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OFFICES, AMERICAN TRUST BUILDING, CHICAGO

THE SANITARY AND SHIP CANAL

Length 32 Miles Depth 22 Feet Width 160 Feet

THE CANAL OFFERS

Industrial Locations Dock Facilities Water Transportation
Railroad Connections Hydro-Electric Power
Concrete Building Material Prospective Gulf Connection

W R I T E F O R P R O S P E C T U S

Chicago Sanitary District Board of Trustees

BY MAIL

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RIVER GATEWAY TO CANAL.

BUILDING 60 MILES OF INDUSTRIES

Being a promise of the results that will come from the business-like development,
now under way, of the great sanitary canal district.

Reprint from The Sunday Record-Herald, Chicago, April 28, 1907.



THE "Greater Chicago" cry has found echo thirty miles to the southwest. With the city crouching, ready for the leap into the greater greatness that should have been hers a good while ago, the men that control the city's \$50,000,000 canal investment are working quietly and hard to make that investment one of the greatest factors in the coming unprecedented prosperity.

The work of the Sanitary District trustees for the instant is to correct the common error that the canal is merely an open sewer. It is a campaign of education first and one of the greatest industrial projects in the history of the country second. The trustees have found since they began to boom the canal commercially that there are many business men even in Chicago that always have believed the canal to be a sewer and nothing else. To be sure, they have heard some desultory and vague talk in the papers about developing the canal district industrially, but they never took it seriously. Under the old bi-partisan administration, in fact, when the two party machines clinched control of the board by nominating between them only enough candidates to fill the places instead of full opposition tickets, Chicago business men did not have much time to listen to canal talk, anyway. It all smelled graft. So a true business administration of canal affairs has been forced to overcome this feeling before it could make the owners of the big industries sit up and listen when development of the canal was talked. Big and little captains of industry outside of Chicago also have shared the sewer idea of the canal and had to be instructed. Perhaps the name "sanitary" has been against the canal in an industrial way. At any rate, the trustees only now are succeeding in getting the vast industrial possibilities of this remarkable artificial water way before the people that ought to understand them.



GREAT STONE PILES AT ROMEO.

Project Really Simple.

The industrial development of the canal as an understandable business proposition is just as simple as it is big. A considerable amount of mystery and complication has been thrown around it in years past, perhaps for a purpose. At this important juncture in the building of a vast industrial strip thirty miles long on both sides of the canal the trustees are not taking into consideration the possibility—or probability—of the canal becoming a part of the “lakes to gulf” water way plan that is hatching. Instead they are going ahead on a basis entirely distinct from the deep water way scheme—on the basis of what they have and not what they may get in the future. If sea-going ships ever are able to loop the loop from Atlantic to Atlantic by way of Chicago and the canal it will be a great thing for Chicago and the canal district; if they never are able to do this the plan that is being worked out now will not be affected.

After hammering at the manufacturing public to correct the erroneous impression that the canal was a sewer, the trustees have gone further and are showing this same public that in fact the canal is an extension of the Chicago harbor thirty-two miles long. The big ditch runs through an extremely rich farming country and at points cuts through virtually inexhaustible stone deposits. It is 160 feet wide. The biggest ships that sail Lake Michigan can pass from the lake through the river to any point on the canal, for it is twenty-two feet deep its entire length. Much as the sanitary canal has been talked of, the fact that it is wide enough to accommodate the largest vessels on the lake all the way to Lockport has not dawned on many Chicago business men.

Look Out for Factories.

Here then, is a sheltered harbor, thirty-two miles long, accommodating the biggest boats on the lakes, reaching by way of the river through the second largest city in the country and tapping on the southwest side of the city the great industrial district that has grown up along the river. The very business-like idea that came to the canal trustees was: Why should not these magnificent harbor facilities be utilized to the enormous profit of the City of Chicago and in such a way as to pay returns to the people of the Sanitary District on their vast expenditure of \$50,000,000 in building the canal? Why not? There was only one answer and that is the work now being done.

A committee of board members was appointed to work out the details and push the plan along. The first thing the

committee did was to get in touch with an official of the Corn Products Refining Company, who had been deputized to select a site for a great central plant for that concern. The official in question saw the point, or rather the advantages of the proposition and reported favorably. The company therefore decided to establish its big plant at Summit, on the canal, and to spend \$5,000,000 in doing it. This is the largest private enterprise established in the vicinity of Chicago in two decades with the exception of the new steel plant at Gary, Indiana.

