REPORT

TO THE

COMMITTEE ON PUBLIC WORKS
UNITED STATES SENATE

CONCERNING

NAVIGATIONAL CLEARANCES IN HIGHWAY BRIDGES ACROSS THE POTOMAC RIVER ABOVE HAINS POINT

WASHINGTON, D.C.

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February 8, 1957

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CONCLUSIONS

It is concluded that fixed span highway bridges on the Potomac River above Hains Point, having a vertical clearance of 24.6 feet above mean high water, would not unduly interfere with the interests of upstream commercial concerns which presently navigate this reach of the river, for the following reasons:

1. Only two commercial concerns presently used this reach of the river for navigation. These are the Smoot Sand and Gravel Corporation and the American Oil Company.
2. The existing and future operations of Smoot Sand and Gravel Corporation can be adequately accommodated under such bridges by having the company adjust its operations so as to use land-based equipment for occasional dredging operations in the vicinity of the docks, and by routine replacement of equipment presently capable of operating under the existing bridges in closed position.
3. The American Oil Company can be satisfactorily accommodated with the existence of such bridges by installation of two ten-inch pipelines extending between Four Mile Run near Washington National Airport and their installation in Rosslyn. As a possible alternative, AMOCO and its contract carrier might further study the feasibility of shifting AMOCO waterway transportation movements from self-propelled

tankers that are chartered to operated on coastal and inland waters to similar vessels which would operate solely in the inland waters between the AMOCO refinery in Yorktown, Virginia, and its installation in Rosslyn. This may require the design and construction of special tankers, which fit into the overall economy of the area, to serve this need. It also may necessitate installation at Rosslyn of storage facilities beyond those contemplated by AMOCO under its expansion program.

4. The products of the American Oil Company are competitive with products marketed by other producers and also shipped to the Washington area by water transportation. Irrespective of any added expenses which AMOCO may bear in the transportation of those products, it is not to the public interest to favor its activities under circumstances which would not benefit the general public through a reduction in commodity prices.

On the basis of comparative cost alone, the District of Columbia and the Bureau of Public Roads further conclude that the difference in cost between a six-lane bridge, including approaches, and a six-lane tunnel, including approaches, does not warrant the consideration of a tunnel. Also, because of the gradient, a tunnel would not accommodate traffic as adequately as a bridge. Consideration also was given to the construction of vertical lift spans in lieu of bascule-type bridges. Such structures might be competitive with bascule-type bridges. However, at Constitution Avenue a vertical lift bridge

definitely would not harmonize with the composition of the area. at 14th Street and Roaches Run, there also is the question of having bridge towers interfere with the glide angle at the Washington National Airport. The Corps of Engineers did not participate in this part of the study.

INTRODUCTION

Purpose of Report. This report is prepared for submission to the Committee on Public Works, United States Senate, in response to a letter from Honorable Dennis Chavez, Chairman of the Committee, dated January 16, 1957. The Committee's letter stated that a question was raised in a recent hearing as to the economic justification of providing drawspan bridges to accommodate vessel traffic on the Potomac River upstream from the 14th Street Bridge. In requesting a report by February 15, 1957, the letter continued:

> "The Committee desires that a study be made of the economics of providing draw or lift span bridges across the Potomac River as contrasted with the construction of fixed span bridges. The Committee would also like to have information on the alternative of a tunnel. In this connection it would be helpful to the Committee if detailed information were available relative to the value of navigational facilities to those persons or firms now exercising them, the damage which would accrue from the termination of such facilities and the cost to such persons or firms of modifying navigational equipment so as to eliminate the necessity of drawspans."

Question of Navigational Clearances for Bridges. The question of navigational clearances for bridges across the reach of Potomac River above Hains Point was initially raised at an April 10, 1955 hearing of the Corps of Engineers, which preceded approval of location and plans for the proposed Constitution Avenue Bridge as a fixed structure with a

horizontal clearance of 125 feet and a vertical clearance of 24.6 feet above mean high water.[1*]

This question also is of current interest with respect to the design and construction of a replacement structure for the old (southbound) 14th Street Bridge.[2] It is of future interest as the bridge clearance problem relates to the proposed Roaches Run Bridge, which is included in the District's long-range highway program.

Differences in the cost of the foregoing bridges, based upon fixed spans vs. movable spans, as well as the added cost of maintaining and operating existing movable span highway bridges on this reach of the Potomac River, are discussed elsewhere in this report.

Waterway Users. Only two commercial concerns currently operate on this reach of the Potomac River. Of these, the Smoot Sand and Gravel Corporation owns and operates vessels that haul sand and gravel obtained from downstream dredging sites to its distribution plant in Georgetown. The American Oil Company has a contract with Spentonbush Fuel Transport Service for hauling petroleum products from AMOCO refiniries in Yorktown, Virginia, to its dock in Rosslyn. Elsewhere in this report, details show how the respective interests of these current waterways might be affected by construction of the Constitution Avenue Bridge in conformity with the navigational clearances as already approved by the Chief of Engineers and the Secretary of the Army, and the construction of the other structures mentioned above with similar navigational clearances.

*Footnotes are listed in Appendix I. A copy of the Finding of Facts, dated August 23, 1955, in support of approval of these clearances by the Secretary of the Army is attached hereto as Appendix II.

METHOD OF STUDY

Review of Available Data. Following receipt of the Committee's letter, the District of Columbia arranged for the establishment of a task force, consisting of representatives of the Government of the District of Columbia; of the Bureau of Public Roads, Department of Commerce; and of the Washington, D. C., District Office, Corps of Engineers, Department of the Army. The representative of the Government of the District of Columbia was designated as chairman of this task force. This report reflects the joint efforts of these agencies, as well as the cooperation received from the U. S. Coast Guard, Department of the Treasury, the Maritime Administration, Department of Commerce, and the National Park Service, Department of the Interior.

At the outset of the study, the task force reviewed all available documentary data on the subject.[3]

Additional Data. The task force recognized that additional information would be needed for as thorough study of the problem as time limits would permit. The information was obtained from various sources.[4]

DESCRIPTION OF NAVIGATION PROJECT

The reach of the Potomac River between Hains Point and Key Bridge, generally known as the Virginia Channel, has an authorized channel 24 feet deep at mean low water and 400 feet wide, with the width of the channel

being increased, where necessary, to provide cross sections of 25,000 square feet at mean low water. The mean range of tide in this channel is 2.9 feet.

Based on the present requirements of vessels operating in the Virginia Channel, this section of the Washington Harbor project is maintained to a width of 200 feet and a depth of 20 feet at mean low water. The head of commercial navigation, as well as the upstream limit of the authorized Federal project, is at Key Bridge in Georgetown. Except for a commercial waterfront area, about one mile long, on the District of Columbia side of the Channel in Georgetown, both banks of the Virginia Channel are Federally owned for a distance of five miles or more and are designated as park areas, or are occupied by Government establishments.

In past years, terminals of the Georgetown waterfront handled the bulk of waterborne commerce of the Washington area, which included such items as coal, gas oil, lumber, pulpwood, cement, building materials, quarry stone, and sand gravel. In recent years the only commercial users of the Virginia Channel for waterway transportation are the Smoot Sand and Gravel Corporation and the American Oil Company.

On the Virginia side of the river, the waterfront activity is limited to the American Oil Company terminal at Rosslyn, immediately downstream from Key Bridge. The terminal consists of a floating steel barge, abreast of two dolphins and a flexible pipeline coupling which connects two eight-inch undergound pipelines which discharge into storage

tanks on company property in Rosslyn, 1,800 feet distant from the floating dock. The terminal and pipelines are on Federal Park Property, the use of which was authorized by the National Park Service in a revocable permit, dated June 8, 1943.[5]

HIGHWAY BRIDGE AND NAVIGATIONAL DATA

Number of Existing Highway Bridges. There presently are three highway bridges across this reach of the Potomac River. These are the new (northbound) 14th Street Bridge; the old (southbound) 14th Street Bridge; and the Arlington Memorial Bridge. A fourth bridge, owned by the Pennsylvania Railroad, is located immediately downstream from the northbound 14th Street Bridge. All of these structures have movable spans which permit unlimited vertical navigational clearances when opened. When the spans are closed, the vertical navigational clearances under the four bridges in the order of their locations are 18.2 feet, 24.6 feet, 18.2 feet, and 30.7 feet, above mean high water.

Bridge Openings for Navigation. During the past three calendar years, the 14th Street Bridges have been opened 662 times. These openings and identified users, are shown in Table 1.

TABLE 1. OPENINGS PER IDENTIFIED USER

ANNUAL TOTAL		AMOCO		SMOOT SAND AND GRAVEL	MISCELLANEOUS[a] USERS
Year		Tanker	Tug-Barge		
1954	301	268	8	6	19
1955	186	150	3	18	15
1956	175	153	6	12	4
3 yr. Total	662	571	17	36	38
% of Total	100%	- 89% -		5.4%	5.6%

(a) This includes Coast Guard buoy maintenance vessels; the National Park Service Bandstand which docks at the Watergate for summer concerts; the District of Columbia fireboat; and occasional recreation craft.

VESSELS REQUIRING BRIDGE OPENINGS

Miscellaneous Users. The number of bridge openings for passage of the vessels listed under "Miscellaneous" in Table 1 are not sufficient to warrant movable spans in new bridges. The National Park Service bandstand is constructed on a flat barge. The superstructure can be dismounted so as to permit passage under fixed bridges. At the April 1955 public hearing, a representative of the United States Coast Guard stated that the Coast Guard vessels which require bridge openings actually service five buoys that aid navigation. By shifting to lighter buoys, the Coast Guard could service the buoys with a small boat that could pass under a fixed bridge. The Coast Guard estimated that replacement of the buoys and added maintenance of the lighter buoys would increase its costs about $1,000 annually. Information is not available on the characteristics of other vessels in this grouping.

Smoot Sand and Gravel Company. At the April 11, 1955 hearing of the Corps of Engineers, the Smoot Sand and Gravel Company representative stated (1) that the Smoot tugs and barges are designed to go under the Potomac River bridges in closed position at low water and ordinary high water; (2) that the Company owns two lighters with "A-frames" which require about 40 feet vertical clearance and which are used to deepen the dock area at Georgetown; and (3) that the Company stops its operations when flood stages go over its dock, which is estimated to be 7 feet above mean low water. The Smoot firm also is concerned about being able to get its tugs and barges downstream below the bridges during freshets. Smoot contends that such movements might not be possible if fixed bridges with 24.6

foot vertical clearance above mean high water should be constructed.

