

INTERNATIONAL JOINT COMMISSION

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APPLICATION OF THE GOVERNMENT  
OF THE UNITED STATES FOR APPROVAL OF  
CERTAIN CONTEMPLATED IMPROVEMENTS  
IN THE ST. CLAIR RIVER AT  
PORT HURON, MICH.

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ORDER AND OPINION

TOGETHER WITH APPLICATION, RESPONSE, AND HEARING

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APPLICATION FILED DECEMBER 29, 1916

DECIDED MAY 18, 1917



WASHINGTON  
GOVERNMENT PRINTING OFFICE

1917

## INTERNATIONAL JOINT COMMISSION.

### CANADA.

CHARLES A. MAGRATH, CHAIRMAN.  
HENRY A. POWELL, K. C.  
P. B. MIGNAULT, K. C.

LAWRENCE J. BURPEE, *Secretary.*

### UNITED STATES.

OBADIAH GARDNER, CHAIRMAN.  
JAMES A. TAWNEY.  
R. B. GLENN.

WHITEHEAD KLUTTZ, *Secretary.*

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#### ORDER OF APPROVAL.

Whereas the Government of the United States has adopted a project for improving St. Clair River, by excavating a channel along the water front of Port Huron, in the State of Michigan, which project is set forth in House of Representatives Document No. 782, Sixty-fourth Congress, first session; and

Whereas due and official notice of the filing of said application was given to all parties interested in both countries; and the parties to this application having appeared and waived notice of the time and place of the final hearing thereon; and no application having been made by anyone for additional protective works or for any other relief on account of anticipated injury or damage in consequence of the construction, maintenance, and operation of the proposed works; and

Whereas the project and plan of improvement provides for dredging a channel on the United States side of the international boundary, 400 feet wide to a depth of 21 feet, from a point about 1,500 feet above the mouth of Black River to a point downstream about 1,000 feet above the International Tunnel, a total distance of 6,000 feet, more or less, and for the construction of a submerged weir or compensating work, about 3 feet high, extending across the river from high water on the United States shore to the same elevation on the Canadian shore, to be located at a point about 3,000 feet downstream from the International Tunnel; and

Whereas careful calculations indicate that the dredging of the proposed channel will cause a lowering of Lake Huron about one-eighth inch unless compensated for; and it appears to the satisfaction of the commission that a submerged weir not exceeding 3 feet in height will give sufficient contraction to the river to compensate for the excavation; and

Whereas the said project will affect the natural level or flow of boundary waters, within the provisions of Article III of the treaty of January 11, 1909, between the United States and Great Britain, and requires the approval of this commission; and

Whereas the Government of the United States, in pursuance of the said treaty has applied for the approval by this commission of the said project, and the application having by the consent of the parties thereto come on for final hearing at the city of Detroit, in the State of Michigan, on May 17, 1917; and

Whereas the Dominion of Canada, in its reply statement, has assented to the said application on certain conditions to which the representatives of the United States have agreed, and the parties have consented that an order of approval be made on the following conditions, which order in the opinion of the commission seems just and proper: It is therefore

*Ordered*, That the dredging of the said channel and the construction of the said submerged weir be approved on the following conditions:

1. That the consent of the Province of Ontario to the construction of the said submerged weir on the Canadian side of the international boundary be obtained before the said submerged weir is constructed.
2. That the Government of the United States do maintain automatic gauges at suitable points above and below the proposed works for a period sufficient to determine the effect of these works upon the levels of Lake Huron; and that the height of the said submerged weir be modified if necessary so as to make the compensation full and complete.
3. That so soon as the approval of the Government of the Province of Ontario is obtained, the Government of Canada will proceed to obtain whatever property rights may be necessary on the Canadian side of the river in connection with the construction of the proposed submerged dam, and will hold the same in the interests of navigation so long as both Governments deem them necessary for such purposes.
4. That vessels engaged in local down-bound traffic for Sarnia, in the Province of Ontario, be permitted to use the present or Canadian channel.

CHARLES A. MAGRATH.  
 OBADIAH GARDNER.  
 HENRY A. POWELL.  
 JAMES A. TAWNEY.  
 P. B. MIGNAULT.  
 ROBERT B. GLENN.

## INTERNATIONAL JOINT COMMISSION.

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### APPLICATION OF THE GOVERNMENT OF THE UNITED STATES FOR APPROVAL OF CERTAIN CONTEMPLATED IMPROVEMENTS IN THE ST. CLAIR RIVER AT PORT HURON, MICH.

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#### OPINION.

This is an application of the Government of the United States for the approval by this commission of the dredging of a channel for navigation purposes on the United States side of the St. Clair River, opposite Port Huron, Mich.

This application came before the commission in the form of a letter of the 27th of December, 1916, addressed to the commission by the Secretary of State of the United States. This letter was accompanied by a copy of a letter from the Secretary of War to the Secretary of State, describing the proposed improvement, and referring, for further description, to House Document No. 782, Sixty-fourth Congress, first session, a copy of which was also sent to the commission.

A correct description of the contemplated works may be given as follows:

The Government of the United States proposes to dredge a channel in the St. Clair River on the United States side of the international boundary, 400 feet in width and 21 feet in depth, from a point about 1,500 feet above the mouth of the Black River to a point downstream about 1,000 feet above the International Tunnel, a total distance of 6,000 feet more or less, and to construct a submerged weir or compensating work about 3 feet high extending across the river from high water on the United States shore to the same elevation on the Canadian shore, to be located at a point about 3,000 feet downstream from the International Tunnel.

The object of this improvement is to provide a channel for down-bound vessels, so that the present channel near the Canadian shore can be used for upbound traffic. At the present moment the water is shallow along the United States shore, and navigation now skirts the Canadian bank, and in view of the great number of vessels pass-

ing through the St. Clair River, it is considered desirable that a channel should be dredged out in the location just described.

After receipt of this application, the usual public notices were given by order of the commission, but no one appeared to oppose the application or to submit that any other compensating work than the submerged weir was necessary to maintain the normal level of Lake Huron. The Government of the Dominion of Canada obtained an extension of the delay provided by the rules of procedure of the commission for the production of a reply statement, and, on the 9th of May, 1917, filed a statement in response to the application of the Government of the United States.

This statement in response, after discussing the proposed dredging of a new navigation channel in the St. Clair River and its effect on the level of Lake Huron, calls attention to the fact that about one-half of the submerged weir would be constructed in Canada, and upon the property of the Province of Ontario, requiring the consent of the government of that Province. The statement in response also emphasizes the importance of maintaining the natural flow of water in the watershed of the St. Lawrence River and of the Great Lakes, and refers at some length to what is known as the Chicago diversion. It adds:

The Government of Canada therefore feels confident that the Government of the United States will control the waters of this watershed on its own side of the boundary so as to cause a minimum damage to navigation in the St. Lawrence River, so vitally important to the trade and industry of Canada.

The statement in response of the Canadian Government concludes by expressing its consent to the application of the Government of the United States on the following conditions:

1. That the submerged dam which is to be constructed approximately at the point shown on the plan be of sufficient height to compensate for the anticipated lowering of the level of Lake Huron, and that the International Joint Commission arrange to have continuous gauge readings both above and below the dam in order that proper consideration may be given to this phase of the improvement.
2. That so soon as the approval of the government of the Province of Ontario is obtained, the government of Canada will proceed to obtain whatever property rights may be necessary on the Canadian side of the river in connection with the construction of the proposed submerged dam, and will hold the same in the interests of navigation so long as both Governments deem them necessary for such purposes.
3. That vessels engaged in local down-bound traffic for Sarnia, in the Province of Ontario, be permitted to use the present or Canadian channel.

The representatives of the two Governments came before the commission at its sitting in the city of Detroit, State of Michigan, on the 17th day of May, 1917, and waived any notice for final hearing, requesting that the commission should immediately proceed to hear and finally dispose of the application, which the commission con-

mented to do in view of the desire of the United States Government to begin the work as soon as possible, and also in view of the fact that no interests in Canada or the United States had made any objection to the proposed channel or to the sufficiency of the compensating works described in the letter of the Secretary of War.

The hearing having then been opened, the representatives of both countries agreed to the granting of the application for approval, on the conditions mentioned in the statement in response of the Canadian Government, and on the further condition which, however, was rather the modification of condition 1 of the statement in response of the Dominion of Canada, that the Government of the United States would maintain automatic gauges at suitable points above and below the proposed works for a period sufficient to determine the effect of these works upon the levels of Lake Huron, and that the height of the submerged weir would be modified if necessary so as to make the compensation full and complete.

It appears to the commission that, under Articles III and VIII of the treaty between Great Britain and the United States signed on the 11th of January, 1909, the commission has jurisdiction to consider the said application and to give its approval to the proposed works, which are to be carried out in the St. Clair River, a boundary water according to the definition of the preliminary article of the treaty. Article III of the Treaty provides that—

In addition to the uses, obstructions, and diversions heretofore permitted or hereafter provided for by special agreement between the parties hereto, no further or other uses or obstructions or diversions, whether temporary or permanent, of boundary waters on either side of the line shall be made except by authority of the United States or the Dominion of Canada within their respective jurisdictions and with the approval \* \* \* of the International Joint Commission.

The same article adds that—

The foregoing provisions are not intended to limit or interfere with the existing rights of the Government of the United States on the one side and the Government of the Dominion of Canada on the other, to undertake and carry on governmental works in boundary waters for the deepening of channels, the construction of breakwaters, the improvement of harbors, and other governmental works for the benefit of commerce and navigation, provided that such works are wholly on its side of the line and do not materially affect the level or flow of the boundary waters on the other.

Reading together the two paragraphs of Article III, it is clear that where the deepening of a channel on one side of the line materially affects the level or flow of a boundary water on the other side, the commission has jurisdiction to consider an application for the approval of such work and to grant its approval on such conditions as under Article VIII of the treaty it is authorized to prescribe. The jurisdiction of the commission has, moreover, been recognized by the two countries in the present instance.



At the hearing the parties to this application agreed that the construction of a submerged weir about 3 feet high extending across the river, at a point about 3,000 feet downstream from the International Tunnel, would compensate for any lowering of the level of Lake Huron caused by the dredging of the said channel. To secure, however, the sufficiency of this compensating work, the Government of the United States will maintain automatic gauges above and below the proposed works for a period sufficient to determine their effect upon the levels of Lake Huron, and the height of the submerged weir will be modified if necessary so as to make the compensation full and complete.

The commission does not feel called upon, under this application, to deal with the question of diversions from the watershed, and especially with the Chicago diversion. It fully appreciates the very great importance of this question, in view of the necessity of protecting the great international waterway of the St. Lawrence River and the Great Lakes, but it understands that the reference to the subject in the statement in response of the Canadian Government was for the purpose of calling the attention of the United States Government to the whole question. Under this application the commission is concerned only with the proposed channel on the St. Clair River, the more so as the Canadian Government, in its conclusions, has agreed to the granting of the application of the United States.

It must be observed, however, that the consent of the two Governments to a projected work in a boundary water does not necessarily preclude the commission from fully considering an application for its approval. The consent of the two Governments was necessary in this case in any event, inasmuch as the proposed weir will be constructed in the territory of both countries. Many questions of international importance may arise under applications coming before the commission by virtue of the treaty provisions, and it is the understanding of the commission that these questions are not necessarily concluded by the mere consent which the two Governments may give to an application brought before the commission. In the present case, after due deliberation, and because, while the two Governments gave their consent, no person or interest in either country objected to the application, the commission has concluded to grant its approval subject to the conditions mentioned in the statement of response of the Canadian Government, which conditions were accepted by the representatives of the United States Government. Among these conditions is the obtaining of the consent of the Province of Ontario to the construction of the submerged weir, and when this consent has been obtained the Government of the Dominion will proceed to obtain what property rights are required for the construction of the weir, and will hold them in trust for the above-mentioned purposes.