The official of the Corn Products Company had looked over every available site from Vermont to the Missouri River. In selecting the canal two things weighed heavily—the shipping facilities and the closeness to the great American corn belt. The first consideration weighs with any industrial concern. Summit is only eight miles down the channel, at the point where the Belt Line of the Chicago Terminal Company cuts through. The Corn Products Company selected 110 acres of land and made arrangements with the trustees for docks on which to erect the necessary warehouses and freight stations. The company expects to handle 400 cars of freight daily and it is the plan to do much of it by water. A car ferry system will be installed. The plant will employ 2,000 hands and that many are to be put to work erecting it. The structure will be entirely of concrete and will represent all the available wisdom in industrial construction work. The stone will come out of the huge piles that line the banks of the canal.

Income to be Enormous.

This Corn Products plant is the best illustration that could be given of the method by which the trustees expect in time to develop the thirty-two-mile waste of prairie and stone pile into one of the liveliest industrial centers in the world. The Sanitary District owns 5,500 acres of land abutting on and lying on both sides of the canal. This property varies from 270 to 2,000 feet in depth back from the canal. Virtually all of this land is suitable for industrial purposes. It is high and dry. It is accessible to twenty-six railroads and by water to the markets of the world. The trustees of the Sanitary District will construct the docks, or rent the water frontage for this purpose and charge rent. The possible income from this source is enormous. So far the incoming rentals of the district amount only to \$25,000 a year, but this is a drop in the bucket compared with the figures to which these rentals are expected to amount as the industrial development proceeds. All this would not be so interesting if the property were private and the income from it went into the pockets of individuals. But it is



REAL ESTATE BOARD MEMBERS ON CANAL INSPECTION TOUR.

direct gain to the public that has been taxed for nearly twenty years to meet the enormous outlay connected with the project. Also it is so much of a novelty for the public to get anything back that it is likely to be greatly surprised when it begins to reap the direct benefits of the new industrial location policy.

Big Future for Summit.

It is possible to run the income to the Sanitary District from its rental source up into the hundreds of thousands annually, and if this is not done it will not be the fault of the committee of the board that has the boom work in charge. The first bridge has been crossed—the work of securing on the canal the location of the first big enterprise. For this reason much is being made of the decision of the Corn Products Company. With this and with the smaller concerns with which the trustees are dickering and which in all probability will follow the corn company to Summit or to a point near there, it is about certain as anything can be that Summit, a town at which most trains refuse to stop, will be a city of 10,000 within a short time.

There are two other phases of the canal as a business proposition rather than a sewer, and they are the electric power that is to be taken out of its current and the stone that was taken out of the cut when the canal was dug. More or less has been said and promised about both. The power and stone features are closely interlaced with the industrial development of the canal district. The industries will use the power and the stone, and the power and the stone will attract the industries. Take the item of stone alone. There are 20,000,000 cubic yards of stone, some of it in chunks as big as a freight car and some as small as the fist, lying in mountains along the banks of the canal. This material has been considered waste product and the mountains incumbrances. Twenty million cubic yards of marketable stone are worth to-day \$36,000,000 crushed and delivered in the Chicago market. It was found that the stone was of as good quality as freshly quarried stone. Some of it had been selling to stone companies at 10 cents a yard, and the companies were barging it to Chicago at a fine profit. The present board has decided that the mountainous incumbrances of the rock piles shall be turned into an asset, and a definite plan has been worked out. It was decided not to sell the stone outright, but to secure to the public a share of the profits of the business. John M. Ewen, the man who is rushing the county building to completion, is the man who has been selected by the board to engineer the scheme of converting the waste pile into money for the District. Ewen is to pay



NATURAL STONE BANKS THROUGH THE " ROCK CUT."

the District 10½ cents a cubic yard for the stone outright and a large portion of the net profits of the enterprise in addition. The plan amounts to the District going into the stone business with a competent man in charge of it.

The magnitude of this enterprise is indicated by the size and cost of the mere preliminary equipment. First, there will be enormous steam shovels which will dip down into the mountains of stone and gather it up. There will be many miles of railroad track and hundreds of freight cars. The shovels will dump the stone into the cars and it will be hauled by Ewen's locomotives to his crushers. The crushing plant will be a building as large as any grain elevator on the Chicago River and will be located at a point to be chosen on the canal. On an inclined plane the stone is carried to the top of the building, dumped into enormous crushing machines and from there dropped into revolving cylindrical screens in which it is graded into the different sizes used for the various purposes. It then will be chuted into barges and hauled by tugs to Chicago or near by railroads. The initial equipment for this work will cost approximately \$500,000. When the business is in full running order the equipment cost will be much greater.