By letter dated 15 October 1956, the Smoot Sand and Gravel Corporation furnished additional information to the District Engineer, Washington District, Corps of Engineers, relative to certain conditions associated with the delivery of sand and gravel to their Georgetown plant, and to other matters which they consider to be pertinent to a determination as to whether or not a bridge over the Potomac River in the vicinity of Constitution Avenue should be provided with a drawspan.[6]

The firm called attention to the fact that depletion of sand and gravel from local deposits will soon require the delivery of aggregates to their Georgetown plant from more distant points, by "open water" tugs and barges which will be greater in height than the height limit of 24.6 feet above mean high water proposed in the Constitution Avenue Bridge. They indicated that if sand and gravel were not available to ready mixed concrete customers in Georgetown, trucking of aggregates through the city from their plant on the Anacostia River would cost from $.93 to $1.25 more per cubic yard and that on the basis of avergage annual sales the public would be required to pay an additional $579,000 per year for sand and gravel.

In considering the views of the Smoot firm, it is assured that future operations at more distant deposits would still be within the limits of the Potomac River. If this be the case, it is not apparent that deliveries of sand and gravel to the Georgetown area would be affected by failure to obtain towing and delivery equipment capable of operating in the open waters of the lower Potomac and also capable of passing under a fixed height of 24.6 feet above mean high water as now provided under the closed

drawspan of the new northbound 14th Street Bridge and as approved by the Secretary of the Army for the fixed channel span in the proposed Constitution Avenue Bridge. Towboats having a maximum height of 22 feet above the water line are now being successfully used in barging petroleum products from Piney Point, Maryland, to Washington and similar operations with low clearance equipment on other inland waterways are a matter of record. Present equipment used by the Smoot Company in delivering sand and gravel to their Georgetown plant consists of tugs and barges having a maximum height above the water line of 17 feet.

Other matters considered by the Smoot firm to be pertinent to the matter include maintenance dredging and the disposal of ice in sections of the river upstream of the bridge site and the fact that certain waterfront property owners in the Georgetown area were not advised of a public hearing to consider plans for a fixed bridge.

The matters of maintenance dredging and ice were given thorough consideration by the Corps of Engineers prior to the approval of plans for the fixed bridge over the Potomac River at Constitution Avenue and these problems were not considered to be of sufficient importance as to justify the provision of a drawspan in the proposed bridge. The public notice requesting attendance at a public hearing was sent to all known interested persons. It was the subject of news articles in the local papers and the public notice concluded with the statement: "It is requested that you communicate the foregoing information concerning the proposed bridge to any person known by you to be interested and who not being known to this office, do not receive a copy of this notice".

American Oil Company. As shown in Table 1, the greatest number of drawspan openings are required to accomodate tankers hauling petroleum products to AMOCO's dock at Rosslyn. According to information recently received from AMOCO and its contract carrier, the Spentonbush Fuel Transport Service, bridge openings are not required for upstream movement of laden oil barges and tugs; but bridge openings are required for downstream movement of the empty barges because the fixed projections of the light vessels extend above the underclearances of the bridges. However, both AMOCO and Spentonbush point out that it would be impractical to use the oil barges and tugs instead of the tanker. They state that the smaller vessels cannot safely navigate the open waters of Chesapeake Bay during adverse weather.

These views were stated in an October 16, 1956 letter from AMOCO to the District Engineer, Corps of Engineers,[7] and reiterated in a recent conference with this task force, incidental to the preparation of this report.

The salient points presented by AMOCO in the above-mentioned letter and at the conference are:

1. Construction of a fixed bridge with a 24.6 foot vertical clearance above mean high water would deny AMOCO use of the river with self-propelled motor tankers, which require a vertical clearance of about 70 feet, to pass high masts on the vessels. If the masts can be lowered, a 50 foot vertical clearance would be satisfactory.
2. The waterway route between the AMOCO refinery at Yorktown and Rosslyn makes use of smaller types of vessels impractical.

3. Denial of the river to self-propelled tankers would necessitate truck movements of AMOCO petroleum products from Baltimore, at a cost of 26 cents per barrel above present waterway transportation costs, or an additional cost of $700,000 to $750,000 annually. According to AMOCO, this is based upon a 1956 waterway movement of 2,251,000 barrels of petroleum products, as well as a projected increase of such movements to 3,300,000 barrels if additional storage is provided at Rosslyn.

4. With such a change in operations and costs, the Rosslyn plant, which covers about 4½ acres and represents an investment of over $1,000,000, would cease to be of use to AMOCO, and would necessitate resale of the property at a loss estimated by AMOCO of more than $600,000. Closure of the Rosslyn plant, AMOCO contends, also would lead to dismissal of about 150 employees having a payroll of about $675,000 annually.

The AMOCO letter also mentions the nature of its tenancy on Federal property under the jurisdiction of the National Park Service. At the conference, AMOCO agreed that the revocable permit issued by the National Park Service (see Appendix III) fully describes all the right, title and interest AMOCO has in the wharf, and in its right to locate its pipelines on Federal property parallel to and under George Washington Memorial Parkway.

It is noted that AMOCO pays to the National Capital Park Service a rental of $50 per year for the use of this property.

As the principal user of vessels which require approximately 89% of the openings of movable spans in bridges across this reach of the Potomac River, the Company is of the opinion that it has the right to

require an expenditure of public funds totalling approximately $5,000,000, for the construction of movable spans in future highway bridges across the Potomac, and an expenditure of $112,000 annually to maintain and operate the drawspans on such bridges and other existing bridges.[8] These costs do not include the added cost to motorists resulting in vehicular delays during the opening of each bridge, for accomodation of any one vessel as it moves upstream or downstream. The amount of such additional vehicular cost would depend upon the number of openings during that year. For estimating purposes, this added vehicular cost may vary from $10,000 annually to $40,000 for the four highway bridges.

Comments Concerning AMOCO Views. All of the foregoing costs can be saved the general public through construction of fixed highway bridges in conformity with the navigational clearances as already approved by the Secretary of the Army for the proposed Constitution Avenue Bridge. With respect to AMOCO views, as stated in its letter and summarized above, the following observations are made:

1. The entire waterway route from Yorktown, Virginia, to Rosslyn, Virginia, lies within the inland waters of the United States.[9]
2. The statutory rules of the road with respect to running lights on vessels navigating the inland waters permit a substantially lower height of the forward and aft white lights than are required under the international rules.[10]
3. The self-propelled tankers which have been carrying AMOCO products are licensed by the U. S. Coast Guard to operate coastwise, where the international rules with respect to the running lights apply. Under these circumstances, the above-mentioned 70 foot vertical clearance requirement which AMOCO and Spentonbush contend is

needed to accomodate their vessels, may well be the required height of the aft light for vessels operating in coastal waters. However, such a vertical clearance is not required for running lights on the identical vessel when it operates on the inland waters. Also, as demonstrated by collapsible masts on vessels elsewhere, it is possible to hinge or telescope masts to permit passage of vessels under bridges which would otherwise restrict movement of such vessels."[11]

4. Table 1 shows that during calendar year 1956, tankers hauling petroleum products required 153 openings of Highway Bridge. These openings represented round-trip movements. Through identification of the name, capacity, and frequency of openings required by each of these vessels during 1956, it was determined that -- assuming full loads -- the vessels carried between 900,000 barrels and to 1,000,000 barrels of petroleum products to Rosslyn. This would indicate that approximately 1,251,000 barrels of the 2,251,000 barrels reported by AMOCO as having been moved by waterway, either were transported by tug and barge from Yorktown, Virginia, or by truck-tank from Baltimore, Maryland. In this regard, only six openings of the Highway Bridge were required during calendar year 1956 for accomodation of light tugs and oil barges on their return trip from Rosslyn.

5. The data revealed in the foregoing paragraph indicate that the monetary effect on AMOCO of fixed bridges across the Potomac River above Hains Point, having navigational clearances in conformity with those alreay approved by the Secretary of the Army

for the proposed Constitution Avenue Bridge, would be substantially less than $700,000 to $750,000 annually, as claimed by the company. There also is the question of having the Federal Government and the District of Columbia undertake a capital investment of about $5,000,000 and continuing annual costs of $112,000, in the form of providing unobstructed navigational clearances in publicly owned highway bridges, to protect a private investment of something more than $1,000,000 which, according to AMOCO, might depreciate to about $400,000 if the substantially greater public expenditures are not made.

6. If AMOCO should find that suitable vessels are not currently available to move its products by waterway from Yorktown to Rosslyn, as a continuing operation, the company can give further consideration to installation of two ten-inch pipe lines, and pumping stations, between its plant at Rosslyn and the Potomac River at Four Mile Run, just below the Washington National Airport. Preliminary estimates indicate that such an installation would cost between $1,000,000 and $1,500,000 including the cost of four pumping stations, two for each line. Maintenance and operation of the pumping stations would cost about $20,000 annually. The entire pipeline could be located on Federal property.

7. As a possible alternative to the above-mentioned pipeline, AMOCO or its contract carrier may wish to explore further the design and construction of one or more self-propelled oil tankers which can be accommodated under the fixed bridges being

contemplated here. According to AMOCO and Spentonbush, such a tanker, with a capacity of about 14,500 barrels, would cost between $1,800,000 and $2,000,000. This cost estimate has been confirmed by the U. S. Maritime Administration, Department of Commerce, as being reasonable, which also pointed out that special consideration would have to be given to the design and construction of a vessel to serve this need. With respect to this alternative, it is recognized that there is a substantial difference in capital investment between the cost of such specially designed tankers and the cost of the pipeline mentioned above. Also, use of such tankers might necessitate further expansion of storage facilities at the AMOCO plant in Rosslyn beyond the additional storage facilities the company is currently holding in abeyance. These and related problems, and the costs involved, would require further study to determine more clearly whether there is a real merit to this alternative.

TUNNEL VERSUS BRIDGE AT CONSTITUTION AVENUE

This part of the report responds to a request from the committee to report upon the alternative of a tunnel at the same general site of a bridge in the vicinity of Constitution Avenue. The District of Columbia and the Bureau of Public Roads concur in the estimates of $24,500,000 for a six-lane bridge and its approaches, and of $52,000,000 for a six-lane tunnel and its approaches as reported in April 7, 1955 by a Special

Committee of the National Capital Planning Commission. The approaches included in this estimate cover the same areas and service as those included in the approved six-lane bridge plan and estimate. The difference between the approaches of these types of facilities are primarily in the details of the approaches. Because of sustained steep gradients in the tunnel design, the latter will not accommodate traffic as adequately as a bridge. These two representatives also agree that the cost of maintaining and operating a six-lane tunnel is substantially greater than the cost of maintaining and operating a six-lane bridge.

