties as shown on plan of this section of the river placed at distances of 500 feet apart and projecting from the shore line on the left bank of the new channel. The proposed channel will have a surface width at high tide of 1,000 feet, and shall be excavated and improved as to produce a uniform waterway of 20,000 square feet cross section below the line of low tide in Suisun Bay.

From the indications of other sections of the river, I am convinced a waterway over or through the Newtown Shoals of the dimensions above given once established would remain practically permanent. The samples of materials taken from the borings of the Shoals indicate a very heavy sand deposit bordering on to small gravel. It will require the concentration of all the water power available to remove the material by scour and might require the contraction of the river channel more than above indicated to accomplish the work. For this and other reasons I would recommend the use of hydraulic dredging in conjunction with the jetty system.

From an examination of the plan of river at Newtown Shoals, shown on map of same herewith presented, it will be observed that I have located the proposed jetties 500 feet distant from each other measured down the stream. It will require seven lines of jetties varying from a length of 300 feet at the upper point to a length of 1,355 feet at the maximum.

I would recommend as follows: Five jetties composed of a single row of piles driven to a solid foundation at least five feet below the mean depth of the proposed stream. At the west end of each jetty, a cluster of three or more piles driven to a depth satisfactory to the Engineer in charge and strapped and bolted firmly to each other on the surface. At the present shore line, a cluster of piles three in number well driven, to which a cable shall be anchored. Between the two extremes of these jetties, a single row of piles at least twenty inches in diameter and driven twenty feet apart from center to center, and at such depth as the Engineer may direct.

To the pile cluster on the present shore line, a cable wire shall be securely fastened and run thence at an elevation of mean tide, passing through an auger hole in each pile thoroughly fastened to the cable wires, and finally securing the westerly end of said wire to the cluster on the proposed shore line, thus tying each pile to the other and to each cluster. The cable shall not be less than three-eighths of an inch in diameter, galvanized and covered with a minimum sheath of 708 feet, and a maximum of 1,455 feet, to be constructed in the same manner as the first above described jetties, except that in place of fascines there shall be substituted a system of trees anchored to the wire cable, and floating with brush end down stream. These trees shall be weighted so as to furnish low tide and the stream to the satisfaction of the engineer in charge. It will require 3,733 feet in length of these jetties, as shown on map herewith presented.

Secondly—I would recommend the construction of three lines of jetties having a minimum length of 708 feet, and a maximum of 1,455 feet, to be constructed in the same manner as the first above described jetties, except that in place of fascines there shall be substituted a system of trees anchored to the wire cable, and floating with brush end down stream. These trees shall be weighted so as to furnish low tide and the stream to the satisfaction of the engineer in charge. It will require 3,733 feet in length of these jetties, as shown on map herewith presented. The number of trees to each jetty shall be determined by the size and effectiveness of the same, and the cost of construction of fascines system of jetties at \$12,780; the cost of the tree jet-

ties at \$5,719; total, \$18,499. The present channel between Wood Island and the west shore line of the river is not of such dimensions as would safely discharge the volume of water presented by the channel formed by the jetty system, and should be enlarged by the excavation of 1,303,000 cubic yards of earth. The scouring power of the water will not be adequate to this task, or at least will take several floods to adjust the channel to the required capacity.

I am of the opinion that this work should be prosecuted coincident with the building of the jetty system, in order that the scouring power of the water may be more effective in the jetty department.

Again, it may be necessary to assist the jetty channel by a system of dredging. In view of these facts, it leads me to the consideration of the best and cheapest plan of operation.

I am persuaded by personal inquiry that no machine except one that will deliver the spoils from 500 to 1,000 feet from the present location of the earth will satisfy the conditions to be met. In view of this fact, if the work is to be let by contract to the lowest responsible bidder, it will cost not less than 10 cents per cubic yard to remove the same. This, in view of the fact that it will require the excavation of probably not less than 1,000,000 yards on the shoals, convinces me that some method other than by contract for dredging should be adopted. To make the work effective and at the rate above stated, it would probably cost \$230,000 to make the necessary excavation.

