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R E P O R T
of the
PORT RARITAN
DISTRICT COMMISSION

to the
Legislature of the State
of New Jersey

JANUARY 4, 1937

TENTH ANNUAL REPORT
of
PORT RARITAN DISTRICT COMMISSION

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New Brunswick, N. J.

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Director, Board of Freeholders
New Brunswick, N. J.

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JANUARY 4, 1937

EXPLANATORY NOTE

The Port Raritan District Commission was created by the 1926 New Jersey Legislature (Chapter 337 P. L. 1926). The Commissioners are nine in number and have the jurisdiction and powers set out in this act.

The Port Raritan District consists of Middlesex County, together with the Raritan River from the head of navigation at New Brunswick to Raritan Bay and all other lands and waters of Raritan Bay and the Arthur Kill contiguous thereto. It is one of the three port commissions in the State of New Jersey, the best known and oldest of which is the port commission formed in conjunction with the State of New York known as the Port of New York Authority. The other port commission is the South Jersey Port Commission which includes Trenton and the important Camden section and all of South Jersey.

TO THE LEGISLATURE OF NEW JERSEY

This is the Tenth Annual Report of the Port Raritan District Commission and it is submitted for the year 1936, during which period much waterway progress has been accomplished in the Port Raritan District. During that year, we were made to realize the distinctive benefits which were attained by reason of the unprecedented improvements in waterway transportation provided to the district by the construction of the three-ship deep water anchorage basin for ocean-going vessels, constructed by the Federal Government within a mile of the municipalities of Perth Amboy, South Amboy and Staten Island.

Almost \$1,700,000 has been expended by the Federal Emergency Administration of Public Works for these two projects alone. These projects have supplied to this port, waterway facilities which are being recognized and used by shippers all over the world. The three-ship anchorage basin has a controlling depth of thirty-three feet at mean low water. The cut-off channel has a depth of twenty-feet at mean low water for its full project width of eight hundred feet. The economic justification for the construction of both these important waterways projects having been established through the cooperation of this Commission, and the favorable recommendations of the Army Engineers having been obtained as far back as 1930, this Commission takes pardonable pride in reporting the full fruition of its endeavors as far as these two improvements are concerned.

A memorandum released by the United States Customs Service on the Port of Perth Amboy for the fiscal year ending June 30, 1936 shows total receipts on duty imposed of \$1,420,560,71; number of vessels discharged from foreign ports being 95 with a tonnage of 237,921; intercoastal vessels 15 in number, tonnage 5,883. For 183 coastwise vessels the tonnage is not available. The memorandum shows the total value of importations to be \$51,588,265 and all exports from this port by way of New York having an approximate valuation of \$45,000,000. After reading figures such as these, can there be any question about the importance of the waterways in the Raritan Bay District or the complete justification of a comprehensive plan for their further development in the years to come. This Commission is giving its full support to all works undertaken or about to be undertaken by the Federal Government in connection with improvements affecting the Port Raritan area.

In order to present a brief chronological record up to and including the year 1936, a short review of the major projects will be attempted. The new members of the Legislature will be enabled in this way to familiarize themselves with what has already been accomplished and those members of the Legislature who are already familiar with the facts will be able to readily follow the progress which has been made up to the close of the current year.

New Jersey Ship Canal.

The great Atlantic Intra-Coastal Waterway System has been connected from Key West to Trenton on the south and from New York to Boston and the Great Lakes on the north and west, but the construction of the New Jersey Ship Canal known as the "missing link" is yet unauthorized.

On April 11th this year, the "missing link" of the southern chain of waterways was opened at Socastee Bridge near Myrtle Beach, South Carolina. The opening of this link completed a 1,435 mile inside route from Trenton, N. J. to Miami, Fla. The canal across New Jersey would intersect one of the most populous and one of the greatest industrial states in the country. It would connect the Delaware River and the cities located thereon with New York Bay on which is located the commercial metropolis of the nation. As to

commerce between New York and Philadelphia, it would save a tortuous journey via the Delaware River and the ocean to New York Bay, and the hazards to such coastwise navigation. It would promote the movement of commerce between New York and Boston on the north and Philadelphia, Baltimore and Norfolk and other cities on the south. It would materially cheapen the cost of movement of traffic between these points. Yet, the construction of this great canal is unauthorized to date.

In March 1936 the Chief of Engineers of the United States Army transmitted a letter which is a part of document 93, 74th Congress, 2nd Session, Committee on Rivers and Harbors, House of Representatives, U. S. which reported unfavorably on this momentous project. Instead of going into a detailed historical resume of this project from its inception, it is considered to set forth a copy of Major General E. M. Markham's letter. This letter will tend to familiarize those who are unacquainted with the magnitude of this improvement, with some of the facts and figures which were compiled by the Special Board and will also, by the reading thereof, show why the unfavorable decision was made at this time.

WAR DEPARTMENT
OFFICE OF THE CHIEF OF ENGINEERS,
Washington, March 28, 1936

"Hon. J. J. Mansfield,
Chairman, Committee on Rivers and Harbors,
House of Representatives, Washington, D. C.

My dear Mr. Mansfield:

1. The Committee on Rivers and Harbors of the House of Representatives, by resolution adopted March 29, 1934, requested the Board of Engineers for Rivers and Harbors to review the reports on New York Bay-Delaware River section of the intra-coastal waterway, submitted in House Document No. 219, Seventy-third Congress, second session, and the prior reports on this waterway, with a view to determining the advisability of constructing the waterway described in the aforesaid report at the present time. I enclose herewith the report of the Board in response thereto.

2. The New York Bay-Delaware River section of the intracoastal waterway is a proposed canal extending across the State of New Jersey from the head of Raritan Bay, an arm of New York Bay, to the Delaware River, a distance in an air line of 30 miles. The plans proposed a deep land cut to afford a canal with a depth of 27 feet and a bottom width of 250 feet. The water level in the canal would be maintained at an elevation of 10 feet above mean low tide by dams and locks in the Raritan River at Sayreville, and in the Delaware River at Bordentown. The estimated construction cost was \$210,000,000, exclusive of the cost of rights-of-way and spoil-disposal areas. In accordance with the terms of the authorization, the report under review was limited to finding and recommending the most desirable route for the waterway, with estimates of cost. The present report is directed to the advisability of the improvement.

