

East
POTOMAC PARK



NATIONAL CAPITAL PARKS / D.C. — VA. — MD.

HISTORIC RESOURCE STUDY

EAST AND WEST POTOMAC PARKS: A HISTORY

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Introduction

The story of the reclamation, development and use of Potomac Park is much more complex than is initially apparent. The construction of an ineptly designed Long Bridge in 1809 accelerated the silting of the natural channels in the Potomac River as well as growth of mud flats downstream from its causeway. The maintenance of adequate depth in the channels was necessary for the commercial survival of Georgetown and the Chesapeake and Ohio Canal, as well as for the commerce and growth of the infant city of Washington. The reclamation of the land now known as Potomac Park was an incidental by-product of dredging the river after the Civil War, for by 1880 the Army Corps of Engineers could find no other place to dispose of the silt removed in the dredging. Thus, a complete history of Potomac Park must include the story of the very creation of the land that became that park.

Once this land was created, there arose the problem of deciding on its use, and its preservation as park land was only one among several possibilities under consideration; subdivision and sale for private development was another. Once the decision was made to use the reclaimed land for park purposes, it became necessary for the authorities to define the sort of activities and structures to be permitted in the park. Congress and the District courts, the Fine Arts Commission, the National Capital Park and Planning Commission, the National Park Service and many other organizations have had a hand in determining park use.

The reclamation of this land and its development as a park antedated the creation of the National Park Service itself, so that the reader who is interested in Potomac Park as a part of the National Park Service must turn to the last chapters of this study. For background and for reference, I have included a considerable amount of information on the reclamation project and on the bridges which played so important a role in the history of the Park, and the reader interested only in park development and park use may choose to bypass these passages. For a full and complete understanding of the Park's history, I believe they are necessary.

I undertook this study of the history of Potomac Park under Historical Resource Study Proposal No. CNCP-H-13, submitted by Park Historian Thomas E. White in September 1967. Working as a seasonal Park Ranger-Historian, I finished the bulk of the research and writing during the summer of 1968, but a Parks and History Association sales program and other duties interfered with completion of the report and delayed the remaining work through the summers of 1969, 1970, and 1971.

For the purposes of this study, really a survey history of Potomac Park, I have considered documents published in Congressional records more than sufficient to permit me to tell most of the story of reclamation and park development, although for greater detail and deeper insights into particular aspects of this history it may some day be profitable for a historian to plumb the vast masses of manuscript material in the National Archives and in Alexandria. I examined files from National Park Service Storage in Alexandria, for example, and found that they offered little of importance that was not in print elsewhere, and that they provided that only after an inordinate amount of time spent in sifting documents

I have included some of the highlights of the legislative history of Potomac Park, but a complete examination of the legislative story behind the park would require a volume in itself. Similarly, I had to cover the story of uses of the park in a few brief pages; the subject could provide material for whole volumes of social history beyond the scope of this present work.

I am indebted to the staffs of the Library of Congress, the National Archives, the District of Columbia Public Library Washingtoniana Room, the Interior Department Library, the Columbia Historical Society, and the National Capital Parks Library. Individuals in the above institutions who assisted me included Mr. Eugene Nabors, Mr. Robert A. Truax, Mrs. Carol Smith, Mrs. Mary June Fugate, Miss Josephine Cobb, Mr. Robert Cook and Mr. Ernst Christensen. I am further indebted to my superiors and fellow workers in National Capital Parks-Central: Mr. George Olin, Mr. Gene Daugherty, Mr. Thomas White, Mr. Russ Berry, Mrs. Betty Gentry, Mr. Jack Arnold, Mr. Robert Fenton, Mrs. Glee Moody, Mr. James Flint, Mr. Michael Mastrangelo and Mr. Alan Rider. I am also indebted to Mr. John Dishon McDermott of the Division of History for his advice on matters pertaining to this study.

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I. COMMERCE ON THE POTOMAC

1790-1870

The Potomac River above Washington, during the early years of the United States, was a typical mountain stream rushing between rock walls down through the hills to the sea. But below the Little Falls in what became the District of Columbia the Potomac changed radically in character, becoming a tidal river, which means that for the remainder of its course to the sea it was influenced by the tides of the Atlantic.

Above Little Falls, the Potomac drained about 20,000 square miles of territory. Although it was scarcely more than a good size mountain stream, in times of heavy rains the drainage increased and the river came down with power and velocity proportional to the extent and duration of the rain, carrying trunks, leaves, and sediment from cultivated slopes and valleys. Above Analostan or Mason's Island, now known as Theodore Roosevelt Island, the river was narrow and deep, in some places as deep as 85 feet with a hard bottom of rock and gravel. At Easby's Point, near what is now the east end of the Theodore Roosevelt Bridge, the Potomac suddenly changed into a tidal stream, and although upstream no wider than 900 feet, here it suddenly broadened to 5000, with a soft bottom composed of mud, sand, pebbles, shells, and decaying vegetable matter. The river retained this character the rest of the way to its mouth, typically consisting of vast expanses of shallow, shoal water, with deep channels through it.¹

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1. Peter C. Hains, "Reclamation of the Potomac Flats at Washington, D.C.," Transactions, American Society of Civil Engineers, Vol. XXXI (January, 1894), No. 669, pp. 55-57. Hereafter cited as "Hains, Reclamation," followed by appropriate page number(s). U.S. House Executive Documents, 48th Congress, 1st Session (1883-1884), Vol. 3, Doc. No. 1, Part 2, Appendix I to "Report of the Chief of Engineers," comprising Report of Major Peter C. Hains, July 31, 1883 (Serial 2183), p. 780. Hereafter cited as Hains, 1883," followed by the appropriate page numbers. I will use abbreviated citations wherever convenient following initial use of a complete citation.

The shoals in the Potomac were formed by deposits from the river of material washed into it by heavy rains. This silt, most of it held in suspension in the water, did not settle where the stream maintained its rushing mountain character. But once the Potomac passed Easby's Point and became broad and comparatively sluggish, the suspended sediment slowly settled out in the eddies and behind islands or points along the shore, as well as around obstructions in the stream, either natural or man-made. Heavier material such as sand and gravel and pebbles that had rolled along the bottom finally found a resting place on the floor of the channel, and in some instances built bars that could obstruct shipping. As Americans migrated westward and settled upstream, they cultivated more and more land above Little Falls, and the amount of silting increased proportionately.

The Potomac was typical of streams in the Old South. The fact that for their last 60 or 80 or more miles these streams ran across the coastal plain and were influenced throughout the area by oceanic tides gave the whole region the name "Tidewater." Here, in the South of the colonial and ante-bellum eras, the planters located their great houses facing the streams, and both Mount Vernon and the Executive Mansion in Washington were examples of this type of home along the Potomac. For these streams were navigable carriers of coastal and oceanic commerce, avenues of travel at one time far more important than the primitive roads of that era.

The Potomac, among them, was a carrier of such commerce, as it had earlier carried vessels of exploration. In 1571 the ships of Spain's Admiral Pedro Menendez, to whom the stream was known as the Espiritu Santo, sailed upriver, although he did not reach as far as the environs of Washington. Captain John Smith reportedly used the river to explore as far as Little Falls in 1608. Captain Henry Fleete reached the site of Georgetown in 1631.²

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2. W.P.A. Federal Writers' Project, Washington, City and Capital, pp. 35-37. Edwin Melvin Williams, "White Pioneers of the Potomac Region," Chapter V in John Clagett Proctor (ed.), Washington, Past & Present, Vol. I., pp. 15-22.

During the next century and a half, colonists settled along the shores of the Potomac in both Virginia and Maryland, which, of course, led to the development of villages as trading centers. During the 1730s and 1740s the village of Alexandria, known first as Belhaven, grew along the Virginia shore just below the confluence of the Potomac and Anacostia Rivers, prospering for the next century as a port from which merchants shipped Virginia tobacco and wheat to England, or through the American coastal trade to other colonies.³ Georgetown, on the Maryland side of the river above Tiber Creek, began similarly, and in the last quarter of the 18th Century prospered as a river port from which the produce of Maryland could go out by ship.⁴ Thus, the Potomac grew in importance as a carrier of commerce, and these two little cities came to depend heavily upon that commerce.

Mercantile prosperity was eventually enhanced by the construction of canals to carry commerce above the falls of the Potomac, which otherwise marked the head of navigation of the stream. With George Washington's backing, the Potowmack Company was organized in 1784 and in succeeding years, although its canals never really reached completion, its barges carried some ten million dollars worth of freight. In 1828 a more modern successor, the Chesapeake and Ohio Canal, was constructed along the Maryland shore of the river. It operated for a century, enhancing the importance of the Potomac as a navigable stream.⁵

3. Williams, op. cit., p. 18.

4. Williams, op. cit., p. 18.

5. Ricardo Torres-Reyes, Potowmack Company Canals and Locks, pp. 1-60. Walter S. Sanderlin, The Great National Project, A History of the Chesapeake and Ohio Canal. The best general history of Washington and the District of Columbia is Constance McLaughlin Green, Washington, Vol. I, Village and Capital, 1800-1878; Vol. II, Capital City, 1879-1950. Although not always cited when used for general background, this work has been an invaluable reference.

Between Georgetown and the Anacostia, opposite the heart of the Federal City, the Potomac originally had three channels. The Virginia Channel ran from Alexandria upstream between Analostan Island and the Virginia shore, terminating in the harbor in front of Georgetown. The Georgetown Channel ran from the harbor midstream down the north side of Analostan Island, merging below it with the Virginia Channel. Along the north shore lay the Washington or City Channel, along which docks and wharves were built for a stretch of several miles above the confluence of the Potomac and the Anacostia.⁶

In the unsettled land between Georgetown and the wharf district lay a low marsh surrounding the mouth of Tiber Creek, which drained a considerable part of the new Federal District into the Potomac. Another canal company obtained a charter to build a short-cut canal from the mouth of Tiber Creek across the city to the Anacostia in order to eliminate the necessity for shipping to go down around Greenleaf's Point and beat back upstream against the current of the river. The Washington City Canal opened in November 1815, but never met expectations as a pathway of commerce. Tiber Creek increasingly served the city as a natural open sewer, and the combination of sewage and silt from the creek soon filled the Washington Canal and rendered it useless for shipping. In later years, it was a pestilential open sewer, dumping its filth into the shallow water along the Potomac's north shore and closing the upper end of the old Washington Channel to commerce. Tiber Creek and its companion canal served as a major factor in silting up the river and retarding navigation, providing a headache that was not totally eliminated until nearly the 20th century.

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6. Hains, Reclamation, pp. 55-57. U.S. Senate Documents, 23d Congress, 2d Session (1834-1835), Vol. 3, Doc. No. 133, "Report from the Secretary of the Treasury . . . Concerning Obstructions to the Navigation of the Potomac between Washington and Georgetown" (Serial 268), p. 4. Hains, 1883, pp. 771-772.
 7. Hains, Reclamation, pp. 57-58. U.S. Senate Executive Documents, 37th Congress, 2d Session (1860-1861), Vol. 1, Doc. No. 1, Appendix to the "Report of the Secretary of the Interior," comprising Report of B.B. French, Commissioner of Public Buildings, Nov. 8, 1861 (Serial 1117), pp. 855-856.

Even without the contributions of Tiber Creek and the Washington Canal, navigation on the Potomac was periodically impeded by silting up of the river and the formation of bars which from time to time closed the channels. During the very early 1800s a bar formed immediately below Analostan Island, effectively closing the Virginia Channel above that point and forcing shipping to pass from the Virginia Channel into the Georgetown Channel to reach Georgetown Harbor. This marked the beginning of the use of a combination of the Virginia and Georgetown Channels. Eventually the names of the two became confused so that they were used interchangeably. In reality, there was soon only a single channel that followed fairly closely the Virginia shore until it reached the bar below Analostan Island, then crossed the river to Georgetown. But even this combination of channels was threatened by the formation of a bar between Easby's Point and the later site of Long Bridge. This proved to be a long bar which was a great impediment to navigation.⁸

About the same time, the upper end of the Washington Channel, never very deep, had been silted in by Tiber Creek and the Washington City Canal, as grading of streets and lots in the city of Washington loosened tons of silt for every rain to carry down the creek. The Washington Channel remained thereafter as a stub, dead-end stretch of deeper water running along the wharves south of the Capitol, but never again served as a watercourse for through navigation up to Georgetown, if indeed it had ever been really important for that purpose.⁹

There continued to exist a problem of silt in the river itself, for every heavy rain upstream dumped more new silt in the river. When the rains fell on newly cultivated farmland, the Potomac became a rich brown soup, and the silt frequently left the navigation channel several feet shallower. If the rains were far upstream, most of the silt had time to settle

8. Hains, 1883, p. 774.

9. Hains, 1883, see three maps opposite p. 794, pp. 774-780.

before it reached the District of Columbia, and floods or "freshets" of this nature sometimes served to restore the earlier depth of the channel by removing soft mud of recent deposits that had not had time to solidify on the bottom.¹⁰

The fact that the river sometimes served to scour itself out led to a project early in the 19th century to induce a continuous scouring effect by artificial means. In 1804 citizens of Georgetown presented to Congress a petition seeking permission to erect a dam between Analostan Island and the Virginia shore, thus completely closing that portion of the old Virginia Channel already rendered useless by the bar just downstream. Early in 1905 Congress authorized the dam and it was built soon thereafter. The theory was that by narrowing the stream at that point, it would increase the velocity of the water and thus increase the scouring effect in the channel. Unfortunately the "scouring" effect of the river proved to be erratic and unpredictable, not subject to control and manipulation, and it failed entirely to fulfill the expectations of the engineers. By 1823 the citizens of Georgetown had found it necessary to employ a "mud machine" to keep the channel clear. Even by that early date the bar below Easby's Point in the Virginia Channel was a serious impediment to navigation. Then, too, ships were seemingly increasing in draught every year and demanded deeper and deeper channels, while the Potomac itself tended in the opposite direction.¹¹

By an act approved March 2, 1833, Congress appropriated \$150,000

to aid the citizens of Georgetown in removing the obstructions to their navigation by causing the cut already made through the bar below the town to be enlarged and deepened
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10. U.S. House Executive Documents, 41st Congress, 2d Session (1869-1870), Vol. 2, Part 2, Doc. No. 1, Part 2, Appendix W to the "Report of the Chief of Engineers," comprising Report of Brevet Brig. Gen. (Maj.) N. Michler, Sept. 30, 1869 (Serial 1413), p. 528. Hereafter cited as "Michler, 1869."

11. Hains, 1883, pp. 774-778.

12. U.S. Statutes at Large, Vol. 4 (1824-1835), p. 646 (Act to Improve the Navigation of the Potomac River Between Georgetown and Alexandria, and for Other Purposes (Statute II, Chapter LXVI⁷)).

The Corporation of Georgetown approved an ordinance on March 30, 1833, appointing four commissioners to superintend the improvement of navigation on the river. They were authorized to hire a competent engineer to survey the river and draw up estimates for widening the cut dredged in the bar earlier to 200 feet and deepening it to 16 feet. A subsequent ordinance empowered the commissioners to negotiate a contract for the work, and they did so at a cost of \$43,266.66.¹³

Thus at a fairly early date in Washington's history, the silting up of the channels in the river together with the increasing size of ships required artificial steps to maintain, if not to improve, the navigability of the stream.