RIPARIAN RIGHTS AND NAVIGATIONAL RIGHTS

A statement, identified as Appendix VI, prepared by the General Counsel of the Bureau of Public Roads, Department of Commerce, distinguishes between riparian rights of landowners whose property abuts a navigable waterway, as a compensable property right which may not be taken except by due process of law, and the public right of navigation, which is a noncompensable right belonging to the general public and which can be extinguished by Act of Congress.

PHOTOGRAPHS

Photographs showing characteristics of different vessels, the AMOCO dock at Rosslyn, and a substantial portion of the Georgetown Harbor area, are included in Appendix VII.

Photograph No. 1 shows the Tanker "A. H. Dumont", operated by the Spentonbush Fuel Transport Service, discharging cargo at the AMOCO dock. Attention is invited to the height of the pilot house on the vessel, the AMOCO floating dock, with the two pipelines in the center

foreground, and a large portion of the Georgetown Harbor area in the background.

Photograph No. 2 shows the dumb barge "Hydrade No. 8", operated by Spentonbush Fuel Transport Service, discharging oil at the AMOCO dock at Rosslyn, and shows the dock area in relation to the George Washington Memorial Parkway on the right, and to Theodore Roosevelt Island in the upper background.

Photograph No. 3 shows "Poling Bros. No. 9", a self-propelled oil tanker which, with its hinged projections that extend above the pilot house, could be navigated under the fixed highway bridge being contemplated here. This vessel now operates to other terminals in the Washington Harbor area.

Photograph No. 4 shows the self-propelled oil tanker "F. A. Verdon", operated by Spentonbush Fuel Transport Service, at the AMOCO dock. It also points out the proximity of the dock to Key Bridge.

APPENDIX I

1. By Public Law 704, 83rd Congress, Second Session, approved August 30, 1954, the construction of a bridge in the vicinity of Constitution Avenue was authorized. In 1955, the Commissioners of the District of Columbia made application to the Corps of Engineers for approval of plans for the new bridge. The plans provided for a fixed channel span with horizontal clearance of 125 feet between fenders and vertical clearance of 24.6 feet at mean high water.

Pursuant to Public Notice No. 468, issued by the Corps of Engineers under date of April 11, 1955, a public hearing was held by the District Engineer on May 10, 1955. The proposed location and clearances for the new bridge were attached to the notice. At this hearing, the representatives of the District of Columbia presented some data showing how the best interests of the general public would be served through the smaller construction cost of a fixed span. They requested that the waterway interests be required to show on the record of the hearing, an equal or greater savings to offset the cost of a movable span.

A number of companies representing the navigation interests later testified at the hearing and submitted facts and cost data which they claimed substantiated their request for a movable span.

After the hearing, the Corps of Engineers reviewed and considered all the facts which were brought out at the hearing and later prepared a formal finding of fact which concluded that a fixed span bridge with a vertical clearance of 24.6 feet above mean high water, would not interfere unreasonably with present or prospective navigation on the waterway. The location and plans for the bridge were approved by the Secretary of the Army on August 23, 1955.

During the 84th Congress, legislation was sought to effect a change in the location of the bridge, so as to permit the structure to touch Roosevelt Island. In congressional consideration of this proposal, a question as to the need for a movable span in the bridge was raised. This question was not resolved, and the proposal failed of enactment.

2. Funds already have been made available for the design of this replacement structure, and arrangements are underway to undertake the design work. In addition, S.1042, 85th Congress, would grant authority to proceed with the construction.

3. The documentary data initially reviewed included:

(a) The transport of a public hearing held by the Corps of Engineers, Department of the Army, Tuesday, May 10, 1955, concerning the application of the Commissioners of the District of Columbia for approval of plans of a bridge to be constructed over the Potomac River, between the foot of Constitution Avenue and the northern end of Columbia Island.

(b) The findings of fact, prepared by the Corps of Engineers, Department of the Army, which accompanied the instrument of approval of plans of the bridge with a vertical clearance of 24.6 feet above mean high water and a horizontal clearance of 125 feet.

(c) Subsequent letters written to the District Engineer, Corps of Engineers, one being from the Smoot Sand and Gravel Corporation, dated October 15, 1956, and the other being from the American Oil Company, dated October 16, 1956.

(d) The records of the District of Columbia concerning the frequency and number of openings of Highway Bridge for accommodation of vessels and an identification of the vessels which require such openings.

(e) The annual tonnages of waterway traffic moving on this reach of the Potomac River in recent years, based upon annual reports of the Corps of Engineers.

(f) Photographs of vessels navigating this region of the Potomac River, with special reference to identifying the vessels and the projections on the vessels which require openings of these bridges, made available by the Corps of Engineers.

4. The following additional information and obtained from the sources indicated.

(a) A permit for pipelines under George Washington Memorial Parkway, dated June 8, 1943, was issued by the Department of the Interior to the American Oil Company, furnished by the National Park Service.

(b) An analysis of court decisions which identify the rights of property owners whose interests might be affected by having bridge clearances below such properties established below clearances which existed theretofore, furnished by the Bureau of Public Roads.

(c) Information from the United States Coast Guard, Department of the Treasury, on the rules of the road which govern the height at which lights on vessels must be established.

(d) Information from the Corps of Engineers as to whether there are available other types of vessels hauling petroleum products which might be used to serve the needs of the American Oil Company.

(e) Interviews by the Task Force with representatives of the American Oil Company, and Spentonbush Fuel Transport Service, the waterway contract carrier of AMOCO petroleum products.

(f) Information on tanker costs furnished by the Maritime Administration, Department of Commerce.

5. A copy of the permit is enclosed as Appendix III.

6. A copy of the letter, with its attachments, is enclosed as Appendix IV.

7. A copy of the letter is enclosed as Appendix V.

8. The estimated construction cost of $5,000,000 for movable spans in three highway bridges was arrived at by adjusting estimates of such costs, made in April 1955, to the Bureau of Public Roads Structural Construction Cost Index for the last quarter of calendar year 1956. Amortized over a period of a 70-year useful life of the bridges at 3½ percent (Inwood coefficient of 26.003) this $5,000,000 would require an expenditure of $192,000 annually.

The estimated cost of $112,000 annually for maintenance and operation of the movable spans in such bridges is based upon $76,000 as the estimate for District of Columbia bridges and $36,000 for the Arlington Memorial Bridge which is maintained by the National Park Service. On the basis of the foregoing figures, the total annual cost to the public exclusive of the cost of vehicular delays, would be $304,000.

9. According to the U. S. Coast Guard, the boundary line of the inland waters of the United States at the entrance of Chesapeake Bay is a line drawn from Cape Henry Lighthouse to Cape Henry Junction Lighted Whistle Buoy; thence to Cape Charles Lighthouse. (33CFR82.30). The waters inside of this line are inland waters.

10. According to the U. S. Coast Guard, International Rules 2, 10, and 29, in summarized form, require separate red and green side lights; a separate stern light and two white lights along the centerline of the vessel. The first of these two white lights, which must be located forward of the beam, must be at least twenty feet above the hull (usually identified as the main deck). If the beam is more than twenty feet, the height of the forward white light must be at least equal to the beam in all cases where the beam does not exceed forty feet. Where the beam does exceed forty feet, the minimum height of the forward light is 40 feet above the hull. The aft light must be back of the forward light, at least 15 feet higher, and at least three times the difference in height behind the forward light.

Under Articles 2, 10, and 29 of the Inland Rules, similar lighting (side lights and two white lights) is required. However, there is an appreciable difference in the required height and separation of the white lights. In this regard, there is no prescribed height for the forward white light other than a requirement that it must be clearly visible for a minimum distance of five miles. The after white light must be back of the forward white light and at least 15 feet higher, but no minimum horizontal setback is required other than that the separation must be sufficient to create a range under the rules.

Even though the inland rules do not spell out the minimum height of the forward white light, the rules state elsewhere that the position of the lights should not interfere with proper lookout or the ordinary practice of seamen. Under this general rule, the forward light must be above the line of vision which is controlled by the structure of the vessel, particularly the pilot house and its location and height with respect to the bow. Therefore, practical considerations require the forward light to be above the line of vision from the pilot house. The aft light must be 15 feet higher than the forward light.

11. The feasibility of hinging or telescoping masts and other projections is discussed in the February 1955 report of the Department of Commerce, entitled: Navigational Clearance Requirements for Highway and Railroad Bridges, pp. 49-82. Other sources of similar data also are listed therein.

FINDINGS OF FACT

AUG 23 1955

Application of the Commissioners, District of Columbia for approval of plans of a fixed bridge to be constructed across the Potomac River at the foot of Constitution Avenue, N. W., Washington, D. C.

1. Law authorizing construction: An Act of Congress approved 30 August 1954.

2. Proposed structure: The plans provide for a fixed channel span, located over the Federal project channel, with horizontal clearance of 125 feet between fenders and vertical clearances of 27.5 feet at mean low water and 24.6 feet at mean high water for a width of 80 feet.

3. Federal project: The Federal Project for this section of Washington Harbor which includes the Potomac River (Virginia Channel) between Giesboro Point and Key Bridge provides for a channel 24 feet deep and 400 feet wide.

4. Status of Federal project: Because of changed conditions since adoption of the Federal Project for Washington Harbor in 1935 the channel has been maintained to a depth of 20 feet for a width of 200 feet. These dimensions have been satisfactory for the type of vessels using the Virginia Channel. Commercial waterfront activities upstream from the site of the proposed bridge have remained stable since 1944 and there has been no indication that greater channel dimensions will be required for future activities. Should it develop that dredging is required upstream from the site of the proposed bridge, it is considered that small equipment could be utilized at moderate additional cost.

5. Tributary Area:

(a) The head of commercial navigation as well as the upstream limit of the authorized channel project is at Key Bridge, Georgetown, D. C., 1.7 miles upstream of the bridge under consideration. Both banks of the Virginia Channel for a distance of 5 miles downstream of the bridge site are Federally owned and are designated as park areas or are occupied by Government establishments. The Federal Park area extends upstream from the bridge site on the Virginia shore, a distance of 2 miles, and on the District of Columbia shore, a distance of one-half mile where it joins the commercial waterfront of Georgetown. Only 3500 lineal feet of property along the District of Columbia shore are privately owned. This area has been available for industrial improvement and use for many years but there have been no new developments since 1941. In past years terminals on the one mile of waterfront at Georgetown handled the bulk of waterborne commerce for the Washington area.

The only waterfront activity in Georgetown today is the Smoot Sand and Gravel plant which processes and distributes material received from downstream river deposits.