3. An exhaustive investigation into the prospective traffic and transportation savings to be anticipated from the construction of the canal was made by a special board. The board found that a large movement of coal from Philadelphia to New York Harbor is to be expected with the present rate structure, that other traffic now carried by rail could be carried on the canal at a substantial saving, and the shorter route afforded for ships in the foreign, intracoastal, and coastwise trade between the ports of New York, Philadelphia, and Baltimore would effect a further saving. The special board estimated total savings of \$5,000,000 in 1940, \$8,850,000 in 1950, and \$9,050,000 in 1960. It found it advisable to make certain modifications in the plan, including the elimination of the dam in the Delaware River. These modifications would reduce its total estimated cost (including interest during construction) to \$195,390,000 with small decreases in its estimated savings. The total annual fixed and operating cost was found to be \$9,874,000. Comparing the benefits with the carrying charges, the special board recommended that the waterway be reported as not economically justified at the present time.

4. The Board of Engineers for Rivers and Harbors has carefully reviewed the estimates prepared by the special board, and has considered the data presented at a public hearing held by the Board. It is of the opinion that the direct savings to be anticipated from the construction of the canal would be materially less than the amounts estimated by the special board, since because of the convenience of delivery some shippers would prefer to retain the present shipping routes and since adjustment of rail freight rates to meet water competition is also to be anticipated. The Board fully recognizes the indirect benefits to be anticipated from the construction of the canal in affording the last link in a protected coastal route between northern waters and southern Florida, as well as the value of the route for naval and commercial use in time of war. It points out, however, that against these indirect advantages must be balanced the inherent disadvantages, one of which is the limitation imposed by the essential need for preventing the intrusion of salt into the Delaware River, as this river is a source of important municipal and industrial water supply. After an exhaustive study the Board concludes that with careful management the canal proposed could be operated to prevent any intolerable intrusion of salt water into the Delaware, provided that the locks are not designed to provide a future increase in depth, the canal is afforded adequate depth to provide for a draw-down during the dry season, and that the water is diverted from the Delaware in the amount of 200 cubic feet per second. The available water supply appears insufficient for the operation of a canal affording a depth in excess of that necessary for vessels of 25-foot draft, until the communities on the lower Delaware have provided themselves with water supply for domestic and industrial purposes independent of the waters of the estuary. These limitations on the use and expansion of the waterway must, in the opinion of the Board, be weighed against its imponderable advantages, particularly in meeting future emergencies of war. The Board further points out that while the plans provide for bridges over the canal with clearances designed to reduce to a minimum delays in the heavy traveled lines of rail and highway connecting the metropolis of New York with the New Jersey beaches, and while the residual delays would in no sense be intolerable, the construction of the canal would be an inconvenience to this movement. The over-all cost of the canal, with the modifications developed by this further investigation, are estimated by the Board at \$207,110,000 and the annual cost at \$10,407,000 with interest at 4 percent, or \$8,435,100 with interest at 3 per cent. The Board concludes that the reasonably assured savings in the cost of transportation are insufficient to warrant the great expenditures necessary for the construction of the canal, even when the less tangible advantages to be anticipated from its construction are fully considered, and reports that the construction of the waterway is not advisable at the present time.

5. After due consideration of these reports, I concur in the views and recommendations of the Board.

Very truly yours,

E. M. MARKHAM,
Major General
Chief of Engineers".

This letter will show that the report is favorable to the Canal on its merits but is adverse to the construction of the Ship Canal "at the present time" because of costs. It is interesting to note among other things, the report says that

"The Board fully recognizes the indirect benefits to be anticipated from the construction of the canal"; that

"It would afford the last link in a protected coastal route for small craft between northern waters and southern Florida"; that

"The Secretary of the Navy has stated that the canal would be of value to the navy in time of war, particularly if the main theatre of operations were in the Atlantic Ocean"; that

"It would afford a route for commercial shipping into the port of New York from the south, free from the menace of submarines in war"; and that

"The future development of industries on the upper tidal Delaware and the Raritan might eventually produce traffic through the canal not now foreseen".

While the report constitutes a temporary set back to the advocates of the New Jersey Ship Canal, that part of the report which is favorable adds encouragement to the zeal, the ambition and the inspiration of those who contend that this great waterway must some time be authorized and constructed by the Government of the United States. It is felt that the objections promulgated by the special Army Board raise controversial questions which after restudy will result in conclusions more favorable if not entirely so, to the authorization of this project. To cite one example of many, it is pointed out by the canal advocates that rate of interest at 4% or even 3% used by the Army Board in estimating the annual cost is excessive and that with current low interest rates on Federal funds 1½ or 1¾% should be a fair rate in calculating fixed costs. This item alone according to the sponsors would, in relationship to the saving on tonnage, economically justify the construction of a canal at the present time. This and other matters are included in the future plan of presentation for reconsideration of the whole proposition and it is hoped that with the same kind of energetic and logical argument in favor of this project which has prevailed in the past, favorable results will be attained.

We have received much encouragement from Major General Markham by the following words expressed by him at Socastee Bridge, South Carolina, April 11, 1936 when among other things he said "while our recent report to Congress on the proposed Ship Canal across the State of New Jersey found that the cost of the improvement was considerably in excess of the anticipated benefits, it is still possible to visualize in the not too distant future, the provision of a completely protected route extending from New York City to Miami, and connecting with the Gulf route to Corpus Christi."

In the early part of 1936, President Moore of the Atlantic Deeper Waterways Association appointed a committee to promote the construction of the Ship Canal across New Jersey. The Committee is constituted as follows: Mayor Thomas B. Stockton, Morrisville, Pa., chairman; Frank S. Davis, Boston; Judge William E. Woollard, Albany, N. Y.; Mayor J. Fulmer Bright, Richmond, Va.; Mayor Walter H. Blair, Wilmington, N. C.; Mayor Frederick Von Nieda, Camden, N. J.; H. H. Buckman, Jacksonville, Fla.; W. Paul Starkey, Morrisville; J. H. Wood, Newark, N. J.; N. F. S. Russell and J. K. Hiltner, Burlington, N. J.; Jacob M. Klein, Perth Amboy, N. J.; E. M. Keely, Philadelphia; Arthur W. Dover, Trenton, N. J.; S. P. Hazard and Charles Warner, Philadelphia.