It may not be amiss to call attention here to a question of procedure. The rules of procedure of the commission (sec. 6, subsec. a) require that an application for the approval of the commission under Articles III and IV of the treaty shall set forth as fully as may be necessary for the information of the commission the facts upon which the application is based, and the nature of the order of approval desired. It is, moreover, especially desirable that the proposed works be fully described in the application itself, as they must be fully described in the order of approval, so that when they are constructed it may be possible to determine whether they conform to the application and to the order of approval. In the present case the letter of the Secretary of State—which was the application on behalf of the United States—refers to the letter of the Secretary of War and to the other documents for a full description of the projected works. It appears to the commission sufficient to say that great inconvenience and uncertainty may be caused by a failure to fully conform to the rule above referred to. Similar rules govern court proceedings in the two countries and it is desirable that they should be adhered to in applications coming before the commission.

Approval of the projected works is granted subject to the conditions above mentioned.

Opinion by Mr. Mignault.

## INTERNATIONAL JOINT COMMISSION.

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### APPLICATION OF THE GOVERNMENT OF THE UNITED STATES FOR THE APPROVAL OF CERTAIN CONTEMPLATED IMPROVE- MENTS IN THE ST. CLAIR RIVER, AT PORT HURON, MICH.

DEPARTMENT OF STATE,  
*Washington, December 27, 1916.*

HON. OBADIAH GARDNER,  
*Chairman United States Section, International Joint Commis-  
sion, Southern Building, Washington, D. C.*

SIR: I have the honor to inclose herewith, for submission to the International Joint Commission, a letter addressed to it by this department, relative to certain contemplated improvements in the St. Clair River along the water front of Port Huron, Mich.

I have the honor to be, sir,  
Your obedient servant,

ROBERT LANSING.

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DEPARTMENT OF STATE,  
*Washington, December 27, 1916.*

THE INTERNATIONAL JOINT COMMISSION, UNITED STATES AND CANADA,  
*Southern Building, Washington, D. C.*

GENTLEMEN: I have the honor to transmit herewith a copy of a letter of December 15, 1916, from the Secretary of War, with reference to certain contemplated improvements in the St. Clair River along the water front of Port Huron, Mich. It appears from this letter that the construction of the proposed improvements, in accordance with a plan and project set forth in House Document No. 782, Sixty-fourth Congress, first session, was authorized by Congress in the so-called rivers and harbors bill, which was approved July 27, 1916. Copies of these two documents, together with two blue prints showing the nature of the proposed improvements, are inclosed herewith.

It appears from the letter of the Secretary of War that the contemplated changes would, if made, affect the natural level of the St. Clair River on the Canadian side of the international boundary, as well as the level of Lake Huron, and that, therefore, the project is one which, under the terms of Article III of the boundary waters convention which was concluded between the United States and Great Britain on January 11, 1909, can be carried out only with the

approval of the International Joint Commission. The Secretary of War requests such approval.

It is presumed that the documents inclosed herewith will be found by the commission to contain all the necessary information regarding the facts upon which this application is based and the nature of the order of approval desired, and that this communication will be regarded by the commission as fulfilling the requirements of paragraph (a) of rule 6 and of rule 7 of the rules of procedure adopted by the commission.

A copy of this communication is being forwarded to the Secretary of War, whose attention is being invited to the provisions of rule 7 of these rules of procedure, and it is presumed that the required additional copies of this application will be supplied by his department in due course.

I have the honor to be, gentlemen,

Your obedient servant,

ROBERT LANSING.

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WAR DEPARTMENT,

*Washington, December 15, 1916.*

THE SECRETARY OF STATE.

SIR: In the river and harbor act of July 27, 1916, Congress made an appropriation for improving St. Clair River by securing a channel along the water front of Port Huron, Mich., in accordance with a plan and project set forth in House Document No. 782, Sixty-fourth Congress, first session.

The plan of improvement thus approved and provided for contemplates the dredging of a channel 400 feet wide and 21 feet deep near the American shore, from a point about 1,500 feet above the mouth of Black River to within about 1,000 feet from the International Tunnel, and the construction of a sill, or compensating work, at a distance of about 2,000 feet below the said tunnel. The sill is to be built of broken stone backed up with dredged material, and is to be about 3 feet high, extending from the high-water line on the American shore to the same elevation on the Canadian side. The object of the improvement is to provide a channel for downbound vessels so that the present channel near the Canadian shore can be used exclusively for upbound traffic.

Careful calculations indicate that the digging of the channel would cause a permanent lowering of Lake Huron to the extent of about one-half inch, unless compensated for; and that a sill 3 feet high, located as proposed, will give sufficient contraction to compensate for the excavation. The location of the proposed channel and compensating work is shown on the accompanying drawing, and for a description of the work and its authorization, reference is made to

the aforesaid document and act of Congress, copies of which are herewith [inclosed].

As the project is one affecting the natural level or flow of boundary waters, it appears to come within the purview of Article III of the boundary waters treaty of January 11, 1909, between the United States and Great Britain, and to require the approval of the International Joint Commission antecedent to its accomplishment.

I have the honor to ask that the matter be referred to that commission for consideration and approval.

Very respectfully,

NEWTON D. BAKER,  
*Secretary of War.*

[PUBLIC—No. 168—64TH CONGRESS.]  
[H. R. 12193.]

AN ACT Making appropriations for the construction, repair, and preservation of certain public works on rivers and harbors, and for other purposes.

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,* That the following sums of money be, and are hereby, appropriated, out of any money in the Treasury not otherwise appropriated, to be immediately available, and to be expended under the direction of the Secretary of War and the supervision of the Chief of Engineers, for the construction, completion, repair, and preservation of the public works hereinafter named:

\* \* \* \* \*

Ship channel connecting waters of the Great Lakes between Chicago, Duluth, and Buffalo: For maintenance of improvement through Lake Saint Clair, \$108,325: *Provided*, That of this amount the sum of \$83,325 may be expended for the purpose of securing a channel in Saint Clair River along the water front of Port Huron, Michigan, in accordance with the report printed in House Document Numbered Seven hundred and eighty-two, Sixty-fourth Congress, first session.

\* \* \* \* \*

Approved July 27, 1916.

[House Document No. 782, Sixty-fourth Congress, first session.<sup>1</sup>]

ST. CLAIR RIVER, MICH.

WAR DEPARTMENT,  
*Washington, February 18, 1916.*

The SPEAKER OF THE HOUSE OF REPRESENTATIVES.

SIR: I have the honor to transmit herewith a letter from the Chief of Engineers, United States Army, of this date, together with copies

<sup>1</sup> This document constitutes a part of the application.

of reports from Lieut. Col. Mason M. Patrick, Corps of Engineers, dated September 27 and December 16, 1915, with map, on preliminary examination and survey, respectively, of St. Clair River, Mich., made by him in compliance with the provisions of the river and harbor act approved March 4, 1915.

Very respectfully,

H. L. SCOTT,

*Secretary of War ad Interim.*

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WAR DEPARTMENT,  
OFFICE OF THE CHIEF OF ENGINEERS,  
*Washington, February 18, 1916.*

From: The Chief of Engineers, United States Army.

To: The Secretary of War.

Subject: Preliminary examination and survey of St. Clair River, Mich.

1. There are submitted herewith for transmission to Congress reports dated September 27 and December 16, 1915, with map, by Lieut. Col. Mason M. Patrick, Corps of Engineers, on preliminary examination and survey, respectively, authorized by the river and harbor act approved March 4, 1915, of St. Clair River, Mich., with a view to securing a channel of adequate width and depth along the water front of Port Huron.

2. The St. Clair River is included in the existing project for the improvement of the ship channel connecting the waters of the Great Lakes, which provides for a channel 20 and 21 feet deep at low water and not less than 300 feet wide. The city of Port Huron is situated on the right bank of St. Clair River just below Lake Huron. Black River flows into St. Clair River through the city of Port Huron. Opposite its mouth is an extensive shoal or middle ground having a length of about 4,500 feet which forces the main channel of St. Clair River over to the Canadian side. All deep-draft vessels must cross above the middle ground shoal from one side of the river to the other and make two rather abrupt turns. On account of these turns, the strong current, and the frequent fogs, many vessel men regard this particular portion of the St. Clair River as the most dangerous place between Duluth and Buffalo. The question of removing the entire shoal has been given consideration, but it appears that this would unduly reduce the levels of Lakes Huron and Michigan. The majority of vessel masters who have expressed themselves prefer a separate channel for downbound traffic along this part of the Port Huron water front. Such a channel would not only facilitate through navigation, but would also be a benefit to the local commerce of Port Huron. To compensate for the increased cross section and consequent lowering of the level of Lake Huron the district

officer proposes the construction of a submerged weir entirely across the river below the suggested channel. Including this weir, the cost of a channel 21 feet deep at low water and 400 feet wide is estimated at \$83,325. He expresses the opinion that improvement to this extent is justified by the commercial and other interests involved, and the division engineer concurs in this opinion.

3. These reports have been referred, as required by law, to the Board of Engineers for Rivers and Harbors, and attention is invited to its report herewith, dated January 19, 1916, concurring in the views of the district officer and the division engineer.

4. After due consideration of the above-mentioned reports, I concur in the views of the district officer, the division engineer, and the Board of Engineers for Rivers and Harbors, and therefore report that the improvement by the United States of St. Clair River, Mich., with a view to securing a channel of adequate width and depth along the water front of Port Huron, is deemed advisable to the extent of providing a channel for downbound traffic along the water front of Port Huron, 21 feet deep at low water and 400 feet wide, approximately as shown on accompanying map, including a submerged weir below the channel, at an estimated cost of \$83,325 for first construction and \$1,000 annually for maintenance. The entire first cost of the work should be provided in one appropriation. This improvement is logically a part of the ship channel connecting the waters of the Great Lakes between Chicago, Duluth, and Buffalo, and it is recommended that it be authorized as part of that project.

DAN C. KINGMAN,

*Chief of Engineers, United States Army.*

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REPORT OF THE BOARD OF ENGINEERS FOR RIVERS AND HARBORS ON SURVEY.

[Third indorsement.]

BOARD OF ENGINEERS FOR RIVERS AND HARBORS,

*January 19, 1916.*

To the CHIEF OF ENGINEERS, UNITED STATES ARMY:

1. The following is in review of the district officer's reports authorized by the river and harbor act of March 4, 1915, on preliminary examination and survey of "Saint Clair River, Michigan, with a view to securing a channel of adequate width and depth along the water front of Port Huron."

2. The St. Clair River connects Lake Huron with Lake St. Clair, which in turn is connected with Lake Erie by the Detroit River. Port Huron lies on the right bank of the river just below Lake Huron. The city water front is about 29,000 feet long. About

10,000 feet below the upper end a shoal makes out from the city front, forcing the main channel over to the Canadian side.

3. The improvement desired is a channel of suitable dimensions through this shoal along the city front for the benefit of the commerce pertaining to the city of Port Huron, but principally in the interests of the enormous interlake commerce, which amounts to about 78,000,000 tons. Owing to the strong current, frequent fogs, and sharp turns in the present through channel, many vessel men regard this locality as being the most dangerous between Duluth and Buffalo, and navigation interests desire for safety separate channels for up and down traffic.