(b) The only other commercial waterfront activity upstream of the bridge site is at the American Oil Company terminal at Rosslyn, Virginia immediately downstream of Key Bridge. The terminal consists of a floating steel barge abreast of dolphins and a flexible pipe line coupling which connects to two 8-inch underground pipe lines which discharge into storage tanks on company property in Rosslyn, Virginia, 1800 feet distart from the floating dock. The terminal and pipe lines are on Federal park property, the use of which was authorized by the National Park Service in a revocable permit dated 8 June 1943.

(c) Rail connections serve the freight requirements of the Georgetown area from the main line of the B & O Railroad, and the Rosslyn area from the Pennsylvania Railroad. While water to rail transfer facilities are available at Georgetown there is no record of such transfers having been made at either location.

6. Nature and Extent of Present Navigation:

(a) Commerce: For the 10 year period from 1945 through 1954, commerce passing the bridge site has averaged 969,178 tons annually. The minimum, 722, 681 tons was reported in 1945, the maximum, 1,123,454 was in 1948. Preliminary estimates indicate that commerce in 1954 was 1,049,225 tons of which 815,923 or 78 percent was sand and gravel, and 233,302 tons or 22 percent was petroleum products as follows:

	Tons	Bbls.(42 Gals)	Gallons
Motor Fuel and Gasoline	197,678	1,426,248	59,902,420
Gas, Oil, Distillate Fuel Oil	35,624	217,485	9,134,358
Total Petroleum	233,302	1,643,733	69,036,778
Sand, Gravel	815,923		
	1,049,225*	1,643,733	69,036,778

* Preliminary - 5/6/55

(b) Vessel Traffic: The Smoot Sand and Gravel Corporation operates six tug boats and a large number of barges, between Georgetown and sand and gravel deposits located in the river in the vicinity of Alexandria. Stacks and masts on tugs have been hinged or designed to pass under a height of 17.0 feet. During the Calendar year 1954, tugs and barges made 977 trips to the Georgetown plant. Six trips were made by lighters.

The American Oil Company terminal in Rosslyn receives shipments of petroleum products, which up to 25 March 1955 were delivered from Norfolk, Virginia in self-propelled tankers under contract with the Spentonbush Fuel Transport Service. Subsequent to March 1955 deliveries have been made from Norfolk by low house tugs and barges, with loaded drafts of 12 feet and maximum heights of 15 feet above the water line. Mast heights of tankers used range from 40 to 63 feet, and pilot houses and stacks on the same vessels range from 25 to 40 feet.

One channel buoy has been established by the Coast Guard upstream of the proposed bridge site which requires a tender type vessel with height of 42 feet for maintenance. The Coast Guard has indicated that this buoy can be replaced with a type that can be serviced with a vessel capable of passing under the proposed bridge.

The District of Columbia fireboat is required for waterfront alarms in the Georgetown area as well as in other parts of Washington Harbor and for rescue and salvage of stranded persons and vessels adrift. The fireboat is in need of extensive repairs and consideration is being given to a replacement which would pass under the proposed bridge.

Approximately 2500 recreational craft of all types are registered with the Harbormaster. Boating water for the larger recreational craft is limited to a point about 2 miles upstream of the bridge site, above which narrowing channels, swift currents and submerged rocks make boating hazardous. Of the 2500 recreational craft, approximately one percent of the inboard boats have a height greater than 25 feet. Sailboats use waters downstream from the bridge. Race courses for the President's Cup Regatta, Collegiate shell races and other aquatic events are located in an area approximately 2 miles below the proposed site of the bridge. The bridge would therefore not offer an unreasonable obstruction to recreational craft.

7. Views of Interested Parties:

The Smoot Sand and Gravel Corporation has testified that a river stage of 20 feet at Harpers Ferry, West Virginia results in a downriver stage which tops the bulkhead of the firm's plant at Georgetown, at which time deliveries of sand and gravel are suspended. The equivalent stage at the site of the proposed bridge is approximately 7 feet above mean low water. The maximum height of tugs owned by the Smoot Company is 17.0 feet. Assuming a safety factor of two feet between the high point of vessel and underclearance of the bridge for safe passage, a fixed bridge with a minimum vertical clearance of 26.0 feet above mean low water in the channel span would not interfere with tugs and barges now delivering sand and gravel to the Georgetown plant of the Smoot Sand and Gravel Corporation. Two lighters which this firm brings to the Georgetown plant on occasions for slip dredging and dock repairs

require a clear height of 43 feet and 54 feet respectively. Use made of this equipment is similar to construction activities performed at other locations by land based equipment mounted on barges or platforms or operated from river banks not accessible to heavy lighters. Approval of a fixed bridge with an underclearance of less than 43 feet above mean high water, while resulting in some inconvenience in this respect, would not preclude the performance of such maintenance by land based equipment available in the area.

The American Oil Company, whose storage facilities for gasoline and heating oils located at Rosslyn, Virginia, serves the metropolitan area of Washington, has stated that the proposed bridge would preclude the use of self-propelled tankers for delivery of fuel to these facilities. The mast heights of these tankers have reported heights of 40 to 63 feet above the water line. Pilot houses and stacks on the same vessels range from 25 to 40 feet. Operating officials have indicated that the vessels have been constructed for coastwise traffic and that the high points are parts of permanent structures which can not be cut down or removed. In addition to the use of self-propelled tankers, the American Oil Company uses tugs and barges for delivery of fuel to their facilities at Rosslyn, Virginia. Company officials have stated that deliveries must be made by self-propelled tankers under adverse weather conditions, assumed to be 20 - 25 percent of the time. Conditions under which tugs and barges can not be used have been described by American Oil Company representatives as including high winds which, in the open waters of Chesapeake Bay and the lower Potomac, are hazardous to the operation of low freeboard barges and tugs; fog requiring radar equipment not practical for use on small tugs; and ice conditions. Low tugs and barges which can be used for about 75 - 80 percent of the time have a maximum fixed height of 15 feet above the water line. The river stage above which tugs and barges could not operate, is estimated to be 7 feet above mean low water. Assuming a safety factor of two feet between the high point of vessel and underclearance of the bridge for safe passage, a fixed bridge with a minimum vertical clearance of 24 feet above mean low water in the channel span would not interfere with tug and barge operations.

8. Analysis of Costs:

District of Columbia officials have indicated that a drawspan of double leaf bascule type could be provided in the proposed bridge with a stone face at an additional cost of $1,900,000 or $73,000 annually amortized over 70 years at 3¼ percent. The cost is $400,000 less for a steel structure with the same type drawspan. This difference in cost is not considered a justifiable charge to the needs of navigation. Therefore, the total increased annual cost of providing for the needs of navigation is as follows:

		Annual Cost
Added cost of movable span ($1,500,000 amortized over 70 years at 2¾%)		$ 46,000
Operation	$34,600	
Utilities	1,400	
Maintenance	20,000	
		56,000
Total		$102,000

The American Oil Company has indicated that should a fixed bridge be approved with insufficient clearances for passage of the tankers, their additional annual transportation cost would be as follows:

	Annual Cost
Use of tugs and barges in lieu of tankers (80% of the time)	$ 40,000
Supplemental trucking (20% of the time from Curtis Bay, Baltimore, Maryland to Rosslyn, Va.)	55,000
Capital investment ($50,000 for necessary automotive equipment)	5,000
Total	$100,000

Therefore, the total annual cost of a movable span is approximately equal to the annual cost to navigation interests should a low level fixed bridge be constructed.

9. Conclusions: Based on the following findings, it is concluded that a fixed bridge with a vertical clearance of 27.5 feet above mean low water will not interfere unreasonably with present or prospective navigation on the waterway:

(a) Commercial waterfront activities upstream from the proposed site of the bridge have remained static since 1944.

(b) Extensive areas along the waterway upstream and downstream from the proposed site of the bridge are Federally owned and are designated park areas or occupied by Government establishments.

(c) Development of the waterway upstream from the proposed site of the bridge does not appear to be likely.

(d) Maintenance of the Smoot Sand and Gravel Corporation facilities can be performed by land based equipment.

(e) The unloading facilities of the American Oil Company are located on Federally owned park areas under the provisions of a revocable permit issued by the National Park Service.

(f) The additional annual cost to the American Oil Company in performing alternative operations resulting from a fixed bridge is not considered unreasonable in the light of the public interests involved.

PERMIT FOR PIPE LINES

George Washington Memorial Parkway

WHEREAS, the National Capital Park and Planning Commission acting for and in behalf of the United States of America has acquired the fee title to certain lands in Arlington County, Virginia, comprising an irregular strip lying along the southerly bank of the Potomac River and the westerly bank of the Little River, extending southerly from Key Bridge to Memorial Bridge, which said land has been acquired in the development of the National Capital parkway system and in particular for the parkway to be known as the "George Washington Memorial Parkway", and

WHEREAS, the jurisdiction and control of all parkways and lands acquired for that purpose in Arlington County, Virginia, is vested in the Department of the Interior under and by virtue of the acts of Congress approved June 6, 1924 (43 Stat. 463), December 22, 1928 (45 Stat. 1070), February 26, 1925 (43 Stat. 983), and May 29, 1930 (46 Stat. 482), and Executive Order No. 6166, dated June 10, 1933, issued pursuant to the Act of Congress approved March 3, 1933, (47 Stat. 1517); and

WHEREAS, American Oil Company, a Maryland corporation, having business offices at Baltimore & South Streets, Baltimore, Maryland, has made application for a right-of-way extending along and crossing over the said parkway lands as indicated on plat designated:

Location Plan - Showing Proposed Pipe Lines

For American Oil Company
situate
George Washington Memorial Parkway
near Rosslyn, Virginia. Dated May 7, 1943

for the purpose of installing, maintaining and operating not exceeding two (2) pipe lines, one (1) rigid conduit for electrical current and mooring float

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and enclosure for pumping unit and hose for the unloading and transportation of crude petroleum and/or the products and/or the by-products thereof; and

WHEREAS, the granting of permission, as hereinafter provided, for the use of parkway lands for said pipe lines, conduit and mooring float will not substantially injure the interests of the United States in the said lands affected thereby nor will it be incompatible with the public interest, and

WHEREAS, the County of Arlington and the State of Virginia contributed one-half the cost of the acquisition of these lands and entered into an agreement with the National Capital Park and Planning Commission dated June 23, 1934, providing among other things as follows:

> "(4) That the parties to this agreement agree as to the location and development of a county wharf on the area so designated on Plan No. 104.2-142, filed and made a part of this agreement as follows:
>
> "That whenever the County of Arlington is desirous of developing a county wharf on the area so designated, the National Commission pledges itself to cooperate with the County of Arlington, Virginia, and State of Virginia in securing the necessary legislation for this purpose, and aid in every other reasonable way in making this property available to the County of Arlington for a county wharf, provided that the plans for the development and operation of said wharf have the joint approval of the National Commission and the County Board of Arlington County or their successors."; and

WHEREAS, said mooring float will be attached to the property set aside by this agreement as a county wharf; and

WHEREAS, the county of Arlington does not desire to develop such wharf at this time.