Building Material all in Sight.

In the stone piles along the canal is material enough to construct concrete docks from the mouth of the Chicago River throughout the length of the canal, the Desplaines and the Illinois rivers to St. Louis, following the course of the proposed deep water way. Or it could be used to construct a chain of factories and warehouses all the way from Robey street, where the canal begins, to Joliet, forty miles inland. And in connection with the plan nature did a good turn for the District by beginning the stone deposits at Willow Springs, thirteen miles from the head of the canal, so that the industrial development will not have to be retarded in order to clear away the stone to make room for factory sites. After the cost of marketing the stone is covered the net profit to the district will be large enough to make a return of millions from what was looked upon for years as dead waste. It is the same principle as has been applied to every line of private industry; but the canal, not being a private industry, had to suffer a good many years before progressive management seized it.

Electric Power.

The development feature of the canal that has attracted more attention than any other has been that of possible electric power. For years the engineers had their pencils in hand figuring horse power possible and other things that might be ex-



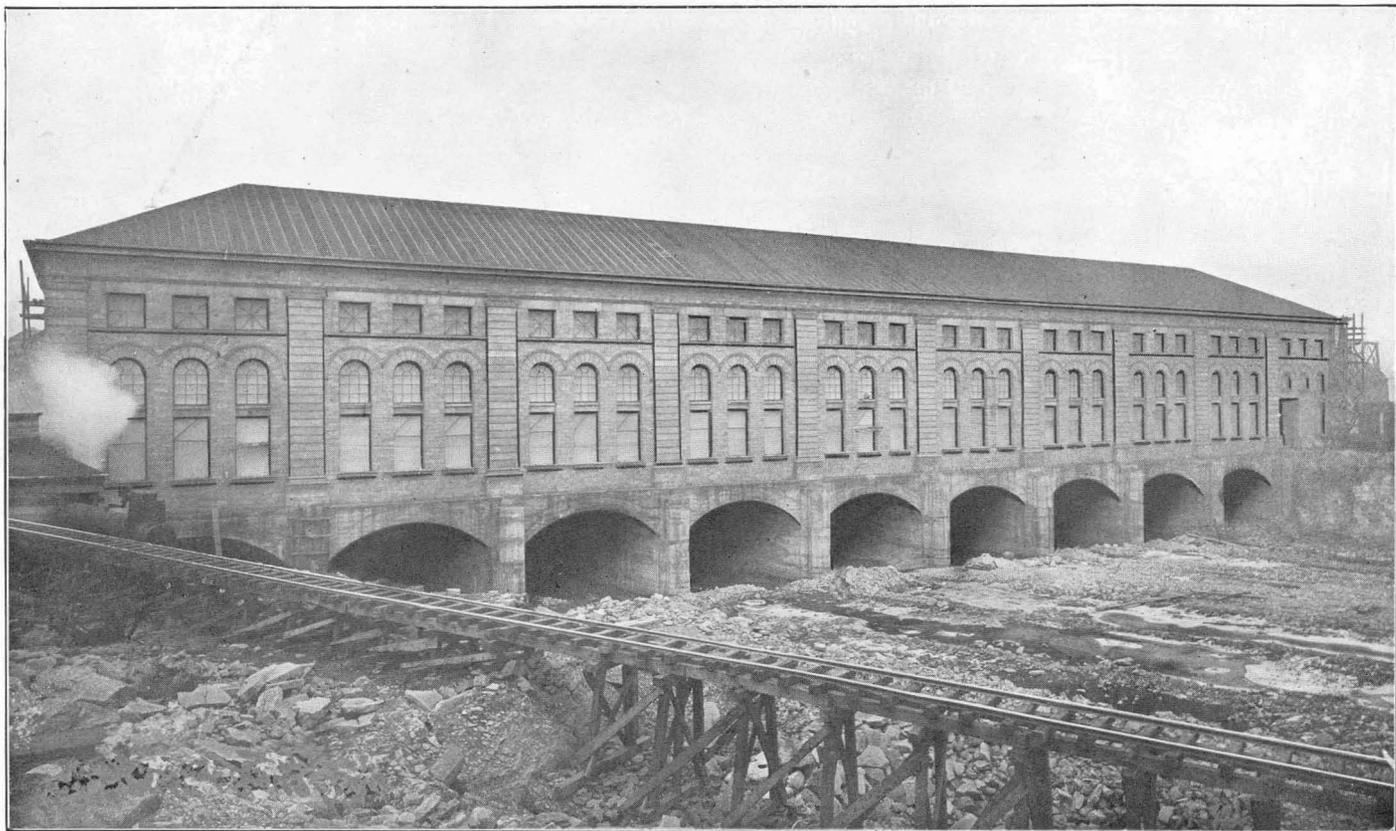
BEAR TRAP DAM AT LOCKPORT.