Another factor of importance to navigation of the stream was the construction of a great bridge across its broad surface right in the middle of the District of Columbia. On February 5, 1808, Congress approved an act "authorizing erection of a bridge on the Potomac River. . . ." The act fixed the site of the bridge at about the foot of what was to become 14th Street, Southwest; provided for a company to build it--the Washington Bridge Company; and authorized collection of specified tools. Work began on the structure in 1808 and it was opened to traffic on May 1, 1809. Descriptively called "Long Bridge," the structure was 4,984 feet in length. More than half of the bridge, 2,659 feet, lay over the shoals between the Virginia and Washington Channels, built on 39 earth and stone piers, each 25 feet square.¹⁴

In February 1831, a flood carried away part of the bridge, and it was not until July 14, 1832, that Congress got around to approving a bill appropriating \$60,000 towards construction of a new bridge, \$20,000 of which was to go to the stockholders of the Washington Bridge Company if the remains of the old bridge proved to be worth that sum. Thus the government took over Long Bridge. On March 2, 1833, Congress appropriated another \$200,000, and it was decided to build a stone arch bridge. Engineers prepared a contract and took other preliminary steps toward construction.¹⁵

13. Hains, 1883, pp. 775-776.

14. U.S. Statutes at Large, Vol. I, p. 177. Michler, 1869, pp. 519-525. Hains, 1883, pp. 783-785.

15. Michler, 1869, p. 525. Hains, 1883, pp. 783-784.

Before any work could be done, however, Congress on June 30, 1834, repealed the two previous acts and appropriated \$130,000 for rebuilding Long Bridge as the same type of bridge as the previous structure, except that Congress authorized construction of a solid earth causeway over the shoals between the channels. The latter, in the opinion of engineers in later years, proved to be a terrible mistake. Even though the shoals were useless for purposes of navigation, in times of flood the excess water in the river could flow over them. Construction of a causeway provided a solid dam which blocked more than half of the width of the Potomac. It is essential to note that the shoals or mud flats did not develop because the causeway was there; rather, the causeway was built because the shoals were there. Nevertheless, the presence of the causeway promoted more rapid growth of the shoals, especially immediately downstream in the lee of the causeway, although there continued to be some natural shoal-building just upstream from the causeway.¹⁶

Long Bridge reopened to traffic on October 28, 1835, but in the winter of 1840 the sudden breaking up of ice in the stream carried away part of the bridge again, and it was not repaired and reopened to the public until October 1843 at a cost of another \$48,000. Similar flood damage to Long Bridge reoccurred in 1856, 1860, 1863, 1866, and 1867. When the bridge was out, those who wished to cross the river had to rely, as they had before the bridge was built, on ferries and other boats.¹⁷

A civil engineer named Alfred Landon Rives made one of the first comprehensive studies of the Potomac in the District of Columbia, and the Secretary of the Interior submitted it to Congress in 1857. Rives planned an iron suspension bridge on stone arch piers on the site of the existing Long Bridge, and stated that improvement of navigation of the river was so intimately connected with the type of bridge crossing the stream

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16. U. S. House Documents, 23d Congress, 2d Session (1834-1835), Doc. No. 33, "Bridge Across the Potomac" (Serial 272) pp. 1-6; Doc. No. 51, "Bridge Across the Potomac--O.H. Dibble," same volume, pp. 1-79. Hains, 1883, pp. 783-784.
17. Michler, 1869, p. 525. Hains, 1883, pp. 783-784.

that one problem could not be solved without a solution to the other. Included in Rives plan was the reclamation of a narrow strip of mud flats along the north side of the stream aggregating 166 acres. He planned to fill these flats with material taken from the grading of streets in Washington. For improving the channel, Rives relied largely upon the scouring effect of the Potomac, and the tides; little, if any dredging was to be done.¹⁸

Meanwhile, during the two decades preceding the Civil War the railroad industry had been growing in importance and had begun to replace the canal systems as the principal means of inland transportation. As the network of rail lines grew increasingly intricate, it was only natural that the question of a connection between northern and southern lines across the Potomac would arise. The demands of wartime brought the first crossing. Some time prior to October 1862, the U. S. Army, which had taken control of Long Bridge for the duration of the Civil War, laid railroad tracks across it, the first tracks to cross the Potomac east of the mountains. On March 3, 1863, Congress passed an act enabling the Washington, Georgetown and Alexandria Railroad to carry out its plan to build a railroad-only pile bridge 75 feet downstream and parallel to Long Bridge, and to lay their tracks across the river and along Maryland Avenue just west of the Capitol Building. The railroad erected this new structure in 1863 and 1864. Now, in addition to Long Bridge, there was a parallel railroad bridge to obstruct navigation on the Potomac.¹⁹

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18. U. S. House Executive Documents, 34th Congress, 3d Session (1856-1857), Vol. 9, Doc. No. 68, "Bridges Across the Potomac, &c," (Serial 906), pp. 1-16. Hains, 1883, pp. 783-784.
 19. Michler, 1869, pp. 523-525. Hains, 1883, pp. 783-784. U.S. House Executive Documents, 37th Congress, 3d Session (1862-1863), Vol. 2, Doc. No. 1, Part 2, Appendix to "Report of the Secretary of the Interior," comprising Report of B.B. French, Commissioner of Public Buildings, October 29, 1862 (Serial 1157), p. 598.

Up to this time it was not precisely clear who was responsible for the bridges and the status of navigation in the river. But on March 2, 1867, Congress approved an act which shifted the responsibilities of the Commissioner of Public Buildings to the U. S. Army Engineer Bureau, as well as "all public works and improvements of the United States in the District of Columbia not otherwise provided /for/ by law." On March 13, the Engineer Department issued orders assigning this duty to Major Nathaniel Michler of the Corps of Engineers.²⁰

At that time Michler was engaged in completing maps relating to the Petersburg Campaign in the recently ended Civil War. Upon receiving his new assignment, he called on the Secretary of the Interior and the former Commissioner of Public Buildings and took possession of the files of the discontinued agency. Henceforth he would operate under the title of "Officer-in-Charge of Public Buildings, Grounds, Works, etc." which was soon shortened to "Officer-in-Charge of Public Buildings and Grounds."²¹

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20. U.S. House Executive Documents, 40th Congress, 2d Session (1867-1868), Vol. 2, Part 2, Doc. No. 1, Appendix T to "Report of the Chief of Engineers," comprising Report of Brevet Brig. Gen. N. Michler, Oct. 1, 1867 (Serial 1325), p. 520. Hereafter cited as "Michler, 1867." A native of Pennsylvania, Michler was appointed a cadet at West Point on July 1, 1844. He graduated 7th in a class of 38 and was commissioned brevet 2d lt. of Topographical Engineers on July 1, 1848. West Point graduates with the highest standings in their class went generally into the Corps of Engineers or the Topographical Engineers. Michler was promoted 1st lt. on April 7, 1854, and captain on September 9, 1861. When the Topographical Engineers were abolished he was transferred to the Corps of Engineers, effective March 3, 1863. He was promoted major on April 22, 1864, and it was in that rank that he took charge of the office of Public Buildings and Grounds. Michler won a brevet to lt. col. on August 1, 1864 for "faithful and meritorious service" during the siege of Petersburg, and to brigadier general on April 2, 1865 for gallant and meritorious service during the war. He was promoted lt. col. on October 16, 1877, and died on July 17, 1881. Francis B. Heitman, Historical Register and Dictionary of the U. S. Army, Vol. I, pp. 144, 708.

21. Michler, 1867, pp. 520-521.

Michler also inherited the problems posed by Tiber Creek and the old Washington City Canal, which by that date might more accurately have been called the Washington City Sewer. Included, too, in his new responsibilities, were the bridges across the Potomac, several of which were badly in need of repair. The 4,661-foot span still called Long Bridge, now consisting of five different types of construction, had been damaged by ice floes early in 1867 and was impassible. With an appropriation of \$15,000 for repairs, Michler was able to reopen it to traffic, but he recommended major rebuilding of the structure.²²

On July 27, 1867, Michler was ordered to prepare a special report on channel improvements in the river. That summer he took steps to ascertain what recent changes had occurred in the channel, what new silting endangered shipping. The Coast Survey did the actual sounding for Michler, and on April 30, 1868, he submitted his completed report.²³

Michler believed that improvement of navigation in the river required not only further dredging of the channels but removal of the obstruction formed by the Long Bridge causeway and some new plan regarding Analostan (Theodore Roosevelt) Island. The basic problem, he thought, was to prevent the Potomac from spreading over a broad surface, thus making it a shallow stream of low velocity. It was necessary to confine it within narrower walls. This could be done either by dredging a new channel or dredging out the old Virginia Channel, removing the big sandbar. Michler also recommended dredging out the Washington Channel below Long Bridge, in order to permit sea-going vessels to continue to dock on the north shore there. He did not propose providing a through channel along the Washington shore to Georgetown.²⁴

22. Michler, 1878, p. 521.

23. U.S. House Executive Documents, 40th Congress, 2d Session (1868-1869), Vol. 3, Part 2, Doc. No. 1, Appendix V to "Report of the Chief of Engineers," comprising Report of Brevet Brig. Gen. N. Michler, Sept. 30, 1868 (Serial 1368), pp. 889-890. Hereafter cited as "Michler, 1868."

24. Michler, 1868, p. 889-890. Michler, 1869, pp. 494-495.

In 1869 the Washington, Alexandria and Georgetown Railroad Company began to make repairs to their railroad bridge, but the repairs were done in such a manner as to alarm Major Michler and the Georgetown authorities about damage to river navigation. Originally the bridge comprised six truss spans mounted on piers about 125 feet apart, the whole structure being parallel to and 75 feet downstream from Long Bridge. To strengthen the bridge, the railroad company was altering it to a piling bridge by driving intermediate piles between the old piers, dividing the bridge into shorter spans of from 11 to 18 feet.²⁵

Michler and the Georgetown authorities feared that these additional pilings would form a considerable obstruction which would collect ice in the winter and driftwood and other flotsam the year 'round; it would practically dam the river and thus cause additional silting by obstructing both the current and the tides. In fact, by collecting debris or winter ice, it might cause its own destruction.²⁶

Congress solved the problem posed by the railroad bridge by an act passed on June 21, 1870, which authorized the new Baltimore & Potomac Railroad, a subsidiary of the Pennsylvania Railroad which must have absorbed the W.,A.& G. RR., to take possession of Long Bridge itself, and to lay its tracks over it, so long as the railroad company kept it in good condition for both railroad use and for ordinary travel (horse, wagon, foot), and so long as its use by the public remained free. The act required the railroad to keep proper draw spans, to repair damages without cost to the government, and to allow other railroads to use it on reasonable terms. If the railroad

25. Michler, 1869, pp. 517-518, 525-526.

26. Michler, 1869, pp. 518, 527-528.

neglected to live up to these stipulations, the government could again take possession of the structure. The railroad took over Long Bridge on July 8, 1870, and once it had laid its rails across the structure, the firm pulled up the old railroad bridge except for some of the pilings.²⁷

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27. U.S. House Executive Documents, 41st Congress, 3d Session (1870-1871), Vol. 2, Part 2, Doc. No. 1, Part 2, Appendix 2 to the "Report of the Chief of Engineers," comprising Report of Brevet Brig. Gen. N. Michler, October 22, 1870 (Serial 1447), p. 519. Hereafter cited as "Michler, 1870."

Technically speaking, five different railroads have operated the trackage across Long Bridge during its history and the history of the railroad bridge which succeeded it. Section crews first spiked down track across the bridge due to military necessity in 1861 or early 1862. As the bridge was then under U. S. Army control, soldiers probably did the work and the trains which used it at first were no doubt operated by the U.S. Military Railroads. An act passed in March 1863 extending the charter of the Washington, Alexandria & Georgetown Railroad authorized that firm to build a rail-only bridge parallel to Long Bridge and 75 feet downstream. This the W.A. & G.R.R. did in 1863 and 1864. It is not known whether the army subsequently pulled up the tracks on Long Bridge or they remained.

The W.A. & G.R.R. apparently was swallowed up by the Baltimore & Potomac Railroad about 1871. The B. & P.R.R., a firm chartered in Maryland on May 6, 1853 and in the District of Columbia on February 5, 1867, was building a line from Baltimore 73.13 miles to the Potomac River at Pope's Creek, Maryland, with a branch from Bowie Station to Washington, another 18.93 miles. Independently chartered, this firm had fallen under financial control of the Pennsylvania Railroad even before its completion. When it went into operation, its Washington Branch extended to the southern end of Long Bridge.

By that date Long Bridge actually consisted of three parts. First, there were wooden spans on masonry piers for a stretch of 700 feet across the Washington Channel. Next there was a causeway consisting of earthen fill between solid masonry walls for a distance of 1,980 feet across the shoals or flats. Finally, for 2,000 feet the Virginia Channel and shallow water on each side of it was crossed by 13 Howe-truss spans, each 135 feet long, and a draw span swinging on a center pivot pier with a 70-foot passage on either side. The piers were of masonry on pile and grillage foundations, and a considerable amount of riprap had been dumped around them over the years to strengthen them, at the same time diminishing the area available for water to pass in time of flood--some engineers estimated a reduction of 30 percent. Critics of the bridge insisted that the draw span was badly located, at the north edge of the navigation channel rather than in the center, and that the piers were not angled properly in relation to the flow of the current in times of flood, failing to meet it at right angles. They also pointed out that the lower

On November 1, a further consolidation took place when the Baltimore & Potomac and the Philadelphia, Wilmington & Baltimore Railroad were consolidated under the laws of Delaware as the Philadelphia, Baltimore & Washington Railroad Company. All of these were Pennsylvania subsidiaries. Under the terms of a lease effective January 1, 1918, the Philadelphia, Baltimore & Washington Railroad was leased to the Pennsylvania Railroad for 999 years. In 1968 the Pennsylvania and New York Central Railroads merged and formed the Penn Central Transportation Company.

Through passenger trains of other railroads, however, have also used Long Bridge and its successor railroad bridge. In addition to those mentioned above, these include the Southern Railway, the Richmond, Fredericksburg & Potomac Railroad, the Seaboard Air Line Railroad, the Atlantic Coast Line Railroad, the Seaboard Coast Line Railroad and the Chesapeake & Ohio Railroad. Thus trains of all of these lines have operated over Potomac Park. Poor's Manual of Railroads; 1868, p. 317; 1869, p. 384; 1870, pp. 463, 198; 1871, pp. 58-59; 1891, pp. 603-604, 1910, p. 1615.

chord of the Howe truss spans was only about ten feet above the water at low tide, and the floor of the bridge itself was only 13 feet in the clear. Finally, at the south end, a solid fill causeway which extended many feet out into the river providing further obstruction to the stream and further diminishing the discharge area at flood stage drew much criticism.²⁸

Each of the bridge spans actually consisted of three trusses, one on each side and one dividing the single railroad track from the public roadway. The latter span was not in the center, as the roadway on the upstream side was a little over 19 feet wide, with no sidewalk, while the railroad right-of-way was only a little over 13 feet wide.²⁹

By 1870 the silting below the Long Bridge causeway had gone so far that it would seemingly not take much more to finish the job. The Potomac Flats, as the area was sometimes called, were sufficiently silted to be above water, in the form of mud flats, at low tide. By the late 1860s, a salt water grass was growing on them, and by 1870 the vegetation appeared to have "increased very rapidly." Major Michler reported:

At low water the soil is entirely uncovered, and has become so firm as to support the weight of a man. This development, unless affected by high freshets or other strong natural causes, will continue more rapidly from year to year; the vegetable matter becoming more firmly rooted, will materially aid in checking any floating matter, and cause the material to be deposited in the river.³⁰

28. Michler, 1867, p. 520-521.

29. Hains, 1883, p. 784.

30. Michler, 1870, p. 517.

Congress passed a bill on July 11, 1870, appropriating money for, among other things, "the improvement of the Potomac River between Long Bridge in Washington, and the City of Georgetown. . . ." Major Michler began operations that same summer to clear the channels by dredging. There again arose the question of what was to be done with the material dredged from the stream.³¹

As a consequence, in his annual report to the Chief of Engineers for the fiscal year 1870, dated October 22 that year, Major Michler made what was probably the first official suggestion that the silted flats be permanently filled as a means of disposing of material dredged from the channel, since dredging was becoming an almost continuous necessity. He said that all the outlets draining the flats should be blocked--by either an extensive and permanent stone retaining wall, or by planting willows to form a natural thicket.

In this way the water would be confined to the main channel; the flats, now so detrimental to the city, would be reclaimed, and the material taken out could be employed to some useful purpose, instead of being deposited in the river, as has hitherto been the case, to one side or the other, only to be washed back by the current in some succeeding freshet.³²

Michler went on to recommend that dredging equipment be kept constantly at work in the Potomac near Washington to keep the channels clear. This would mean the production of a large amount of dredge material, creating a disposal problem of no mean proportion. Although Major Michler's suggestions were not formally adopted, the history of river improvement for the next four decades followed their general outline.

31. Michler, 1870, p. 517. U. S. House Executive Documents, 42d Congress, 2d Session (1871-1872), Vol. 2, Part 2, Doc. No. 1, Part 2, Appendix X-3 to "Report of the Chief of Engineers" comprising Report of Major N. Michler, September 13, 1871 (Serial 1504), p. 974. Hereafter cited as "Michler, 1871."

32. Michler, 1870, p. 518.

II. THE RECLAMATION OF THE POTOMAC FLATS

1870 - 1890

Work on improvement of navigation on the Potomac commenced under Major Michler on July 11, 1870, after Congress appropriated \$50,000 to improve the Potomac between Long Bridge and Georgetown. With this money, Michler began dredging a 200 foot wide channel, 15 feet deep at low tide, through the bothersome bar which increasingly had obstructed navigation.¹ Michler was replaced by Major William P. Craighill, Corps of Engineers, in November, and Craighill continued the work until its completion in December 1871. These operations did not result in any planned reclamation of land. The dredged material was merely dumped at the nearest convenient spot in the river where it would not impede navigation--but, of course, over a period of time the river was quite capable of moving the debris right back into the main channel to suit itself. The dumping connected with this sort of dredging operation thus rendered the project of temporary value, but ~~there~~ was always a deposit of sediment brought downstream from the mountains which would have this result anyway.²

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1. Michler, 1871, p. 974. The full citation, of which this is an abbreviated form, may be found in Chapter I. After 1871 the officer-in-charge of Potomac dredging rendered a report separate from that of the officer-in-charge of Public Buildings and Grounds, although on occasion an engineer officer held both offices.
 2. U.S. House Executive Documents, 42d Congress, 3d Session (1872-1873), Vol. 2, Doc. No. 1, Part 2, Appendix Q-8 to the "Report of the Chief of Engineers," comprising Report of Major Wm. P. Craighill, Sept. 7, 1872 (Serial 1559), pp. 687-688.

By act of Congress approved March 5, 1872, a Board of Survey was created to prepare a plan for the permanent improvement of Washington and Georgetown harbors. "Permanent" implied that some better means of disposing of dredged wastes would have to be found.³

Accordingly, this Board recommended reclamation of the flats along the river as well as deepening and widening of the Virginia Channel, and correcting the curvature of the river. But Congress did not take immediate action on its report.⁴

On March 3, 1873, Congress appropriated \$50,000 for dredging the Virginia Channel. The money was not immediately used and the river and harbor act of June 23, 1874, provided that the previous year's appropriation be used on the Virginia Channel with dredged material to be deposited according to the 1872 plan.⁵

That plan was one of three considered by the Board of Survey. It called for a single all-purpose navigable channel from Georgetown down past Gravelly Point, apparently making no provision for the Washington Channel, as it proposed reclaiming all of the flats and extending the edge of the city, including docks, right out to the harbor channel on this reclaimed land.⁶

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3. The report of the Board is found in U. S. Senate Miscellaneous Documents, 42d Congress, 3d Session (1872-1873) Vol. I, Doc. No. 15 (Serial 1546). The board consisted of Brigadier General A.A. Humphreys, Chief of Engineers, President; Benjamin Pierce, Superintendent of the Coast Survey; Major O.E. Babcock, Commissioner of Public Buildings and Grounds in Washington, D. C.; Henry D. Cooke, Governor of the District of Columbia; Alexander R. Shepherd, Vice President of the Board of Public Works of the District of Columbia; and C.P. Patterson, hydrographic inspector of the Coast Survey.
 4. Ibid.
 5. U. S. House Executive Documents, 44th Congress, 1st Session (1875-1876), Vol. 2, Part 3, Doc. No. 1, Part 2, Appendix W-1 to the "Report of the Chief of Engineers," comprising Report of S.T. Abert, U. S. Civil Engineer, July 15, 1875 (Serial 1676), pp. 110-111. Hereafter cited as "Abert, 1875."
 6. Abert, 1875, p. 111.