This Committee has had a series of important meetings and is now engaged in laying constructive plans for future action in connection with the waterway.

The 29th annual convention of the Atlantic Deeper Waterways Association was held in Trenton, N. J., October 15th, 16th and 17th, 1936. The work of the regular committee was augmented by the New Jersey State Committee of which Hon. Harold G. Hoffman was honorary chairman. Governor Hoffman who interested himself in the affairs of the Committee, took a prominent part in the program of the convention and indicated by his cooperation and personal addresses that he is conscious of the value of waterways development not only in so far as it concerns the State of New Jersey, the Atlantic Seaboard from New England to Florida, but the waterways of the entire country as well.

It is natural for this Commission to be vitally interested in and work for the New Jersey Ship Canal in view of the fact that the entrance to the Canal at or near Sayreville on the Raritan River would be located in the heart of the Port Raritan District. Ocean-going vessels carrying an estimated cargo tonnage of 10 to 12 million tons per year would bring to the Port Raritan District, world-wide recognition. Vacant acreage located at the very edge of our deeper channels served by rail and improved highways, with the construction of the Ship Canal would develop into one of the greatest industrial ports in the United States.

Delaware and Raritan Canal.

The problem of rehabilitating the Delaware and Raritan Canal has received active sponsorship from its advocates during the current year. Due to the fact that new members have been elected to the Legislature in the last election and assuming that many of them may not be familiar with the history of the Canal for the past few years, it is deemed wise and necessary to review some of the facts relating to this project.

In February 1933 the Pennsylvania Railroad informed the Board of Public Utility Commissioners that it had formed plans for the abandonment of the Canal. The Railroad also advised the Board that it would not reopen the Canal on March 1st of that year but that operations would cease commencing with that date. As far back as 1913, the Board of Public Utility Commissioners issued an order which required the Canal operators to reopen the waterway for public use from March 1st to December 21st of each year.

The Pennsylvania Railroad took exception to the order and claimed that the "said order of the Board is a service order which is effective, if at all, only when the Canal is in operation and could not under the act of New Jersey constituting the Board of Public Utility Commissioners and creating their powers, be construed so as to interfere with the abandonment of the operation of the canal". The canal was not opened for operation on March 1st. Subsequently, the Pennsylvania Railroad made application to the Board of Public Utility Commissioners for leave to abandon. As a result of this application, hearings were held in Trenton and considerable testimony was presented to the members of the Board. Among those who attended the hearings in support of the Board's order were Joseph Sterling and Morgan R. Seiffert, counsel for the Somerset Canal Association and the Association for the Preservation and Improvement of the Delaware and Raritan Canal; Gover D. Kipsey, counsel for the Board of Freeholders, Somerset County and Jacob M. Klein, counsel for the Port Raritan District Commission.

It was argued by the opponents of abandonment that the Board of Public Utility Commissioners should not consider the application for abandonment because the applicants were not carrying out the terms of the order requiring operation of the Canal. The Board reserved decision on the application and subsequently granted the motion of dismissal and applied for a mandatory injunction to compel operation by the lessee. Then followed certain litigation in the State and Federal courts which was undetermined at the time the State of New Jersey acquired the Delaware and Raritan Canal from the United New Jersey Railway and Canal Company after abandonment by the Pennsylvania Railroad.

In a brief submitted to His Excellency, A. Harry Moore, Governor of the State and the members of the Senate and Assembly in behalf of the preservation and improvement of the Delaware and Raritan Canal, which brief was subscribed by the Port Raritan District Commission, many important points were developed as follows: The State has the present power to take possession of the canal and feeder, to vest itself with title thereto and to use or dispose of the canal as the State Legislature may deem proper; the abandonment of the canal would decrease the potential potable water supply of the Millstone and Raritan Rivers, approximately ten million gallons daily; abandonment of the canal would mean depreciation in value of property and tax losses to the State; the importance of the Delaware and Raritan Canal as a link in the Atlantic Intra-Coastal Waterway system; the future of the canal as a free water highway under operation by the Federal Government including commercial, industrial and recreational advantages; the Delaware and Raritan Canal is the only canal of any importance in the whole country that is privately owned; the value of the canal to pleasure boat owners; the canal is valuable for national defense.

At the request of this Commission, Congressman William H. Sutphin introduced a bill in the House of Representatives authorizing preliminary examination and survey of the Delaware and Raritan Canal. The bill was referred to the Committee on Rivers and

Harbors. No fund having been appropriated by Congress for this work, the preliminary examination and survey were not made.

The Legislature by Chapter 139, Laws of 1934, by the passage of "An Act to provide for the possession of the Delaware and Raritan Canal by the State of New Jersey", took possession of the Canal and "that in and by and upon such taking of possession, title to said Canal and feeder, the appendages thereto and the works and improvements erected thereon shall be deemed to be and shall thenceforth be vested in the State of New Jersey to be thereafter used or disposed of as the Legislature may deem proper".

The Act empowered the State Highway Commission to enter upon and take possession of the Canal and feeder. By Chapter 238, Laws of 1934, the Department of Conservation and Development was empowered and directed to enter upon and take possession and was delegated other powers contained in the said Act. The Department of Conservation and Development was also empowered and directed to accept a quit claim deed or deeds from the United New Jersey Railroad and Canal Company and the Pennsylvania Railroad or either of them, of their rights in and to the Canal and feeder.

The State of New Jersey memorialized Congress to have the Federal Government take over this Canal from the State by resolution passed at the 1934 Session of the New Jersey Legislature. A copy of the resolution (Joint Resolution No. 6) follows herewith:

"A JOINT RESOLUTION memorializing the Congress for acquisition by the Federal Government of the Delaware and Raritan Canal.

WHEREAS, The State of New Jersey has recently acquired the Delaware and Raritan Canal from the United New Jersey Railway and Canal Company after abandonment by the lessor, the Pennsylvania Railroad, in accordance with charter of the United New Jersey Railway and Canal Company; and

WHEREAS, The Federal Government now owns and operates the greater portion of the inland waterways from Maine to Florida; therefore,

BE IT RESOLVED BY THE SENATE AND GENERAL ASSEMBLY OF THE STATE OF NEW JERSEY:

1. That the Governor and Legislature of the State of New Jersey do memorialize the Federal Congress to enact legislation providing that the Federal Government shall acquire from the State of New Jersey at a cost of one dollar (\$1.00) the property of the Delaware and Raritan Canal, together with such land, buildings and equipment as are turned over by the United New Jersey Railway and Canal Company under the provisions of chapter one hundred and thirty-nine of the laws of one thousand nine hundred and thirty-four.