4. The district officer presents a plan of improvement which provides for a channel 400 feet wide and 21 feet deep at low water, as shown on the accompanying map. To compensate for the increased cross section of the river and the consequent lowering of the level of Lake Huron, it is proposed to place a sill or submerged weir across the river a short distance below the cut.

5. The estimated cost of the work is as follows:

Dredging .....	\$69,750
Submerged weir .....	6,000
Contingencies .....	7,575
Total .....	83,325

Maintenance is placed at \$1,000 per year. The district officer is of opinion, in which the division engineer concurs, that the locality is worthy of improvement to this extent.

6. A careful review of the information in hand indicates a strong sentiment in favor of this improvement, particularly as regards the heavy through traffic. It has been found elsewhere advantageous in dangerous or congested localities to have separate channels for up and down traffic, and this desired condition can be secured here at quite reasonable expense. It is believed that the benefits to be expected from this improvement will amply justify the cost. The board therefore concurs with the district officer and the division engineer in the opinion that it is advisable for the United States to undertake the improvement of the St. Clair River along the water front of Port Huron, as proposed by the district officer and described above, at a total estimated cost of \$83,325 for construction and \$1,000 annually for maintenance. The entire first cost of the work should be provided for in one appropriation.

7. In compliance with law, the board reports that there are no questions of terminal facilities, water power, or other subjects so related to the project proposed that they may be coordinated there-



with to lessen the cost and compensate the Government for expenditures made in the interests of navigation.

For the board:

W. M. BLACK,  
Colonel, Corps of Engineers,  
Senior Member of the Board.

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PRELIMINARY EXAMINATION OF ST. CLAIR RIVER, MICH.

WAR DEPARTMENT,  
UNITED STATES ENGINEER OFFICE,  
Detroit, Mich., September 27, 1915.

From: The District Engineer Officer.

To: The Chief of Engineers, United States Army  
(Through the Division Engineer).

Subject: Preliminary examination of St. Clair River at Port Huron, Mich.

1. I submit below a report upon a preliminary examination made in accordance with the following provision of the river and harbor act approved March 4, 1915: "Saint Clair River, Michigan, with a view to securing a channel of adequate width and depth along the water front of Port Huron."

2. Information was obtained by correspondence and by interviews with many persons known to be interested in this matter, and finally, on September 14, 1915, at the office of the mayor, there were met a number of the citizens of Port Huron whom he had gathered together, all of whom were invited to set forth their views fully.

3. The St. Clair River is the outlet of Lake Huron, and on its right bank, just below where it leaves the lake, lies the city of Port Huron. The locality is shown on Lake Survey Chart No. 43 and on the sketch map herewith.<sup>1</sup> The total length of the city water front is about 29,000 feet. From the upper city limit for about 10,000 feet the 20-foot contour in the river runs close to shore, and along this portion of the water front the existing unimproved channel has undoubtedly adequate width and depth. Near the end of this reach the main channel of the river turns to the eastward, and then southward, hugging the Canadian shore, while between it and the American shore lies an extensive shoal, known as the middle ground, with an area inside the 20-foot contour of about 64 acres, on which the least depth is now about 15.5 feet at low water (corresponding to a Lake Huron stage 2 feet below the mean level for the period 1865-1914), the datum plane for all depths mentioned herein. Measured

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<sup>1</sup> Not printed.

along the American shore, this shoal has a length of about 4,500 feet; the maximum width of the river in this reach is about 2,400 feet, and the width of the river channel between the shoal and the Canadian shore is about 1,200 feet. Below the middle ground the river quickly narrows to a width of about 1,700 feet and the 20-foot contours run close to both shores. Some 11,500 feet below the upper city limit the Black River, after flowing through the city, enters the St. Clair River. This stream has been improved by the United States for a distance of about 9,500 feet above its mouth, and the existing project calls for a low-water channel depth of 16 feet.

4. It is quite apparent from the above that the only portion of the water front of Port Huron along which the existing channel may not be adequate in width and depth is that occupied by this middle ground shoal, and that this report may therefore be restricted to a discussion of the conditions existing along that part of the city water front from about 1,500 feet above the mouth of the Black River to a point about 3,000 feet below it, to an effort to determine whether any improvement is necessary here, and if so what should be the location and dimensions of a channel across this shoal which would have adequate width and depth.

5. There have been no previous reports of any preliminary examinations of just the scope outlined in the river and harbor act which ordered this report. The matter of the entire removal of the middle ground shoal was discussed in my unfavorable report dated June 30, 1913, and published in House Document No. 221, Sixty-third Congress, first session.

6. For many years there was a consistent effort, not yet abandoned, on the part of the vessel interests to have this middle ground shoal wholly removed so that there would be over all of it no depth less than the maximum vessel draft. This was more strongly urged before the time when the effect of such an improvement upon the level of the lakes above was accurately known and there were approved projects dating back to 1871 for dredging over this shoal to a depth of 15 feet, then to 16 feet, which when the respective projects were adopted was adequate for all boats plying these waters. Since the completion of the 16-foot project, the size and draft of the lake freighters have continued to increase, and at present the depth over the middle ground is much less than required by the larger vessels.

7. A further deepening over this shoal would undoubtedly have a deleterious effect upon the level of Lakes Michigan and Huron. For some years the United States has refrained from doing any such work and has likewise prohibited dredging on this shoal by private parties. This prohibition was delayed too long, however, and the map here-

with<sup>1</sup> shows plainly by the positions of the 20-foot contour at the dates indicated the results of the dredging that was done.

8. The matter of any improvement by the United States along the part of the city water front above mentioned concerns not only the city itself, but also the immense interlake traffic which passes up and down the St. Clair River. There are no statistics to show exactly the amount of this traffic which passes Port Huron, but it is probable that those which cover the traffic through the St. Clair Flats Canal at the mouth of the river will give a close approximation to it, and for the year 1913 the freight carried through the canal amounted to about 78,800,000 tons, valued at about \$855,800,000. This was the year of maximum freight movement up to date, but it is quite certain that this maximum will be equaled or exceeded in the near future.

9. As indicated above, all deep-draft boats must cross above the middle ground shoal from one side of the river to the other and make two rather abrupt turns in a distance of about 2,500 feet. The current in this part of the river is quite strong, the average slope in the first 2 miles just below Lake Huron being eight times that in the lower river, the current velocity in this 2 miles being as great as 5 miles per hour, and probably not less than 2½ miles per hour anywhere above the lower end of the middle ground.

10. It is stated, probably correctly, that it is not infrequent for this portion of the river to be covered by fog while there is no sign of a fog in the lake above.

11. Owing to these facts, the strong current, the turns it is necessary to make, the frequent fogs, the consequent liability to collisions or to being carried on the shoal, many vessel men regard this particular portion of the St. Clair River as the most dangerous place between Duluth and Buffalo.

12. Communications have been received from 76 individual vessel masters, of whom 59 strongly favor a separate channel for down-bound traffic along this part of the Port Huron water front; 12 others go further and still urge the entire removal of the middle ground shoal; and of the remaining 5 two wanted such a channel, but for up-bound boats one gave no opinion and one thought it would do no particular good. In addition, one company operating 13 large vessels, based upon the consensus of the opinions of its masters, urgently recommends the making of such a downbound channel, and this same recommendation has been made repeatedly by the committee on aids to navigation of the Lake Carriers' Association.

13. The records show a number of accidents at this locality, which are tabulated below:

1905—Steamer *Edward P. Recor*, stranded on middle ground; damage, \$3,100.  
Steamer *Vulcan*, stranded on middle ground; damage, \$300.

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<sup>1</sup> Not printed.

- 1907—Steamers *Gratwick* and *Iroquois* collided; damage, *Iroquois*, \$10,000; *Gratwick*, \$1,000.  
 Steamers *Tuscarora* and *Maryland* collided; damage, *Tuscarora*, \$20,000; *Maryland*, \$30,000.
- 1908—Steamers *M. A. Hanna* and *H. P. McIntosh* collided; damage, *Hanna*, \$15,000; *McIntosh*, \$20,000.  
 Steamer *John M. McKerchey* while lying at anchor struck by steamer *International*; damage, \$3,000.
- 1909—Steamer *John M. McKerchey* while lying at anchor struck by barge *Barium* in tow of steamer *Gargantua*, drifted to Canadian side, and while at dock there was again struck by steamer *Minch*; damage to *McKerchey*, \$5,000.
- 1910—Steamers *D. R. Hanna* and *Harvey Brown* collided; damage, *Hanna*, \$10,000; *Brown*, considerable, but exact amount unknown.
- 1911—Steamers *W. H. Gilbert* and *City of Genoa* collided. *Genoa*, at anchor on account of fog when struck, was sunk. Damage to *Gilbert*, \$1,500; to *Genoa*, no amount stated.  
 Steamer *Henry Phipps* collided with steamer *Joliet* at anchor, then dropped anchor, which did not hold, and drifted across bows of steamer *Alpena*, also at anchor in fog. Damage to *Phipps*, \$40,000; *Joliet*, a total loss; damage to *Alpena* not stated.
- 1912—Steamer *W. K. Bixby* attempting to round to and anchor in fog drifted on wreck of *Joliet*, doing considerable damage, but amount not stated.  
 Steamer *E. W. Ogilby*, attempting to round to with barge in tow in fog, towline caught, barge collided with steamer, broke two frames and damaged five plates. Amount of damage not stated in money.
- 1914—Steamer *Midland Prince*, anchoring in fog, swung and dragged anchor and collided with steamer *C. W. Watson*, also anchored, broadside. Amount of damage not stated.
- 1915—Steamer *Frontenac* struck on middle ground; damage to rudder, \$300.

14. So far as the through traffic passing Port Huron is concerned, it may be admitted that this is a perilous part of the vessel route and that the danger would probably be lessened if separate channels were provided for up and down bound shipping at this locality.

15. There are several phases of the matter which present themselves when the attempt is made to determine what, if any, benefit to the city would follow the making of a channel along this portion of its water front between the point where the main channel of the river leaves the American shore and the lower limit of the middle ground. In the first place, at present practically all of the water traffic to and from Port Huron is carried on along the Black River and along the St. Clair River front for a distance of about 1,500 feet above the mouth of the Black River where the depths near shore are less than 20 feet. Above this part of the river front the near-shore depths are greater, the river current swifter, the banks high and steep; there has been no commercial development, and it is probable that there will be none. Below the middle ground shoal the shore is occupied by residence property, and here no commercial development is likely.

16. Below the mouth of the Black River, for the remaining 3,000 feet to the lower side of the shoal, the Grand Trunk and Pere Mar-

quette railroad systems own the river front for more than one-half of this distance. These railroads have established their terminals, one on one side, one on the other side of St. Clair River, nearer Lake Huron, and of their frontage below Black River they make little or no use except as a landing for a car ferry and except near the lower end of the Grand Trunk property, where, on a site leased from this railroad company, is located an elevator which handles some 5,000,000 bushels of grain per year, unloaded from about 30 boats, the largest carrying 10,000 tons or more and drawing loaded about 19 feet.

17. The manager of this elevator has complained a number of times of the insufficient depth in the river near it, and especially along the shore above it, where it has been desired to have deep-draft vessels tie up while waiting their turn to be unloaded.

18. Formerly the ordinary package freighters made regular landings at Port Huron, above the mouth of Black River. Since the size of these vessels has increased it is said they have ceased to do so by reason of the lack of depth along the wharves, or of the difficulty and danger of rounding to above the middle ground when downbound in order to make these landings, or from a combination of these causes.

19. So far as the commerce of the Black River is concerned, a channel in the St. Clair River near the American side would be of little value, as the depth on the middle-ground shoal is now about equal to that which can be carried into the Black.