On July 9, 1875, the project was transferred from Col. Wm. P. Craighill to Mr. S. T. Abert, a U. S. Civil Engineer responsible to the Army Chief of Engineers.⁷

Abert offered the work for contract, and received and opened nine bids on August 28, 1874. W. H. Beard, of Brooklyn, New York, won the contract, and commenced operations on September 15, 1874, with one dredger. Beard put a second machine to work September 30. His men drove piles to mark the line of the proposed wharves and to act as a retaining wall to hold the dredged material. The channel above Long Bridge was dredged first. The waste proved to be sand with a lot of decayed vegetation, tree trunks, etc., indicating that it was a recent deposit. Work was suspended on December 22nd because of the cold weather, and resumed March 9, 1875. The dredger completed the upper channel on April 27 and commenced work on the lower channel the following day. Beard withdrew one dredger from this work on May 20, and the other machine finished the lower channel on June 24. The waste was dumped on the flats; that from the lower channel was mud with some gravel and shells, indicating an old deposit.⁸

Abert then concerned himself with removing rocks from the bottom of Georgetown Harbor and proceeded with a plan to cut off a part of Easby's Point as well as the northeast side of Analostan Island to improve the flow of the current.⁹

It had become evident to Abert that it would be necessary to redredge the channel every three or four years, simply to keep up with the normal sedimentation of the river. Then the flood of 1877 undid virtually all of the work that had been done to improve navigation on the river. On November 25, the "freshet" came down the Potomac past Georgetown and Washington, continuing for three days. It was then found that in places six feet of silt had been

7. Abert, 1875, p. 110.

8. Abert, 1875, pp. 111-113.

9. U.S. House Executive Documents, 44th Congress, 2d Session (1876-1877), Vol. 2, Part 2, Doc. No. 1, Part 2, Appendix G-1 to the "Report of the 1876 (Serial 1743), pp. 343-346.

deposited on the bar. In the spring of 1878, the merchants and coal companies in Georgetown took steps to dredge the bar themselves as a temporary measure until Congress could provide some assistance. Abert, however, awarded a contract to H. P. Gilbert of Georgetown to do some emergency dredging between May 7 and 21 in addition to the citizens' project.¹⁰

The river and harbor act approved June 18, 1876, appropriated \$50,000 for further work, specifying that \$20,000 be used on the Washington Harbor and Channel and the remainder on the Georgetown Harbor and Channel. This was the first concrete step to maintain the Washington Channel, although Abert still contemplated filling it and reclaiming land solidly out to the Virginia Channel. But in accord with the act, Abert prepared specifications not only for a channel 200 feet wide and 16 feet deep at low water through the bar below Easby's Point, but also for dredging a channel 200 feet wide and 12 feet deep along the Washington Wharves. The latter channel, however, was open to deep draft shipping only at its lower end, being closed above by undredged mud flats.¹¹

In his report for fiscal year 1878, Abert called his superior's attention to the necessity of adopting a concrete plan and following it through to completion, with annual appropriations to further the work. Doing the work in a piecemeal and haphazard fashion was wasteful of funds. He suggested the basic plan adopted by the 1872 Board of Survey, filling the river out across the flats, completely filling the Washington Channel. The flats, he pointed out, consisted of over 300 acres of sediment left bare at every low tide, with an even larger area covered with only one to three feet of water. All of this was overgrown with aquatic grasses which accelerated the sedimentation.

10. U.S. House Executive Documents, 45th Congress, 2d Session (1877-1878), Vol. 3, Doc. No. 1, Part 2, Appendix G to the "Report of the Chief of Engineers," comprising Report of Mr. S. T. Abert, July 21, 1877 (Serial 1795), pp. 351-357. U.S. House Executive Documents, 45th Congress, 3d Session (1878-1879), Appendix G-1 to "Report of the Chief of Engineers," comprising Report of Mr. S.T. Abert, August 8, 1878 (Serial 1844), pp. 500-505. Hereafter cited as "Abert, 1878."

11. Abert, 1878, p. 502.

Reclamation of the flats could be done cheaply enough as a by-product of dredging out the channels, and would solve the knotty problem of what to do with the dredged wastes. A bulkhead, of course, would be needed first to prevent the dredgings from melting back into the river. The height of the filling, he pointed out, should be regulated by the height of the highest freshet, which turned out to be that of 1877. Eleven feet above low tide was the figure on which he settled.¹²

Needless to say, his plan was not well received by the shippers and owners of wharves and other establishments along the Washington Channel. They could abide no plan which would destroy their properties, even though one proposed granted them equivalent property along the new waterfront on the reclaimed land.¹³

In accordance with the river and harbor act of 1878, Abert advertised for bids in the summer of 1879 and received 11. He opened them on July 22 and awarded the contract to Brainard & Rice of Washington on August 9th. The firm commenced work on August 22, with a subcontracted dredge, and subsequently subcontracted for two more. The tug and scows used for hauling and dumping were not the proper type, and caused much delay and unnecessary expense. It soon became evident that the principal contractors were totally inexperienced. They soon defaulted on payments to subcontractors who then left the job with their equipment. Notified by the government that they must resume work so as to complete the Washington Channel by January 1879, Brainard and Rice brought in several more scows which, it developed, drew too much water to reach the dumping ground. Work came to a halt and the Government annulled their contract on November 16, 1878. Abert invited new bids from 5 experienced parties, and two responded with bids that he opened January 5, 1879. George C. Fobes & Co. of Baltimore got the job and signed a contract on April 3, 1879. This firm went to work April 21 with two dipper dredges to open a channel across the bar above Long Bridge 200 feet wide and 16 feet deep at low tide. On April 24 they began work on the Washington Channel with one grapple-dredge, adding a dipper-dredge to the work on May 6. The channel was to be dredged to a 200-foot width and a depth of 12 feet at low tide.¹⁴

12. Abert, 1878, pp. 502-505

13. Abert, 1878, p. 505.

14. U.S. House Executive Documents, 46th Congress, 2d Session (1879-1880), Vol. 3, Doc. No. 1, Part 2, Appendix G-1 to the "Report of the Chief of Engineers," comprising Report of Mr. S. T. Abert, August 5, 1879 (Serial 1904), pp. 591-596. (Hereafter cited as "Abert, 1879.")

On March 3, 1879, another \$50,000 was appropriated for the work, apportioned as in the previous appropriation. Abert, however, declined to use the portion assigned for the Georgetown Channel, reporting that a channel sufficient for commerce had already been cleared under the previous contract. He did continue to remove pesky rock outcroppings from the bottom of Georgetown Harbor.¹⁵

Fobes & Co., meanwhile, completed their work on the Washington Channel on July 9, and began further work to dredge a 75-foot-wide channel 15 feet deep right along the edge of the wharves. Abert drew up a new plan which called for leaving the Washington Channel clear as a "winter harbor" 16 feet deep, filling the rest of the land above it and south of it towards the Virginia Channel. This obviated many of the objections of shippers, wharf owners, warehousemen and others whose properties were located along the Washington Channel. One remaining criticism was that with no inlet, the Washington Channel would become a stagnant and noxious backwater, creating a sanitation problem for that part of the city.¹⁶

In a river and harbor act approved June 14, 1880, Congress appropriated \$40,000 for continuing the improvements and Abert consequently drew up specifications for further work on the Washington Channel. The dredged material was to be dumped either on Harbor Flats or Potomac Flats. Harbor Flats Abert defined as the river below Long Bridge and between the two navigable channels (now East Potomac Park); Potomac Flats was "any locality below the city . . . sufficiently removed from the channel and otherwise suitable for dumping, which the bidder might be able to find." Abert thus dumped in the laps of his bidders the problem he had been unable to solve: where do you dump the dredgings when a dump scow draws several feet of water, and when so much dumping already has been done that most available areas in the river are only inches deep?¹⁷

15. Abert, 1879, p. 596.

16. U.S. House Executive Documents, 46th Congress, 3d Session (1880-1881), Vol. 3, Doc. No. 1, Part 2, Appendix H-1 to the "Report of the Chief of Engineers," comprising Report of Mr. S. T. Abert, July 21, 1880 (Serial 1953), pp. 745-752. Hereafter cited as "Abert, 1880."

17. Abert, 1880, p. 751. U.S. House Executive Documents, 47th Congress, 1st Session (1881-1882), Vol. 3, Doc. No. 1, Part 2, Appendix H-1 to "Report of the Chief of Engineers," comprising Report of Mr. S. T. Abert, August 10, 1881 (Serial 2011), pp. 939-940. Hereafter cited as "Abert, 1881."

Abert invited bids and received three on September 11, 1880, for continuing the improvements on the Washington Channel. The National Dredging Company of 1420 New York Avenue won the contract, signed on October 9, 1880, to deposit material at 14 cents per cubic yard on the "Potomac Flats." This contract depended upon the company being able to find a dumping ground itself, which its officers were confident they could do. They were to begin work March 1, 1881.¹⁸

On February 12, 1881, meanwhile, an ice dam in the Potomac caused serious damage to the city and particularly to the piers along the Washington Channel. The winter had been severe, and unusually thick ice formed on the river. Rains and melted snow raised the river level several feet and at one a.m. on Saturday, February 12, the ice began to break. Although the river came no higher than three feet below the height of the 1877 flood above Georgetown, downstream it exceeded the 1877 flood level by three feet because of the partial damming effect of the broken ice in the river. The ice along the Washington wharves began to break an hour after that at Georgetown, about 2 a.m., and moved off downstream. At 7:30 a.m., an ice dam formed completely across the Potomac below Arsenal Point, at the confluence with the Anacostia. The ice floating downstream backed up above this in a solid mass to Long Bridge, while other ice had begun to back up above Long Bridge, impeded by the bridge piers. By 9 a.m. the river was completely choked; cakes of ice piled one upon another, higher and higher, packing more and more solidly. Water two feet deep poured over the top of the bridge at 7 p.m., when the flood reached its highest point. At 8:30 p.m. three spans at the north end gave way and were swung on the harbor flats below. The break relieved enough pressure that the bridge sustained no further damage.¹⁹

At the Washington Channel wharves, the water was $2\frac{1}{2}$ feet higher than in 1877. When the water began to fall, it left tons of ice sitting on the docks, and many wharves that had survived the lateral pressure of ice flows in the water were crushed by the ice piled on top of them once the falling water removed the support of buoyancy.

18. Abert, 1881, pp. 939-940.

19. Abert, 1881, pp. 940-942.

About 254 acres of land in the city was under water at the height of the flood. This comprised a low area roughly following the course of the old Washington City Canal. Almost all of the triangle between B (Constitution Avenue) and 14th Streets and Pennsylvania Avenue was under water, as well as almost all of the Mall between Second and Sixth Streets, including the Botanical Gardens at the foot of Capitol Hill. Elsewhere, a waterfront fringe was submerged in Georgetown as well as near the Arsenal and along the Washington Channel.

The flood did not in any serious way impede planned dredging operations, but it did add impetus to those arguing for the rebuilding of Long Bridge. The ice dam had not formed there first, but it had apparently formed there independent of the lower dam near Arsenal Point, and some speculated that it was the obstruction formed by Long Bridge that really did the damage, for not only were the bridge's piers relatively close together, but ruined piers of the abandoned railroad bridge nearby, obstructed even those channels between the Long Bridge piers. Improvement of navigation would eventually require elimination of this obstruction. Meanwhile, dredging must continue.²⁰

Early that spring the National Dredging Company began moving its outfit to the channel and started searching for a dumping ground for the dredgings. That was expected to be an easy task--after all, there must be dozens of square miles of shallow river unneeded for channel purposes. But were there? The company's officials soon discovered that every seemingly suitable location was claimed by owners of adjacent land as valuable for fishing or other purposes, and most of them threatened injunctions and suits for damages if their waterfront footage was used for dumping grounds. The contractors became more and more discouraged, and finally gave up. On March 26, 1881, they asked that if the government could not provide dumping grounds, the contract be annulled. This was done by the Secretary of War.²¹

20. Abert, 1881, pp. 940-942.

21. Abert, 1881, pp. 939-940.

Abert drew up new specifications to use combined funds from appropriations of both 1880 and 1881, and on June 9 invited proposals for dredging the Washington Channel below the Long Bridge with provision for dumping on "Harbor Flats" below the railroad bridge causeway. The proposals were opened at noon on July 9, 1881; of the three bidders, National Dredging was again the lowest bidder at 24 cents per cubic yard and won the contract. The channel when finished was to be 15 feet deep. The contract left the manner of depositing the material up to the contractor, but specified that when the material settled and formed its "natural slopes" that the foot of the slope on the Washington Channel side could be no less than 900 feet from the wharves, and on the Virginia side no more than 2500 feet from the Washington Channel wharves.²²

The contractors decided to dump the dredged material by railroad or "tramway," as they put it, and so built a wooden trestle out over Harbor Flats. It was 1,180 feet long, later extended to 1,380, using 445 40 or 45-foot-long round pilings, capped by 10 x 12 inch stringers. The trestle originally stood nine feet above low water at the northeast end with a grade of four inches per hundred feet. Eventually it settled at the southwest end, making the grade steeper. It angled towards the railroad bridge causeway, beginning 190 feet from it at the west end and ending 420 feet from it at the east end.²³

On December 5, 1881, the contractors commenced dredging the upper end of the Washington Channel near Long Bridge. They used a clamshell dredge to dump material into large dumping scows, which were then towed to a basin that had been prepared at the northeast end of the tramway, and dumped there. The scow was towed back to the work in the channel, while a second clamshell dredge located at the end of the tramway dug the new material out of the basin and loaded it on the railway cars. These were hauled by the engine to the appropriate point on the trestle for dumping. The wet, muddy material flowed out over the flats from the base of the trestle forming a sloping mouth whose crest was at the trestle. Work continued day and night to keep the 11-foot deep dumping basin free for use on the following day, and electric lights were employed. There were complaints that they were injurious to the eyes of the workmen

22. U.S. House Executive Documents, 47th Congress, 2d Session (1882-1883), Vol. 3, Doc. No. 1, Part 2, Appendix H to "Report of the Chief of Engineers," comprising Report of Mr. S.T. Abert, August 3, 1882 (Serial 2092) pp. 971-972. Hereafter cited as "Abert, 1882."

23. Abert, 1882, p. 972.

and Abert thought three kerosene locomotive headlights would have been less expensive and more efficient.²⁴

Despite the usual minor delays, the work was completed on June 1, 1882, after 240,111 cubic yards of material were dredged. Throughout the work a government inspector kept a close watch on the spreading of the dumped mud. It formed an irregular oval 1,200 feet long and 700 feet wide, sloping uniformly from the dumping sites along the tramway to its outer edges. The edges remained over a hundred feet inside the outer limits specified in the contract. The dumping and dredging operations had proved quite successful, but this was merely a small scale project compared with what was to come; an experiment, as it were, to set the stage for serious reclamation work.²⁵

Early in 1882, meanwhile, the Georgetown Channel had begun to show some shoaling at the bar below Easby's Point. In March 1882, a survey showed three points at which dredging would be necessary, particularly since the coal trade of Georgetown was using vessels increasingly greater in draught. Dredging was needed midway between Easby's Point and Long Bridge over the bar, about 1,000 feet above the bridge, and opposite Gainsborough Point. A sum of \$30,000 appropriated in 1879 for clearing the Georgetown Channel, but never used, was still reserved for this purpose. Abert calculated that it would be insufficient, however, and obtained permission to use some of the \$15,000 appropriated in 1881 for this purpose. He issued specifications on April 14, 1882, and received two bids that were opened on May 10. The Potomac Dredging Company underbid National Dredging, which had apparently grown somewhat more conservative in its estimates.²⁶

All of the work up to this time had been carried out primarily to improve navigation on the river in response to immediate needs, rather than in accord with any overall plan. But such plans were nevertheless in the works. The Board of Commissioners of the District of Columbia had long been concerned with the waterfront of the city, none more so than the Engineer Commissioner, Major W. J. Twining. In their annual report to Congress in 1879, Major Twining had reported that "The condition of the river frontage demands the immediate and careful consideration of Congress, not only as a measure of health

24. Abert, 1882, pp. 972-973

25. Abert, 1882, p. 973.

26. Abert, 1882, pp. 974-975.

but also with reference to the future commercial interests of the city." He added that "The gradual accretions of the flats have reached that point where it is necessary that some decisive action should be taken to abate what is rapidly becoming a gigantic and intolerable nuisance."²⁷

Twining had reviewed the 1872 Board of Survey report in his own letter of 1879, and recommended the adoption of that plan with three principal modifications: (1) terminating the Washington Channel at Long Bridge (14th Street) rather than at 17th, and in that area above the head of the channel providing sluicing basins to keep the channel in "proper sanitary condition"; (2) reducing the width of the Georgetown Channel to 2,000 feet; (3) changing somewhat the distribution of reclaimed lands. He suggested that between Easby's Point and 17th the flats be filled completely--the 1872 Board would have filled them partially but left it as a well-drained tidal marsh. Twining thought the reclaimed land would have an "immediate marketable value, probably exceeding the cost of reclamation." The most important of these 1879 suggestions was the idea of sluicing ponds, which would prevent the stub Washington Channel from becoming a stagnant backwater.²⁸

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27. Abert, 1882, pp. 974-975; see Extract from the "Report of the Commissioners of the District of Columbia, June 30, 1879," p. 992. Hereafter cited as "Commissioners, 1879."