I am convinced by investigation that the dredging work will cost much less if the State should see proper to purchase and equip a hydraulic dredger, and operate the same under efficient and skilled assistants.

The rectification of the channel at the confluence of the Steamboat and Cache Sloughs and at Old River with Steamboat Slough should be accomplished, if possible, the former work requiring some dredging; the latter can be done by the construction of a jetty.

The construction of the necessary easement, as stated in the work required in the beginning of this report, on the right bank of the Sacramento River above Elkhorn ranch, involves a knowledge of the surface of the ground on which it is to be located, and, finally, the proper survey to determine the same. Not having been authorized to proceed with the survey, I can only give a general plan of the easement I would use and the probable cost of the same.

The plan of the same is shown in cross section and plan herewith presented. It will consist of concrete walls with rock filling and concrete apron. The presumption is that between the concrete walls, as shown on plan, heavy stone will be placed weighing 500 pounds or more, well wedged with smaller rock.

I estimate that a weir constructed upon the plan here shown and of 3,000 feet in length will cost not less than \$30,000. The amount of work required to render the river front in good condition to support the weir has not been considered for the reason above stated, and that no survey has been made. Respectfully submitted,

M. A. NURSE, Engineer in Charge

The members of the Auditing Board spent considerable time in examining the maps and cross-sectional drawings of the Newtown Shoals made by Engineers Nurse and Randall, and seemed convinced that the plan for reclaiming the river was a proper one. Much interest was taken in the drawings representing the proposed jetty system.

COMMISSIONER LEAKE'S SUGGESTION THAT A COPY OF THE ENGINEER'S REPORT BE FURNISHED TO THE GOVERNMENT ENGINEERS, and that they be requested to fix a date to confer with representatives of the Auditing Board and the Commissioner of Public Works with a view of harmonizing opinions and co-operating in the work of river improvement, was taken up, and met with unanimous approval.

A resolution by Mr. Markley appointing Commissioner Leake, Chairman of the Auditing Board Corcoran and Chief Engineer Nurse a committee to wait on the Government Engineers at San Francisco, was adopted, and a telegram was ordered sent to Colonel Suter, asking whether it will be agreeable to have the conference on Saturday next.

SAN JOAQUIN SURVEY. As there is, according to Engineer Nurse's report, no available survey of the San Joaquin River, the board, by a unanimous vote, adopted a resolution authorizing such survey to be made by Engineer Nurse, and instructing him to report at the earliest possible date the cost of putting the river in a good navigable condition.

EASEMENTS AND LEVEES. While a preliminary survey was made last spring by Engineers Price and Manson of the Hershey and Butcher breaks, a short distance below the mouth of the Feather River, on the Yolo side, and a report estimating the probable cost of constructing easements at those places, was made, the board recently was more actively engaged in the work done, and a resolution providing that a survey of the right bank of the river, from the head of Cache Slough to a point opposite the mouth of the Feather River, be made by the Commissioner of Public Works, was adopted unanimously.

In making the survey the height of levee required will be staked, and the board will, when assured that the property owners will raise their levees to the point indicated by the engineers, take steps for the filling in of the breaks and for the construction of easements.

THE DREDGER. Throughout the meeting not one word was said about the purchase and operation of a dredger, though it was said to be tacitly understood that if the Government Engineers approve of the report sent in by Engineer Nurse steps should be immediately taken for carrying out the idea had by the Legislature when the Act creating the Auditing Board and defining its duties, was passed.

When, late in the afternoon, an adjournment was taken, it was understood that another meeting would be called in about two weeks, at which time it is expected the question of the purchase of a dredger will be called up.

Strange but True. Dr. Craig's cure cures catarrh, rheumatism, kidney troubles and diseases of the nervous system without the use of poisonous drugs. Advice free. Letters containing stamps will be answered. Office, Singleton Bldg., Fifth and K.

FIRST HOPE FIRE.

Fred Menke of Perkins Loses About a Thousand Dollars.

The season for hopfields fires is now on, and returns are beginning to come in. The first sufferer of the season is F. W. Menke, whose hopfields are near Brighton. At an early hour yesterday morning a fire broke out in one of his drying-houses, destroying the building and a large batch of hops that were being dried. The loss is about \$3,200, insured for \$2,200.