2. That the Federal Congress provide for the operation of the canal for navigable purposes; and

BE IT FURTHER RESOLVED, that this joint resolution, signed by the Governor and under the Great Seal of the State, be transmitted to the Vice-President of the United States and the Speaker of the House of Representatives, as the presiding officers of their respective branches of the Federal Congress.

3. This joint resolution shall take effect immediately.

Approved June 11, 1934".

In accordance with Joint Resolution No. 9, a Commission was appointed by the Legislature to furnish information as to costs of improvement, maintenance and anticipated revenues of such canal as a navigable waterway as shall facilitate the Federal Government in obtaining data which will be inducive to the taking over of the Delaware and Raritan Canal by the Federal Government. A copy of the resolution (Joint Resolution No. 9) follows therewith:

"JOINT RESOLUTION providing for the appointment of a commission to furnish information relative to the operation of the Delaware and Raritan Canal by the Federal Government.

WHEREAS, Under Joint Resolution No. 4 of the legislative session of one thousand nine hundred and thirty-four, the State of New Jersey took title to and possession of the property of the Delaware and Raritan Canal; and

WHEREAS, it is desirable that this canal be opened and operated for navigation and it is believed that this can most satisfactorily be accomplished by the Federal Government; and

WHEREAS, The Congress of the United States has provided for a survey of such canal and the cost of improvements and maintenance as a navigable waterway under Federal control in the rivers and harbors bill recently enacted into law; therefore,

BE IT RESOLVED BY THE SENATE AND GENERAL ASSEMBLY OF THE STATE OF NEW JERSEY:

1. That a Commission is hereby appointed to furnish such necessary information as to costs of improvement, maintenance and anticipated revenues of such canal as a navigable waterway as shall facilitate the Federal Government in obtaining data which will be inducive to the taking over of the Delaware and Raritan Canal by the Federal Government.

2. That this Commission shall consist of five members, one to be a member of the Senate appointed by the President of the Senate, one to be a member of the House of Assembly to be appointed by the Speaker of the House of Assembly, one to be appointed by the Department of Conservation and Development and two members to be appointed by the Governor.

3. The members of this commission shall serve without compensation.

4. This resolution shall take effect immediately.

Approved May 18, 1935".

The personnel of the original Commission has been altered. The present members are Joseph Sterling of Griggstown, chairman; Senator Clifford R. Powell of Burlington County; Assemblyman Marcus W. Newcomb of Burlington County; William C. Cope of the Department of Conservation and Development; and Morgan R. Seiffert of Highland Park, secretary. The Commission established headquarters at 137 Albany Street, New Brunswick, N. J. The Commission was organized in accordance with the purposes of the Act and started immediately to gather data in support of Federal control and ownership of the Canal.

On December 3, 1935 a special Board of Officers consisting of Col. E. D. Ardery, Second District Engineer, chairman; Capt. F. H. Kohloss, Philadelphia and Major J. S. Bragdon, conducted a public hearing in Alexander Hall, Princeton University, Princeton, N. J. The organization of this Board of Officers with power to hear the proponents and opponents, was authorized in the Rivers and Harbors Act of August 30, 1935 under Section 3, calling for Preliminary Examinations and Surveys, as follows: "Delaware and Raritan Canal, New Jersey".

Colonel Ardery who presided at the hearing stated that the findings would be incorporated in a report to be submitted to the United States Board of Engineers for Rivers and Harbors at Washington. A representation was present from the Port Raritan District Commission and in its behalf, Jacob M. Klein stated that the Commission favored Federal ownership and supervision of the Canal with a contemplated width of 125 feet and a depth of 12 feet which dimensions would be consistent with those of the New York Barge Canal. Mr. Asher Atkinson, City Engineer of the City of New Brunswick and a member of this Commission, presented an argument in favor of Federal ownership and offered statistical and engineering data for the Board's consideration.

An unfavorable report dated March 13, 1936 was made by the Corps of Engineers. While the report was of considerable length and contained many observations which were favorable to the proponents, the decision may be summed up in the following. "The Division Engineer is of the opinion that prospective benefits which would accrue to com-

dustry requiring navigation facilities in excess of those now provided, would locate in the section to be affected by the improvement.

This Commission appealed from the findings to the Board of Engineers for Rivers and Harbors, War Department, Washington, D. C. and subsequently the Commission asked for a Review of Reports which was authorized by resolution of the Committee on Rivers and Harbors, House of Representatives, United States, which was adopted April 27th, 1934.

On June 6th, 1934 a public notice signed by Col. E. D. Ardery, Corps of Engineers, District Engineer, Second District, New York, was issued advising that a public hearing would be held in the Assembly Room, Second Floor, Army Building, 39 Whitehall Street, New York, July 10, 1934 at 10:00 A. M. "to consider the advisability of further improving the channels in Raritan River, N. J. below the mouth of Washington Canal".

This Commission arranged for the appearance of witnesses at the hearing. Counsel Jacob M. Klein presented the case for the proponents and introduced the witnesses. Col. E. D. Ardery, Corps of Engineers, District Engineer, presided and in attendance were Mr. E. B. Snell, Senior Engineer, Mr. C. D. Mayhew, Senior Engineer and Mr. C. C. Berger, Junior Engineer.

Valuable testimony was offered by the many witnesses present in favor of the improvement, among them being Mr. William F. Meredith of the Titanium Pigment Co. who testified that his company was building a plant on the south shore of the Raritan at Sayreville, N. J. which would cost between \$3,000,000 and \$4,000,000; that it was vitally necessary that sufficient water be provided in the Raritan River channel. He further stated that the rehandling of ores from ships to lighters in the anchorage basin off Perth Amboy would amount to 25c per ton in excess of the cost of bringing the fully laden vessels to the plant and that on his estimate of 175,000 tons annually, this item would amount to an additional cost of \$43,750 to his Company.