William Johnson Twining, a native of Indiana, was appointed a cadet at West Point on July 1, 1859. He graduated 4th in a class of 25 and was commissioned 1st lt. of Engineers, skipping the rank of 2d. lt., on June 30, 1864, Twining entered the volunteer service as a captain and served as an aide-de-camp. He won a brevet to captain in the Regular Army on Dec. 16, 1864, for gallant and meritorious service in action during the siege of Nashville. He was awarded additional brevets to major and lt. col. of volunteers on Jan. 26, 1865, for "gallant and meritorious service" during the campaign in Georgia and Tennessee, and major of Regulars on March 13, 1865, for gallant and meritorious service during the war. With the war at an end, he reverted to the rank of 1st lt., but was promoted captain in the Regular Army on Dec. 28, 1865. He was promoted major on October 16, 1877. Major Twining died on May 5, 1882. Heitman, op cit., pp. 144, 976. In 1917, when Col. Wm. W. Harts proposed naming the point at the eastern end of the reclaimed land for Colonel Hains, he proposed at the same time naming the tidal basin suggested by Major Twining "Twining Lake." His name for Hains Point survived, but the tidal basin remains the tidal basin, and Major Twining's role remains forgotten. See footnote 34, Chapter 4.

28. Commissioners, 1879, pp. 992-996.

The rivers and harbors act of March 3, 1881, provided for a survey of the Potomac and Anacostia "with reference to the improvement of navigation, the establishment of a harbor line, and the raising of the flats so far as their improvement may be necessary to the improvement of navigation and the establishment of the harbor line."²⁹

The Chief of Engineers assigned this duty to Abert on March 21, 1881, and the latter submitted his report on January 17, 1882. Abert recommended a harbor line limiting the edge of the reclaimed flats to a line which extended from Easby's Point in a graceful curve to the southern end of the Long Bridge Causeway, continuing then in a gradual reverse curve downstream to the intersection of the Washington and Virginia Channels. On the Washington Channel, the harbor line consisted of a line along the limits of existing wharves up to 17th Street, then 800 feet across to a line which paralleled the wharf line back down the south side of the channel to where it met the outer line at a point opposite the Arsenal (today Hains Point). He proposed dredging the Georgetown Channel out to a maximum depth of 25 feet with a dredged width of 400 feet or more, and the Washington Channel to a width of 400 feet and a depth of 20 feet. The immense amount of material removed by this dredging would be dumped on the flats behind a bulkhead to raise them to a height of six feet above low tide. He also suggested the possibility of leaving an area of 57 acres as a ten-foot deep pond to sluice out the Washington Channel, thus adopting Major Twining's suggestion of two years earlier. "It may further be desirable," Abert added, "to dredge out a basin above the Long Bridge and alongside the present sewer channel to scour our this canal at low water."³⁰

To retain the dredged filling, Abert suggested two types of bulkhead for consideration: one consisting of a wall of dry rubble masonry, the other of riprap and piles. He recommended an appropriation of \$2,270,000 for the whole project, \$700,000 of which he thought should be available annually.³¹

29. Abert, 1882, p. 978.

30. Abert, 1882, pp. 980-987.

31. Abert, 1882, pp. 985-986.

On December 1, 1881, Special Orders No. 129, Corps of Engineers, convened a Board of distinguished engineer officers who by Special Orders No. 11, January 26, 1882, were directed to consider and report on the previous plans for improving navigation on the Potomac, and "the raising of the flats in front of the city and the establishment of the harbor lines."³²

The Board consisted of Lieutenant Colonel Quincy A. Gillmore, Corps of Engineers, President, Lieutenant Colonels William P. Craighill and C. B. Comstock, and Captain Thomas Turtle, recorder.³³

On February 9, 1882, Lieutenant Colonel John G. Parke in the office of the Chief of Engineers sent down Abert's report and maps, accompanied by a letter of further instructions. Parke suggested that

In view of the deep interest felt in regard to the improvement of the Potomac River by the Commissioners of the District of Columbia, as well as by the business community and the citizens generally, it would seem advisable that the board request the attendance of Major W. J. Twining, Corps of Engineers, the Engineer Commissioner, with a view to obtaining such information upon the subject as he may desire or be willing to impart.

This insured that the sluicing tidal basin plan, already included in the Abert report, would receive a full hearing.

The Gillmore Board of 1882 consulted four major plans: (1) the 1872 Board of Survey plan, (2) Major Twining's plan of 1879, (3) The Abert plan of 1881, and (4) a plan employing reclamation methods used in Holland. In the end it recommended a combination of two, employing the harbor and shore line proposed by Abert in 1881 together with the flushing ponds above the Washington Channel championed by Twining in 1879, along with Twining's high grade filling of the flat above 17th Street (now West Potomac Park).³⁴

32. Abert, 1882, pp. 987.

33. Abert, 1882, p. 987.

34. Abert, 1882, pp. 987-988.

The board insisted that channel depths in both the Washington and Georgetown Harbors be sufficient to accommodate the largest vessels that could be brought up the Potomac as far as Arsenal Point, as well as enough additional depth at wharves so that vessels would not ground at low tide after loading. The flats were to be filled to three feet above the flood line of 1877, with the flushing ponds no less than eight feet deep. These were to have inlet and outlet gates suggested by Major Twining that would automatically fill the ponds from the Georgetown Channel upstream during high tide and flush out the Washington Channel downstream during the last third of the ebb tide.³⁵

Although controls could be installed if necessary, Major Twining anticipated that the gates could be worked by the tidal action alone. The gates would be arranged to open inward from the Georgetown Channel and outward into the Washington Channel so that the pressure of the rising high tide would push the Washington Channel gates closed and the Georgetown Channel gates open, thus filling the sluicing ponds. When the tide began to fall, water seeking to drain from the sluicing ponds would force the inlet gates on the Georgetown Channel closed and the Washington Channel gates open. By hanging the gates to operate in this manner, the flushing ponds could only be filled from the main stream of the Potomac, relatively clean water, and could only be drained through the Washington Channel, thus washing debris in that backwater out into the Potomac and replacing it with fresh water with each change of tide. It was an ingenious plan and when carried out worked excellently.³⁶

The reclaimed land was to be amply drained, and all sewage being dumped into the Washington Channel from the city was to be caught in sewers and diverted to the Anacostia via the James Creek sewer. Long Bridge, also, was to be rebuilt with wider spans which provided less obstruction to the river.³⁷

35. Abert, 1882, pp. 988-990.

36. Abert, 1882, pp. 988-990.

37. Abert, 1882, pp. 990-991.

The boards also recommended an appropriation of \$2,500,000 for the project.³⁸

The Gillmore Board's report was submitted to Congress and a select committee of the Senate was appointed to investigate. They met first on April 19, 1882, and heard a progression of more than a dozen witnesses, most of whom were surgeons, but who included Abert and Twining. The physicians, among them the Surgeon General of the Navy and the secretary of the National Board of Health, generally testified that the flats were a source of malaria and "zymotic" diseases and that their elimination was a necessity from the standpoint of health. The committee completed taking testimony and adjourned on May 19.³⁹

38. Abert, 1882, p. 991.

39. U. S. Senate Miscellaneous Documents, 47th Congress, 1st Session (1881-1882), Vol. 4, Misc. Doc. No. 133, "Testimony before the Select Committee of the Senate Appointed to Investigate and Report as to the Condition of the Potomac River Front of Washington" (Serial 1996); 121 pp. The "Select Committee" consisted of Senators Conger, Vest and Gorman. Those testifying included: Mr. S. T. Abert; Dr. C. E. Chancellor; Dr. Chas. W. Chancellor; Maj. W. J. Twining; Stevenson Towle, Chief Engineer of the Bureau of Sewers of the City of New York; Dr. P. S. Wales, Surgeon General of the U. S. Navy; Dr. Thos. J. Turner, Medical Director of the Navy and Secretary of the National Board of Health; Dr. John S. Billings, a Washington physician and member of the National Board of Health; Dr. A.Y.P. Garnett, a physician in the city since 1848; Dr. J. W. Bulkley, a physician in Washington since 1857; Dr. Smith Townsend, Health Officer of the District of Columbia, Dr. N. S. Lincoln, a doctor in the District for 28 years; Professor James L. Cabell of the Univ. of Va., President of the National Board of Health; Dr. T. S. Verdi, a physician in the District for 25 years and President of the District Board of Health; Dr. Samuel C. Busey, a resident of the District since 1848; and Sanitary Engineer George E. Waring, Jr.

On August 2, 1882, Congress passed an appropriation of \$400,000 to begin the project along the lines of the Gillmore Board's report. The Attorney General was directed to examine all claims of title to clarify the legal situation of the flats and protect the government.⁴⁰

By Special Orders No. 188, Headquarters of the Army, dated August 14, 1882, Major Peter Conover Hains was assigned to replace Mr. Abert in carrying out the reclamation project, and Abert was transferred to other river and harbor work in the south.⁴¹ Hains drew up plans for carrying out the work

40. U.S. House Executive Documents, 48th Congress, 1st Session (1883-1884), Vol. 3, Doc. No. 1, Part 2, Appendix I to "Report of the Chief of Engineers," comprising Report of Major Peter C. Hains, July 31, 1883 (Serial 2183), p. 780. Hereafter cited as "Hains, 1883."

41. Peter Conover Hains, a native of Philadelphia, was born July 6, 1840. He was appointed from New Jersey to West Point on July 1, 1857, and graduated 19 in a class of 34 and was commissioned 2d lt. and 1st lt. (in effect skipping the rank of 2d lt.) on June 24, 1861. His initial service during the Civil War, then in progress, was in the 2d Artillery, and while in that branch of the service he was breveted capt. on May 27, 1862, for gallant and meritorious service in the battle of Hanover Court House, Virginia. On July 24, 1862, Hains was transferred to the Topographical Engineers, and when that corps was abolished he was transferred to the Corps of Engineers effective March 3, 1863. On July 4, 1863, Hains was breveted major for gallant and meritorious service during the siege of Vicksburg, Mississippi. On July 18, 1863, he was promoted captain. At the end of the war he was breveted lt. col. on March 13, 1865, for gallant and meritorious service during the war. Hains was promoted major in the Regular Army on September 22, 1870, lt. col. on September 18, 1886, and colonel on August 13, 1895. From 1897 to 1907 he was a member of the Nicaragua and Panama Canal Commissions. When the Spanish-American War broke out in 1898, Hains was appointed brigadier general of Volunteers effective May 27, 1898, and served in that capacity until Nov. 30, when he was mustered out of the volunteer service. He was promoted brigadier general on April 21, 1903, and

of the Gillmore Board and submitted his plans to the Chief of Engineers on September 12, 1882. They were approved September 26.⁴²

Hains' plans called for dredging a channel 400 feet wide and 20 feet deep at low tide from deep water above Easby's Point to deep water at Giesborough Point. The dredged material would be placed on the flats, which Hains divided into three sections: Easby's Point to the sewer ditch connecting with the old Washington City Canal was Section I; the area from this ditch to Long Bridge was Section II (and both Section I and Section II are now West Potomac Park); the reclaimed land from the Long Bridge to the confluence of the channels was Section III (now East Potomac Park). The first section he estimated would require 3,596,740 cubic yards of fill, the second, 4,068,463, and the last, 4,664,455, a total of 12,329,658 cubic yards of dredged material. The first dredging project in the Georgetown Channel would produce an estimated 1,700,000 cubic yards; it was evident that Hains had a long way to go to complete the project. He proposed to fill the worst and most obnoxious part of the flats, Easby's Point to 17th, first of all, and to fill them only to a height of three feet above high tide, rather than three feet above the 1877 flood level, as the initial dredging project would not produce sufficient material. Dredgings from below Long Bridge, however, would be dumped on the adjacent third section for convenience, leaving Section II, the tidal ponds area, for last.⁴³

and retired at the age of 64 in 1904. At the age of 76, Hains was recalled, appointed Major General by Special Act of Congress, and put in charge of the Norfolk Harbor & River District in 1916, and he subsequently served as the division engineer of the eastern division in 1918. When he relinquished that job, he was the oldest officer in uniform. He died at Walter Reed Hospital on November 7, 1921 at the age of 81. Heitman, op. cit., pp. 144,487. Washington Star, April 13, 1946.

42. Hains, 1883, p. 785.

43. Hains, 1883, pp. 785-786.

Hains drew up specifications and published them, inviting proposals. The method of doing the work was left to the contractor, whose plans had to satisfy Hains that they showed promise. Nine bids were opened October 30, 1882, and Hains chose the second lowest bidder, P. Sanford Ross of Jersey City, New Jersey, as being the lowest responsible bidder. The Ross bid was 21.2 cents per cubic yard.⁴⁴

The contract was signed in November 1882, and Ross put his men to work. He adopted the National Dredging Company plan of dumping by railroad. The winter months were spent in obtaining or building dredges, railway cars, locomotives and track material, piles for the trestles, etc. The trestle pilings, from 50 to 70 feet long, were driven in the flats above 17th Street. First a single trestle was built, perpendicular to the shore, then two parallel tracks branching off from the main line near the mid-stream end, also approaching the shore, forming a lopsided three-pronged fork. At the far end, the trestle was double tracked, and dumping basins were excavated one on each side of the trestle. An 18-ton industrial locomotive and 20 cars of a capacity of ten cubic yards each were soon put to work on the trestles.⁴⁵

In April two dredges, an Osgood's Improved Dipper and a clamshell, went to work on the Georgetown Channel. The dredged material was loaded in scows, hauled to the end of the railway trestle, and then dumped in one of the two transfer basins located one on each side of the track. Here another dredger, a clamshell, reloaded the material into ten side-dump hopper cars, and the little engine puffed off onto one of the three branches of the trestle. The cars were dumped and the engine pushed them back out to the loading tracks, where on the alternate track another ten cars were loaded and waiting. Uncoupling from the empties, the engine coupled to the loads and repeated the process. To facilitate the spread of the dumped mud, a force pump was installed and piping laid along the trestle with frequent outlets, so a hose could be attached and a powerful stream of water used to distribute it better.⁴⁶

44. Hains, 1883, p. 786.

45. Hains, 1883, p. 787.

46. Hains, 1883, p. 787.

Below Long Bridge, a long single trestle through the center of the proposed fill was employed, the manner of work otherwise being about the same. Hains thought the five dumping scows were too large and that a larger number of smaller scows would have served better. The dredges, however, impressed him; four of the five were new and "first-class machines."⁴⁷

Hains also made arrangements for beginning work on the retaining wall to hold in the fill on Section I. He decided it could wait no longer since (1) it was needed to hold back the fill, (2) it would need time to settle, and (3) the uncertain character of the river bottom might force alterations in the plans, and it was better to learn about them early than late.⁴⁸

To begin with, Hains decided it would be necessary to excavate a six-foot trench 20 feet or more wide, lay a "mattress" of woven brush in this, cover it with rock riprap, and eventually build on this a vertical stone or concrete wall six feet high. Hains drew up specifications and received three bids which he opened March 26. Thomas P. Morgan won the contract for the work. Another contract let the same day and won by H. P. Gilbert of Georgetown, who beat nine other bidders, provided for delivery of 15,000 cubic yards of rock for rip-rap. A third contract of the same date awarded jointly to the two lowest of nine bidders, J. A. Blundon and J. A. Chittenden, arranged for a supply of brush at \$2.50 per cord. Still a fourth contract, two days later, won by James T. Summers of Washington, provided for building four 20 x 60-foot scows for handling stone and brush at a total of \$3,497.44.⁴⁹

47. Hains, 1883, pp. 787-788.

48. Hains, 1883, p. 788.

49. Hains, 1883, p. 788.

The principal contractor, Morgan, fitted up a 20 x 60-foot scow with a 40-foot-long inclined platform on the rear, where brush was woven together into a mat with a selvedge on each side. Once 35 or so feet had been finished, the boat was pulled ahead until all but the last two feet of the mat had slid into the water, to which another 35 feet were woven, and so on until a section was finished. The mattress of brush floated in the water, anchored in the proper position, until stones were thrown on top of it to sink it. Once sunk H. P. Gilbert delivered the stone. This was dumped on the mattress at a cost of 74½ cents per cubic yard and a pile of rock built up on which a seawall would later be built.⁵⁰

Hains was also impatient to begin work on the sluice ponds, and he was concerned about the sewage canal which extended across the mud flats from the old mouth of the Washington City Canal. This shallow ditch needed a retaining wall on each side, so the filling going on below Easby's Point would not slop over and choke it. On the other side, work would soon begin around the tidal ponds, similarly threatening the ditch. On December 2, 1882, Hains called this to the attention of the Chief of Engineers, pointing out that there was a legal question whether the work should be done under his jurisdiction or by the sewage department of the District Government. Hains proposed building vertical walls on each side of the ditch and flushing it using the same ponds designed for flushing the Washington Channel, essentially as Abert had recommended in 1882.⁵¹

The method of filling by railroad did not prove to be very efficient; it did the required work very well indeed, but at too great a cost. The trestles had to be changed periodically to afford proper distribution of the dredgings. The contractor did not find it worthwhile to pull up and re-use the old pilings, so new pilings had to be provided for new trestlework, although the stringers, rail and ties could be salvaged and relaid. Thus lines of old pilings were abandoned in place, certainly an expensive procedure for the contractor.⁵²

50. Hains, 1883, p. 789.

51. Hains, 1883, pp. 790-794.

52. U.S. House Executive Documents, 49th Congress, 1st Session 1885-1886), Vol. 4, Doc. No. 1, Part 2, Appendix J-2 to "Report of the Chief of Engineers," comprising Report of Lt. Col. Peter C. Hains, July 31, 1885 (Serial 2371), pp. 927. Hereafter cited as "Hains, 1885."