Had not a stiff south breeze been blowing at the time all the buildings and the entire hop crop, just harvested, would have been destroyed.

Demand for Stenographers.

In the last year there has been an increasing demand for stenographers and shorthand writers, principally for business houses. This demand is mostly for young men. The Sacramento Business College has fitted a large number, but we are informed by the Principal, Professor Atkinson, that it has been impossible to fill all the positions offered.

Accident to a Florinist.

While trying to stop a runaway team on Tuesday Cyrus Towle, a Florin orchardist, was knocked down by the runaway team and run over. No bones were broken, but he was severely bruised and shaken up.

The Charge Dismissed.

Justice Gandy of Oak Park has discharged Mrs. Annie Baum, whose neighbors complained recently that she had been in the habit of cruelly beating her step-daughter.

It Pays to Investigate.

See and try the improved "Domestic" and \$35 Premier Sewing Machine before buying. Tommer's, Ninth and J.

McMorry sells groceries. Agent for Coronado water and Stockton sarsaparilla and iron. 531 M street.

To-day's Special Sale

Sacramento's Exclusive Dry Goods Store.

Grass Linen Eton Suits, Ladies' All-wool Check Dress Skirts, Gingham and Satene Underskirts.

At 79c. Ladies' Lois Fuller Black Satene Skirts, with six-inch ruffle; all sizes. Value for \$1.25. SALE PRICE, 79c. EACH.

At 84c. A lot of Ladies' Black Satene Skirts, with ruffle; well made. A bargain at 75 cents. SALE PRICE, 84c. EACH.

At 88c. Ladies' Black Satene Skirts, double ruffles with four rows of piping; well made in every particular. Value for \$1.50. SALE PRICE, 88c. EACH.

At 38c. A lot of Ladies' Gingham Wash Skirts, with ruffle. Worth 50c. SALE PRICE, 38c. EACH.

At 90c. A lot of Ladies' Sarsaparilla Gingham Skirts, made to our special order, a splendid everyday skirt. Worth \$1.25. SALE PRICE, 90c. EACH.

At \$2.85. Ladies' All-wool College Check Dress Skirts; sizes 36 to 46; medium size check; well made. Regular price, \$3.75. SALE PRICE, \$2.85.

At \$3.75. Ladies' All-wool College Check Dress Skirts; an excellent skirt for general wear. Regular price, \$5.00. SALE PRICE, \$3.75.

At \$3.50 and \$4.00. Two lots of Ladies' Grass Linen Eton Suits, made to our special order. Regular prices are \$5.50 and \$6.50. SALE PRICES, \$3.50 AND \$4.

B. WILSON & CO.,

N. E. cor. Sixth and J Sts.

NEW TO-DAY.

Notice of Trustee's Sale of Real Estate.

WHEREAS B. LABS, THEREZE LABS and Marie K. Labs made a certain deed of trust to Frank Miller and C. F. Dillman to secure certain indebtedness to the National Bank of California, O. Mills & Co., which said deed of trust is dated September 18, 1894, in book 152 of Trust Deeds and Agreements, at page 133, Sacramento County Records.

Whereas the said B. Labs, Thereze Labs and Marie K. Labs for the purpose of redeeming the same, have caused to be filed in said deed of trust above referred to, made another deed of trust to the said Frank Miller and C. F. Dillman dated October 6, 1894, which was recorded October 8, 1894, in book 152 of Trust Deeds and Agreements, at page 132, and