On November 6, 1934, Col. J. A. Woodruff, Corps of Engineers, Division Engineer, North Atlantic Division, issued a notice that the review of reports authorized by the resolution of the Committee on Rivers and Harbors, House of Representatives, had been made and was unfavorable to the improvement. The adverse conclusion was based on the apparent lack of necessity of channels of greater dimensions.

From these findings, this Commission appealed to the Board of Engineers for Rivers and Harbors, War Department, Washington, D. C. and after the usual procedure the matter was sent back to the District Engineer for a rehearing which was held on April 29th, 1935 before Col. Ardery, District Engineer, and his staff, in the Army Building, 39 Whitehall Street, New York City.

This Commission again arranged for the appearance of witnesses and counsel Jacob M. Klein presented the case for the proponents and introduced the witnesses. The need for this improvement was again shown, this time with more successful results because the improvement sought in the Raritan River was recommended as far as the Titanium Pigment Co. plant.

A condition was provided, however, that local interests must furnish spoil disposal areas as required for the new work and subsequent maintenance, and contribute \$66,000 toward the initial cost.

In a letter sent by Major General E. M. Markham Chief of Engineers to Honorable J. J. Mansfield, Chairman, Committee on Rivers and Harbors, House of Representatives, Washington, D. C. October 14, 1935, he concurred in the views and recommendations of the Board of Engineers for Rivers and Harbors. The following is an excerpt of General Markham's letter sets forth the recommendation in which he concurs.

"The Board recommends modification of the existing project for Raritan River, New Jersey, to provide a channel 300 feet wide and 25 feet deep at mean low water from the New York and Long Branch Railroad Bridge to

the junction of Main and South Channels; thence up South Channel to the upper limit of the Titanium Pigment Company property, at an estimated cost of \$267,000 for new work, and \$15,000 for annual maintenance in addition to that already required; provided that local interests furnish spoil disposal areas as required for new work and subsequent maintenance and contribute \$66,000 toward the first cost".

Another important development which has taken place was the completion of dredging for the straightening and realigning of the lower reach of the south channel of the Raritan River where it joins the main channel as authorized by Rivers and Harbors Act approved July 30, 1935. This project was completed on October 29th, 1935 and the channel is now being used. Col. Ardery, Second District Engineer, received the necessary allotment to proceed with the work and requested authorization to require two feet over depth and allow two feet additional over depth in constructing the channel. The controlling depth in this part of the channel at the present time is about 13.5 feet at mean low water and for the time being at least, fulfills the requirements of ships which use the waterway.

This development was authorized some time ago with the provision that one or more suitable terminals be provided on the south channel before the operation could be undertaken. The construction of the Titanium Pigment Co. plant on the south channel provided such a terminal. The Port Raritan District Commission arranged with property owners on the Raritan River to supply areas for the dredged material and submitted the agreements to the Second District Engineer.

This improvement is of great benefit to shipping and eliminates difficulties encountered by crafts of all kind which previously had to use the old cut-over channel in spite of the many difficulties involved. Transportation Companies handling heavy tonnage of sand and clay out of the Sayreville section experienced much trouble in navigating the old cut-over due to the danger and annoyance of insufficient water. Testimony was given at one of the hearings that barges carrying this material, grounded frequently, and grounded so hard that the tug was forced to leave the barge and return for it at the next high water. It was further testified that if a barge grounds in a certain position, its seams may open and sink. Foreign vessels carrying ore had to undergo the risk of sucking sand and mud into their condensers and damaging their engines, which actually happened on several occasions.

The locating of the Titanium Pigment plant at Sayreville is an industrial achievement for the Raritan Bay District and may be considered substantial justification for the construction of the quarantine anchorage basin and cut-off channel which serve it. In the past year, reports have been prevalent that further industrial development is being contemplated on the Raritan River by nationally known concerns. This Commission is now offering its cooperation to these industries which may in the next year or two, locate at strategic points on the Raritan River. One of these concerns whose identity cannot be revealed at this time, is one of the largest of its kind in the world. This Commission feels that the development of the waterways in this area will continue to stimulate industrial expansion from the head of navigation at New Brunswick to the Raritan Bay and all other lands and waters of the Raritan River, South River, Washington Canal and the Arthur Kill contiguous thereto. Increased ratables created by this kind of industrial progress would not only be beneficial to communities located in the District but would also become a valuable asset to the State of New Jersey.

Elimination of Obsolete and Unightly Waterfront Property and Material.

In 1935 this Commission sponsored a project which would make it possible to remove unsightly, abandoned and useless material and derelict property located on the waterfront of the Raritan Bay District. Over a period of many years, outworn and dilapidated material such as waterfront buildings, abandoned and unused piers and wharves, piling and ship wreckage had accumulated in the District.

During the summer of 1935, surveys and inspections were made by boat of the Kills as far as Port Reading, the Raritan River to New Brunswick, the Washington Canal and South River to Sayreville and the town of South River, for the purpose of charting such material as was unsightly and which also caused a menace to navigation. The physical inspection of the area was made by members of this Commission and was attended by Mr. Lewis Compton, Assistant State Administrator for the Works Progress Administration and Mr. Jacob H. Weitzen, District Director of Middlesex and Union Counties. An inventory was compiled of all available material located in the District. The ownership was determined and a communication was directed by this Commission to all those industries, municipalities and individuals whose shore line was littered by this class of material. A letter was released to these parties and the response was more favorable than anticipated.

Arrangements were made for releases and consents with the following parties: General Cable Corp.; Lehigh Valley Railroad Co.; James Hughes, Inc.; Port of New York Authority; Boynton & Boynton; Texas Co.; New Jersey Mortgage and Title Guarantee Co.; Perth Amboy Trust Co.; Mayor and Board of Commissioners, City of Perth Amboy; City of South Amboy; Sun Oil Co.; Jersey Central Power and Light Co.; R. U. Rue Co.; Pennsylvania Railroad; Sayre & Fisher Brick Co.; Gust Wickberg; Clinton Gilbert; Port Reading Railroad; Ostrander Brick Co.; Nixon Nitration Works; D. S. Freedman; Barber Asphalt Co.; Peter Vogel; Mrs. Lewis E. Potter; M. C. Valentine Bros. & Co.; Township of Woodbridge; Alpern, Larson and Crouse; Shell Terminal Corp. and others.