The dredge at the receiving basins worked day and night to keep the basins clear; the others worked only by day. By June 30, 1884, Ross had built 13,000 feet of railroad on trestlework, an impressive installation. At the loading point the trestlework was only two feet above high tide, but in towards land the trestle was graded upwards so that at the inland end the rails were 12 to 15 feet high. The height facilitated the spread of the material in dumping, and the filled area had been covered fairly evenly to a height of six feet. Unfortunately on December 11, 1883, Ross had suffered a serious financial loss when at 8:30 p.m. Dredge No. 2, a new machine, had caught fire and burned. Had the contractor been able to get a tug to it he might have saved it, but the only manned tug he had on the river at that hour was above Long Bridge, and since the railroad maintained no bridge watchmen to open and close the draw at night, the tug could not get down to the burning dredger to fight the fire. Nevertheless, Ross soon finished the Section III work below Long Bridge and abandoned the 7,400 foot trestle there, and he was not far from finishing his contract on Section I. But his contracts alone, when fulfilled, did not mean the end of filling; in fact, the job was barely begun.⁵³

Once 8,000 linear feet of the stone retaining wall were prepared by dumping tons of rock on the brush matting, Hains advertised for bids for dredging immediately outside the rip-rap and filling behind this barrier to build up an earthen embankment in order to further protect the filled land behind. He opened five bids on July 12, 1883, and awarded the contract to John Van Patten, who defaulted without even beginning work. Five more bids were opened November 6 and Frank Somers of Philadelphia won at 10.8 cents per cubic yard. He used a clamshell dredge with a long boom and small bucket. Material dredged close to the wall could be dumped right over it by the dredger. For handling material further out than 50 feet, he used a chute 65 feet long which rested on a scow floating next to the wall. The chute had an incline of one foot in every ten down to where it rested on the stone wall. A force pump on the dredge pumped a stream of water down the chute which assisted gravity in carrying the mud down. The embankment behind the stone work was formed by going over it several times, allowing each deposit to settle and dry before dumping more mud.⁵⁴

53. U.S. House Executive Documents, 48th Congress, 2d Session (1884-1885), Vol. 4, Doc. No. 1, Part 2, Appendix J-2 "Report of the Chief of Engineers," comprising Report of Lt. Col. Peter C. Hains, July 30, 1884 (Serial 2279), pp. 970-973. Hereafter cited as Hains, 1884.

54. Hains, 1884, pp. 973-974.

Another specification was drawn up for filling ten acres near Easby's Point, and Hains opened the seven proposals on July 12, 1883. Jonathan Taylor of Washington won, but had only a sixth of the work done when he died. His young widow and executor asked to be relieved of the contract, so Hains solicited more bids and opened six on September 22. Thomas P. Morgan got the job and finished it on May 29, 1884.⁵⁵

It was found meanwhile that the stone wall laid by H. P. Gilbert was not high enough. It had been laid only to the level of low tide, and at high tide in stormy weather, waves washed violently over it and damaged the embankment which, still being formed, was to be the new shoreline. Hains invited proposals for 5,000 cubic yards of stone and opened five on May 2. The Potomac Red Sandstone Company of Washington won and soon began work.⁵⁶

On July 5, 1884, Congress appropriated an additional \$500,000 for the project, and with these funds work continued. On July 21, bids were solicited for dredging another 1,000,000 cubic yards from the Washington Channel, the manner of work being left to the contractor so long as it was acceptable to the government engineer. There were six bidders and Benson & McNee of San Francisco won the contract.⁵⁷

Benson and McNee proposed an entirely different method of dredging than any previously used on the Potomac--they proposed hydraulic dredging. They were supposed to begin work December 1 but were unable to get started before December 24, and then their hydraulic dredger broke down frequently until stronger parts were installed.⁵⁸

55. Hains, 1884, pp. 974-975.

56. Hains, 1884, p. 975.

57. Hains, 1885, pp. 926-929.

58. Hains, 1885, p. 928.

The hydraulic dredger sucked the material up through a pump, and deposited it through a discharge pipe where desired, instead of mechanically digging the material out with clamshell jaws or a dipper. The dredger was considerably more complex than one might imagine. It was mounted on a 50 x 100-foot scow. The central mechanism was a rotary pump. On the front of a vessel was a rigid frame which could be rotated from side to side in an arc 60 feet wide, and from this frame a suction pipe was vertically suspended. The vertical section of the intake pipe was telescopic to operate over bottoms of varying depths. At the bottom of the suction pipe was an inverted cast iron funnel eight feet in diameter, equipped with rotating blades which chopped up the dredged material.⁵⁹

The dredge deposited its material through a rigid discharge pipe connected with flexible case-iron ball joints or rubber cylinders. The discharge pipe was laid out over pontoons to the reclamation area and point of discharge. The pipe carried the debris from the river bottom in a stream of water which varied in solid content from ten to 35 percent. Even ten percent solid content Hains considered to be adequate. At the discharge point, it was necessary to build a dike to form a settling pond so the mud could precipitate from the water before it was drained off, but even this minor detail of handling proved much cheaper than the miles of railroad trestle. The sum total distance that the mud had to be raised for final deposit was a mere 28 feet from a bottom depth of 20 feet in the river. With the old system of dredging, dumping in a catch basin, and redredging, the mud was raised some 70 feet in the two operations, an index to the efficiency of the new system that had allowed Benson & McNee to underbid other proposals by an average of eight cents, when the whole range of the other bids was less than that.⁶⁰

The hydraulic dredger was capable of moving not only mud and sand but rocks from the size of an egg to the size of a cocoanut. Clay was cut up into chunks and in being battered around through the piping, formed into little balls by the time it was discharged.⁶¹

59. Hains, 1885, pp. 928-929.

60. Hains, 1885, pp. 928-929.

61. Hains, 1885, p. 929.

The advantages in hydraulic dredging were that it took much less work to distribute the material evenly in dumping and the suction pipe, working at a constant depth, provided a smoother bottom, much more efficient than previous methods as unnecessary material was not brought up, as when a clamshell, for instance, dug below the required level. The final cost by the new method proved to be 33 percent lower.⁶²

Hains noted in the fall of 1884 that the two dredgers used at first were not required to discharge material through a pipe longer than 1800 feet. He thought that when the pipe had to exceed 2,000 feet, their pumps would prove inadequate to the job; however, the contractor was then building a more powerful hydraulic dredger to take care of this contingency.⁶³

Hains meanwhile had taken steps to build up embankments in addition to the 5,100 feet of embankment already built. Planning next to fill the flats between the Washington Monument grounds and the proposed tidal basins, Hains advertised on August 4, 1884, for bids and the D. E. Culver Company of New York underbid six others for the job. The work was begun on August 11, but because of bad weather, a dredger with too short a boom, and a badly constructed chute, it was not completed until June 18, 1885. The dredged material was taken from the tidal basin down to a depth of six feet or more, and riprap stone was placed along the new embankment up to a height of three feet above low tide. This project was the first serious work in Section II.⁶⁴

62. Hains, 1885, p. 929.

63. Hains, 1885, p. 929.

64. Hains, 1885, p. 930.

On August 1, 1884, another contract had been signed for dredging and forming an embankment along the Washington Channel side of Section III (East Potomac Park). Frank C. Somers of Philadelphia underbid five others to win the contract. The embankment was like that around the tidal basin, and except for the area of a wreck in the bottom of the channel, it was completed by June 30, 1885. Rough quarry stone along the embankment was provided by the Potomac Red Sandstone Company, which had won the contract over five other bidders on August 20, 1884, to supply the stone at 69 cents per cubic yard.⁶⁵

On August 30, 1884, Hains also invited proposals for dredging an additional 1,000,000 cubic yards in the Virginia Channel above Long Bridge, widening it and providing additional fill for the flats. Benson & McNee of California was again the best of the six bidders, and proposed again to use a hydraulic dredge. Because it was unsafe to use their dredges in the main channel in winter, they were allowed to work in the Washington Channel in April 1885. On May 1, one of their two dredges went to work in the Virginia Channel, finding tough going through deposits of gravel and boulders.⁶⁶

On January 26, 1885, Hains wrote his superior asking that the \$45,000 provided for sluice gates at the inlet of the tidal reservoir be used instead to dredge the Virginia Channel below Long Bridge. He was concerned about the effect of a sudden rise in the river when the area above the bridge had been dredged out but that below the bridge had not. It seemed to him imperative to provide for such an eventuality first by immediately completing the dredging of the Virginia Channel below the bridge. He also thought it important to build the embankment up in Section II between the tidal basin inlet and Long Bridge to protect that reclaimed area in case of a sudden flood.⁶⁷

65. Hains, 1885, pp. 930-931.

66. Hains, 1885, pp. 931-932.

67. Hains, 1885, pp. 932-933.

The Chief of Engineers approved and on February 2, 1885, Hains advertised for bids both for forming the embankment and for riprap stone. Gilbert Vanderwerken beat H. P. Gilbert on the stone contract when his bids were opened on March 2, 1885, but none of the three bids for dredging and forming the embankment, opened that same day, were low enough to suit Hains, so he decided to lease a light draught dredge with a long boom, hire labor directly, and do the job in that manner. The lowest contract bid had been for 16 cents per cubic yard (Ross and Sanford), and Hains found that the government could do the work by direct hire for nine and a half cents, entirely justifying his decision.⁶⁸

Also on March 2, Hains opened five bids for dredging the tidal basin, and Benson and McNee were again far below the next highest bidder: 15 cents per cubic yard when the other four bids ranged from 20 to 25½ cents. That August, the contractors began building a third hydraulic dredge to do the work.⁶⁹

Hains continued to be concerned about the sewer canal, and again asked for funds to build a permanent stone wall on each side of it. The canal had so filled up with sewage and debris that he considered it necessary to take temporary measures, and thus had it dredged out to six feet at low tide, building up the earth embankment on either side to six feet above low tide. But he reported that this was a "temporary and unsatisfactory answer."⁷⁰

Meanwhile, nearly a year earlier Hains had written to the Chief of Engineers recommending two modifications of the plan approved in 1882: (1) high grade fill in Section III (East Potomac Park) instead of Abert's low grade fill that would on occasion have been flooded, and (2) a special sluicing pond near the foot of 17th Street to be fed from the tidal basin, designed to flush out the sewer canal.⁷¹

68. Hains, 1885, p. 933.

69. Hains, 1885, p. 934.

70. Hains, 1885, pp. 935-936.

71. Hains, 1885, pp. 938-941.

The low grade fill Abert had recommended was to be six feet above low water, surrounded with an embankment or dike 12 feet higher, or three feet above the 1877 flood line. Abert made no provision in his plan for draining seepage, flood or rain water from within this embankment. There had been considerable Congressional criticism of this omission, as a matter of fact. Hains now suggested raising the level of the center of the park to 12 feet above low tide, and the edge wall six feet above low tide, providing a slope for natural drainage of East Potomac Park.⁷²

On September 20, 1884, the Chief of Engineers issued Special Orders Number 124, directing the Gillmore Board of 1882 to reconvene on October 7th. It met in New York, and Major Hains was present in person to explain his proposals. After considerable wrangling over the high grade fill proposals and not a little criticism of Hains, the Board in its report of October 13, 1884, finally approved both proposals.⁷³

Work on the three Benson & McNee dredging contracts continued throughout 1885 and on into 1886. That winter freshets in the Potomac left some silting in the various channels, and Hains commented that they must be "prepared to have the work damaged by every freshet until it has progressed further toward completion."⁷⁴ In the Washington Channel no less than four feet of silt had been washed in, and Hains proposed taking immediate steps to build the tidal gates to close the upper end of the Washington Channel. In December 1885, borings were made which, before reaching bedrock, ran into pockets of inflammable marsh gas under high pressure, the pockets varying from 26 to 85 feet below the level of low tide. This soon burned out and did not prove any great impediment, but it was evident that pilings would be needed for foundations. Hains advertised for proposals on December 15, 1886, and Francis H. Smith of New York provided the lowest bid, but Hains decided it was too high and concluded to do the job by contract supply

72. Hains, 1885, pp. 938-940.

73. Hains, 1885, pp. 941-943.

74. U. S. House Executive Documents, 49th Congress, 2d Session (1886-1887), Vol. 4, Doc. No. 1, Part 2, Appendix I-2 to "Report of Chief of Engineers," comprising Report of Major Peter C. Hains, July 28, 1886 (Serial 2463), p. 885. Hereafter cited as "Hains, 1886."

of materials and day labor. In February 1887, a cofferdam was built and his men began to drive 75 foot pilings. A contract was signed, however, for construction of the masonry once the foundations were finished, and Nolan & Son of New York made preparations to undertake that work. The river bottom at this point was very treacherous and there was much difficulty in excavation. The coffer dam bowed in and had to be considerably strengthened.⁷⁵

Four subsidiary material contracts were awarded in connection with this work: to John Miller for sand and pebbles; to Thomas W. Smith for lumber, to the American Improved Cement Company for cement, and to J. & H. Aitcheson of Alexandria, for bolts and iron.⁷⁶

Meanwhile Benson & McNee continued work on filling Section II above Long Bridge with material dredged from the Virginia Channel, and the contract was even extended. Work stopped in December due to early cold weather, and resumed April 25, 1887. The contractors completed the job on June 29.⁷⁷

But they had plenty of other work to do. Hains had invited proposals on October 6, 1886, for excavation of 500,000 cubic yards of material from the tidal reservoir, and Benson and McNee had won that contract also. On Section III, meanwhile, Henry Wilson undertook a contract for the embankment along the margin of the flats to their southern point, using an endless chain bucket dredge and a conveyor to deposit the material. This job was completed December 21, 1887.⁷⁸

75. Hains, 1886, p. 885. U. S. House Executive Documents, 50th Congress, 2d Session (1888-1889), Vol. 4, Doc. No. 1, Part 2, Appendix J-1 to "Report of the Chief of Engineers," comprising Report of Lt. Col. Peter C. Hains, July 6, 1888 (Serial 2630), p. 780. Hereafter cited as "Hains, 1888."

76. Hains, 1887, p. 885.

77. Hains, 1887, p. 886.

78. Hains, 1887, pp. 886-887.

Stone was needed for riprap on this embankment, but although he advertised twice, Hains received only the same two bids, the lowest of which, 93 cents per cubic yard, he considered too high. He chose to purchase on the open market, and thus saved the government \$2,960.⁷⁹

On October 6, 1886, Hains invited proposals for more dredging in the Washington Channel, but considered Benson & McNee's low bid of 17.9 cents per cubic yard excessive and rejected it. On a second go-around Rittenhouse Moore of Mobile, Alabama, won at 13 cents. He entered the contract on December 16 with approved security but failed to do hardly any work until nearly the termination date, which was August 27, 1887. However, as he had made arrangements to put in a new style of pump which Hains was eager to see in operation, the Secretary of War extended the termination date to January 27, 1888.⁸⁰

The new pump worked by direct action of the steam on the mud and water and proved very efficient. It dredged up not only boulders but once came up with an old iron safe, 25 x 16 x 14 inches in size. The discharge was handled by means of a chute, and eventually three chutes were built, radiating out over the flats. Under favorable circumstances the pump handled about 1,500 cubic yards per hour. The pump was used primarily at the lower end of the Washington Channel, where clamshell dredges dug the mud out of the river and loaded it into scows which in turn dumped it at a basin at the pump, located on the Virginia side of the flats below Long Bridge.⁸¹

79. Hains, 1887, p. 886.

80. Hains, 1887, p. 887. U.S. House Executive Documents, 50th Congress, 2d Session (1888-1889), Vol. 4, Doc. No. 1, Part 2, Appendix J-1 to "Report of the Chief of Engineers," comprising Report of Lt. Col. Peter C. Hains, July 6, 1888 (Serial 2630), p. 780. Hereafter cited as "Hains, 1888."

81. Hains, 1888, pp. 780-781.

In the fall of 1887 Hains again brought the problem of the sewer canal to his superior's attention, and recommended immediate congressional action:

The sewage discharged into this canal is increasing year by year. The canal is not a proper receptacle for it, as there is no current in it except that produced by tidal action and the continuous accretions from the sewer itself. As a consequence the head of this canal and sometimes its entire length (about 3,500 feet) is covered by a sickening mass of foecal matter, the odors from which are far from pleasant.⁸²

But Congress still failed to act.