NOW, THEREFORE, This is to certify that the Secretary of the Interior, under the authority vested in him by virtue of having jurisdiction and control over said parkway lands, and in consideration of the immediate payment of Seven Thousand Seven Hundred Dollars ($7,700) installation fee, and rental of Fifty Dollars ($50) per year to be paid annually in advance, beginning

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April 1, 1943 hereby grants unto said American Oil Company, its succesors and assigns (hereinafter sometimes referred to as the "permittee") permission, revocable at the will of the Secretary of the Interior, to install, maintain, operate, replace and remove not exceeding two (2) pipe lines of not more than eight (8) inches in internal diameter, to be placed in close proximity to one another, one (1) rigid conduit for electrical current, and a mooring float for the unloading and transportation of crude petroleum and/or the products and/or by-products thereof, along, through, under and across the said parkway lands above described at the approximate location indicated on the said plat hereinbefore referred to, photostat copy of which plat is attached and made a part hereof.

This Permit is issued subject to the following conditions:

1. That the said pipe lines and conduit shall be laid and installed at such depth that the top of the pipes will not be less than three (3) feet below the surface of the ground, except where a lesser depth has been approved by the Director of the National Park Service or his authorized representative.

2. That the installation, operation and maintenance of said pipe lines, conduit and mooring float shall be accomplished without cost or expense to the United States of America, under the general supervision and approval of the Director of the National Park Service or his authorized representative.

3. That any damage caused to the property of the United States, or its assigns, incident to the installation, operation and maintenance of said pipe lines, conduit and mooring float shall be promptly repaired by the Permittee at its expense or in the event such damage is not repairable the Permittee will reimburse the United States therefor. Any such repair work to be performed by the Permittee shall be accomplished subject to the general supervision and approval of the Director of the National Park Service or his authorized representative.

4. That the Permittee shall supervise and inspect the pipe lines and conduit regularly and shall immediately repair any leaks found therein. Upon completing the installation of said pipe lines and conduit or making any repairs thereto, the ground shall be immediately restored by the Permittee insofar as is possible to the same condition as that in which it existed prior to the commencement of such work. Any timber or other landscape feature

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scarred or damaged by the Permittee shall be removed, trimmed up or restored as nearly as possible to its original condition at the expense of the Permittee in a manner satisfactory to the Director of the National Park Servide or his authorized representative.

5. That the United States shall not be responsible for any injuries to persons or damage to property which may arise incident to the installation, maintenance and operation of said pipe lines, conduit and mooring float and the Permittee shall save the United States harmless from any and all such claims.

6. That the use and occupancy of said parkway lands incident to the installation, maintenance and operation of said pipe lines, conduit and mooring float shall be subject to such rules and regulations as the Secretary of the Interior or his duly authorized representative may from time to time prescribe.

7. That in the event that in the construction of said parkway the said pipe lines and conduit as located shall, at any point or points, not conform to the grade or grades established for the drive or roadway to be located thereon, or shall in any other respect interfere with the construction of said parkway, the Permittee shall upon written request of the Director of the National Park Service, or his authorized representative, and at its own expense, lower the portion of the pipe lines and conduit affected to such established grade or grades in those cases where the lines as located will not conform thereto, or, in the case of other interference, relocate the portion of the lines affected to another suitable location on said lands.

8. That the enclosure for the housing of pumping unit, and for the hose when not in use, shall be so constructed as to be below the level of the ground, and shall not exceed the finished grade for the parkway.

9. This permit is issued subject to the above-mentioned agreement between the National Capital Park and Planning Commission, Arlington County, and the Commenwealth of Virginia, dated June 23, 1934, with regard to developing a county wharf on the area covered thereby, and with the distinct understanding, that it may be terminated by the Secretary of the Interior, in whole or in part, whenever the County of Arlington is willing and ready to develop a county wharf as provided in said agreement.

10. All construction plans shall be submitted to and approved by the Director of the National Park Service or his authorized representative in advance of construction.

11. This permit is issued in accordance with the intent stated in paragraph 9 hereof, and with the understanding that the facilities of the pipe line and mooring float will be made available by the Permittee to other users at any point approved by the Secretary of the Interior, up to the point where the pipe line enters the American Oil Company's property line, on the basis of charges for like facilities considered current and standard at the time by the industry, subject, however, to approval by the Secretary of the Interior.

COPY

12. That the privileges hereby granted may be declared forfeited and annulled and this permit may be terminated by the Secretary of the Interior at any time upon reasonable notice to the Permittee if the Secretary of the Interior shall determine that such occupancy interferes with the use or sale of the premises or any part thereof by the United States, or for failure, neglect or refusal by the Permittee fully and promptly to comply with any or all of the conditions or privileges of this permit. In the event of the non-use of parkway lands by the Permittee for a continuous period of two (2) consecutive years, this permit shall cease and determine.

13. That upon the expiration of this permit or in the event either of the termination or the annulment and forfeiture of this permit, the United States shall have the option, upon reasonable notice to the Permittee, to require the Permittee at its expense and within such time as the Secretary of the Interior may direct, to remove the installations from the said lands and to restore the same to a condition satisfactory to the Director of the National Park Service or his authorized representative. In the event the Permittee shall fail, neglect or refuse to remove the installations and restore the premises as directed, the United States shall have the opinion either to take over the installations as the property of the United States without additional compensation or consideration therefor, or of causing the installations to be removed and the lands to be so restored at the expense of the Permittee and in no event shall the Permittee have any claim for damages against the United States, its officers or agents, on account of the taking over of the installations or on account of their removal.

WITNESS my hand and the seal of the Department of the Interior this 8th day of June 1943.

(Sgd) Harold I. Ickes
Secretary of the Interior

Approved this 1st day of
June , 1943.

(Sgd) U. S. Grant, 3rd
Chairman, National Capital Park
and Planning Commission.

Note: Plat dated May 7, 1943 not attached.

COPY

THE SMOOT SAND & GRAVEL CORPORATION

October 15, 1956

Colonel George B. Sumner
Corps of Engineers, U. S. Army,
District Engineer,
Washington District,
First and Douglas Streets, N. W.,
Washington 25, D. C.

Re: File No. 823 Constitution Ave. Bridge (NAWGW)

Dear Mr. Sumner:

In reply to your letter of 4 October, 1956, requesting detailed information on the items brought up in our discussion in your office 20 September, 1956, we wish to submit the following information as pertinent to a determination by the Secretary of the Army whether or not a bridge in the vicinity of Constitution Avenue should have a draw span in it.

The depletion of sand and gravel from local deposits available to this market has been at such a pace as to bring into focus the foreseeable end of the use of the type of equipment presently servicing our distribution plants in Washington. Since 1900 this company and its predecessors have produced and sold locally in excess of 50,000,000 tons of sand and gravel, a large percentage of which has gone into Federal and District of Columbia construction projects,- the magnitude of which your office is aware.

Depletion alone has not been the sole factor resulting in the closing out of nearby deposits, as the U. S. Government has taken from us valuable deposits at Roaches Run for the Mount Vernon Boulevard; at Abingdon for the National Airport; at Daingerfield Island for the Mount Vernon Boulevard; and at Deep Hole Point for the Signal Corps U. S. Army. In addition to these losses, we are advised that our deposit at Oxon Hill is in the lines of a proposed Woodrow Wilson Bridge, which will cross the Potomac from Alexandria, Va.

The loss of these deposits from condemnation, together with those that we depleted and in process of depletion, will require us in the very near future to go to greater distances down-river from our distribution points. This in turn will require the use of tugs and barges of the sizes that are used in "open waters", which are greater than the height limit of 24.6 feet proposed in the Constitution Avenue Bridge.

If sand and gravel were not available to our ready mixed concrete customers at our Georgetown plant, the users, both Government and private, would be required to pay from $.93 to $1.25 more per cubic yard for concrete as is evidenced by

C O P Y

Exhibit "A" and Exhibit "B" - (Letters from Super and Maloney Concrete).

The other alternative would be to utilize our Georgetown plant by trucking materials for concrete, etc. from our Southeast Plant, as there is no limitation as to the height of superstructure on water bourne equipment servicing that plant, and the larger barges could be docked at that point.

Schedule "C" shows the sales to customers over the period 1951-55 through our Georgetown Plant. Using an average of 681,463 tons - Exhibit "C" - of sand and gravel sold yearly for this period, and multiplying by the present contract trucking rate from our Southeast Plant to our Georgetown Plant ($.85 per ton) would give $579,243 as the additional cost that would have to be paid by the public yearly for sand and gravel needs from our Georgetown Plant.

Traffic conditions would also be considerably affected by the transportation of nearly 700,000 tons of sand and gravel from Southeast to Georgetown annually.

While it was thoroughly covered in the Public Hearing of May 10, 1955, we would like to again bring to your attention the danger to life and equipment that would arise in the times of flood and ice which often occurs simultaneously. To be unable to remove equipment, nor relieve jammed ice above the proposed bridge because of no draw span, could be disastrous to Georgetown waterfront industry. Ice breakers, such as have come from Norfolk to keep the Potomac River open to traffic, would no longer be able to perform this service for the public and might well result in a shortage of fuel for Washington consumers, as was experienced in recent years. Rail and truck service are not adequate to supply all the fuel oil used here.

Attention is invited to the present trend to move cargo by water. It is public policy where water is available to move as much freight as is possible by water to save transportation costs. Witness the St. Lawrence Waterway as an example. It is superfluous for this company to point out the amounts of public funds expended annually to keep commercial waterways open, instead of, as in this case, prohibiting the possibility of expansion of the only industrial waterfront in the Georgetown channel.

C O P Y

Reference is made to "Findings of Fact" compiled by the Office of the District Engineer, Washington District, regarding the application of the Commissioners of the District of Columbia for the fixed span bridge. In the comparison of costs (p. 5) no mention of any additional sums was included in those costs by reason of "extensive costly dismantling and re-assembling of dredges at various sites. There are no existing dredges capable of performing such dredging whose required clearance does not greatly exceed 18 feet." (National Association of River and Harbor Contractors letter of 10 May, 1955). The question here is the maintenance of a 24' channel depth above the proposed bridge location. If there is to be channel maintenance for industry and recreation, such additional costs should be included in favor of the bridge having a draw span, else Georgetown will ultimately find itself in a condition similar to that of the former ports of Bladensburg, Dumphries, and Port Tobacco.