On November 1, 1935 notice was received that this project had been approved by the Works Progress Administration. To date, Federal funds amounting to \$28,105.00 had been appropriated for this work. Bids were received and on January 3, 1936, operations were started on Works Progress Administration project 4-143 entitled "Removal of old piling, buildings and wreckage along water fronts of the Raritan Bay District, Middlesex County, N. J." A recent report by the Works Progress Administration on this project is interesting and is set forth as follows.

FEDERAL FUNDS	SPONSOR'S CONTRIBUTION
\$28,105.	None
CLASSIFICATION AND NUMBER OF WORKERS ON PROJECT	NUMBER OF ESTIMATED MAN-HOURS ON PROJECT
30.5 Unskilled	47,450 Man-hours
4 Intermediates	7,150 " "
3 Skilled	3,960 " "
1 Foreman	1,920 " "
38.5 Men	60,480 " "

In order to proceed with this work this Commission has recently applied to the Works Progress Administration for an additional allocation of \$25,000. The expenditure of these Federal Funds will not only aid in beautifying the Raritan Bay shore fronts, remove unsightly and hazardous material, but will also continue to give employment to citizens of this area who have not yet been absorbed in the normal operations of industrial activity.

Basin For Small Boats.

The construction of a basin for small boats was advocated by this Commission and other organizations during the summer of 1935 in response to the demands of local and State-wide boating interests. Many boat owners who live in Newark, Elizabeth, Springfield, Westfield, Plainfield, Bound Brook, Metuchen and other communities in the State, commute between Raritan Bay and their respective homes from early Spring until late Fall. In 1936 the increase in the number of sailing yachts, motor yachts and fishing boats and other small pleasure craft has been more substantial than previously reported,

making it more essential than ever before that a safe harbor or basin be provided for these craft. With the development of the quarantine anchorage basin and the cut-off channel off Perth Amboy, shoal areas were dredged to deeper dimensions and these areas which formerly provided moorings for smaller craft are no longer available for that purpose. Steamers, tugs, barges and other larger craft using these improved waterways have to have free and unmolested passage in the channels and hundreds of small boats have had to devise makeshift moorings outside the new channel lines. During storms and severe winds from the east, southeast and northeast these small vessels are in danger of destruction.

The construction of this small boat basin with the capacity of about 100 boats has been made more possible on account of the reclaimed material which has been made available for construction work of this character. The reconditioned material gathered in the reclamation project is being used in the construction of the boat basin. The site of the basin is located on city-owned property contiguous to the park at the foot of Market Street, Perth Amboy, N. J.

The city government of Perth Amboy, City Engineer Louis P. Booz who has devoted a great deal of his time to the construction of this basin, the officials of the Works Progress Administration, W. Franklin Buchanan, engineer and other members of this Commission worked out a plan for the construction of the basin and an application was made by this Commission for Federal Funds.

The total cost of this improvement will be approximately \$150,000, about \$115,000 of which will be contributed by the Federal Government, the balance to be absorbed by local interests.

Operations were started on this project March 18, 1936 same being known as Works Progress Administration project 4-501 and is entitled "Construction of a boat basin in Raritan Bay as part of the development of Bay View Park in Perth Amboy, Middlesex County". It will be interesting to note the classification and number of workers on this project together with the number of estimated man-hours, and the figures are briefly set forth as follows:

CLASSIFICATION AND NUMBER OF WORKERS ON PROJECT	NUMBER OF ESTIMATED MAN HOURS ON PROJECT
100 unskilled	156,000 man-hours
21 intermediates	32,760 " "
19 skilled	29,640 " "
1 professional	1,560 " "
6 supervision	11,520 " "
147 men	Total 231,480 " "

When completed the boat basin will contain motoring berths for approximately 100 boats from 20 to 45 feet in length. The basin will have a depth of 6 feet at low water and will consist of three separate basins and four docks at which boats of any size may land. Marine railway equipment will be available for docking boats and the City of Perth Amboy will build a comfort station in addition to landscaping the premises and making the same attractive as well as useful.

New York and New Jersey Channels Arthur Kill and Kill von Kull.

This Commission has been interested in and worked for the improvement of the New York and New Jersey Channels of which the waterways in the Port Raritan District comprise an important part. Previous reports to the Legislature have contained the important details of our participation in these improvements. This Commission was more particularly interested in the widening of the channel in the Kill von Kull to one thousand

feet; the widening of the present thirty-foot chanel in the Arthur Kill to at least six hundred feet or the full distance between the established pier-head lines where such distance is less than six hundred feet; and the widening of the approach channel through Raritan Bay to eight hundred feet to permit passage of large oil tankers and other craft which navigate into the Arthur Kill from Raritan Bay, with a depth of thirty-five feet to be increased from thirty feet.

After a series of hearings before Boards of Army Engineers with subsequent appeals made from unfavorable reports, the improvements to these waterways was followed up by all the parties in interest including this Commission.

In March 1935 improvements to the New York and New Jersey channels leading to New York Harbor at an estimated cost of \$27,000,000 for new works was recommended to Congress by George H. Dern, Secretary of War.

Secretary Dern transmitted to the House the report of Major General E. M. Markham, Chief of Engineers, in which General Markham, concurring the views of the Board of Engineers for Rivers and Harbors, that the volume and character of the commerce carried in the channels, and the savings in transportation costs to be anticipated merited their improvement, recommended:

That the existing project for New York and New Jersey Channels be modified to provide for a depth of thirty-seven feet at mean low water in rock and thirty-five feet in soft material throughout, except in Arthur Kill between a point one thousand feet north of the mouth of Smith's Creek and a point one thousand feet south of Buckwheat Island, where the depth will be thirty feet; to be eight hundred feet wide through Jedney and Bayside channels, thence six hundred feet wide across lower New York Bay and Raritan Bay and in Arthur Kill to a point one thousand feet south of Buckwheat Island, widened to eight hundred feet in the vicinity of Segune Point and Wards Point, thence five hundred to six hundred feet wide and passing north of Shooters Island to the junction with the channel in Newark Bay; and thence eight hundred feet wide to Upper New York Bay; with two anchorages thirty-eight feet deep to accommodate five vessels, each, one in the vicinity of Sandy Hook and one south of Perth Amboy; all with suitable easing at the bends and junctions with other channels.

Major General Markham estimated that this work will cost \$27,000,000 and that \$195,000 annually would be needed for maintenance of the project.