Work on Section I above the sewer canal had ceased in 1886 in response to the rivers and harbors act passed August 5 that year, which specified that no work be pursued on land whose legal title was unclear or subject to claims. Hains believed claims to part of the reclaimed land in this section could not be maintained; regardless, work should proceed, he thought, on improving the embankment along the outer edge and on the west bank of the sewer canal, to protect the reclaimed land from high water on the river.⁸³

On Section II, some filling continued in 1888 under the McNee contract, but it was the tidal basin outlet bridge that was the source of concern. The concrete foundation had to be laid in sections due to the treacherous nature of the river bottom, and was not completed until October 18, 1887. When weather that winter caused suspension of work, the coffer dam was allowed to fill with water until work resumed that April. During the winter, however, an embankment was built from the Washington shore to the coffer dam in the center, closed the head of the Washington Channel.⁸⁴

82. Hains, 1887, p. 887.

83. Hains, 1887, p. 887. Hains, 1888, pp. 778-779

84. Hains, 1888, pp. 779-780.

The coffer dam was a rectangle 135 by 80 feet, inside measurement, and was built at a point where the water was from two to six feet deep at low tide. It was built by driving two rows of piles, five feet apart, with wales secured near the river bed and near the high-water mark, and then tongue-and-grove three-inch sheet piling 30 feet long was driven between the piles. The interstices between the rows of piling were filled with clay. Nevertheless, the river was so treacherous, once the coffer dam was pumped out, that the tides managed to work its walls back and forth, weakening it and springing leaks. A system of longitudinal and lateral bracing proved necessary, and it could be held in place only with great difficulty.⁸⁵

Foundation piles were then driven with a 2,700 pound hammer to a depth of 74 feet below low tide, well into a hardpan formation, to a refusal point of a half inch with the hammer falling ten feet. This provided, it was hoped, an unusual degree of strength. The pilings, spaced at intervals of four feet by three and a half feet, were cut off at eleven feet nine inches below low tide and capped with twelve by twelve timbers of Georgia pine, laid at right angles and notched to the piles and into each other. Cross timbering of six inch planks were laid on top of this and spiked down. From a depth of three feet below the tops of the cut-off pilings, concrete composed of one part Portland cement, two of sand, three of gravel and four parts of broken stone, was rammed into place in eight to twelve inch thick layers. This was packed thoroughly around and between the open spaces of the grillage and to a height of three feet on top. With the load of the tidal gates evenly distributed, this foundation would bear a weight of 1,400 pounds per square foot, or ten tons per piling.⁸⁶

It had originally been planned to pave the apron around the outlet structure with stone, but due to the treacherous bottom, Hains chose to use cement on a pile and grillage foundation that was laid in the winter and spring of 1888. The project was a more complicated one than Hains had first imagined.⁸⁷

85. Hains, 1888, pp. 779-780.

86. Hains, 1888, pp. 779-780.

87. Hains, 1888, p. 780.

Hains had from time to time been pointing out to his superiors the necessity for taking action in relation to Long Bridge. On January 26, 1887, he had taken advantage of a congressional inquiry as to "what legislation by Congress is necessary to provide means for keeping open the navigation of the Potomac River when obstructed by ice," to write a long letter about Long Bridge--although that was not really what Congress had in mind. Hains emphasized in his recommendations the need for rebuilding of Long Bridge with fewer piers to obstruct the river, for as it existed, he regarded it as "a constant menace to the city." Rebuilding the bridge was, in fact, a part of the Gillmore Board plan, as Hains reminded his superior in another letter of February 11, 1888, which the Chief of Engineers forwarded to the Speaker of the House.⁸⁸

Before anything could come of that, Hains received a letter forwarded from the Secretary of War, dated March 15, 1888, from President G. B. Roberts of the Pennsylvania Railroad. Roberts said his engineers were alarmed at damage that might be caused to their new bridge over the Washington Channel by the force of water expelled there to flush the channel. Roberts made it sound as if the plan being carried out might result in "serious damage to the bridge, or else be attended with a large expenditure on the part of the Government to protect the piers properly." The railroad executive well knew that to threaten the government with additional costs would be the best way to force delays, but it didn't work.⁸⁹

Hains had good reason to be annoyed at Roberts' letter to the Secretary. Not only was Roberts challenging his competence as an engineer, but he had earlier called on Hains and Hains had gone over the plans with him in great detail. Hains had apparently not convinced him, however, for Roberts came away from their meeting confirmed in the idea that the flushing of the tidal basin would damage the railroad bridge immediately downstream.⁹⁰

88. Hains, 1887, pp. 888-889. U.S. House Executive Documents, 50th Congress, 1st Session (1887-1888), Vol. 26, Doc. No. 170, "A Report Upon the Probabilities of Damage to Improvement . . . Above the Long Bridge . . .," (Serial 2558), pp. 1-5.

89. Hains, 1888, p. 784.

90. Hains, 1888, p. 784.

Hains replied to the Secretary of War in a letter dated March 29, 1888, that the tidal basin was "not designed to flush the Washington Channel in the sense usually understood by that term." In other words, the flushing would not be violent, there would be no sudden rush of water against the piers of the railroad bridge. In fact, there would be scarcely more current than created by the normal falling of the tide. But Hains thought nevertheless that the railroad bridge should be rebuilt to eliminate some of the piers which would obstruct even the flow of water from the tidal basin into the channel; far from the flushing threatening the railroad bridge, it was really a case of the railroad bridge impeding the effectiveness of the flushing. The bridge at that point consisted of five through spans and two draw spans, 750 feet long, and Hains pointed out that the draw was no longer needed and eventually the railroad would need a bridge only 170 feet long, so it would be to the railroad's advantage to rebuild it, thus eliminating costly maintenance.⁹¹

The railroad, however, did not agree to any plans for rebuilding their bridge, and Vice President J. N. DuBarry even forwarded the railroad's plans for redesigning the outlet of the tidal basin so the flow from it would not threaten the railroad bridge. There was no meeting of minds on the issue, and it remained at an impasse.⁹²

More work was done on the sewer canal embankment in 1888 and 1889, but still of a temporary nature. Material dredged from the Virginia Channel was dumped in the sewer canal, then redredged and deposited on the embankment, to make it even thicker and raise it higher.⁹³

91. Hains, 1888, pp. 784-785.

92. Hains, 1888, pp. 784-785.

93. U.S. House Executive Documents, 51st Congress, 1st Session (1889-1890), Vol. 4, Doc. No. 1, Part 2, Appendix K-1 to "Report of the Chief of Engineers, comprising Report of Lt. Col. Peter C. Hains, July 9, 1889 (Serial 2717), p. 985. Hereafter cited as "Hains, 1889."

During 1888 Hains entered into three more contracts for the reclamation project. On October 19, he opened four bids for dredging 250,000 cubic yards and awarded Henry Wilson a contract on October 23 at 11.5 cents per cubic yard. On the same dates he found Thomas P. Morgan the lower of two bidders for dredging 60,000 yards. But the biggest contract went to the California Hydraulic Dredging and Reclamation Company of San Francisco for 1,200,000 cubic yards. California Hydraulic beat two other bidders at 12.5 cents and signed its contract October 27.⁹⁴

Hains, meanwhile, had been worried for some time about what a flood might do to his project, for there were periodic freshets on the Potomac. On June 2, 1889, he found out, for Washington experienced the highest water on the Potomac in recorded history. At 10 a.m. that morning it reached its maximum, which at Long Bridge was 12'7" above low tide. (At Harper's Ferry the water was 34 feet above low stage.)⁹⁵

The damage to the Potomac Reclamation project was \$25,000. All three sections were flooded. Little real damage was done to the reclaimed land. In Section II, however, a great amount of sand was washed into the recently dredged tidal basin, which would necessitate redredging. The water did not damage the masonry under construction at the tidal basin outlet, but it did wash away valuable tools and a large amount of lumber.⁹⁶

The principal damage the flood did was in filling up the channels so laboriously dredged over the past decade. Parts of the Virginia Channel above Long Bridge had over six feet of silt washed into them. Together with silt deposited elsewhere in recently dredged areas, Hains estimated that more than a million cubic yards of material had been left by the flood, most of which would have to be removed. In terms of time, this set the whole project back from one to two years.⁹⁷

94. Hains, 1889, pp. 987-989.

95. Hains, 1889, pp. 985-986.

96. Hains, 1889, p. 985.

97. Hains, 1889, pp. 985-986.

Hains renewed his request for rebuilding of Long Bridge in 1889. After having called attention to the matter so often, it seemed to him "almost an impertinence" to mention it once again, yet he found it necessary. He claimed that the recent flood supported his view of the necessity of rebuilding the bridge by its having retarded the stream, but the bridge itself was undamaged by the flood and that weakened his argument. In fact, there was very little damage that could convincingly be attributed to the presence of the bridge.⁹⁸

Congress unfortunately made no appropriation for further reclamation work in 1889, but some work continued under existing contracts, principally dredging and filling. In fact, by February 19, 1890, all of the reclaimed land had been filled to above high tide in each of the three sections. A small amount of dredging remained to be done in both the Washington Channel and the tidal basin. And, of course, the dredging to improve the navigation of the Virginia Channel and Georgetown Harbor had far to go because of the damage done by the 1889 flood.⁹⁹

The masonry of the outlet gate bridge was nearly completed--by the end of 1889 there was but one course of stone on the headways and copings to be laid. The tidal gates were put in place and by the middle of March, 1890, the last of the coffer dam was removed. The gates worked "very satisfactorily" according to Major Hains, and the flushing of the Washington Channel was now a reality.¹⁰⁰

98. Hains, 1889, p. 986.

99. U.S. House Executive Documents, 51st Congress, 2d Session (1890-1891), Appendix K-1 to "Report of the Chief of Engineers," comprising Report of Lt. Col. Peter C. Hains, July 1, 1890 (Serial 2833), pp. 1038-1039. Hereafter cited as "Hains, 1890."

100. Hains, 1890, p. 1039.

III. THE RAISING OF THE POTOMAC FLATS

1890 - 1911

What, then, aside from further dredging and construction of the inlet gates, remained to be done before the 621 acres of new land could be considered "reclaimed"? First of all, only 8,301,000 cubic yards had been deposited of an estimated 12,000,000 needed to bring the fill up to the specified height above the water; in other words, although the land had all been reclaimed above the level of normal high tide, still only three quarters of the fill specified for the project had been deposited. Furthermore, a seawall had to be built around the reclaimed land to protect it, for the stone rip-rap edge was primarily below water level and waves constantly eroded the unprotected earthen embankments above the riprap, necessitating additional deposit of dredgings from time to time. One project begun in 1890 called for dredging a cut 130 feet wide and 21 feet deep at high tide through the new bar formed above Long Bridge by the 1889 flood, the dredgings to be deposited at the margin of the fill. The two bids Hains received he considered excessive and refused to accept, but subsequently he received and accepted a third bid of 20 cents per cubic yard from Frank C. Somers of Camden, New Jersey, and a contract was signed January 21, 1890.¹

Ironically the largest single source of shipping down the Potomac had temporarily vanished. Destruction of the Chesapeake and Ohio Canal by the 1889 flood cut tonnage of coal shipped out of Georgetown via coastal steamer from 240,836 tons in 1888 to 72,089 tons in 1890.²

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1. U.S. House Executive Documents, 51st Congress, 2d Session (1890-1891), Vol. 4, Doc. No. 1, Part 2, Appendix K-1 to "Report of the Chief of Engineers," comprising Report of Lt. Col. Peter C. Hains, July 10, 1890 (Serial 2833), pp. 1038-1039. Hereafter cited as "Hains, 1890."
 2. U. S. House Executive Documents, 52d Congress, 1st Session (1891-1892), Vol. 4, Doc. No. 1, Part 2, Appendix J-1 to "Report of the Chief of Engineers," comprising Report of Lt. Col. Peter C. Hains, July 10, 1891 (Serial 2923), p. 1251. Hereafter cited as "Hains, 1891."

The failure of Congress to make appropriations in 1889 had resulted in the three efficient hydraulic dredges being withdrawn, and Hains thought it might be difficult to get them back. Niggardly congressional appropriations would not do it.

Such machines wrote Hains,⁷ to accomplish economical work, must have a sufficient amount in sight to keep them occupied for a long time. They are expensive tools to keep unemployed.³

Hains urged an appropriation of \$500,000. His existing balance was only \$5,184.72, and without more money the project would come to a halt. It was particularly important to build the seawall to protect the fill; thereafter, appropriations could be made "more leisurely" without danger to the work done.¹⁹ On September 19, 1890, Congress responded with an appropriation of \$260,000 for work on the Potomac. It was not as much as Hains wished, but at least work could continue.⁴

Hains immediately began construction of a seawall at places particularly susceptible to erosion and by the middle of 1891 had completed 5,100 linear feet of wall. It was built by hired labor using stone larger than normal building stone from the Potomac quarries. Built on the riprap footing, the wall was six feet high, four feet thick at the base, and two and a half feet wide at the top, vertical at the back with a sloping face on the water side.⁵

Hains also hired a special dredge by the hour to dredge and deposit fill in order to raise the height of the embankments around the margin of the reclaimed falts, except where the seawall was being built.⁶

3. Hains, 1890, p. 1039.

4. Hains, 1890, p. 1039. Hains, 1891, pp. 1246-1247.

5. Hains, 1891, p. 1247.

6. Hains, 1891, p. 1247.

On December 17, 1890, he signed a contract with the Alabama Dredging and Jetty Company, lower of two bidders, to dredge an additional 500,000 cubic yards from the Washington Channel and deposit it in Section III. This was the final work in the Washington Channel, and was located on the southern margin where the specified depth was to be twelve feet. The Alabama firm used an ordinary clamshell dredge and for depositing, the unique Riker direct action pump, with the usual chutes.⁷

On June 25, 1891, Hains opened proposals for dredging 400,000 cubic yards from the Virginia Channel and this time Frank Somers beat the Alabama firm's bid by a cent and a half (15½ cents per cubic yard). He began work September 1.⁸

That July Hains had reiterated the importance of having one large appropriation rather than numerous small ones, but again Congress refused to listen.⁹

On November 23, 1891, Colonel Hains was transferred from Washington to command projects for the improvement of rivers and harbors in Maine and New Hampshire, taking over his new job on December 3. Whether his transfer was routine or whether he had angered congressmen and railroad officials is not clear. But his departure certainly left the Potomac project in uncertain hands. Major Lewis Overman succeeded Hains from November 23 to December 7, when he departed and Captain Thomas Turtle took charge. Finally on January 5, 1892, a more or less permanent replacement arrived in the person of Major Charles E.L.B. Davis, an 1866 graduate of West Point who had been third in his class, a position which naturally led to his commissioning in the Corps of Engineers.

7. Hains, 1891, pp. 1247-1248.

8. Hains, 1891, p. 1248. U.S. House Executive Documents, 52d Congress. 2d Session (1892-1893), Vol. 4, Doc. No. 1, Part 2, Appendix J-1 to "Report of the Chief of Engineers," comprising Report of Major Chas. E.L.B. Davis, July 9, 1892 (Serial 3079, p. 1033. Hereafter cited as "Davis, 1892."

9. Hains, 1891, p. 1248.

Lieutenant George A. Zinn, the subordinate officer on the project, briefed his new superior and work continued without serious interruption.¹⁰

Davis continued work on the seawall and by the end of 1891, another 8,740 linear feet of it were constructed, completing most of the wall on Sections I and II, and most of the Washington Channel wall on Section III. Most of the stone was furnished by W. H. Mohler, the only bidder on a contract signed on June 15, 1891, but some additional stone was purchased on the open market. Lack of funds, however, forced suspension of work on December 23, 1891.¹¹

In the Virginia Channel, Frank Somers continued dredging, depositing the mud and sand on Section I near the sewer canal and on Section II west of the reservoir inlet. Work was suspended on January 11, 1892, because of the weather and fear of ice, but resumed February 11. A part of Section I known as "Kidwell's Meadows" which was still subject to litigation was carefully avoided in doing any work in that section. Southwest of the Virginia Channel a "training dike" was under construction, built by dredging mud from the channel and depositing it in a ridge finished with riprap, to force the river into a narrow channel, a further attempt to increase the scouring effect of the stream in the main channel, and just about as effective as similar attempts in the past.¹²

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10. U.S. House Executive Documents, 52d Congress, 2d Session (1892-1893), Vol. 3, Doc. No. 1, Part 2, "Report of the Chief of Engineers," Brig. Gen. Thos. Lincoln Casey, Sept. 30, 1892 (Serial 3078), p. 136.

Charles Edward Law Baldwin Davis of Connecticut was appointed a cadet at the U. S. Military Academy on July 1, 1862. Graduating 3d in a class of 28, he was commissioned 2d lt. of Engineers on June 18, 1866. Davis was promoted 1st lt. on March 7, 1867, Capt. on Sept. 12, 1877, and Major on April 7, 1888. He reached the rank of Lt. Col. on May 3, 1901. Heitman, op. cit., pp. 144, 357.

11. Davis, 1892, p. 1033.
12. Davis, 1892, p. 1033.

The Alabama Dredging and Jetty Company was meanwhile having trouble in the Washington Channel. First, they used only one chute and with this built up a pile of solidifying mud that eventually reached a height of 18 feet above low tide. The engineer officers directed the firm repeatedly to build other chutes, which eventually they did, but their superintendent insisted that the pile of mud would settle, which was mere wishful thinking. It did not, leaving an estimated 94,790 cubic yards of material above grade. The contract expired October 1, 1891, but the firm obtained two extensions. They had dredged about 76 percent of their contracted volume, when on February 1, 1892, the Riker pump broke down. The firm decided to save time by using other methods, since repair of the pump would be long and costly, and they did a little work using hydraulic and grapple dredges and a rotary pump. But on March 26, 1892, work was completely suspended. The company obtained two more extensions, but did no more work. The fourth extension expired July 15, 1892, and the contract was annulled July 23, 1892.¹³

Meanwhile on July 13, Congress appropriated \$200,000 for continuing work on the project, and Major Davis invited new bids for supplying stone for the seawall on August 8. The bids were opened September 7, and the lowest was \$2.10 per cubic yard, whereas previous prices had been \$1.70. Davis rejected all bids and managed to purchase the stone on the open market at the earlier price, saving \$4,400. It was then found necessary to raise the embankment in some places where it was not high enough to fill behind the wall after its construction. This work was done in August and September using a hired dredge.¹⁴

13. Davis, 1892, pp. 1033-1035. U. S. House Executive Documents, 53d Congress, 2d Session (1893-1894), Vol. 4, Doc. No. 1, Part 2, Appendix J-1 to "Report of the Chief of Engineers," comprising Report of Maj. Chas. E.L.B. Davis, July 10, 1893 (Serial 3200), p. 1262. Hereafter cited as "Davis, 1893."