20. For all upbound vessels desiring to land along the city water front on the St. Clair River such a channel would be a decided advantage if they were allowed to use it. Downbound vessels seeking to land would be little benefited unless they passed down the channel along the Canadian shore and then came up the American channel, a long and roundabout course, which would mean delay and probably would be used but little.

21. The people who were met at Port Huron on September 14, 1915, seemed interested in this matter, but the sentiment was rather divided. There were still those who advocated the entire removal of the middle ground, magnifying the resulting benefits to the city and minimizing, ignoring, or denying the injury which would thus be done to interests along the lakes above. Others thought the making of a channel along the city front would be a detriment because the passing of large boats so close to shore would endanger any which might be tied up to the docks. This danger to boats lying at the elevator was especially emphasized, but not by any who had a financial interest in it. Later the manager of the elevator stated that he had little cause to fear danger or inconvenience from such a source provided the passing vessels were compelled by proper rules to moderate their speed over the bottom. Still others, particularly the owners

of dock property, were in favor of such a channel especially if it were made near enough to the dock line so that they could secure deeper water at their docks without much work on their part.

22. On the whole, it is my conclusion that a channel of adequate width and depth along the water front would probably be of some little benefit to the city's commerce, although it is to be doubted whether this benefit alone would be sufficient to warrant any such improvement being undertaken by the United States.

23. The effect of the making of any such channel upon the level of the lakes above must receive consideration. It can be stated emphatically that any increase whatever in the area of the cross section of the river at this point will inevitably result in a proportional lowering of the level of Lakes Michigan and Huron, unless compensating works are placed elsewhere in the St. Clair River. There is no doubt that it is feasible to locate properly and to place such works, submerged dams or weirs, which would compensate for the increase of cross section caused by making a channel across this middle ground shoal at Port Huron.

24. What then should be the width and depth of any channel along the water front of Port Huron in order that it may be adequate for all the uses to be made of it? It may be said at once that if it is to serve the through traffic the depth can not be less than that in other improved channels, and therefore not less than 21 feet at low water. The width is not so easy to determine. Elsewhere one-way channels are in use which are only 300 feet wide, e. g., the West Neebish Channel in the St. Marys River, the Livingstone Channel for the greater part of its length in the lower Detroit River. The current in these two channels is not so strong as that which would be found in this channel along Port Huron, which, moreover, may have to be used by some local upbound traffic to the city, and assuming that it will likewise be used for down bound through traffic, it seems that its width should be greater than 300 feet. I believe that under the conditions that would exist a width of 400 feet would probably be adequate. Such a channel should be straight, located about as shown on the sketch map herewith, and with its western bank not closer to the dock line than 100 feet.

25. It is manifest that any channel dimensions suitable for through traffic will be adequate for all local traffic, but that in order to be of any advantage to the commerce of the city of Port Huron the channel must be fairly close to shore. If so located, it is to be expected that some of the dock owners will wish to carry the channel depth in to their docks. If this channel were meant to serve the needs of through traffic alone, it may be thought that it would be better to locate it farther from shore, or even that the widening of the existing

channel by dredging off the middle ground shoal would answer the purpose, but experienced vessel men claim that the channel near shore will really be better, as it can be followed more easily, the shore and buildings along it serving as guides, than one which is farther out in the stream.

26. If a channel with the above dimensions should be dredged across this shoal, the resulting increase of the cross-section area at this critical locality, unless compensating works are put in place, would undoubtedly cause a very slight permanent lowering of the level of Lakes Michigan and Huron. It is thought well to guard against even such lowering of the lake level, especially as this can probably be done without difficulty and at small cost.

27. In view of the benefits which would accrue to all through traffic, and likewise to the city itself, I am of the opinion that this locality is worthy of improvement by making along the city water front a channel of the above dimensions, to be used by downbound through traffic and by vessels stopping at Port Huron, either up or down bound, under proper regulations which will fix the speed allowed and otherwise safeguard its navigation, provided, in addition, that there be included in the project the placing of suitable compensating works elsewhere in the river to insure against any lowering of the level of Lakes Michigan and Huron, which would otherwise follow such an increase in the area of the cross section at this point.

28. No survey will be necessary to determine the probable cost of the improvement recommended above, as the data in this office are sufficient for this purpose.

29. There are no public docks along the Port Huron water front. The private docks are pile structures. At none of them are there any mechanical appliances for handling freight, and, except just inside the mouth of the Black River, no provision is made for the direct transfer of freight between boats and railroads.

30. The character of this stream is such that no questions of the development of water power enter into a consideration of its improvement.

MASON M. PATRICK,  
*Lieut. Col., Corps of Engineers.*

[First indorsement.]

OFFICE DIVISION ENGINEER, LAKES DIVISION,  
*Buffalo, N. Y., October 15, 1915.*

To the CHIEF OF ENGINEERS, UNITED STATES ARMY:

1. Forwarded.
2. I concur in the opinion of the district officer as expressed in paragraph 27 of his report.

3. It is recommended that a survey be ordered to provide a final plan for a channel 400 feet wide and for compensating works, design and location in detail, with estimate of cost.

J. G. WARREN,  
*Colonel, Corps of Engineers.*

[Third indorsement.]

BOARD OF ENGINEERS FOR RIVERS AND HARBORS,  
*November 9, 1915.*

To the CHIEF OF ENGINEERS, UNITED STATES ARMY:

1. For reasons stated herein the board concurs with the district officer and the division engineer in recommending a survey in order to determine the extent and advisability of the improvement and the character and cost of compensating works.

For the board:

W. M. BLACK,  
*Colonel, Corps of Engineers,*  
*Senior Member of the Board.*

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SURVEY OF ST. CLAIR RIVER, MICH.

WAR DEPARTMENT,  
UNITED STATES ENGINEER OFFICE,  
*Detroit, Mich., December 16, 1915.*

From: The District Engineer Officer.

To: Chief of Engineers, United States Army  
(Through the Division Engineer).

Subject: Report upon survey of St. Clair River at Port Huron, Mich., with estimate of cost of the proposed improvement.

1. In compliance with the directions contained in letter, office Chief of Engineers, dated November 16, 1915, I submit below a report upon a survey of the St. Clair River in the vicinity of Port Huron, Mich.

2. The results of a survey of this locality made by the United States Lake Survey Office in 1914 are shown on the map herewith. As it is known that no changes of any moment have taken place since then, no additional field work was necessary to determine the location of the improvement recommended in my report upon the preliminary examination nor to make an estimate of the amount of material to be removed and the cost of the proposed work.

3. The said preliminary examination report recommended dredging a channel about 400 feet wide in the St. Clair River along a por-



tion of the water front of Port Huron, approximately parallel to the American shore and about 100 feet from the dock line, this channel to be used mainly by downbound through traffic, but to be available for use by local traffic upbound, with the understanding that proper regulations shall be established to safeguard all traffic through it. In addition and in order to prevent the permanent lowering of the level of Lake Huron, which would otherwise result from such an enlargement of the cross section at this locality, it was proposed to compensate for this enlargement by placing a sill or submerged weir across the river at a suitable location.

4. On the map herewith is shown the location of the proposed channel. It is recommended that this channel be dredged so that the clear depth through it at low water, corresponding to a Lake Huron stage 2 feet below the mean level for the period 1860-1914, may be 21 feet for the full bottom width of 400 feet. The total length of the channel to be dredged is approximately 7,000 feet and the average depth of dredging, including an allowance of 1 foot for overdepth, is 5 feet. The material to be removed is known to be sand and gravel with possibly some little mud near the upper end. The total amount of this material to be dredged is approximately 465,000 cubic yards, scow measurement.

5. As indicated above, this dredging if done will cause an increase in the cross section of the St. Clair River. To compensate for this enlargement it is proposed to place a submerged weir across the stream at the locality indicated on the map. This weir will be formed by depositing stone and possibly some of the material dredged from the channel on the river bed, the amount to be adequate to decrease the existing cross section at this locality sufficiently to accomplish the desired purpose. This stone will be carried up on each side of the stream to about the high-water level so that there will be no danger of a permanent enlargement of the cross section by the erosion of the banks.

6. It is estimated the cost of this work will be as follows:

Dredging 465,000 cubic yards, scow measure, at 15 cents.....	\$69,750
Placing 3,000 tons of stone, at \$2.....	6,000
	<hr/>
	75,750
Contingencies .....	7,575
	<hr/>
Total.....	83,325

7. Once in place it is expected that there will be no expense for maintenance of the compensating works. The dredged channel is expected to maintain itself, although due mainly to the material brought down by the Black River, which enters the St. Clair River near its upper end, there may be at this locality some little shoaling,

and therefore it is estimated that the maintenance of the dredged channel will cost \$1,000 per year.

8. Based upon the results of the above survey and having in view the estimated cost of all the proposed work, I am of the opinion that the improvement is justified by the commercial and other interests involved.

9. If this work be undertaken, it should be so prosecuted that it can be entirely completed in a single dredging season or at the rate of about 50,000 cubic yards of dredging per month while the compensating sill should be put in place while the dredging is in progress. This latter work could be done in about three months. In order that the work may be carried on most economically and most efficiently the entire amount should be included in a single appropriation.

10. Further study of this matter has strengthened my belief that the channel, if dredged, should be located as shown on the map herewith rather than to attempt to give the needed relief by merely widening the existing channel near the Canadian shore to the westward. Even if this latter channel were so widened it would be difficult to separate the up and down bound traffic in it. Following the usual custom, boats are supposed to keep to the right; that is, to pass each other on their port hands, so that all upbound traffic now hugs the Canadian shore fairly closely while down-bound traffic endeavors to keep to the western half of the existing channel. It is the turn, or rather the double turn, at the head of the Middle Ground shoal which now causes most trouble to the large boats, and no traffic regulations nor aids to navigation could obviate this. Furthermore, it is stated emphatically by a number of vessel men that the advantage they would derive from the shore landmarks while navigating a down-bound channel close to the Port Huron water front would be much greater than any which would follow a mere widening of the present channel.

11. The compensating sill which it is planned to place in the river is located some little distance below the lower end of the proposed channel. This is believed to be preferable to attempting to make the necessary reduction to the cross section by merely depositing some of the dredged material on the Middle Ground Shoal. The current over this shoal is strong and it is by no means certain that such dredged material so placed would remain. Again, light-draft vessels do now navigate over this shoal, and as it is advisable to keep them out of the channels which are used by the larger class of vessels, I believe it would be detrimental to lessen the existing depth over the Middle Ground in an attempt to compensate for the enlargement of the cross section caused by the dredging of the proposed channel. If the compensating sill be placed at the location shown on the map,

it will be possible to carry it up on each side to about the high-water level, as indicated above, so that there will be no danger of enlargement of the cross section by bank erosion.

MASON M. PATRICK,  
*Lieut. Col., Corps of Engineers.*

[First indorsement.]

OFFICE DIVISION ENGINEER, LAKES DIVISION,  
*Buffalo, N. Y., December 28, 1915.*

To the CHIEF OF ENGINEERS, UNITED STATES ARMY:

1. Forwarded.
2. I concur in the recommendation and opinions expressed by the district officer in paragraphs 4-11 of his report.

J. G. WARREN,  
*Colonel, Corps of Engineers.*

[For report of the Board of Engineers for Rivers and Harbors on survey, see p. 3.]



## INTERNATIONAL JOINT COMMISSION.

### STATEMENT IN RESPONSE ON BEHALF OF THE DOMINION OF CANADA.

In the matter of the application of the Government of the United States, for approval of plans for dredging a channel through the shallow water along the water front of Port Huron, Mich., and for the construction of a submerged weir in the river about one mile below to compensate for the lowering that would be occasioned by the dredging.