The War Department's recommendations were made subject to the following conditions:

That where the project channel encroached upon upland property and extends shoreward of harbor lines, the completion of the encroaching portions of the project shall be deferred until the necessary rights of way for channel purposes shall have been granted free of cost to the United States.

That local interests provide areas to land adjacent to the waterway free of cost to the United States, for the disposal of dredged materials, except wherein, in the judgment of the Chief of Engineers, no suitable disposal areas exist.

In making public the report the War Department explained that the waterway serves expensive industrial developments including those for the storage, refining and distribution of petroleum products, railroad, coal, and other industrial and commercial plants. Commerce in the channels in 1933 amounted to 40,196,000 tons and during the past ten years has averaged 45,000,000 tons per annum.

Making the improvements proposed, the War Department's statement said, will afford substantial benefits to industries engaged in foreign and domestic commerce of a highly competitive nature and of far reaching proportions, and will alleviate the congestion which now frequently occurs in the channels and facilitate expeditious movement of vessels.

Much progress has been made this year in the improvement of the New York and New Jersey Channels, contracts being let by the War Department as the work proceeds under the supervision of the Second District Engineer and his staff. Some of the largest industries of their kind in the world are located on the banks of the New York and New Jersey Channels and as available territory is being bought up by manufacturers on a large scale for industrial construction purposes, the "push" for new fields of manufacturing activity will continue to press toward the Raritan Bay District. The deeper waterways which we have already been able to provide and those which we expect to provide in the future will form the magnet to draw them to the waterfronts of our district. Ocean-going vessels need oceangoing facilities. These we can now supply and it is with a feeling of confidence we report that still deeper channels are on the way.

Anchorage Basin

Raritan Bay, Near Perth Amboy.

The completed anchorage basin was paid for entirely by funds allocated by the Public Works Administration, Washington, D. C.

The importance of this improvement may be judged from the fact that it was favorably reported as far back as 1930. The basin not only represents a great saving of time and expense to the shipping that passes through the Raritan Bay and up to the Arthur Kill and Kill von Kull but also as a public health measure and from the standpoint of pilotage and safety.

In a letter dated January 30, 1930 addressed to the Committee on Rivers and Harbors, Major General Lytle Brown, then Chief of Engineers, said "The Board states that the present method of quarantine inspection is unsatisfactory and will become more so as the number of deep-draft vessels using the New York and New Jersey Channels increases".

Prior to the construction of the anchorage basin, a ship desiring to enter by way of Perth Amboy, arriving off Sandy Hook in the evening had to anchor and await until the next day and a favorable tide in addition, before proceeding to Perth Amboy and the Kills. This meant a loss of several hours time and perhaps an entire day. With the anchorage now completed at Perth Amboy and the approach channel well marked for night navigation, the ship proceeds thereto, ready to pass quarantine in the morning and if no cause for delay is found, proceeds immediately to its destination.

When a ship came in from the Atlantic, proceeded up this narrow, tortuous channel and arrived at a point off Perth Amboy, if there was another ship already tied up at its destination, since there was no anchorage available, it either had to go up stream, turn around and go back, which involved a great deal of navigation difficulty because if the ship was long, it could easily get stuck in the 400-foot channel, or on the other hand, if it could not turn around, it had to continue on its way and tie up at any dock until it could get to the dock to which it was destined.

That was a very dangerous proceeding to ship, cargo and crew. Another hazardous feature of this procedure lay in the fact that if disease or pestilence was present on these ships, contagion could find its way into the country through escaping sailors at the docks. Without the proper quarantine facilities now afforded by the anchorage basin, at times, these ships had to proceed to the docks because there was no place for them to anchor even if disease was prevalent.

A hearing was arranged by this Commission to be held on January 21, 1932 before the Committee on Rivers and Harbors, House of Representatives, Washington, D. C., Congressman Joseph J. Mansfield, Texas, chairman, presiding. Much favorable testimony was given to the Committee, among those addressing the body being Walter P. Hedden, Chief, Bureau of Commerce, Port of New York Authority; Jacob M. Klein, counsel for Port Raritan District Commission; Harry S. Medinets, counsel for the City of Perth Amboy; the late Capt. Waugh, representing the New York, New Jersey and

Sandy Hook Pilots' Association; Major-General Lytle Brown, then Chief of Engineers, United States Army and C. Parker Runyon, chairman of the Port Raritan District Commission.

Since the above hearing was held before the Committee on Rivers and Harbors in Washington, this Commission vigorously applied itself through all official boards toward the attainment of full Federal aid. Many conferences were held in Washington with representatives of the Public Works Administration and War Department, United States Senators from the State of New Jersey and Congressmen from the Third and Fifth Congressional Districts in this State.

The development of the port has received tremendous impetus through the construction of the basin. The improved area previously available only to shallow draft craft and most of it of the pleasure boat type, is now the safe harbor for ocean-going vessels. A new maritime vista has been created in the district and the present use of the basin by steamships from world ports, portends a rapid industrial expansion in this thickly populated area.

Cut-Off Channel

Raritan River to Arthur Kill.

Like the quarantine anchorage basin, the all important cut-off channel connecting the Raritan River channel with the southerly end of the Arthur Kill, or Staten Island Sound, has been completed this year. This Commission and shippers in general, have been working for this improvement for a long time. It was desired because of the manner in which it will aid shipping between the Staten Island Sound and the Raritan River.

Previously, vessels proceeding from the Raritan River to the Staten Island Sound, followed the Raritan Bay channel and circled about the Great Bed Light. This meant a great loss of time and extra expense to the shippers. When the weather was stormy, it frequently happened that it was unsafe for vessels to circle the light house as a result of which, shipping activities were stopped or curtailed until the storm conditions abated. The new channel not only reduces the running time between the Sound and the River, but makes it possible for shipping to continue regardless of weather conditions.

The new channel cuts off several miles in the trip from Raritan Bay to the waterway around Staten Island and furnishes a short cut from Perth Amboy and South Amboy to New York, obviating the necessity of following the circuitous route down the Bay.

A hearing held on January 21, 1932 before the Committee on Rivers and Harbors, House of Representatives, Washington, D. C. also included the cut-off channel project. Subsequent hearings were held in this matter and conferences arranged in Washington and New York with representatives of the Public Works Administration, War Department and other official agencies which resulted in the allocation of funds by the Public Works Administration for the construction of this improvement under the supervision of the Army Engineers.