14. Davis, 1893, p. 1267.

Construction on the wall itself was resumed on November 11, 1892 on the Virginia Channel side of Section III. On December 21, Davis suspended work on account of the unusually severe winter, and on December 24 the river froze over. By January 24, ice on the river was 14 inches thick above Georgetown, and the river was frozen down as far as 88 miles below Washington. Navigation was finally reopened on January 28, however, and tugs hired by the District Commissioners under special appropriation hastened the breakup of the ice. By February 12 the river was nearly clear of ice and on March 1, work resumed on the seawall. The work was delayed in April and May by high tides and a minor flood, but by June 30, 1893, 4,450 more linear feet of seawall had been built, a total of 18,290 feet to that date.¹⁵

To prevent the earthen backfill from being washed out between cracks in the dry masonry by waves and the tides, Davis decided to backfill for two feet with gravel before filling the remainder with earth. Consequently he invited bids for supplying gravel on August 8, and opened the two he received on September 7, awarding the contract to George Simpson of Philadelphia on September 22 for 46 cents per cubic yard. But the contractor failed to deliver in accord with the contract and Davis purchased gravel on the open market at 60 cents per cubic yard, the contractor being held responsible for making up the difference.¹⁶

In the Virginia Channel, meanwhile, Frank Somers' men continued dredging, dumping the mud and sand on Sections I and II to fill the area to a height of 12 or 14 feet above low tide. On October 18, 1892, the whole channel was finished. This meant that subsequent fill would consist either of fresh silt newly washed into the channel by the current or a flood, or material dredged from the margins of the river beyond the channel limits, whose removal was not strictly necessary to improve navigation.¹⁷

15. Davis, 1893, pp. 1267-1268.

16. Davis, 1893, pp. 1267-1268.

17. Davis, 1893, p. 1268.

Major Davis had already taken steps to obtain material from dredging not essential for navigation. On August 8, 1892, he had advertised for bids for further dredging of the river as well as in the tidal basin and to complete the unfinished contract in the Washington Channel. That dredging to be done in the Virginia Channel was precisely in those margins of the river where it was unnecessary for navigation, but essential to provide material for filling the reclaimed land to the specified grade. But as there was still some dredging in the Washington Channel that was necessary for improved navigation, the first work to be done was in that location. The five bids were opened on September 7, and on September 24 Major Davis signed a contract with the San Francisco Bridge Company, located, naturally, in New York City. The firm was supposed to begin work December 15. As they planned to use the hydraulic method of dredging, the specifications called for them to construct the necessary embankments to retain the mud, but they did not begin this until December 27, and they requested an extension of commencing dredging until February 15, 1893, as their dredge was **detained in** Boston on an incomplete State of Massachusetts contract. They requested and received two more extensions, and finally got started on dredging operations on June 1, 1893. The work was in the margin between the **navigation** channel and the reclaimed land.¹⁸

18. Davis, 1893, pp. 1268-1269.

In his report dated July 10, 1893, Davis made the first suggestion that development of the park begin:

The improvement has now reached a stage where some attention needs to be given the maintenance and preservation of the reservation. The rich soil, of which the greater part of the reclaimed area is composed, induces and fosters a rapid and prolific growth of high weeds, willows, and other trees and underbrush, which, in the summer season especially, render access to the various parts of the work quite difficult. This growth should be cleared up each year, until the reservation is ready to be laid out, graded, and sown with grass seed. Annual repairs will also be needed on the wall and reservoir gates.¹⁹

Davis was also concerned with law enforcement on the reclaimed land, and recommended that it be patrolled by two mounted policemen or watchmen. Congress, as usual, was in no hurry to take his suggestions.

Work on the seawall continued. On August 28, a high wind and rain swept the city, and the high tide was twice its normal level, sweeping clear over the top of the seawall. Logs and scows which smashed against the seawall did some damage. A similar but even more severe storm on October 13, 1893, raised the tide nearly six feet above normal. The tool scow anchored in the Virginia Channel dragged its anchor and was carried entirely ashore on Section III, and a sand dredge above Long Bridge went adrift and damaged the seawall.²⁰

19. Davis, 1893, p. 1270.

20. U.S. House Executive Documents, 53d Congress, 3d Session (1894-1895), Vol. 6, Doc. No. 1, Part 2, Appendix J-1 to "Report of the Chief of Engineers." comprising Report of Maj. Chas. E.L.B. Davis, July 5, 1894 (Serial 3297), pp. 932-933. Hereafter cited as "Davis, 1894."

Work progressed despite these setbacks, and in November 1893 filling on the Virginia Channel side of Section III was completed. Construction of the seawall then shifted to the Washington Channel side, and aided by an unusually mild winter, continued without serious interruption until February 23, 1894, when the seawall was completed up to Long Bridge, some 7,205 linear feet added to that previously built for a total of 25,495 linear feet. This completed the seawall around all of the reclaimed land except the interior of the tidal basin and a part of Section I where legal title was still in doubt. Filling behind the wall continued, however, and when during the winter it proved impossible to obtain gravel, oyster shells were used and proved satisfactory.²¹

Dredging continued in both the Washington and Virginia Channels and in the tidal reservoir. In the Washington Channel, a Von Schmidt dredger in rather poor condition had been put to work on June 1, 1893, and by September 25 had nearly completed dredging to the 12-foot depth. On October 20, the San Francisco Bridge Company finally received their dredger Boston after it had finished the Massachusetts contract, and they put it to work. Of slightly different design than those previously used, the Boston's dredge boom swung on a stern rather than bow stud, and was capable of making cuts 150 feet wide, although in the Washington Channel it usually operated to a width of 133 feet. The dredge worked next to the Washington Channel wharves at night, moving out to work in the channel during the day, so as not to impede commerce at the piers.²²

By March 8, 1894, the dredging in the Washington Channel under that contract was completed and on March 12 the dredge was moved to the Tidal Basin, where it dredged to a depth of 8 feet, depositing the mud on Section II between the Basin and Long Bridge. On April 23, 1894, the Boston had completed the contracted work, after some delay due to damage to the pump caused by sand. When deposits of sand were dredged, as they had been from time to time, the wear and tear on pumps from the scouring action was terrific. Despite such delays, the Boston proved to be the most efficient dredger ever used on the project.²³

21. Davis, 1894, p. 933.

22. Davis, 1894, pp. 933-935.

23. Davis, 1894, pp. 933-935.

In April 1894 Davis ordered a survey of the channel dredged in 1892 through the bar above Long Bridge, and found two or three feet of shoaling due to normal freshets. On April 24 he put the Boston to work redredging the channel through the bar and widening it to the southwest. Two freshets interrupted the work but otherwise did not impede it, as one cancelled the effects of the other. On May 8, a rise in the river of five feet interrupted work for one day. The rains causing it fell on newly cultivated land relatively close to Washington, and the water carried an excessive amount of sediment, leaving a very soft deposit of it about a foot deep uniformly over dredged and undredged areas. On May 21 a second freshet raised the river six and a half feet and stopped work for a week. But the water came from far upstream and carried less sediment. Indeed, when the Engineers examined the river after it subsided, they found that much of the deposit from two weeks earlier had been carried away, restoring the channel to its specified 20-foot depth. Normal dredging resumed after the freshet on May 28 and continued until July 26, 1894, when the San Francisco Bridge Company contract was completed. The dredged material, mostly sand, was placed mostly on Section II between the sewer canal and the tidal basin, although some was deposited on Section I.²⁴

On August 17, 1894, Congress appropriated \$150,000 for continued work and Major Davis negotiated three contracts using this money, one for further dredging in the Virginia and Washington Channels, one for material for the seawall, and one for riprap stone for the training dike on the Virginia Shore.²⁵

On October 4, 1899, Davis opened the proposals for dredging and on October 13, awarded the contract to the New York Dredging Company at 16½ cents per cubic yard in the Virginia Channel and nine cents per cubic yard in the Washington Channel. The firm commenced dredging October 16th, finishing work there December 15 after dredging 198,257 cubic yards. The dredger then moved to the Washington Channel where it resumed work December 20. Unlike the previous one, this winter turned out to be severe. Because of the formation of ice on the river, work stopped on December 29, 1894, and the dredger and pontoons were towed near

24. Davis, 1894, pp. 934-935.

25. U.S. House Executive Documents, 54th Congress, 1st Session (1895-1896), Vol. 5, Doc. No. 2, Appendix I-1 to "Report of the Chief of Engineers," comprising Report of Maj. Chas. E.L.B. Davis, July 9, 1895 (Serial 3372), pp. 1215-1216. Hereafter cited as "Davis, 1895."

the shore and anchored. By February 6, 1896, ice was six inches thick in the channel and nine inches thick in the Tidal Basin, and the Alexandria ferryboats had ceased to run.²⁶

A heavy snow storm moved through the District on February 7 and 8, and on the 8th the Norfolk steamers suspended operations. High winds drifted the snow so thickly on Long Bridge that it was closed until after the storm, being partially reopened February 9. Ice in the channel was now a foot thick and it wasn't until February 18 that one of the Norfolk Line steamers broke a channel through to the city. On February 24, tugs hired by the District Commissioners began breaking up the ice in earnest, and by February 28, the river was nearly clear. Dredging resumed March 6 and was completed on May 23, 1895. The Washington Channel had been widened and 221,742 cubic yards of mud, sand, and gravel had been deposited on Section III.²⁷

Davis meanwhile had obtained on October 4, 1893, two bids for seawall stone, and on October 22, 1893, awarded a contract to Charles G. Smith & Son at \$1.48 per cubic yard. Smith began delivery of stone October 26, 1894, but due to the severity of the winter it was not until April 16, 1895 that work began using day labor. It continued until December 9, 1895, when work on the upper courses was stopped by the weather which turning cold, would freeze the water in the cement.²⁸

26. Davis, 1895, pp. 1210-1211.

27. Davis, 1895, p. 1211.

28. Davis, 1895, p. 1211. U.S. House Documents, 54th Congress, 2d Session (1896-1897), Vol. 4, Doc. No. 2, Appendix J-1 to "Report of the Chief of Engineers," comprising Report of Maj. Chas. J. Allen, July 16, 1896 (Serial 3480), p. 1028. Hereafter cited as "Allen, 1896."

Davis had also taken steps to lengthen the "training dike" which extended southeast over the flats below Analostan Island. E. G. Gummel of Eckington, D.C., furnished the riprap stone and the work was done by day labor.²⁹

On January 16, 1896, Major Davis was reassigned to harbor projects in Southern California and Major Charles J. Allen was assigned to replace him. Allen was subsequently promoted to Lieutenant Colonel on February 5, 1897.³⁰

Under Allen, work continued on the lower courses of the seawall throughout the winter, **whenever the tide was out**. On April 7, 1896, the workmen completed the dry masonry wall around the northeast and southwest shores of the tidal basin and began to lay stones in cement mortar for the upper part of the wall. Work had also resumed in March on the unfinished portions of Section I. Work in both areas continued until September 1896. Thereafter the only areas that did not have seawall around them were the bathing beach in the tidal basin and the area east and west of the entrance where the inlet gates were to go.³¹

29. Davis, 1895, pp. 1211-1212.

30. U.S. House Documents, 54th Congress, 2d Session (1896-1897), Vol. 3, Doc. No. 2, "Report of the Chief of Engineers," Brig. Gen. W.P. Craighill, Sept. 29, 1896 (Serial 3479), pp. 141, 385.

Charles Julius Allen of New York was appointed a cadet at West Point on July 1, 1860. Graduating 15th in a class of 27, he was commissioned 1st lt. of Engineers, thus skipping entirely the rank of 2d lt., on June 13, 1864. Before the Civil War ended he had received two brevets, to capt. on Aug. 24, 1864 for "highly meritorious service" in the sieges of Forts Gaines & Morgan, Alabama, and to Major, on March 26, 1865, for "gallant and meritorious service" during the campaign against the city of Mobile and its defenses. After the war he was promoted captain on March 7, 1867, major on January 10, 1883, and lt. col. on February 5, 1897. Heitman, op cit., pp. 144, 158.

31. Allen, 1896, pp. 1028-1029

Allen also had 5,000 feet of the first seawall, built along the lower end of the Washington Channel, pulled up and relaid. The stone laid there early in the project had not been laid in cement mortar, and the wall there was not as massive as portions constructed later. Furthermore, down through the years since it had been laid the newer seawalls were being built with more of a slope on the outside. Thus this section was relaid in 1896 and 1897 to conform.³²

Allen also found it necessary to redredge the bar below Easby's Point, and on January 18, 1897, advertised for bids. He opened four bids on February 17, and on March 9 he signed a contract with A. M. Clegg for dredging at 10-5/8 cents per cubic yard.³³

Congress had meanwhile finally made a decision as to what use would be made of the reclaimed land. There was considerable pressure from commercial interests to have it subdivided and sold for private development. Indeed, as far back as 1879 Major Twining had been impressed with the marketable value of such reclaimed lands, which he thought would exceed the cost of reclamation. That the profits from the sale of such land could entirely reimburse the government for the cost of reclamation was a persuasive argument among economy-minded members of Congress in favor of such disposition. Railroads and other industries and businesses had their own plans for using such lands and did all they could to promote them. As a consequence, an attempt made during the 57th Congress in 1895 to have the reclaimed land declared a public park was defeated. Proponents of the measure did not give up, however.³⁴

32. U.S. House Documents, 55th Congress, 2d Session (1897-1898), Vol. 4, Doc. No. 2, Appendix J-1 to "Report of the Chief of Engineers," comprising Report of Lt. Col. Chas. J. Allen, July 19, 1897 (Serial 3632), p. 1317. Hereafter cited as "Allen, 1897."

33. Allen, 1897, p. 1316.

34. William J. Hartford, "Charles Carroll Glover," Successful American, Vol. V, No. 6, pp. 332-333. Cornelius W. Heine, The Contributions of Charles Carroll Glover and Other Citizens to the Development of the National Capital, pp. 13-17. Hereafter cited as "Heine, Glover."

Charles Carroll Glover, Washington banker and financier, was among those devoted to establishing this reclaimed land as a park. With his strong support other proponents of the measure in the United States Congress finally passed Senate Bill 3,307 on March 3, 1897, which established that the

entire area formerly known as the Potomac Flats, and now being reclaimed, together with the tidal reservoirs, be, and the same are hereby, made and declared a public park, under the name of the Potomac Park, and to be forever held and used as a park for the recreation and pleasure of the people.³⁵

The battle, however, was not yet won. On a visit to the White House, Charles Glover remarked to President Grover Cleveland that it was "certainly gratifying to know and to feel that wonderful stretch of land is to become the great National Park of this country." Cleveland, who had not yet signed the bill, was considerably surprised by the statement, and replied that it was not yet a park and the idea of making it into a truck garden for raising vegetables seemed to him to be the right idea. Glover spent the next hour trying to sell Cleveland on the park bill, and left the executive mansion convinced that he had. He still feared that Cleveland might not get to signing it before leaving office, and was considerably relieved when during a later visit to the White House the president's secretary handed him a note saying that Senate Bill 3,307 had just received the President's signature.³⁶

Aside from the obvious benefits to the public of declaring the reclaimed land a park, Colonel Allen reported in 1897 that dredging the river had improved commerce by providing for the use of heavier draught vessels--and the benefits to commerce were strikingly evident in materially lower freight rates in both the coal and ice trades. The coal trade had slowly recovered after the damage to the Chesapeake and Ohio Canal and in 1896 reached 334,293 tons. Commercial interests had not gotten the reclaimed land they wanted, but they benefited fully in other ways from the project and had few grounds for complaint.³⁷

35. Allen, 1897, p. 1319.

36. Hartford, op. cit., p. 333. Heine, Glover, p. 17.

37. Allen, 1897. pp. 1327-1329.

The fact that Congress had decreed park use for the reclaimed land did not mean that work on it was finished. In the fall of 1897 Colonel Allen estimated that due to settling and compacting of the dredged material as it dried out, an additional 2,100,000 cubic yards of new material would have to be dumped to bring the reclaimed land up to specified grade. And in Colonel Allen's opinion, specified grade was not enough. After all, it had been chosen in reference to the flood level of 1877, but the flood of 1889 had been three feet higher. Allen thought that the level of the land should be three feet above the 1889 flood plain. Together with the necessary strengthening and readjustment of the seawall this would entail, the cost of filling the reclaimed land to that level he estimated as an additional 31,000,000! ³⁸

Meanwhile, Mr. Clegg was having no end of trouble fulfilling the contract he had signed on March 9, 1897. He was to begin work July 1, but when July 8 came up and no dredger had appeared, Colonel Allen called this to the contractor's attention. Clegg then asked for an extension of the date for beginning work, to October 15, but Allen told him that this could not be considered. Clegg claimed he had prior contracts, but that he expected to have a pumping dredge and other necessary equipment on the job by August 15, and that even starting that late he could complete the job before the deadline. An extension to August 15 was then finally granted on Colonel Allen's recommendation. ³⁹

When by August 23, no dredger had appeared, Allen again put pressure on Clegg, who finally began to make strictly preliminary arrangements. Some tools arrived in August and in September men began forming embankments on Section I to hold dredged mud until it could dry out. On October 20, pontoons and dredge pipe arrived. The dredger itself left New York for Washington on October 16, but it was driven ashore by a storm near the Delaware breakwater on October 24. The machine was eventually hauled off and towed to Washington, where it arrived in very poor condition on November 16. Repairs to the machine were begun, while in the channel above Long Bridge crews staked out with pilings the area to be worked. ⁴⁰

38. Allen, 1897, p. 1318.

39. Allen, 1897, p. 1316. U.S. House Documents, 55th Congress, 3d Session (1898-1899), Appendix K-1 to Report of the Chief of Engineers, comprising Report of Lt. Col. Chas. J. Allen, August 3, 1898 (Serial 3437), pp. 1185-1186. Hereafter cited as "Allen, 1898."