THE INTERNATIONAL JOINT COMMISSION, OTTAWA, CANADA, AND  
WASHINGTON, D. C.

(1)

The application herein asks for the approval by your honorable commission of the following:

1. The dredging of the channel 400 feet wide and 21 feet deep (United States standard improvement planes datum, 579 feet above mean tide, New York) along the American shore from a point about 1,500 feet above the mouth of Black River to within about 1,000 feet of the International Tunnel, a total length of 5,500 feet.

The object of the improvement is to provide a channel for down-bound vessels so that the present channel near the Canadian shore can be used exclusively for upbound traffic.

2. The construction of a compensating submerged weir at a distance of about 2,000 feet below the said International Tunnel. This weir is to be built of broken stone backed up with the dredged material and is to be about 3 feet high, extending from the high-water line on the American shore to the same elevation on the Canadian shore.

(2)

The application has been referred to your honorable commission by the United States Government with a letter from the Secretary of War, dated the 15th of December, 1916, stating:

As the project is one affecting the natural level or flow of boundary waters it appears to come within the purview of the boundary waters treaty of 1909

between the United States and Great Britain and to require the approval of the International Joint Commission antecedent to its accomplishment.

(3)

The application comes, therefore, within Article III of the treaty as regards the first section of Paragraph I, and the construction of the submerged weir mentioned in section 2 of Paragraph I is covered by Article VIII which stipulates that your honorable commission shall have jurisdiction and shall pass upon such application in accordance with certain rules or principles as therein stated.

(4)

By the said Article VIII of the treaty it is provided that your honorable commission—

in its discretion may make its approval in any case conditional upon the construction of remedial or protective works, to compensate so far as possible for the particular use or diversion proposed, and in such cases may require that suitable and adequate provision approved by the commission, be made for the protection and indemnity against injury of any interests on either side of the boundary.

(5)

A copy of the application was sent to the Government of the Dominion of Canada shortly after the same was filed with your honorable commission on the 5th of January, 1917, but as the time allowed for examining into the merits of the project was not deemed sufficient by said Government, two extensions of time in which to file a statement in response were asked for and granted, the first to the 1st of April and the second to the 1st of May, in accordance with the rules of procedure of your honorable commission.

(6)

According to the calculations of the American engineers, the dredging of the channel will cause a lowering of Lake Huron of approximately 0.01 foot at improvement plane stage, and a lowering of the level, referred to mean water stages, of about 0.012 foot at the upper end of the channel, and 0.010 foot on Lake Huron. It is proposed to compensate for this by constructing a submerged dam.

The Canadian engineers state that as the proposed channel will be 100 feet from the wharf line at Port Huron, it is altogether likely that as a matter of convenience to the owners of adjacent wharfs, the channel will be gradually dredged to the wharf line. They have, therefore, made their calculations as to the probable lowering of the level of Lake Huron on the basis of a 500-foot channel. On this

basis there would be a lowering in the mean water level of Lake Huron of 0.0242 foot, and a reduction in the mean level of Lake Huron of 0.017 foot. The height of the submerged dam, which is to be constructed to compensate for the lowering of the level of the river and the lake, would, therefore, they say, have to be slightly greater than the height as estimated by the American engineers, namely, 1.78 feet instead of 1.40 feet. These figures, however, are approximate.

(7)

It may be pointed out that about half of this weir will be constructed in Canada and upon the property of the Province of Ontario. The consent therefore to the project is required from the government of that province as well as from the Government of Canada.

(8)

The project is designed primarily in the interests of navigation and being below the artificial outlet at Chicago it raises, at once, the question of diversions of water from the St. Lawrence River system at that point, which is inimical to the vast shipping interests operating on this great water system.

The Government of Canada recognizes fully the importance of the navigation of the Great Lakes and of the connecting rivers, particularly from Lake Superior and Michigan to Lake Erie, and the great benefit to be derived from deeper channels. Dredging in these various connecting channels lowers the water level in the lakes and channels above. The lakes do not feel the effect but the harbors and channels which are to a large extent artificial, suffer very materially, unless adequate suitable compensation is provided, because the present depth has been acquired by dredging. As was pointed out in a memorandum presented to your honorable commission on the 17th of February, 1913, in connection with a reference by the Government of the United States on certain suggested improvements in Livingstone Channel, Detroit River, the Government of Canada is still of the opinion that dealing with individual sections in connecting channels of this important international highway is not in the best interests of either country especially so while unauthorized diversion farther upstream is continued.

(9)

The Government of Canada fully appreciates the importance of maintaining the regimen of the Great Lakes and connecting rivers in the interests of shipping. It has the further concern on behalf of the

same interests, and a very real concern, occasioned by the withdrawal of water which naturally would pass down the St. Lawrence River to the Atlantic Ocean. Ordinary deepening and compensations do not affect this flow except temporarily, but diversions are a very serious matter and occasion very great loss when water is transferred from one watershed to another, as in the case of the Chicago diversion. Every lake, every river, every channel, and every harbor from Chicago to Quebec suffers from lowering of the water level.

Below Lake Erie the Government of Canada has made heavy expenditures on the Welland and St. Lawrence Canals, as well as dredging the St. Lawrence ship channel from Montreal to Quebec, increasing the draft between these two ports from 10 feet to 35 feet. All these works have been rendered less useful by the diversion at Chicago and suffer particularly during the autumn when the low-water season occurs.

Furthermore, in the matter of power development at the various drops along the system, the aggregate potential loss to both countries, and more especially to Canada, will be very great if this diversion is to be continued.

(10)

The city of Montreal is the principal shipping port for Canada, and the shipping interests there are very jealous of any interference with the natural flow of the water to their port. Representations have been made to the Government of Canada on various occasions protesting against the Chicago diversion, as well as to proposals that have been made at various times to artificially regulate the levels of Lake Erie.

(11)

It may be pointed out that the Government of the United States is interested in maintaining the maximum possibilities for navigation of the St. Lawrence River, as by the treaty of 1871—

The navigation of the river St. Lawrence, ascending and descending, from the forty-fifth parallel of north latitude, where it ceases to form the boundary between the two countries, from, to, and into the sea, shall forever remain free and open for the purposes of commerce to the citizens of the United States, subject to any laws and regulations of Great Britain or of the Dominion of Canada not inconsistent with such privilege of free navigation.

(12)

The Government of Canada however feels satisfied that the Government of the United States fully appreciates the necessity of maintaining the natural flow of water in this great watershed in the



interests of navigation, not only in that portion of the system in which the United States tonnage is exceedingly heavy but in the St. Lawrence system in Canada, where, as already pointed out, the United States has the right of free navigation. The Government of Canada therefore feels confident that the Government of the United States will control the waters of this watershed on its own side of the boundary so as to cause a minimum damage to navigation in the St. Lawrence River, so vitally important to the trade and industry of Canada.

(13)

The Government of Canada consents to the application of the Government of the United States on the following conditions:

1. That the submerged dam which is to be constructed approximately at the point shown on the plan be of sufficient height to compensate for the anticipated lowering of the level of Lake Huron, and that the International Joint Commission arrange to have continuous gauge readings both above and below the dam in order that proper consideration may be given to this phase of the improvement.
2. That so soon as the approval of the government of the Province of Ontario is obtained, the Government of Canada will proceed to obtain whatever property rights may be necessary on the Canadian side of the river in connection with the construction of the proposed submerged dam, and will hold the same in the interests of navigation so long as both Governments deem them necessary for such purposes.
3. That vessels engaged in local down-bound traffic for Sarnia, in the Province of Ontario, be permitted to use the present or Canadian channel.

## INTERNATIONAL JOINT COMMISSION.

### HEARING IN RE APPLICATION OF THE GOVERNMENT OF THE UNITED STATES FOR THE APPROVAL OF CERTAIN CONTEMPLATED IMPROVEMENTS IN THE ST. CLAIR RIVER AT PORT HURON, MICH.

DETROIT, MICH., *May 17, 1917.*

The International Joint Commission met in the Federal Building at Detroit, Mich., on the above-mentioned date for consideration of the application of the United States Government for approval of proposed improvements in the channel of the St. Clair River at Port Huron, Mich.

Present: All the members, Mr. Gardner presiding.

Mr. GARDNER. The commission is now ready to consider the application of the Secretary of War for the approval of proposed improvements in the channel of the St. Clair River. We will first take the appearances.

(The following appearances were announced:)

Mr. Manton M. Wyvell, counsel for United States Government.

Mr. George W. Koonce, representing the War Department, Washington.

Mr. Frederick C. Ray, principal assistant engineer of the United States Lake Survey Office.

Mr. Frank H. Keefer, K. C., representing the Dominion of Canada, Thorold, Canada.

Mr. William J. Stewart, chief hydrographer, Dominion of Canada, Ottawa.

Mr. Alfred J. Stevens, Public Works Department, Windsor, Canada.

Mr. John M. Wilson, Public Works Department, Toronto, Canada.

Mr. POWELL. Judge Koonce, before you proceed with your statement you understand that we are going on without any notice of this hearing having been sent out?

Mr. KOONCE. Yes.

Secretary KLUTZ. Mr. Chairman, I would like to say there was no time for giving notice of this hearing, except the oral notice given last Saturday when the statement in response on the part of Canada was received. I called then upon Judge Koonce and Mr. Wyvell and

they agreed to appear here at this meeting. I also telegraphed Mr. Burpee to notify the Canadian interests. The hearing was contingent upon the filing of the reply statement by Canada.

Mr. TAWNEY. As I understand, Mr. Chairman, this is an application on the part of the Government of the United States and both Governments waive any question as to the proper notice for the time and place of the hearing. Is that not the fact?

Mr. MIGNAULT. Yes; there should be an agreement on behalf of the two Governments that the commission proceed immediately and dispose of the application.

Mr. KEEFER. The Dominion of Canada realizing that the United States desires to expedite this matter waive all notice of whatever nature and are prepared to give their consent on certain conditions which I think are acceptable to the United States.

**STATEMENT OF MR. GEORGE W. KOONCE, REPRESENTING THE  
WAR DEPARTMENT, WASHINGTON.**

Mr. KOONCE. Mr. Chairman and gentlemen, I will just state briefly the essence of this proposition. The Congress of the United States authorized an examination and survey with a view to creating a new channel in St. Clair River. That survey was made and a project was formulated for this proposed improvement.

The Congress, in the river and harbor act, made an appropriation of approximately \$85,000 to construct this channel. The whole thing is set forth in House of Representatives Document No. 782, Sixty-fourth Congress, first session, which I will submit as one of the exhibits in the case.

Mr. TAWNEY. Can you state briefly what the proposition is?

Mr. KOONCE. The project contemplates the digging of a channel in St. Clair River 400 feet wide and 21 feet deep, with a total length of about 7,000 feet, from about 1,500 feet above the mouth of Black River down toward the International Tunnel on the American side of the river.

Mr. POWELL. Is that locality shown in color on the map?

Mr. KOONCE. That is shown on the map. You will find a map attached to that executive document. You will find the channel in heavy black lines.

Mr. MIGNAULT. Judge Koonce, will you kindly point out in the application the precise thing which you ask the commission to authorize?

Mr. KOONCE. I am coming to that in a moment. I just wanted to explain what the work was that we propose to do and then I was going to present the question that we have before us.

Primarily the work we propose to do is to dig this channel. That will necessitate the removing of something like 450,000 cubic yards

of material. It will increase the cross section of the St. Clair River and, consequently, the flow of the river from Lake Huron. To compensate for this increased cross section we propose to put down here, about 2,000 feet below the International Tunnel, a sill extending from high water on the American shore to high water on the Canadian shore. That sill is to be built up, according to this plan, to about the height of 3 feet.