While the Office of the District Engineer is concerned with present users of the waterway under discussion, and took steps to insure proper representation of interested parties, there were omitted from testifying at the hearing 10 May, 1955, many of the wharf front owners whose properties might be affected by the construction of a fixed span bridge at Constitution Avenue. Letters from two such owners are enclosed herewith. Testimony from such parties should be considered and made part of the record. Exhibit "D" - Exhibit "E".

We respectfully ask that the information and figures herein contained be made a part of the record objecting to the construction of a bridge without a draw span in the vicinity of Constitution Avenue, and that the Secretary of the Army be advised of this additional information, so that it may have proper consideration in his final determination.

Very truly yours,

THE SMOOT SAND & GRAVEL CORPORATION

/s/
A. M. Parker, Secretary

AMP:emv

Encl.

C O P Y

EXHIBIT "D"

MALONEY CONCRETE COMPANY, INCORP.

September 18th, 1956

Mr. A. M. Parker, Secretary
The Smoot Sand and Gravel Corporation,
3020 K Street, N. W.,
Washington 7, D. C.

Dear Mr. Parker:

The river frontage, ground and improvements located at the South West corner of 31st and "K" Streets, N. W. Washington, D. C. described as Lot 802, Square 1174 is under my control and has been used by my company for the past twenty-five years.

I was not advised by the District Corps of Engineers, of a Public Hearing on the proposed construction of a bridge without a draw span over the Georgetown Channel of the Potomac River. A bridge over the river without a draw span would be a severe hindrance to me ever using this property for River Shipment and will seriously effect this property.

Yours very truly,

CPM:bjp

/s/ Charles P. Maloney,

C O P Y

EXHIBIT "E"

Washington, D. C.

September 18, 1956

Mr. A. M. Parker, Secretary,
The Smoot Sand & Gravel Corporation,
3020 K Street, N. W.,
Washington 7, D. C.

Dear Mr. Parker:

I control the tract of ground and its improvements situated at the S. E. Corner of Wisconsin Avenue and K Street, N. W., Washington, D. C.

This property has both railroad siding and wharf facilities, and derives part of its value because it is located on rail and water.

Confirming our recent conversation, I wish to advise that as an owner of wharf frontage on the Georgetown Channel, I was not advised by the District Engineer, Corps of Engineers, U. S. Army, of any Public Hearing on the proposed construction of a bridge without a draw span in Georgetown Channel.

Such a bridge would adversely affect by holdings at the above location, and I feel that I should be given an opportunity to express an opinion.

Very truly yours,

(J. W. Longhnam)

C O P Y

EXHIBIT "B"

Washington, D. C.

September 18, 1956

Mr. A. M. Parker, Secretary,
The Smoot Sand & Gravel Corporation,
2020 K Street, N. W.,
Washington 7, D. C.

Dear Mr. Parker:

I control the tract of ground and the improvements situated at the S. E. Corner of Wisconsin Avenue and K Street, N. W., Washington, D. C.

This property has both railroad siding and wharf facilities, and derives part of its value because it is located on rail and water.

Continuing our recent conversation, I wish to advise that as an owner of wharf frontage on the George Town Channel, I was not advised by the District Engineer, Corps of Engineers, U. S. Army, of any Public Hearing on the proposed construction of a bridge which will span the Georgetown Channel.

Such a bridge would adversely affect by building at the above location, and I feel that I should be given an opportunity to express an opinion.

Very truly yours,

(J. W. Longbrake)

COPY

AMOCO

AMERICAN OIL COMPANY

711 FOURTEENTH ST., N.W.
WASHINGTON 5, D. C.

N. R. NEBLETT, DIVISION MANAGER

October 16, 1956

Colonel George B. Sumner
Corps of Engineers
Office of District Engineer
First & Douglas Streets, N. W.
Washington, D. C.

Your File No. 823 Constitution Ave. Bridge (NAWGW)

Dear Colonel Sumner:

This has reference to your letter of October 8th regarding the proposed Constitution Avenue Bridge over the Potomac River.

The facts presented in our letter dated May 6, 1955, indicated that we could move petroleum products up the Potomac River with tugs and dumb barges instead of tankers eighty percent of the time at an additional cost of $40,000.00 per annum, supplemented by trucking from Curtis Bay, Baltimore, Maryland, to Rosslyn, Virginia, twenty percent of the time at an additional cost of $55,000.00, with amortization of the investment for the additional trucks required to handle the trucking movement amounting to $5,000.00 per annum, equivalent to a total additional cost of $100,000.00 per annum by withdrawing from service the preferred tanker type of vessel for which the proposed fixed-span Constitution Avenue Bridge would have insufficient clearance.

At the time the foregoing information was submitted the tug and dumb barge movement had only been in service for a few months on an experimental basis and the costs given in letter of May 6, 1955, were based upon the experience which we had gained during that short time. Later, during the summer, fall and winter season it developed that the tug and dumb barge operation was not practical due to delays during periods of unfavorable weather conditions, since this type of craft is forced to tie up during periods of moderately heavy to severe winds and, not being equipped with radar, cannot move through fog and the resultant delays amounted to as much as ten days per trip en route from Norfolk to Rosslyn, Virginia. During these periods of delay all product had to be trucked from our Curtis Bay, Maryland Terminal and our operation became so handicapped because of these delays that we were eventually forced to abandon the tug and dumb barge method and return to the use of tankers. Since returning to the tanker movement we have experienced no delays whatsoever.

In the final paragraph of your letter of October 8th you request that we submit revised cost estimate based upon existing conditions and assuming that a fixed-span bridge over the Potomac River in the vicinity of Constitution Avenue having a horizontal clearance of 125 feet and a vertical clearance of 24.6 feet above mean high water. It would be difficult to give an accurate estimate at this time without much study, although at the time of the proposed hearing we will submit a complete report including cost. In the meantime, the following data is offered based upon our opinion of the situation:

It is our estimate that the tug and dumb barge equipment could only be utilized for the movement of petroleum products up the Potomac River to our Rosslyn, Virginia Terminal approximately fifty percent of the time. Considering the investment in this type of craft and the expense of maintaining a crew consisting of approximately fourteen men, it would not be feasible to continue river movement at all. The only alternative would be to deliver our entire volume by truck direct from our Curtis Bay, Maryland Terminal to the storage of our customers. Such an operation would be very costly to us inasmuch as the price of petroleum products in the Washington area is predicated upon water rate, a medium of transportation available to our principal competitors. It would also entail a costly increase in storage at our resale and consumer locations in order to accommodate truckload deliveries and would create a credit problem for such large quantities of product. If such a change in our method of operation should become necessary, our Rosslyn, Virginia Terminal, in which we have an investment in excess of $1,000,000.00, would cease to be of use to us and this property is purely a "one use" facility depending upon the water movement of petroleum products for its existence and if it was put up for sale as surplus we could realize only upon the land value and would be obliged to bear a tremendous loss on our investment. Furthermore, approximately one hundred and fifty persons are employed at this point and due to conflicting labor arrangements none of these employees could be transferred to our Curtis Bay Terminal in the event conditions necessitated our delivering into the area from that point. Consequently, the lay off of these people would result in a payroll loss to the community of approximately $675,000.00 per annum and the majority of these employees have been in our service for more than fifteen years, thus being at an age at which the finding of new employment would prove extremely difficult.

Subsequent to public hearing on this matter held on May 10, 1955, the Office of the District Engineer issued a Findings of Fact, Paragraph 5, Section (b) of which reads in part as follows:

> "The only other commercial waterfront activity upstream of the bridge site is at the American Oil Company Terminal at Rosslyn, Virginia . . . . . The Terminal and pipe lines are on Federal Park property, the use of which was authorized by the National Park Service in a revocable permit dated 8 June 1943".

Inasmuch as this paragraph does not completely reflect the status of our Company's tenancy on the Federal Park property, we wish to submit the following clarifying information, viz:

When the land in question was originally acquired by the Federal Government for the development of the National Capital Parkway system fifty percent of the cost thereof was borne jointly by the State of Virginia and the County of Arlington, subject to a reservation by the State of Virginia and the County of Arlington that at such time as Arlington County desired to develop a County wharf on a portion of the area it would have the support and cooperation of the appropriate agency of the Interior Department in securing the necessary legislation to make a certain portion of the property (as designated in the agreement in connection with the original acquisition) available for the establishment of a County wharf. Therefore, the State of Virginia and Arlington County have certain vested rights therein, and the American Oil Company's facilities are located on the portion of the property reserved by Arlington County for the future establishment of a County wharf and with the express permission of Arlington County.

Please be assured that it is our wish to cooperate in every way possible in your current review of this matter and if additional information is desired, you have but to call upon us.

Yours very truly,

AMERICAN OIL COMPANY

N. R. HERBERT

Division Manager

DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC WORKS
Washington 25

February 8, 1957

STATEMENT CONCERNING RIGHTS OF NAVIGATION IN RELATION TO BRIDGE CLEARANCES

Any study concerning the relationship of navigational rights of waterway users of the Potomac River and bridge clearances across the Potomac River above Hains Point must recognize the generally accepted distinction between the riparian rights of landowners abutting the waterway and the public right of navigation.

Summarized briefly, riparian rights give to the owner of land contiguous to a navigable waterway:

1. The right to reasonable use of water passing his property;

2. The right to the flow of water past his property subject to reasonable use by other riparian owners; and

3. The right of access to the waterway including the use of his banks and the construction of wharves.

The foregoing rights are property rights. They are subject to a paramount right -- the public right of navigation, which is <u>not</u> a property right. The concept identified as the "prior right of navigation" or the "inherent right of navigation" applies to the superior relationship which navigation has over the ownership of the bed of a stream and the use of the land for purposes other than navigation. In the past, this concept has been extended to convey the thought that navigation has a "paramount," "superior" or "inherent" right over other forms of surface transportation. No evidence has been found which would suggest a constitutional basis to support such an extension of this concept.

The right of navigation, insofar as it affects other forms of surface transportation, is a relative right. During the latter half of the 19th Century, questions concerning the relationship of navigation and overland transportation were raised in the courts, with special reference to the subject of navigational clearances in bridges. The first of these cases to reach the Supreme Court of the United States involved a bridge constructed across the Ohio River at Wheeling. The Court ruled that the bridge was an unreasonable obstruction to navigation and ordered its removal or alteration. (Pennsylvania vs. Wheeling and Bridgeport Bridge Company, 13 Howard 518 (1852)).