tracted from the current of the canal and the freak statisticians got busy and estimated the number of incandescent lights that could be operated from this current. But outside of the array of figures nothing has been done until recently in the way of real lights or power. Now the development and sale of power is actually about to be accomplished. The plant is at Lockport and cost \$4,000,000. The engineers place the marketable horse power at 40,000. The power-house is complete, the machinery installed and in a few months the construction of the head and tail race will be complete, so that the waters of the canal can be turned through this public power-house and converted into a marketable commodity. From the Lockport power-house the current is to be conveyed to a substation at Western Ave. From here power will be supplied to the City of Chicago under a contract now pending before the finance committee of the council to light all streets of the city. And this lighting contract will consume but one-quarter of the power that will be generated at Lockport. With the other three-quarters the entire street car system of Chicago could be operated and the City of Joliet illuminated or a line of factories from Robey street to Summit could be operated.

Should measures pending at Springfield be enacted into law there will be further opportunity to reap the benefit of the flow of the canal by converting it into power by the construction of another plant below Joliet, where 20,000 additional horse power could be generated. This situation has arisen from the necessity of continuing the deep water way from where it leaves off just above Joliet to a point near Brandon's Road, three miles farther on and below Joliet. This extension is necessary to prevent overflow in Joliet and to free the Joliet sewers of flood waters. At the same time the expense of this additional work can be met almost entirely by the development of power.

There is nothing visionary about this plan to supply electric power. After the municipalities within reach of the power-house are supplied there still will be 10,000 horse power, which is to be sold to power users generally at a price below the cost of steam. The development of electrical science and machinery in the last ten years has made this plan possible. Transmissions of from thirty to 100 miles are common and there are successful plants in operation where the power is transmitted from 140 to 200 miles. This Lockport power plant is to be one of the largest in the United States and no expense has been spared to make the plant modern throughout, insuring absolutely reliable service. Neither is the canal likely to go on strike, as coal miners are likely to do.

It is difficult for the trustees to predict just how much bearing the power feature of the canal will have on the in-



CANAL POWER HOUSE.

dustrial development. At the best it could be only a guess, and no guesses are being made. But as a general business proposition cheap power, cheap dock rental, unsurpassed water and rail transportation, proximity to the second largest city in the country, cheap land for sites and the other features offered by the canal district are a mighty enticing combination to manufacturers.

Chicago to Reap Profit.

Where Chicago wins in this comprehensive plan to make the canal one of the greatest industrial centers in the country is apparent. The canal district virtually is Chicago. The industrial development of the canal begins within the city limits. The evolution of the scheme means merely that from the southwest part of the city will be thrown out a line of factories and warehouses each of which will mean just that much prosperity added to the city's already splendid trade. Moreover, it is the right kind of prosperity, the kind that lasts, the kind that builds permanent homes for thousands and distributes millions in wages. Indirectly it will restore to the port of Chicago much of the water trade that has been drifting elsewhere because of the hump-backed tunnels.

Within the last month great impetus has been given this industrial movement through the special efforts of the board. The Chicago Real Estate Board has been taken over the ground and shown the unmistakable advantages and possibilities of the District. Manufacturers throughout the country are having these advantages preached to them in such a way that the old mistaken notion about the sanitary canal being merely a sewer is being dispelled abroad as well as at home.

Need of Deep Water Way.

Should Congress grant an appropriation for extending navigation from the end of the canal down the Illinois River and Mississippi River to the Gulf of Mexico, ships from the great lakes can pass through the sanitary canal and reach the Atlantic by means of this great internal water way. Such an appropriation, if it ever comes, is a good way in the future, but even as the situation stands it is much more than an idle dream. The project is being pushed actively by the Lakes to the Gulf Deep Water Way Association, which met recently in Chicago, and the Chicago Commercial Association has taken an active part in the fight. These men are not in the habit of fighting for something that is unobtainable or impractical.