Mr. GARDNER. Does that sill cross the entire stream?

Mr. KOONCE. Yes; it crosses the channel, but the water there is something like 35 or 40 feet deep, and it will not form any obstruction to navigation. It will be built only a few feet above the bed of the river. This sill is intended to diminish the cross section and compensate for any increase that is caused by the dredging.

Mr. POWELL. So as to maintain the level of Lake Huron?

Mr. KOONCE. Yes; so as to prevent any lowering of the level of Lake Huron.

Mr. GARDNER. I would like to understand what that sill is like.

Mr. KOONCE. It is simply a deposit of stone and dirt in the nature of a dike.

Mr. GARDNER. But what I want to get established in my mind is whether or not that sill comes to the surface of the water at any considerable portion of the river?

Mr. KOONCE. No; it is in deep water all the way until it gets near the shore. We bring it up to the level of high water at each end so there will not be any scour around it. There is no obstruction to navigation. It is being put in water that is 10 or 15 feet deeper than the ordinary channel, which is 21 feet. The object of this new channel is to provide a channel for down-bound boats, so that the one on the Canadian side can be used for up-bound traffic.

Mr. POWELL. It is analogous to the Livingstone Channel?

Mr. KOONCE. Yes.

Mr. GARDNER. How near to the shore line does the inner side of this channel go?

Mr. KOONCE. It is about 100 feet from the dock line, about 100 feet from the Port Huron dock line.

Mr. MIGNAULT. I do not want to be hypercritical, but you are asking the commission to make an order of approval. In this order of approval the work will have to be accurately described, both the proposed dredging and the sill which will compensate for any lowering in the level of Lake Huron. Now, where do we find in this application the description of these works?

Mr. KOONCE. You will find it in this printed document. There is a description of the works in this document and also a map showing their location.

Mr. MIGNAULT. I have said that I do not desire to be hypercritical, but I think this description should be in the application itself.

Mr. TAWNEY. In other words, the nature of the order which the Government of the United States desires from this commission is nowhere stated in the application.

Mr. MIGNAULT. Judge Koonce, I think you should put your application in such shape that we could find therein the description of the works which you ask us to approve.

Mr. KOONCE. The description is in the letter from the Secretary of War to the Department of State, which was referred to you. That letter stated:

The plan of improvement thus approved and provided for contemplates the dredging of a channel 400 feet wide and 21 feet deep near the American shore, from a point about 1,500 feet above the mouth of Black River to within about 1,000 feet of the International Tunnel, and the construction of a sill, or compensating work, at a distance of about 200 feet below the said tunnel. The sill is to be built of broken stone backed up with dredged material and is to be about 3 feet high extending from the high-water line on the American shore to the same elevation on the Canadian side. The object of the improvement is to provide a channel for downbound vessels so that the present channel near the Canadian shore can be used exclusively for upbound traffic.

It seems to me that that is a perfectly good description. I apprehend that it states exactly what the work is that is proposed to be done and why it is to be done.

Mr. POWELL. I think the thing is dreadfully informal. Where is the application?

Mr. KOONCE. Well, that is the application that was referred to you by the Secretary of State. The Secretary of War says "I have the honor to ask that the matter be referred to the International Joint Commission for consideration and approval," and the Secretary of State referred this letter to you.

Mr. MIGNAULT. The first letter printed submits another letter?

Mr. KOONCE. It submits this letter with an executive document which you have not printed. There was no necessity, of course, for printing this document with our application.

Mr. MIGNAULT. Judge Koonce, if you were making a petition to a court asking for certain relief you would describe the relief in your petition.

Mr. KOONCE. I submit, sir, that this is a description.

Mr. MIGNAULT. Why could not this method be followed here? I am speaking advisedly because there was another matter before this commission with respect to a boom of the International Lumber Co. I was requested by the commission to prepare a tentative order of approval and I could find nowhere in the application or in any of the documents a description of the boom. Obviously, if we are going to draft an order we should have a description of the work

which we authorize. I am not desirous of being critical, but my opinion is that this should be in the application. The application should consist of certain averments and facts with a prayer and in the prayer you should say what you want the commission to do.

Mr. TAWNEY. Mr. Mignault, that is very clearly expressed in the rules of the commission which both Governments have approved. Under "Application" the rules of procedure state:

In all cases to be submitted to the commission under Articles III, IV, and VIII of the treaty—

And this is under Article III—

the method of bringing such cases to the attention of the commission and invoking its action shall be as follows:

(a) Where one or the other of the Governments on its own initiative seeks the approval of the commission for the use, obstruction, or diversion of waters with respect to which under Articles III and IV of the treaty the approval of the commission is required, it shall file with the commission an application setting forth as fully as may be necessary for the information of the commission the facts upon which the application is based and the nature of the order of approval desired.

The two last cases which have been referred to this commission under Article III did not comply with that rule. There is not anywhere stated in this application the nature of the order of approval which the Government of the United States desires.

I merely call attention to that for the purpose of avoiding the informal way in which matters of this importance are brought to the attention of the commission and on which we must make a final order, and somebody may say that this order does not conform to the order which the party desires, because there is nowhere in the application any evidence of what kind of an order is desired. We have to fish around through a lot of documents to find out even the description of the particular obstruction that is proposed.

In order to make the title good to the applicant, which title is the approval by this commission, there ought to be some specific statement of the nature of the order that is desired. I do not raise the question here for the purpose of not going on with the consideration of the matter, but I call attention to it more especially with reference to future applications. The rule ought either be observed or else abolished entirely.

Mr. MIGNAULT. Would it be possible for you, Judge Koonce, to amend your application so as to state the facts upon which you rely and the nature of the order? That would not prevent our going on. I say it advisedly, because we require that information in order to draft our order of approval, and you naturally would like to have the order of approval as soon as possible. If you could do that, it could be done by consent and then we would have some information upon which we could base the order of approval.

Mr. KOONCE. Well, I think the correspondence shows clearly what is wanted.

Mr. MIGNAULT. I grant you that.

Mr. TAWNEY. But if you were going into a court, you would not go on upon the correspondence; you would prepare your brief.

Mr. KOONCE. There is nothing in this except the letter in which this is stated just as concisely and as plainly as anything could be stated. As to the nature of the order you want to issue, the only proposition is whether or not you approve this. How you want to express your approval is something for you to say. I will tell you what we want you to approve. I read from the letter of the Secretary of War to the Secretary of State, under date of December 15, 1916, as follows:

Careful calculations indicate that the digging of the channel would cause a permanent lowering of Lake Huron to the extent of about one-half inch, unless compensated for, and that a sill 3 feet high, located as proposed, will give sufficient contraction to compensate for the excavation.

What we want you to approve, under Article III of the treaty, is the digging of this channel, which involves the lowering of the level of Lake Huron, and this compensating sill or dam which we propose to put across there.

If your commission is satisfied that the digging of this channel and the construction of this sill, as we propose and show here on this plan and describe in this document, will not interfere with the level of Lake Huron, or, in other words, that the sill will be sufficient to compensate for the lowering caused by the digging, you simply give your approval of that proposition.

Mr. GLENN. On page 4 of the application it is stated:

It is presumed that the documents inclosed herewith will be found by the commission to contain all the necessary information regarding the facts upon which this application is based and the nature of the order of approval desired, and that this communication will be regarded by the commission as fulfilling the requirements of paragraph (a) of rule 6 and of rule 7 of the rules of procedure adopted by the commission.

That tells what kind of an order they want. It does seem to me that it is full enough.

Mr. KOONCE. Yes; I do not see that you could possibly make any mistake or have any trouble whatever with it. As you know, this matter was submitted to the commission last December and has been under consideration by you since that time, and particularly by the representatives of the Dominion of Canada. My friends Mr. Keefer and Mr. Stewart particularly have given it lengthy and exhaustive consideration. On Saturday last they submitted their response or reply statement, and I will simply read their conclusion. There are seven pages of this reply statement, but with all due deference to

the ingenuity of our friends I think the last page contains it all. It states:

The Government of Canada consents to the application of the Government of the United States on the following conditions:

1. That the submerged dam which is to be constructed approximately at the point shown on the plan be of sufficient height to compensate for the anticipated lowering of the level of Lake Huron, and that the International Joint Commission arrange to have continuous gauge readings both above and below the dam in order that proper consideration may be given to this phase of the improvement.

2. That so soon as the approval of the government of the Province of Ontario is obtained the Government of Canada will proceed to obtain whatever property rights may be necessary on the Canadian side of the river in connection with the construction of the proposed submerged dam and will hold the same in the interests of navigation so long as both Governments deem them necessary for such purposes.

3. That vessels engaged in local down-bound traffic for Sarnia, in the Province of Ontario, be permitted to use the present or Canadian channel.

Those conditions are entirely acceptable to our Government. Of course, if this submerged dam as already planned, at the height of 3 feet, will not compensate for the increased cross section or diminish the increased cross section, we can build it up higher, but for the channel that we now propose to dig we consider that height sufficient.

Mr. POWELL. Should we not know what height we are authorizing?

Mr. KOONCE. That ought to be capable of absolute mathematical deduction. I do not see that there should be any mistake about that. We have carefully calculated the matter ourselves, and have come to the conclusion that the dam we propose to build will make sufficient compensation.

Now, if it may be shown that it is not sufficient, of course, we can build it higher. But counsel for the Canadian Government does not object to this plan at all. Their chief condition is that we have gauge readings there so as to determine this point; that would be the best way to determine it, and there is no objection whatever to doing it. The construction of this sill will be one of the first parts of the work. It will take about one working season to complete the whole project. The sill will be put in within at least three months from the time the work is started. We will put that in first. While the channel is being dredged we can have gauge readings made both above and below, so as to demonstrate accurately whether or not it is going to have any effect on the level of the lake, and that can be demonstrated practically by the time it is entirely completed. That is all that is meant by this condition, which is perfectly plain to us. We will have gauge readings there while the work is going on and for a sufficient time afterwards to demonstrate the effect.

Mr. POWELL. The object of the gauge readings is to determine whether or not this is successful?



Mr. KOONCE. Yes.

Mr. POWELL. When the result of that demonstration is reached you may have to come back to us again?

Mr. KOONCE. I think not.

Mr. POWELL. Suppose the actual demonstration shows that the submerged dike should be 5 feet in height?

Mr. KOONCE. Then we would have to build it 5 feet. We do not want to lower the level of Lake Huron and do not propose to.

Mr. POWELL. Do you think we should give a flexible order like that? Do you think we are going to dam the river to any height the engineers should recommend?

Mr. KOONCE. What you want to do is to prevent the lowering of Lake Huron. You are not interested in anything else.

Mr. MIGNAULT. There are other questions involved. Where is this sill going to be situated?

Mr. KOONCE. The location you will find on the map.

Mr. MIGNAULT. On whose property will it be located?

Mr. KOONCE. As far as the American side is concerned, it will be on property under the control of the United States. We have a right to use the bottom of the river for anything in the way of improvement to navigation.

Mr. MIGNAULT. Will it deprive anyone on the Canadian side of access to the river? These are all questions which the commission should consider.

Mr. KOONCE. We propose to get the thorough and entire consent of Canada before we ever encroach an inch on Canadian territory. We do not propose to build anything up there under your approval until we get that Government's consent.

As I understand it, your commission is simply dealing with this question of lowering levels. Of course, if there was any proposition to infringe anybody's private property rights or interests they would be represented here. But I can not conceive of the commission inquiring into something that has not been brought before them and which they probably will never have to deal with. This is an improvement that is a benefit to the people of Canada, and the people of Canada are very much interested in it and are just as glad to have it as we are.