The need for this improvement must have been great judging from its constant use, both day and night. With increased industrial activities in the Raritan River between Perth Amboy and New Brunswick, including the Raritan Arsenal, there can be no question that this new channel was not only necessary to navigation requirements but will also constitute an important artery in this progressive industrial section.

Federal Expenditures.

Concerning the Raritan Bay District and contiguous waterways, the following Federal expenditures are given for work performed or proposed during the fiscal years 1936, 1937 and 1938.

New York and New Jersey channels expended in 1936 \$1,443,000; expended or proposed for 1937 \$3,342,000; proposed for 1938 \$5,000,000. Raritan River expended in 1936

\$23,000; expended or proposed for 1937 \$113,000; proposed for 1938 \$30,000. Washington Canal and South River expended for 1936 \$280; expended or proposed for 1937 \$7,900; proposed for 1938 \$8,000. Total expended on these projects for 1936 \$1,466,333; total expended or proposed for 1937 \$3,462,900; total proposed for 1938 \$5,380,000.

According to additional figures supplied by the office of the District Engineer, Second District, expended to June 30, 1936 New York and New Jersey Channels the sum was \$15,720,000; Woodbridge Creek \$196,000; Raritan River \$1,588,000; Raritan River to Arthur Kill, cut-off channel \$809,000; Washington Canal and South River \$341,000 making a grand total of \$18,654,000.

The Port Raritan District and the State of New Jersey derive economic benefits from these expenditures which are so advantageous that it is impossible to calculate the same on a dollars and cents basis. The district now boasts of waterways with ever deepening channels, improved railroad facilities and modern highways. These arteries of transportation afford to all industries located in this district prompt and efficient handling of raw materials used by them in their manufacturing processes and give to them the means of conducting the operation of their business on a competitive basis in relationship to concerns not so advantageously located. Complete development of waterway transportation; coordination of all agencies which insure this kind of transportation and a plan for adequate warehousing and terminal facilities are the major functions of this Commission. We are continuously seeking Federal funds for deeper and wider channels, realizing that the deeper draft vessels which can come into our port, the more our industries will expand and the greater attractions we will have to offer for big industry to locate new plants in this territory.

Our present program for future waterways development through the expenditure of Federal funds is being recognized by new industry. The field representatives of such concerns contact with us for information as to the depth of waterway we now have and what we are proposing for the future. Surveys are being made by industrial agents for locations wherein necessary transportation facilities will or may be provided to suit their needs. The location of new plants in this area proves the value of the results already accomplished and the district, State and nation are being benefited to a degree that is incomparable.

With the return of normal times, and the past year has seen a substantial advance in that direction, present industry in this district is going ahead rapidly and if the indications of renewed prosperity in the industrial world are going to show substantial gain, the upper and lower Raritan, South River and Washington Canal, Raritan Bay, Woodbridge Creek, Woodbridge River, the Arthur Kill and Kill von Kull, are on the crest of industrial development such as we have not seen in years.

The municipalities of New Brunswick, Perth Amboy, Woodbridge, South Amboy, Sayreville, South River, and Woodbridge Township are constantly growing in importance as industrial centers. Housing facilities are being provided in the form of private residences and sizeable apartment house construction. Under the Federal Housing Administration, much new building is taking place and it is anticipated that the increasing demand by resident workers and commuters for new homes will be supplied as the Federal Housing plan enlarges its comprehensive program.

In May Col. E. D. Ardery, former Second District Engineer was transferred to Fort Hayes, Columbus, Ohio for duty as Area Engineer of the Fifth Corps Area. Colonel Ardery up to the date of his transfer, continued to give this Commission his fullest cooperation in reference to waterway matters with which we are concerned. He was succeeded by Lt. Col. David McCoach, Jr. Due to important assignments given to Lt. Col. McCoach by the Federal Government in connection with the Works Progress Administration, Major H. G. Fairbanks has been Acting District Engineer. Mr. C. D. Mayhew, Mr. E. B. Snell and Mr. C. C. Berger of the Second District Engineer's Staff with

others, continue as civilian members of that highly efficient organization. We gratefully acknowledge the cooperation, advice and painstaking efforts of the entire personnel of the office of the Second District Engineer. They are willing at all times to help us with our problems and we do not hesitate to ask them for aid as the occasion arises.

The Commission wishes to express its appreciation for the aid it has received from the Port of New York Authority, the State Board of Commerce and Navigation and many other officers in the National and State Governments, particularly to Governor Harold G. Hoffman, U. S. Senators A. Harry Moore, W. Warren Barbour and Hon. William H. Sutphin and Hon. Charles A. Eaton, Congressmen of the Third and Fifth Congressional Districts respectively.

Respectfully submitted,

PORT RARITAN DISTRICT COMMISSION

C. PARKER RUNYON, Chairman.

JACOB M. KLEIN, Counsel.

STATUTES

CHAPTER 337
(P. L. 1926 Pg 767)
Passed April 1, 1926

An Act to create the Port Raritan District and to provide for the appointment of the Port Raritan District Commission and the vesting in the Commission of appropriate powers and making an appropriation for the expenses of the commission.

CHAPTER 338
(P. L. 1926 Pg. 772)
Passed April 1, 1926

An Act authorizing the governing body of any county, borough, city, township or other municipality in this State to raise, appropriate, set aside and devote money or property to the use of any port, harbor, bridge or river commission now or hereafter created by the Legislature of this State and giving to any such local governing body property to the use of any port, harbor or river commission now or hereafter created by the Legislature of this State and giving to any such local governing body the power to prescribe the terms and conditions upon which any such money or property shall be held and used.

CHAPTER 31
(P. L. 1927 Pg 70)
Approved March 7, 1927

An Act authorizing the Port Raritan District Commission to straighten South river, in the county of Middlesex, and making an appropriation therefor.

CHAPTER 22
(P. L. 1928 Pg. 36)
Approved March 6, 1928

An Act authorizing the Port Raritan District Commission to investigate the pollution of the Raritan River and to prepare a plan for the purification of the Raritan River and making an appropriation therefor.

Approved January 13, 1937

HADDON IVINS,

State Librarian.