Before the Court decree was executed Congress by law (Act of August 31, 1852, 10 Stat. 110, 112) declared the bridge to be a lawful structure in its then existing position. Upon review of its earlier decision as affected by this enactment, the Supreme Court declared that the enactment was a constitutional exercise of power to regulate commerce and that the legislation superseded the prior judgment of the Court. (Pennsylvania vs. Wheeling and Bridgeport Bridge Company, 18 Howard 421, 59 U. S. 435 (1856)).

The Court also decided that a bridge across the Schuylkill River, authorized by the State of Pennsylvania, was a lawful structure even though it had a limited vertical clearance which prevented the passage of vessels having masts. (Gilman vs. Philadelphia, 70 U. S. 713 (1865)). The facts revealed that the Schuylkill River lies wholly in Pennsylvania, and that construction of the bridge would reduce the income of complainant's valuable and productive property (a wharf and dock) above the site of the bridge and render that property less valuable.

In the Gilman case, the Court stated (at pages 729 and 732):

"It must not be forgotten that bridges, which are connecting parts of turnpikes, streets, and railroads, are means of commercial transportation, as well as navigable rivers, and that the commerce which passes over a bridge may be greater than would ever by transported on the water it obstructs. It is for the municipal power to weigh the considerations which belong to the subject, and to decide which shall be made subservient to the other. The States have always exercised this power, and from the nature and objects of the two systems of government they must always continue to exercise it, subject, however, in all cases, to the paramount authority of Congress, whenever the power of the States shall be exerted within the sphere of the commercial power which belongs to the nation.

"It is for Congress to determine when its full power shall be brought into activity, and as to the regulations and sanctions which shall be provided.....Until the dormant power of the Constitution is awakened and made effective, by appropriate legislation, the reserved power of the State is plenary, and its exercise of good faith cannot be made the subject of review by this court."

Some years later, the Supreme Court also upheld the legality of a bridge across the East River, which was authorized by acts of the New York legislature and the Congress. (Miller vs. Mayor of New York, 109 U. S. 385 (1883)). The latter enactment required approval of the plans for the bridge by the Secretary of War to insure that the bridge would not obstruct, impair, or injuriously modify navigation of that river. Such approval was obtained and the bridge, constructed in substantial compliance with the requirements of the Secretary of War, provided a 135-foot vertical navigational clearance above high water.

The plaintiff, who was the lessee of certain warehouses on the banks of the river above the point of the proposed bridge, contended that the bridge would be a nuisance and obstruct, impair and injuriously modify interstate and foreign commerce; that the expense of striking masts which exceed 135-foot height to permit passage of the vessels under the bridge would be so great as to destroy his warehouse business.

In upholding the legality of the bridge the Court stated (at pages 394-395):

"The bridge being constructed in accordance with the legislation of both the State and federal governments must be deemed a lawful structure. It cannot, after such legislation, be treated as a public nuisance; and however much it may interfere with the public right of navigation in the East River, and thereby affect the profits or business of private persons, it cannot, on that ground, be the subject of complaint before the courts. The plaintiff is not deprived of his property nor of the enjoyment of it; nor does he from that cause suffer any damage different in character from the rest of the public. He alleges that his business of a warehouse-keeper on the banks of the river above the bridge will be in some degree lessened by the delay attending the passage under it of vessels with high masts. The inconvenience and possible loss of business from this cause are not different from that which others on the banks of the river above the bridge may suffer. Every public improvement, whilst adding to the convenience of the people at large, affects more or less injuriously the interests of some. A new channel of commerce opened, turning trade into it from other courses, may affect the business and interests of persons who live on the old routes. A new mode of transportation may render of little value old conveyances. Every railway in a new country interferes with the business of stage coaches and side-way taverns; and it would not be more absurd for their owners to complain of and object to its construction than for parties on the banks of the East River to complain of and object to the improvement which connects the two great cities on the harbor of New York."

In its decision on somewhat similar case, decided in 1883, upholding regulations issued by the City of Chicago to restrict openings of movable span bridges across the Chicago River during certain daylight hours, the Supreme Court of the United States reiterates its previously stated view that until Congress acts on the subject, the power of the State over bridges across its navigable streams is plenary. (Escanaba Company v. Chicago, 107 U. S. 679 (1883).

The foregoing decisions coupled with the conflict that repeatedly arose whenever navigable waterways were being crossed by bridges, led to the enactment by Congress of separate laws authorizing construction of bridges across navigable waterways. Some of these laws set forth the horizontal and vertical

navigational clearances to be required. Other enactments provided that construction of the bridges authorized therein should conform with regulations approved by the Secretary of War for the Security of navigation. At the turn of the century, Congress enacted general legislation on this subject, which has since been incorporated, with amendments and additions, in the U. S. Code, Sections 401-406; 491-502; and 512-534.

In numerous instances Congress, by law, has declared certain reaches of intrastate or interstate waterways to be non-navigable. (See 33 U.S.C. 21 et. seq.) The affected reaches of waterways usually have been short. In a few instances, the waterway declared non-navigable was replaced by an alternate channel which afforded increased navigability. In other cases, the Congressional action has permitted construction of low-level fixed highway bridges across channels previously deemed navigable in law but which were being used for navigation only slightly or not at all. In a few cases, the legislation permitted filling of the channel for commercial usage or for extension of a street. For recent examples, see Senate Reports Nos. 258, 395, 396 and 1234, 84th Congress, 1st session and House Report No. 907, 84th Congress, 1st session, which report on legislation that declared certain waterways non-navigable.

No court decision has been found which would require the payment of just compensation to upstream landowners in any case where either:

1. A waterway is declared non-navigable by Act of Congress; or

2. A bridge, as constructed, provides substantially lower navigational clearances than were theretofore available.

On the other hand, the Supreme Court decisions cited above, especially Gilman v. Philadelphia, and Miller v. Mayor of New York, clearly support the propriety--under modern surface transportation conditions--of reasonable restrictions upon waterway transportation through establishment of bridge clearances:

1. Which take into account transportation economics;

2. Which may adversely affect upstream properties;

3. Which may require alteration or modification of certain vessels so they can be accommodated under the bridges; and

4. Which may necessitate a shift in the form of movement of certain commodities from waterway transportation to other available means, such as rail, highway or pipeline.

Such restrictions on bridge clearances are regulations of commerce aimed at serving the overall public interest. They do not require payment of just compensation either to the upstream landowners or to the owners of affected vessels.

The Department of Commerce, working in collaboration with Department of Defense agencies (especially the Corps of Engineers), the U. S. Coast Guard, Department of the Treasury, and the Tennessee Valley Authority, has drafted legislation to modernize existing bridge clearance laws. The draft bill was submitted to the Congress on January 18, 1957. The proposal has not yet been introduced in the form of a bill in either the Senate or the House of Representatives.

/s/ C. W. ENFIELD

C. W. ENFIELD
General Counsel

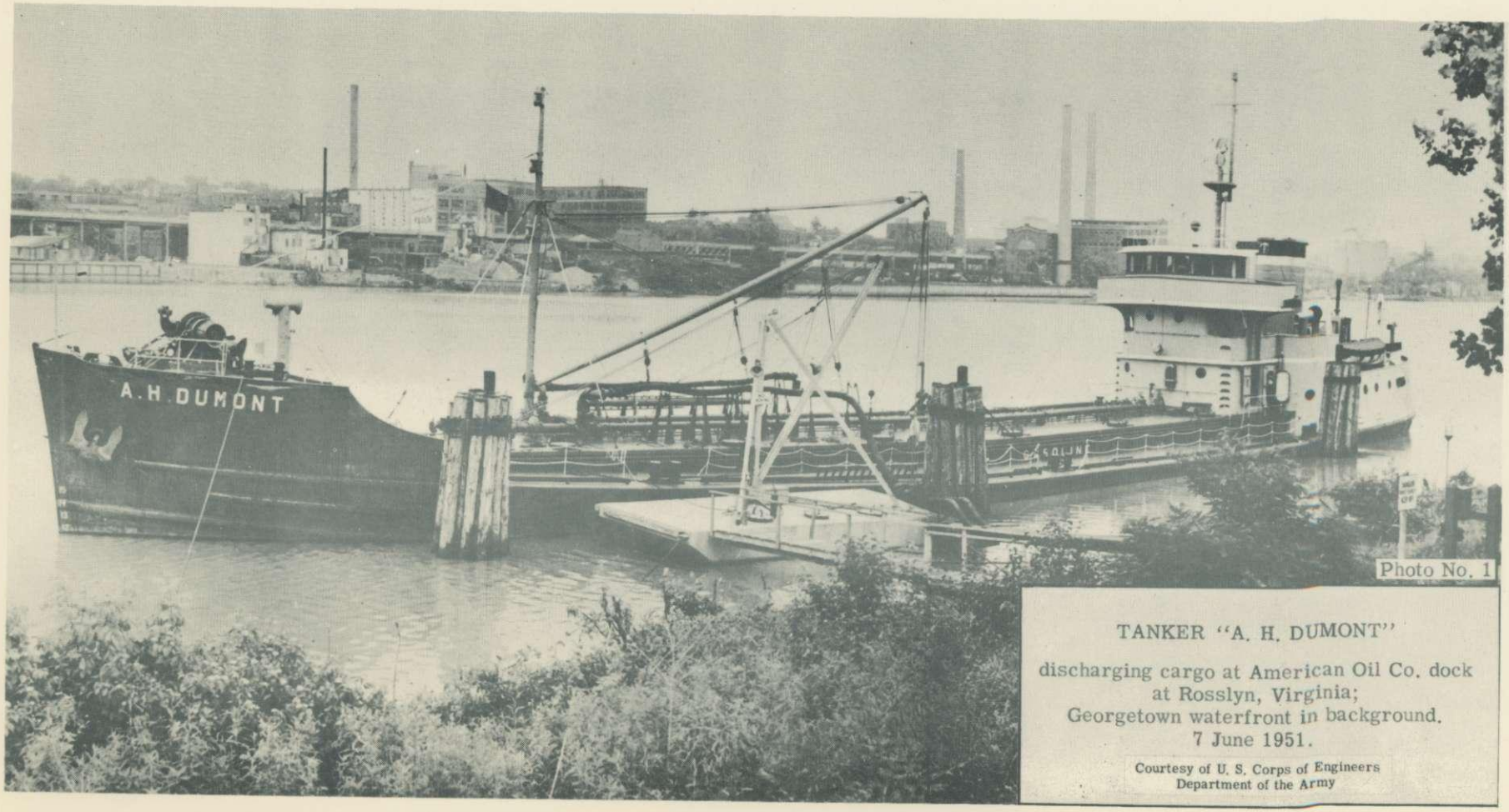


Photo No. 1

TANKER "A. H. DUMONT"

discharging cargo at American Oil Co. dock
at Rosslyn, Virginia;
Georgetown waterfront in background.
7 June 1951.