Mr. POWELL. That is all right; but we want to know what we are doing.

Mr. KOONCE. I have no doubt there will be no trouble in getting from the Province of Ontario—if it owns the submerged soil in the river—whatever rights are necessary to locate this dike.

Mr. POWELL. That is all right. The Dominion Government will undertake to do that.

Mr. KOONCE. I would like to get some idea of the Dominion law on this subject. In the United States, particularly in the State of Michigan—

Mr. POWELL. We will not fume over that. If the Dominion Government is undertaking to do it, let them worry it out.

Mr. KOONCE. I wanted to ask you, as a distinguished Canadian lawyer, for information on this point. In the State of Michigan the riparian owner, of course, owns to the center of the stream in this river; but originally the State owned it. Of course, whatever rights the riparian owner has depends on the law of the State, but that ownership is subject always to the dominant right of the United States to do anything it pleases for the improvement of navigation between ordinary high-water lines on the river. Private property rights and State property rights are subordinate to the dominant rights of the Federal Government. I suppose that the same law prevails in Canada; that the Province of Ontario controls the private property rights along the shore and under the water, which private property rights are subordinate, just as they are in our country, to the dominant right of the parent Government. That has been my understanding of it, and I just made those remarks for the purpose of getting from Mr. Powell a statement as to whether or not that is correct. I would like to know as a matter of information and not because it is connected with this case.

Mr. POWELL. I can not say with respect to the Province of Ontario.

Mr. KOONCE. At any rate that is not important, because it is stated here that the Government of Canada will see that we get all necessary property rights.

Mr. MIGNAULT. As to the Ontario law, I will bow to the superior wisdom of our friend, Mr. Keefer.

Mr. KOONCE. That part of it, of course, is all right. The Canadian Government will see that we get the necessary property rights, and the third and last condition is:

That vessels engaged in local down-bound traffic for Sarnia, in the Province of Ontario, be permitted to use the present or Canadian channel.

Of course, there could be no objection to that, because you can allow them to use it anyway. It is not in our territory and the vessels are under your control and you could allow them to go up or down just as you see fit. As a matter of fact, we propose to allow the people on the Port Huron side, local traffic, to use this other channel in precisely the same way, so there would be no objection whatever to the Canadian vessels, bound for the Port of Sarnia, using this Canadian channel for up or down bound traffic. On our side we will use the other channel for local traffic to Port Huron,

but the up-bound and down-bound through traffic will use the respective channels.

Mr. MAGRATH. As I understand it, you have not quite conformed to the rules of the commission. I am not making that as a charge. I have not as holy a regard for the rules and regulations as possibly some of my associates. I understand what your application means, and I understand that its description is quite satisfactory.

Mr. KOONCE. I think that is as much of a statement as it is necessary for me to make, gentlemen.

Mr. POWELL. Does the Province of Ontario consent to this too, Mr. Keefer?

**STATEMENT OF FRANK H. KEEFER, K. C., REPRESENTING THE  
DOMINION GOVERNMENT.**

Mr. KEEFER. The Dominion Government has given the matter careful consideration. It received a communication from the Province of Ontario and desires to expedite this work, which is a public improvement of the river, but they would like to bring to your attention the reason they are giving this matter the careful consideration that they have.

Mr. POWELL. But I asked you about the Province of Ontario.

Mr. KEEFER. I am not here instructed by the Province of Ontario. The Dominion of Canada has given its undertaking, and I have not the slightest doubt whatever that the Province of Ontario will do everything to assist the Dominion Government. I can not speak for the Province of Ontario, as I have received no instructions from that Province. I am quite certain that the Province of Ontario will do all they possibly can to further the Dominion in completing their undertaking.

Mr. POWELL. The first notification of this was regularly made and advertized, Mr. Kluttz?

Mr. KLUTTZ. Yes, on both sides.

Mr. KEEFER. I take it that the Province of Ontario treats the matter as purely a Dominion matter. I reported it to the Premier from the Washington sittings and received his reply. I did not consider it a matter in which the Province was concerned; and having been retained by the Dominion Government, I am not here on behalf of the Province of Ontario. But I state again that I am sure that the Province of Ontario will do all it can to carry out the matter.

For your information I file a copy of the order in council. It has been considered by the Government.

A perusal of that document will show that the estimated height of this dam, which is not 3 feet, but a little less than 2 feet—to be accurate, 1.4—in view of the possible widening should be made 1.7. I think that a perusal of that will give you sufficient information to completely prepare any order that you desire.

The second paragraph recites practically the application where it refers to the submerged dam as about 3 feet high. It deals with that later on.

Mr. POWELL. About 3 feet high?

Mr. KEEFER. That is in the application, but it is specifically defined. Paragraphs 3 and 4 deal with the provisions under which the application comes.

Paragraph 6 states the import of the application. It reads as follows:

According to the calculations of the American engineers the dredging of the channel will cause a lowering of Lake Huron of approximately 0.01 feet at improvement-plane stage, and a lowering of the level, referring to mean-water states, of about 0.012 feet at the upper end of the channel and 0.010 feet on Lake Huron. It is proposed to compensate for this by constructing a submerged dam.

The Canadian engineers state that as the proposed channel will be 100 feet from the wharf line at Port Huron, it is altogether likely that as a matter of convenience to the owners of adjacent wharfs, the channel will be gradually dredged to the wharf line. They have, therefore, made their calculations as to the probable lowering of the level of Lake Huron on the basis of a 500-foot channel. On this basis there would be a lowering in the mean water level of Lake Huron of 0.0242 feet, and a reduction in the mean level of Lake Huron of 0.017 feet. The height of the submerged dam, which is to be constructed to compensate for the lowering of the level of the river and the lake, would, therefore, they say, have to be slightly greater than the height as estimated by the American engineers, namely, 1.78 feet instead of 1.40 feet. These figures, however, are approximate.

I read further from the paper referred to as follows:

It may be pointed out that about half of this weir will be constructed in Canada, and upon the property of the Province of Ontario. The consent therefore to the project is required from the government of that Province as well as from the Government of Canada.

The project is designed primarily in the interests of navigation and being below the artificial outlet at Chicago it raises, at once, the question of diversions of water from the St. Lawrence River system at that point, which is inimical to the vast shipping interests operating on this great water system.

The Government of Canada recognizes fully the importance of the navigation of the Great Lakes and of the connecting rivers, particularly from Lakes Superior and Michigan to Lake Erie, and the great benefit to be derived from deeper channels. Dredging in these various connecting channels lowers the water level in the lakes and channels above. The lakes do not feel the effect, but the harbors and channels, which are to a large extent artificial, suffer very materially, unless adequate suitable compensation is provided, because the present depth has been acquired by dredging. As was pointed out in a memorandum presented to your honorable commission on the 17th of February, 1913, in connection with a reference by the Government of the United States on certain suggested improvements in Livingstone Channel, Detroit River, the Government of Canada is still of the opinion that dealing with individual sections in connecting channels of this important international highway is not

in the best interests of either country, especially so whilst unauthorized diversion farther up stream is continued.

The Government of Canada fully appreciates the importance of maintaining the regimen of the Great Lakes and connecting rivers in the interests of shipping. It has the further concern on behalf of the same interests, and a very real concern occasioned by the withdrawal of water which naturally would pass down the St. Lawrence River to the Atlantic Ocean. Ordinary deepenings and compensations do not affect this flow except temporarily, but diversions are a very serious matter and occasion very great loss when water is transferred from one watershed to another as in the case of the Chicago diversion. Every lake, every river, every channel, and every harbor from Chicago to Quebec suffers from lowering of the water level.

Below Lake Erie the Government of Canada has made heavy expenditures on the Welland and St. Lawrence Canals, as well as dredging the St. Lawrence ship channel from Montreal to Quebec, increasing the draft between these two ports from 10 to 35 feet. All these works have been rendered less useful by the diversion at Chicago and suffer particularly during the autumn when the low-water season occurs.

Furthermore, in the matter of power development at the various drops along the system, the aggregate potential loss to both countries and more especially to Canada will be very great if this diversion is to be continued.

The city of Montreal is the principal shipping port for Canada and the shipping interests there are very jealous of any interference with the natural flow of the water to their port. Representations have been made to the Government of Canada on various occasions protesting against the Chicago diversion as well as to proposals that have been made at various times to artificially regulate the levels of Lake Erie.

It may be pointed out that the Government of the United States is interested in maintaining the maximum possibilities for navigation of the St. Lawrence River as by the treaty of 1871 "The navigation of the river St. Lawrence, ascending and descending, from the forty-fifth parallel of north latitude, where it ceases to form the boundary between the two countries, from, to, and into the sea, shall forever remain free and open for the purposes of commerce to the citizens of the United States, subject to any laws and regulations of Great Britain or of the Dominion of Canada not inconsistent with such privilege of free navigation."

The Government of Canada, however, feels satisfied that the Government of the United States fully appreciates the necessity of maintaining the natural flow of water in this great watershed in the interests of navigation, not only in that portion of the system in which the United States tonnage is exceedingly heavy, but in the St. Lawrence system in Canada where, as already pointed out, the United States has the right of free navigation. The Government of Canada therefore feels confident that the Government of the United States will control the waters of this watershed on its own side of the boundary so as to cause a minimum damage to navigation in the St. Lawrence River, so vitally important to the trade and industry of Canada.

The Government of Canada consents to the application of the Government of the United States on the following conditions.

My friend Judge Koonce practically stated the conditions, so I will not repeat them. I would suggest as following his undertaking that if the 1.7 height as recommended in this report is, after the gauge

readings are taken, found not sufficient that some provision in the order should be made so that the submerged dam could be increased. It is, of course, problematical to some extent, but very accurate as far as the engineers could get at it. Our engineers consider that by widening this channel, as they think it will have to be widened, it would be better now to make it 1.4 instead of 1.7.

You might inquire why in this application the Chicago drainage question is brought into the matter. You can readily see that every application that comes up for a piecemeal dealing with this water has to be looked at very carefully by Canada, because the first thing that may happen is that with all this artificial construction, etc., the shipping interests concerned here will be so protected and adjusted that they will not have any further objection, as they have to-day, and will leave us alone to fight out that question of the diversion of this water which is so seriously affecting us in the Chicago River and causing us to dredge deeper. We hope that the War Department will take cognizance of this feeling, this objection as it came up previously in the Livingstone Channel, so that the only source of irritation between the two countries will be removed.

To show that this matter is not casually brought in, I would like to read and file a communication from the Premier of Ontario in which he deals with this same objection. You must remember that the Province of Ontario is more vitally interested in the matters that come before your commission than any other Province, because the whole of its southern boundary constitutes the boundary waters which are referred to you for adjudication. There is hardly a question that comes up before you, except, say, the Milk River and the St. Croix River that is not of vital importance to the Province of Ontario. That might explain to you, to a certain extent, why I have sometimes been apparently a nuisance to you in appearing so frequently before you.

The Province of Ontario saw fit, through its Premier, to write the Minister of Public Works a letter on the 20th of April, in which you will see that Canada, as the trustee for one of its Provinces, has embodied this objection. This letter, which is from the Premier, Sir W. H. Hearst, to the minister of public works at Ottawa, is as follows:

TORONTO, April 30, 1917.