Whereas, default has been made in the payment of the indebtedness described in and secured by said deeds of trust and application has been made to the undersigned trustee named in said deeds of trust by the said National Bank of California, O. Mills & Co., owner and holder of the indebtedness secured thereby, to sell the real estate hereinafter described, being all of the real estate described in and conveyed by the said deed of trust dated October 6, 1894, with exception of lot 6 and the west half of lot 5, in the block bounded by 8 and T and Eleventh and Twelfth streets of the City of Sacramento, which said lot 6 and west half of lot 5 have been heretofore released and reconveyed by us as such trustee: Now, therefore, notice is hereby given by the undersigned, Frank Miller and C. F. Dillman, the trustees named in said deeds of trust, that under and in accordance with the provisions of said deeds of trust, we will on SATURDAY, the 19th day of September, 1897, at the hour of 10 o'clock a. m., in front of the County Courthouse door, at the corner of Seventh and I streets in the City of Sacramento, County of Sacramento, State of California, sell at public auction to the highest bidder for cash, in United States gold coin, the real estate hereinafter described, to-wit: All of lots 3 and 4 and the east half of lot 5, in the block bounded by 8 and T and Eleventh and Twelfth streets of the City of Sacramento, County of Sacramento, State of California, and also all of the block bounded by "North B" and "A" and Twelfth and Thirteenth streets, of said City of Sacramento, except a small triangular shaped strip of land in the northwest corner of lot one in said block, containing 350 square feet, more or less, and being the same strip described in the deed of reconveyance from us as such trustee to B. Labs and his wife and in the deed of B. Labs and his wife and in the deed of B. Labs and Thereze Labs to the said National Bank of California, O. Mills & Co., dated August 18, 1894. Dated this 23rd day of August, 1897. FRANK MILLER, Trustee. C. F. DILLMAN, Trustee. C. H. Oatman, Attorney for Trustees. 4028-14-W-TH

For the Best Laundry Work

Coronado water, Stockton sarsaparilla and iron, champagne cider, ginger ale, orange cider. J. McMorry, agent.

Solid Oak Bedroom Sets, 7 Pieces... \$25. The Bedroom Set that we are offering for \$25 has extra heavy side rails. It's really a \$30 set, but we have made the price \$25, so as to keep all the furniture business at this store. The mirror is 24x30 German bevel plate. Set includes bedstead, bureau, washstand, table, two chairs and rocker.

AMUSEMENTS. METROPOLITAN THEATER. THURSDAY AND FRIDAY NIGHTS, Aug. 26 and 27. Sixth Annual Tour and Annual Engagement in Sacramento of Mr. JOHN DREW ROSEMARY. "That's for Remembrance." By Louis N. Parker and Murray Carson. "Rosemary is picture perfect."—San Francisco Examiner. PRICES—50c, 75c, \$1 and \$1.50. Reserved seats on sale all day. AUCTIONS. AUCTION SALE—GRANDEST COLLECTION of Japanese Rare Art Works and Curios, including bronze dragon, costing 1,500 yens in Japan. This is the only collection of strictly art and antique goods ever made in Sacramento. On free exhibition tonight, 623 J street. At auction, commencing THURSDAY, August 26th, at 2 and 7:30 p. m. BELL & CO., Auctioneers. R. E. GREER & CO., General Auctioneers. Cash Paid for Household Goods. Office and Salesroom, 1004-1006 J St. Capital Tel. 506. Your Grocer Will Give You FREE TEASPOON White Cloud Floating Soap. THE DAILY RECORD-UNION! Issued Every Day in the Year, INCLUDING SUNDAYS. NO INCREASE IN PRICE. ONLY 65 CENTS Per month, delivered at residences by carriers. The Sunday Issue, A magnificent 12-page (84 columns) paper. Only 25 Cents per Month, Delivered by Carrier. Has a large independent circulation. Advertise in it. EVERYBODY READS IT. All regular ads. appear in the Sunday issue. No longer any necessity to wait for the San Francisco papers on Sundays to get the news. Leave orders at the "Record-Union" office, at A. C. Tufts' drug store, Tenth and J, or A. T. Baker's grocery, Railroad and Magnolia avenues, Oak Park.

BE WISE. In the selection of your Crockery. It always pays to buy a little better article, as it looks nicer, wears better and lasts longer. Cheap, flashy crockery soon turns color, the glazing cracks and your dishes are fit for nothing but the scrap pile. We are EXCLUSIVE CROCKERY DEALERS. We understand all the different qualities of ware and buy direct from factories, consequently we buy GOOD WARE for the same price that other houses pay for a poor article. You get the benefit of our knowledge by trading with us. Sacramento Glass and Crockery Co., CHINA HALL, - - 629 J STREET.