Courtesy of U. S. Corps of Engineers
Department of the Army

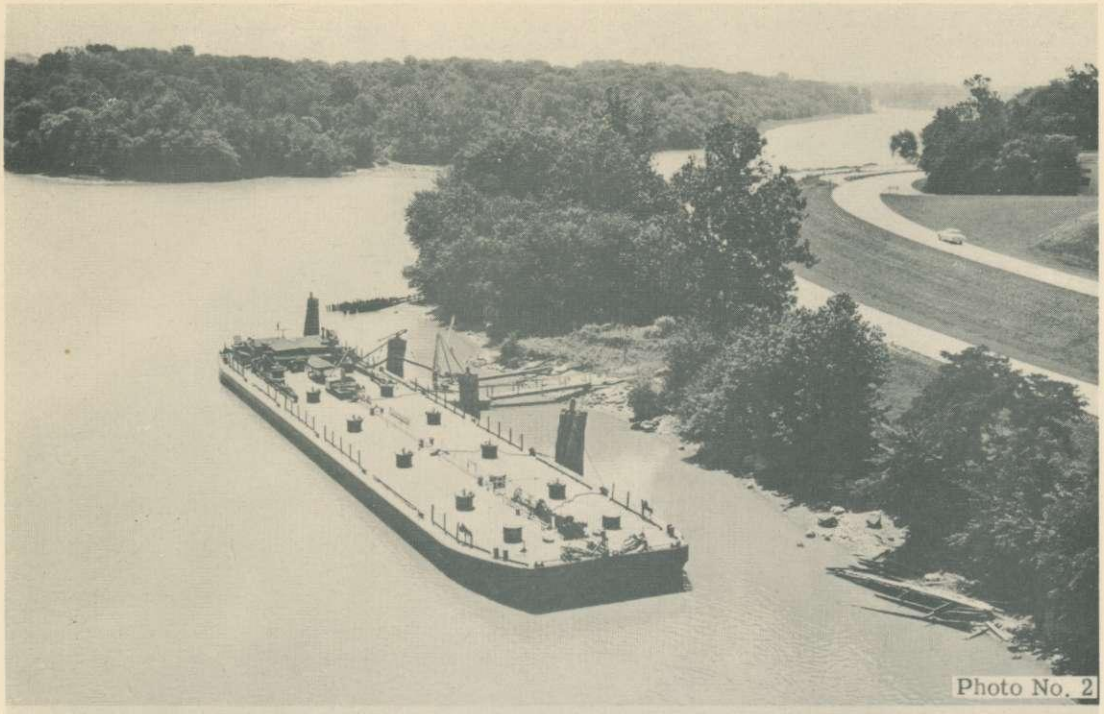


Photo No. 2

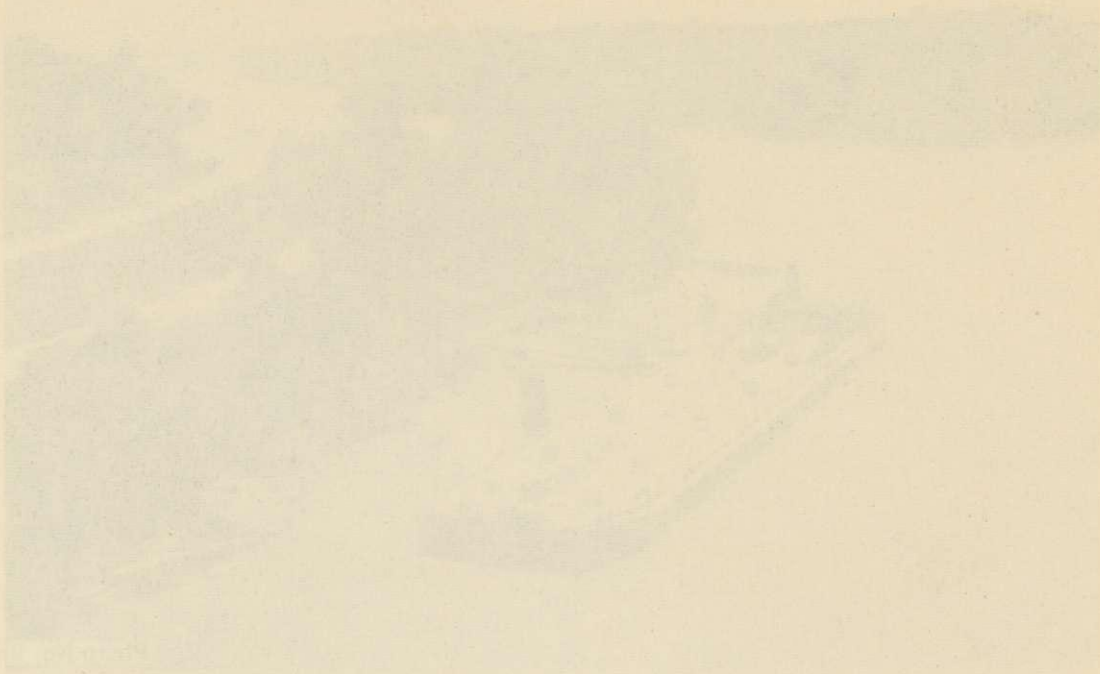
Dumb barge "Hygrade No. 8" discharging at American Oil Co. dock at Rosslyn, Va., 16 June 1955. George Washington Memorial Parkway and Little River at right; Theodore Roosevelt Island, center top; Virginia Channel, Potomac River, left.

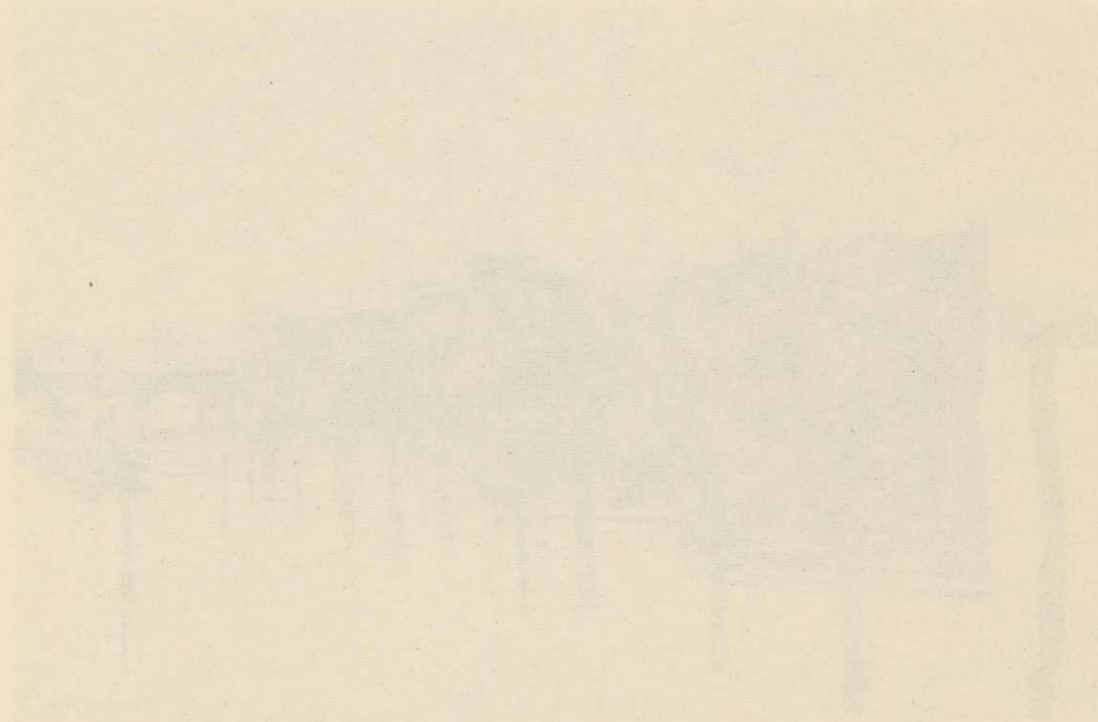
Courtesy of U. S. Corps of Engineers
Department of the Army

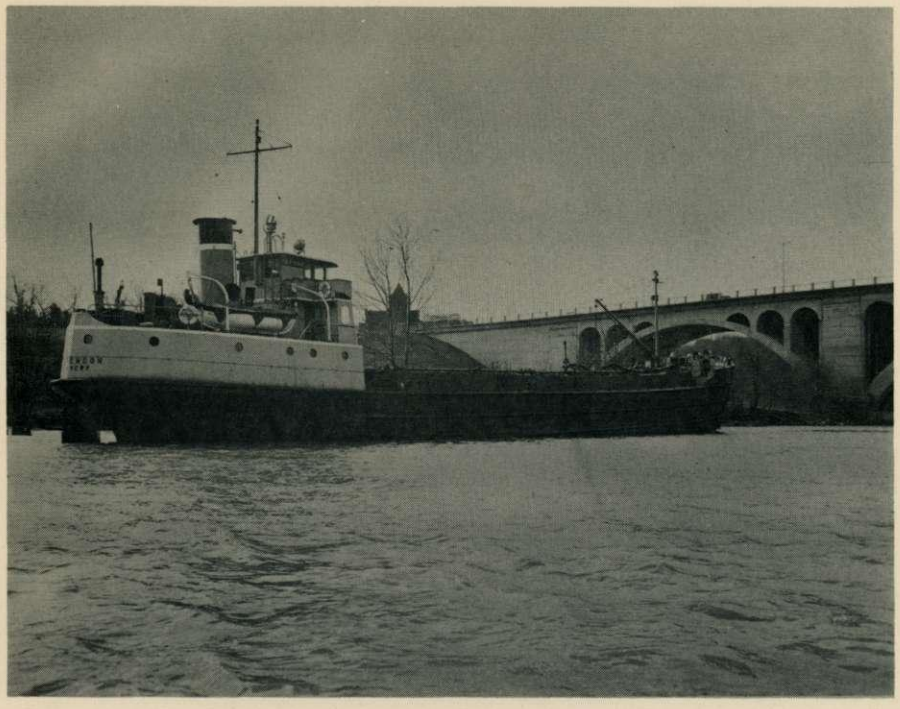
Photo No. 3

"Poling Bros. No. 9" oil barge.

Courtesy of U. S. Corps of Engineers
Department of the Army







Photograph No. 4. The self-propelled oil tanker "F. A. Verdon", operated by Spentonbush Fuel Transport Service, at the AMOCO dock. It also points out the proximity of the dock to Key Bridge.