HONORABLE SIR: Through the courtesy of the secretary of the International Joint Commission I have been supplied with copies of letters and documents from the United States Government in connection with the application of the commission for the approval of certain contemplated improvements in the St. Clair River along the water front of Port Huron, Mich. As I understand the position the United States desires to improve the ship channel at the point in question by dredging and that the result of this work will be to affect the level

of the St. Clair River on the international boundary as well as the level of Lake Huron. That in order to overcome the change of level in the manner mentioned it is proposed to construct a compensating submerged weir. If permission is granted to construct this weir as requested I assume that it will be necessary to construct a portion of it on land, the property of the Province of Ontario. No request has been made to this Government as yet for this construction. I may say, however, that this Province is vitally interested in the improvement of navigation on the Great Lakes and would view with approval any proper works constructed with this object, and if after proper examination by your engineers it is felt that in the interest of navigation the improvements referred to should be made, there will be no desire on the part of this Government to place obstacles in the way. This Province is, however, not alone interested in the question of navigation, but we are interested in the question of hydraulic power and other purposes to which water can be applied, and are consequently most jealous that Canada's rights in international waters should be maintained to the utmost and that nothing should be done or permitted to prejudice these rights or to obstruct or divert waters to the use of which we are entitled. We naturally view with some suspicion applications of this character and are most anxious that care should be taken that nothing is done or permitted that might create a dangerous precedent or in anyway interfere with the maintenance of the full rights of this Province or of the Dominion of Canada now or hereafter in connection with water rights or privileges.

So far as I am aware there has been no satisfactory adjustment of the question of the waters improperly withdrawn from the Great Lakes system by the Chicago Drainage Canal and that a large body of water is still being improperly withdrawn through the canal having the effect of hindering and impeding navigation and also of depriving this Province of waters that might be developed to furnish power for hydraulic and other purposes.

Some three or four years ago this question arose in connection with some suggested improvements in the Livingstone Channel, and it was felt at that time that the application of the United States Government in connection with the improvements mentioned gave an opportunity to forcibly present Canada's objections to the diversion at Chicago. This Government felt so strongly in the matter that we retained special counsel to attend the sittings of the commission to assist and back up the arguments for your Government in this matter. I understand, however, that the diversion at Chicago still continues and that there is danger that even a greater diversion may be made in the future. I would, therefore, respectfully suggest that this application be taken advantage of to again bring to the attention of the commission the great injustice that Canada is laboring under by reason of the diversion at Chicago, and the great apprehension of any works changing the natural flow of these waters. At the present time I understand the shipping interests both of Canada and the United States are very much opposed to the diversion at Chicago and that they have been bringing every pressure possible to bear upon the United States Government to prevent it. If the Government of Canada consents without protest to improvements such as were made to the Livingstone Channel and such as are now contemplated, might it be that the natural conditions in the future will become so changed that the American shipping interests will have no further interest in fighting the Chicago diversion. I have no knowledge whatever as to whether or not such a thing could possibly happen, but if it should happen, it appears to me that the danger of greater diversion at Chicago would be greatly increased and possibly all hope of the present grievance being remedied lost.

My object in writing you, therefore, is to call to your attention the great

interest this Province has in the subject and to suggest that no opportunity be let slip to protest in the most vigorous and effective manner possible against the continued improper diversion of water at Chicago.

Yours, very sincerely,

W. H. HEARST.

The MINISTER OF PUBLIC WORKS,  
*Ottawa, Canada.*

Canada does not wish, nor does the Province of Ontario, I am sure, for a moment to delay this matter which is to the advantage of shipping interests, but we necessarily have to give these applications careful consideration, knowing what the effect of this drainage question is; and we do hope and sincerely trust that my learned friend Judge Koonce and the War Department will press this matter upon their Government in such way that even though the authorities are not satisfied they will feel there is a judicial decision in the matter and that we are bound by it instead of the present arbitrary manner in which the water is being diverted to our detriment and to our extra cost.

Mr. GARDNER. Mr. Keefer, from what you have said I gather that your Government has in mind some coordinated, comprehensive system of a connecting, continuous improvement of opportunity for navigation extending the whole length of the Great Lakes.

Mr. KEEFER. I am not prepared to answer that; but I am sure the Dominion of Canada would be only too glad to cooperate in such a matter in the way of any improved system of navigation. What I was pointing out was this: That we are timorous lest by giving these consents to piecemeal applications, like this Detroit River question below that outlet, we are slowly and steadily giving away, in effect, our strongest card, the navigation interests of the United States, who are damnified at present, but who, by being put in a position where they are not deprived, will not feel inclined to help us to establish our rights.

Mr. GARDNER. Then, your real grievance is the diversion of the water?

Mr. KEEFER. Unquestionably. You see it costs us a considerable amount of money for extra dredging. That water that is taken away at Chicago means a difference of 6 inches in depth at Montreal. Deep dredging is very costly. We have had to make our Welland Canal sills and locks deeper. All these things are serious to us. They are a source of irritation, and I can not see why the matter should not be cleaned up in some way.

Mr. TAWNEY. Are you aware that the Government of the United States submitted to the Dominion Government almost two years ago a request to submit to this commission a series of questions looking to the development of the entire Great Lakes system from tidewater to the head of the Lakes?



Mr. KEEFER. I believe such is the case.

Mr. TAWNEY. There has been no action taken by the Dominion Government?

Mr. KEEFER. I understand there has not as yet. I am informed by Mr. Stewart, who has charge of such matters as this, and who is always thoroughly posted on these matters, that the reason you have not had a reply is the war. I think you are experiencing a little just at present of what we have been going through during the past few years in trying to grapple with questions that have suddenly arisen. The minister who would have charge of that matter, Mr. Hazen, has just returned from England.

Mr. GARDNER. Is there anything further that counsel wishes to state to the commission?

Mr. KOONCE. Mr. Chairman, I thought I was doing my friend a charitable turn when I simply read the last page of his brief, but he insisted on reading the whole of it, and it is a very admirable document.

There are two important things which he emphasizes in those other pages. One is a difference as to the height of this dam, provided we dig a channel 500 feet wide. I would suggest that we confine ourselves to the proposition before us, which is a channel 400 feet wide. As I understand it, there is no possible objection to the figures that we presented for that channel, and I apprehend that if it ever becomes necessary in the future to widen this channel an additional hundred feet, that compensation will have to be made for that just the same as we are doing it now. What is the use of speculating and undertaking to make compensation for something that may never occur? You have before you a definite proposition; a channel 400 feet by 21 feet. That is all we are asking for and all we ask is to be allowed to put in work that will compensate for the increased cross section that is made for this channel. Propositions in the future in the way of widening this channel 100 feet or 200 feet or 300 feet will come before you in their natural course. That is the reason I said nothing about that point. I did not think it relevant. So far as the Chicago diversion matter is concerned, you gentlemen understand that. Nobody questions but what that is a very serious diversion. We have had to wrestle with it in the War Department ever since 1899. The case is now pending in the United States Court for the Northern District of Illinois. When the court will decide it I do not know, but it absolutely has no relevancy to the case before you now.

Mr. GARDNER. Have you an idea, Judge Koonce, about what the average depth of the excavation proposed will be?

Mr. KOONCE. The depth of what?

Mr. GARDNER. How much has got to be excavated?

Mr. KOONCE. About an average of 5 feet. I think the present depth is somewhere around 14 or 15 feet. I think it is stated in the document that the average dredging will be about 5 feet.

Mr. GARDNER. Do you know what the character of the river bed is?

Mr. KOONCE. Sand and gravel.

Mr. MAGRATH. Would you mind having your engineer give further explanations as to these figures that are submitted?

Mr. KOONCE. Certainly not; Mr. Frederick C. Ray will give you the explanations desired.

Mr. MAGRATH. Mr. Ray, I notice that the Canadian response states:

According to the calculations of the American engineers, the dredging of the channel will cause a lowering of Lake Huron of approximately 0.01 foot at improvement plane stages.

What is meant by "improvement plane stage"?

**STATEMENT OF MR. FREDERICK C. RAY, OF THE U. S. LAKE  
SURVEY OFFICE AT DETROIT, MICH.**

Mr. RAY. It is an arbitrary stage that has been selected by the War Department for an improvement plane. It is 579.6 feet above the sea level. That is the improvement plane for Lake Huron.

Mr. POWELL. That is your datum?

Mr. RAY. That is the datum for improvement works for Lakes Huron and Michigan.

Mr. MAGRATH. It seems, then, that you would be lowering the lake about a tenth of an inch?

Mr. RAY. That is the effect.

Mr. MAGRATH. And the height of this structure is 3 feet?

Mr. RAY. That was the first rough calculation and given in round numbers as the maximum. It was later estimated at 1.4 feet as the height of the sill required for compensation for the 400-foot channel.

Mr. MAGRATH. Which the Canadian engineers place as 1.78 feet if the dike is made for an additional 500 feet in width?

Mr. RAY. If the channel is made that additional width.

Mr. MAGRATH. In issuing the order how do you think we should describe that weir?

Mr. RAY. The best for the United States interests during construction would be to prescribe a weir there that would compensate for the lowering effect of the channel, with observations to be continued during the construction to determine the exact heights required.

Mr. MAGRATH. From which end of the channel would you start to construct the weir?

Mr. RAY. I do not know that it would make very much difference, but the height of the sill should be determined.

Mr. MAGRATH. And you would construct it across the entire channel?

Mr. RAY. We would construct it across the entire channel.

Mr. MAGRATH. Then, I suppose the order could state a submerged weir as located upon the map accompanying the application?

Mr. RAY. I think that would be perfectly proper; yes.

Mr. MAGRATH. But how about the height? Should it be a height not to exceed so much?

Mr. RAY. You would be perfectly safe in saying not to exceed a height of 3 feet. That is named in the original application as the maximum. The height should be determined by observations taken during the construction of the channel.

Mr. POWELL. Do you agree with that, Mr. Stewart—that is, a height not exceeding 3 feet?

Mr. STEWART. I am quite agreeable to that, sir.

Mr. TAWNEY. I suggest, Mr. Koonce, that you take the documents you have and, inasmuch as the Canadian Government consents, formulate an order to which both Governments will agree. The commission then can make its order.

Mr. KEEFER. As a friend of the court, may I suggest this as a procedure: That my learned friend Mr. Koonce, after conferring with his engineer, draft the order that he desires and send it to Mr. Stewart and he will O. K. it. Then you will have the document presented to you from both sides.

Mr. TAWNEY. You gentlemen can draft your order. We have nothing on which to base the order.

Mr. KEEFER. We do not like to interfere with the prerogatives of the commission, but if you direct us to do it we will do so.

Mr. KOONCE. Then, I understand that you do not want any further evidence, but that you are satisfied with the case as presented?

Mr. GARDNER. If you have anything further that it is necessary for us to have in the consideration of this case we would like to have it.

Mr. KOONCE. Neither Mr. Keefer nor myself has thought it necessary to place before you the engineers, because there is nothing to contest. If there is any particular point that any member of the commission wants brought out, I have no doubt that Mr. Ray and Mr. Stewart are both competent to attend to the matter.

Mr. POWELL. The thing stands now 400 feet with the privilege of increasing it to 500 feet?

Mr. KOONCE. No; we do not want any privilege at all. We want an approval of a 400 by 21 foot channel.

Mr. POWELL. But Canada says you are going to 500 feet. Do you want that noted at all?

Mr. KOONCE. That is merely a fancy, as all we ask for is a 400-foot channel. If you are satisfied, we will consider that there is nothing further to be said, and if you want us to assist in drawing up an order for you we will be glad to do it.

Mr. GARDNER. You can do that during the recess of the commission.

(Thereupon a recess was taken until 2.30 o'clock p. m., at which time Mr. Koonce and Mr. Stewart presented to the commission a draft of the order desired.)