One of the strongest arguments in favor of this plan has arisen unforeseen since the movement was begun, and that is

the existing traffic congestion. According to such men as James J. Hill, there is little prospect of relief from this congestion. Some of these alarmist views may have been expressed by men with axes to grind, but even if this is so it does not argue away the existing conditions, nor does it afford relief from conditions which, in view of prospective prosperity, are likely to grow worse in the future. Other countries have found internal water ways the easiest relief from traffic congestion, and this may prove part of the solution in the United States.

Ship Canal is Possible.

It has been customary to look on the lakes to gulf deep water way as a chimerical scheme and its earliest possible fulfillment so far in the future that the public at large has taken little serious interest in it. One of the big facts in connection with the plan, however, has been overlooked, and that is that the work performed by the Sanitary District of Chicago on the sanitary canal constitutes nearly two-thirds of the entire cost of creating a channel from Chicago to the Mississippi, which would be navigable for the largest boats which will be able to ply between St. Louis and New Orleans, after the present plans for the improvement of the Mississippi shall have been completed. From Lake Michigan at Chicago to St. Louis is 362 miles. Of this distance thirty-four miles are traversed by the sanitary canal and thirty-nine miles by the Mississippi River. From the end of the canal at Lockport to the mouth of the Illinois River is 289 miles. Of this distance nineteen and one-half miles are covered by the Desplaines River, which joins the Kankakee to form the Illinois. The deep water way scheme is for the general government. Already \$200,000 has been spent in surveys.

Here are some statistical facts concerning the canal:

Work on the sanitary and ship canal was started September 3, 1892, and on January 2, 1900, water was turned in. The canal filled in thirteen days. The canal begins at the west fork of the south branch of the Chicago River at Robey street, and is completed 28.05 miles to Lockport. Its minimum depth is twenty-two feet. The channel is cut partly through glacial drift and partly through rock. From Robey street to Summit, about eight miles, the channel is 110 feet at bottom and 198 feet at water line. From Summit to Willow Springs, about five miles, the channel is through earth and hard mixture. This section is 202 feet at bottom and 200 at water line. From Willow Springs to Lockport, fifteen miles, the channel is through rock, 160 feet at bottom and 162 at water line. The depth of the rock cutting in this section averages thirty-five

feet. The channel's grade is one and five-eighths inches to the mile through earth sections and three and one-fourth inches through the rock sections. At Robey street the channel bottom is 24.448 feet below Chicago datum; at Lockport, 30.1 feet. Chicago datum is 579.63 feet above mean tide at New York, and 578.56 feet above mean tide at Biloxi, Miss., on the Gulf of Mexico.

River Channel Changed.

The total amount of excavation included 28,500,000 cubic yards of glacial drift and 12,910,000 cubic yards of solid rock, or an aggregate of 41,410,000 cubic yards. One of the most interesting features of the work of construction was the diversion of the Desplaines River. As the plans provided that the channel should follow the bed of the river, it became necessary to excavate a new channel for the Desplaines River about thirteen miles in length. The new channel parallels the main channel throughout the distance mentioned, but about nineteen miles of levee had to be built in order to divorce the water of of the Desplaines watershed from the sanitary and ship canal. The width of the diversion channel at the bottom is 200 feet. At the head of the diversion it became necessary to provide a safety-valve in the form of a spillway to allow surplus water to flow toward Chicago. However, this spillway will be dispensed with when arrangements have been perfected for carrying the entire flood-waters of the Desplaines through Joliet. The material excavated from the river diversion included 1,810,000 cubic yards of glacial drift and 258,659 cubic yards of solid rock, making a grand total of 43,478,659 cubic yards of material which was excavated. The whole volume of spoil (earth and rock) if deposited in Lake Michigan in forty feet of water would make an island one mile square, with its surface twelve feet above the water line.

The withering into utter uselessness of some of the smaller internal water ways of the country has evidenced the fact that a large carrying trade cannot be done with the antiquated canal boats that served their purpose when these small canals were dug. The growth in size also of the vessels that sail the great lakes has made ship canals a necessity, and the tendency of manufacturing to hug closely the sanitary canal in even its present undeveloped commercial condition indicates the probable future importance that far-sighted business men attach to this water way.

The part the sanitary canal is to play in the industrial development of Chicago within the next five years makes it worth all the attention being given it and renders it vitally important that a strictly businesslike administration of canal affairs should be perpetuated.

M. G. S.