40. Allen, 1898, pp. 1185-1186.

On December 21, 1897, five and a half months late, repairs to Clegg's dredge were completed and it went to work. Six days later the river froze over, not severely enough to stop navigation but enough to stop dredging. The ice was broken up on January 5, 1898, and dredging resumed, and by January 11 the river was completely clear. The government's assistant engineer, however, reported that the "weather was for the most part unusually favorable for the season, but the dredge was in such bad condition that but little progress was made." The dredging was far below specified quantities, and Colonel Allen pointed this out to the contractor.⁴¹

Early in February work stopped again when ice one to four inches thick formed on the river. On February 12, a spell of favorable weather began, and that day the dredge ran one-and-a-half hours. It didn't work at all on the 13th, and on February 14, a coupling on the cutter shaft broke after it had worked two-and-a-half hours. The machine was not repaired until February 21, and then the crew found that the hoisting mechanism was entirely worn out. On February 22 it started again but after two and a quarter hours the coupling again broke. The government's assistant engineer reported in disgust that the plant was "inefficient and without the capacity or power to do the work called for by the contractor."⁴²

On February 21, 1898, Colonel Allen had warned the bondsmen who stood behind Clegg's performance that the progress was far too slow, and on February 25, Allen recommended annulment of the contract. On March 7, the contract was annulled with the full approval of the Chief of Engineers, and Colonel Allen prepared to advertise for new bids. On April 20, however, the Secretary of War overruled the Chief of Engineers and directed that Mr. Clegg be permitted to proceed, after duly executing another bond to insure his performance.⁴³

41. Allen, 1898, p. 1186.

42. Allen, 1898, p. 1186.

43. Allen, 1898, pp. 1186-1187.

Clegg's dredger was tried again April 26 and seemed ready to go to work. On April 27 it broke down. On May 3 the dredge was run again, but on May 4 the packing blew out of the pump. On May 5, the runner of the pump broke. In July the dredge worked 43 hours. In August it didn't work at all. On September 1, dredging resumed but so much time was spent on repairs, in the whole month it worked a quarter of the time, the equivalent of seven days and nights. In October it worked even less. In November it showed some improvement, dredging 18,894 cubic yards, but weather soon intervened. On November 27, a strong gale out of the northwest scoured the city, and under its influence the tide dropped four feet below its usual minimum.⁴⁴

On December 14, the river froze, and it was not until December 22 the ice broke up. The dredger did not do as well as in November, which was understandable in view of the weather, but it did do some work, continuing through January and into February 1899. On February 9, the river froze and unusually cold weather with frequent snowstorms rendered work impossible. Three feet of snow fell on the night of February 13, and ice on the river was six to ten inches thick. On February 19, the ice above long bridge was broken up by tugs employed by the District Commissioners, and ice from far upstream ran down the river for the next five days.⁴⁵

44. Allen, 1898, pp. 1186-1187. U.S. House Documents, 56th Congress, 1st Session (1899-1900), Appendix K-1 to "Report of the Chief of Engineers," comprising Report of Lt. Col. Chas. J. Allen, July 20, 1899 (Serial 3906), pp. 1413-1414. Hereafter cited as "Allen, 1899."

45. Allen, 1899, p. 1414.

On March 18, Clegg's dredge was moved out to work again, but it worked only one day, March 28, and dredged 463 cubic yards. Clegg had been building a new dredge, which he brought down on March 29, although it was not yet completed. In July, the dredge worked less than two days and nights. In August, it worked less than six. By that date Clegg had been granted, on orders from higher authority, three extensions: to October 1, 1898; to April 1, 1899; and to September 30, 1899; and he still showed no sign of being able to complete the work. But with apparent political influence behind Clegg, Colonel Allen could only sit back in frustration and wait.⁴⁶

On August 7, the Comptroller of the Treasury ruled that no contract any longer existed between the United States and Mr. Clegg, but because of Clegg's influence in the administration, Allen was required to negotiate a new contract, which Clegg signed September 7, 1899. The contract carried a clear stipulation that no less than 50,000 cubic yards must be dredged each month, except December through March, to which Clegg agreed. But he never did one half that much, and on April 7, 1900, he notified Allen that he had discontinued work and was unable to continue. The contract was then annulled on May 9, 1900. Completion of the reclamation of Potomac Park had been delayed four years because of an inept contractor's political pull.⁴⁷

Ever since the act passed by Congress on August 5, 1886 to provide for "protecting the interests of the United States in the Potomac River Flats," work on Section I of the reclamation project in the area claimed as "Kidwell's Meadows" had been suspended. On November 26, 1886, the Attorney General initiated a suit in the form of a bill of equity to clear up the question of legal title to the reclaimed land. About 30 attorneys appeared on behalf of several dozen citizens and a number of corporations, including the Baltimore and Potomac Railroad, the Chesapeake and Ohio Canal Company, The Inland

46. Allen, 1899, p. 1414. U.S. House Documents, 56th Congress, 2d Session (1900-1901), Vol. 16, Doc. No. 2, Appendix L-1 to "Report of the Chief of Engineers," comprising Report of Lt. Col. Chas. J. Allen, July 20, 1900 (Serial 4090), p. 1702. Hereafter cited as "Allen, 1900."

47. Allen, 1900, p. 1702.

and Seaboard Coasting Company, the Washington Steamboat Company, and the Independent Ice Company.⁴⁸

Chief Justice Bingham, Justice Hagner and Justice McComas set on the case in the Supreme Court of the District of Columbia, but it took them nine years to decide the case. On October 17, 1895, the court passed a decree read by Associate Justice Alexander B. Hagner sustaining the rights of the United States to the re-claimed flats, with certain exceptions. In the decree the court recognized just claim for indemnification of owners of certain tracts on or near Kidwell's Meadows along the old Chesapeake and Ohio Canal and authorized further proceedings in these instances. On March 2, 1896, the court issued a supplemental decree adjudging the land in question to be worth ten cents per square foot. But even then, there were lots in three squares whose ownership the court had not been able to determine, and it reserved adjudication for future examination.⁴⁹

Having examined the two decrees, the House Committee on the District of Columbia reported that further court inquiry "need not delay the appropriation by Congress of the sum which it may determine should be paid as compensation for the injury to or appropriation of all the portions of the lots referred to . . ."⁵⁰ The District of Columbia Appropriation Bill passed on June 11, 1896, included a sum of \$26,584.09 to be paid by the court to the claimants.⁵¹

48. U.S. House Documents, 54th Congress, 1st Session (1895-1896), Vol. , Doc. No. 296, "Potomac River Flats, Letter from Justices of the Supreme Court of the District of Columbia, transmitting . . . a report of the action taken by the court and the conclusions arrived at" (Serial 3428), pp. 1-69. Hereafter cited as "Potomac Flats Case." See also Alexander B. Hagner, Some Remarks on the History and Uses of Potomac Park. This pamphlet constitutes an address of a retired associate justice of the District Supreme Court delivered before the Cosmos Club on June 8, 1914. See especially pp. 5-12.

49. Potomac Flats Case, pp. 1-4.

50. Potomac Flats Case, p. 2.

51. Allen, 1897, p. 1315.

The case of Martin F. Morris, et al., appellants, v. the United States, generally known as the "Potomac Flats Case," finally went before the Supreme Court of the United States in 1898. The decision rendered by that court virtually sustained the contentions of the government as to title, declaring the Kidwell and other claims on Section I invalid and confirming title of the government to the wharves on Water Street. This decision removed all legal obstacles to the prosecution of the improvement on Section I.⁵²

In the meantime, by an act of March 3, 1899, Congress authorized the dredging of channels 24 feet deep at low tide through all shoals in the Potomac River below Washington. The earlier act of 1882 had stipulated that the channels at Washington be deep enough to accommodate the largest vessels that could come up the hundred miles of river to Arsenal Point. In other words, the channel opposite the reclamation project was to be deep enough so that any ship that could reach as far as Arsenal Point could also reach Georgetown. When that act had been passed, the navigable depth downstream was 20 feet, so dredging at Washington was to that depth. But with the lower channel now being dredged to 24 feet, the depth of the channels at Washington and Georgetown needed also to be increased, incidentally providing more landfill. No such step was taken at this time, however, as there was no appropriation for the work by Congress.⁵³ Routine work continued.

52. Allen, 1899, p. 1415.

53. U.S. House Documents, 57th Congress, 1st Session (1901-1902), Vol. , Doc. No. 2, Appendix J-1 to "Report of the Chief of Engineers," comprising Report of Lt. Col. Chas. J. Allen, July 20, 1901 (Serial 4280), p. 1401. Hereafter cited as "Allen, 1901." U.S. House Documents, 59th Congress, 2d Session (1906-1907), Vol. 41, Doc. No. 22, Part 1, Appendix K to "Report of the Chief of Engineers," comprising Report of Capt. Spencer Cosby, July 23, 1906 (Serial 5144), p. 1093. Hereafter cited as "Cosby, 1906."

On July 3, 1900, Colonel Allen invited new bids for further dredging to resume the work that Mr. Clegg had so completely failed to perform. He opened the bids on August 2, and on August 15 signed a contract with the Atlantic, Gulf and Pacific Company of New York. The contractor was to dredge 460,000 cubic yards of material from the Virginia Channel above Long Bridge, 80,000 cubic yards from below the bridge, and 125,000 cubic yards in the Washington Channel.⁵⁴

The New York firm was supposed to begin on or before September 27, and the firm commenced having its dredger towed down from Wilmington, Delaware, inside the Virginia Capes. On September 18, 1900, a severe gale struck the area and the tug was forced to cast the dredger loose. The machine then was driven out into the Atlantic and lost at sea.⁵⁵

On October 1, the company began building an entirely new dredger at Washington. Its hull was launched on December 6, 1900, and it was completed February 9, 1901. The firm had meanwhile obtained an extension to January 27, 1901, and although their dredge was not ready by that date, they had done much other work in preparation. Their crews had begun building embankments to retain the dredged mud as early as September 17, 1900, and continued with this work until May 1901. After the dredger was finished, ice on the river kept it from working, and it finally began on March 11. It worked night and day, except when delayed by ice, winds, or freshets; it worked all through the summer. On September 28, 1901, the machine completed the Atlantic Gulf and Pacific contract. In its last month the dredger broke all previous records for the quantity of material handled, about 177,000 cubic yards in 28 days, more than three times the specified contract minimum of 50,000 cubic yards per month.⁵⁶

54. Allen, 1901, pp. 1401-1402.

55. Allen, 1901, p. 1400.

56. Allen, 1901, p. 1401.

Meanwhile, on August 12, 1901, Colonel Allen transferred 31 acres of Potomac Park adjacent to the Washington Monument grounds to the Office of Public Buildings and Grounds for development as park land. This small portion of West Potomac Park, therefore, was the first of the reclaimed land to be used for park purposes.⁵⁷

During this period the army allowed civilians, upon obtaining a proper permit from the Engineer Office, to dump unwanted earth as a fill on parts of Potomac Park. The individuals or firms doing the dumping were required to grade what they dumped, and only clean soil was acceptable. This was convenient to both parties, as contractors who had to dispose of earth from cellar excavations or grading projects in the District could dump it near at hand so long as they spread it out carefully. The government, for their part, acquired free of charge new earth fill, generally placed on the reclaimed area so far from the water that filling with dredged material would have been difficult merely because of the distance it would have to be carried through discharge pipes. Everyone was happy with the idea.⁵⁸

57. U.S. House Documents, 57th Congress, 2d Session (1902-1903), Vol. , Doc. No. 2, Appendix K-1 to "Report of the Chief of Engineers," comprising Report of Lt. Col. Chas. J. Allen, July 19, 1902 (Serial 4445), p. 1083. Hereafter cited as "Allen, 1902." U.S. House Documents, 57th Congress, 2d Session (1902-1903), Vol. 8, Doc. No. 2, Appendix DDD to "Report of the Chief of Engineers," comprising Report of Col. Theo. A. Bingham, July 19, 1902 (Serial 4447), pp. 2738-2739. The latter report is that of the officer-in-charge of Public Buildings and Grounds in Washington, D.C., hence the officer responsible for development of the reclaimed land as a park. In the chapters following, the abbreviated form of citation of reports emanating from this office will include the initials "PB&G" to differentiate them from reports of the officer-in-charge of reclamation.

58. Allen, 1902, p. 1038.

For lack of appropriations and lack of decision whether or not to proceed with Colonel Allen's new fill level and 24 foot dredging depth, no further work of significance was done until 1903 when because of floods that year and the year before, shoaling of the channel required new dredging to keep navigation open.⁵⁹

Colonel Allen advertised for proposals on July 11, 1903, and opened his only bid on July 31. It was again one from the Atlantic, Gulf and Pacific Company, who naturally got the job. Crews of that firm began putting up embankments to hold the dredged material on November 9, but their machine was detained by another project it had not finished, and consequently did not arrive until December 19. The river, meanwhile had frozen on December 6, so the dredger could not go to work. On January 12 the the Potomac was reported frozen clear to its mouth, and the ice above Aqueduct Bridge was a foot thick. It was not until March 7, 1904, that the dredger commenced work in the Washington Channel, making excellent progress. But so much material had been deposited by freshets in the preceding years, the funds available for this project enabled Allen to redredge a channel only 200 feet wide instead of 400 as specified. Each appropriation seemed smaller than the one before, and although Allen estimated the entire project was only two-thirds completed, the lack of funds continued.⁶⁰

59. U.S. House Documents, 58th Congress, 2d Session (1903-1904), Vol. 2, Doc. No. 2, Appendix K-1 to "Report of the Chief of Engineers," comprising Report of Lt. Col. Chas. J. Allen, July 31, 1903 (Serial 4637), pp. 1035-1038. U.S. House Documents, 58th Congress, 3d Session (1904-1905), Vol. 6, Doc. No. 2, Appendix K-1 to "Report of the Chief of Engineers," comprising Report of Col. A.M. Miller, July 31, 1904 (Serial 4785), p. 1306. Hereafter cited as "Miller, 1904."

60. Miller, 1904, pp. 1306-1307.

On January 9, 1904, Colonel Allen was promoted to brigadier General and retired from the army. His successor was Colonel A. M. Miller, who, however, departed on September 13, 1904, leaving his subordinate Captain W. P. Wooten in charge until Lieutenant Colonel Smith S. Leach took over the position on November 14, 1904.⁶¹

A new appropriation approved on April 28, 1904, had meanwhile provided funds for further dredging. Colonel Miller opened bids on July 11, and for a third time a contract was awarded to the Atlantic, Gulf and Pacific Company, which without wasting a moment, put a crew to work forming the necessary embankments the next day. The A.G. & P. dredge began work July 23, working night and day except when minor repairs were necessary, until October 1, when the contract was completed. The 319,375 cubic yards of mud dredged were deposited on Section I below Easby's Point.⁶²

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61. Miller, 1904, p. 1305. See also, in same volume, "Report of Chief of Engineers," Brig. Gen. A. Mackenzie, Sept. 28, 1904, p. 194. U.S. House Documents, 59th Congress, 1st Session (1905-1906), Vol. 6, Doc. No. 2, Appendix K-1 to "Report of the Chief of Engineers," comprising Report of Lt. Col. Smith S. Leach, July 31, 1905 (Serial 4946), p. 1149. Hereafter cited as "Leach, 1905."

Alexander Macomb Miller was one of those rare specimens, a native of the District of Columbia. He was appointed to West Point on July 1, 1861, and graduated 3d in a class of 68. He was commissioned 1st lt. of Engineers on June 23, 1865, thus skipping the rank of 2d lt. Miller was promoted captain on February 22, 1869, major on April 16, 1883, and lt. col. on July 5, 1898.

William Preston Wooten, of North Carolina, was appointed to the U.S. Military Academy on June 15, 1894. He graduated 3d in a class of 54 and there being no vacancies in the Corps of Engineers upon his graduation, he was commissioned in the Corp "additional" 2d lt. on April 26, 1898, and 2d lt. on July 5, 1898. He was promoted 1st lt. on Feb. 2, 1901.

Smith Stallard Leach, a native of Indiana, was appointed to the U. S. Military Academy on July 1, 1871. He graduated 1st in his class of 41 and was commissioned 2d lt. of Engineers on June 16, 1875. Leach was promoted 1st lt. on March 4, 1879, captain on Sept. 30, 1884, and Major on Feb. 5, 1897. Heitman, op. cit., pp. 144-145, 621, 709, 1060.

62. Leach, 1905, p. 1150.

Colonel Miller had meanwhile resumed relaying the Washington Channel seawall on April 4, 1904. The work was done west of the wall Colonel Allen had earlier had relaid, and the new sections were designed to conform with that wall. The work was interrupted by a winter of unusual severity, the river remaining frozen from about the middle of December through the middle of March with ice 15 inches thick at the Aqueduct Bridge. Work on the seawall resumed in the spring and continued until October 31, 1905, all of it having been done by hired labor rather than by contract.⁶³

On August 1, 1905, Colonel Leech departed and Lieutenant Colonel R. L. Hoxie was assigned as his temporary replacement. On December 15, 1905, Captain Spencer Cosby took charge of the project.⁶⁴

63. Leach, 1905, p. 1150. U.S. House Documents, 59th Congress, 2d Session (1906-1907), Vol. 41, Doc. No. 22, Appendix K to "Report of the Chief of Engineers," comprising Report of Capt. Spencer Cosby, July 23, 1906 (Serial 5144), p. 1092. Hereafter cited as "Cosby, 1906."

64. Cosby, 1906, p. 1091. Richard Leveridge Hoxie fought through most of the Civil War as an enlisted volunteer before seeking a commission in the Regular Army. A native of New York, he enlisted as a bugler in Company F of the 1st Iowa Cavalry on June 13, 1861. He held the ranks of private and corporal before being mustered out on June 9, 1864. On July 1, 1864, he was appointed to West Point, and he graduated four years later 3d in a class of 54. Hoxie was commissioned 2d lt. in the Corps of Engineers on June 15, 1868, and promoted 1st lt. on Sept. 22, 1870, captain on June 15, 1882, and major on March 31, 1895.

Spencer Cosby was born in Maryland but was appointed to West Point from Kentucky on June 16, 1887. He graduated 1st in a class of 65 and entered the Corps of Engineers as an additional 2nd lt. on June 12, 1891. Cosby was commissioned 2d lt. on April 12, 1894, and was promoted 1st lt. on Oct. 13, 1895. When the Spanish-American War broke out in 1898, Cosby entered the volunteer service with the rank of major of engineers on June 13, and was discharged from the volunteers on Dec. 31 that same year. He was promoted captain of Engineers on Feb. 2, 1901. Heitman, op. cit., pp. 144-145, 329, 549.

Colonel Hoxie meanwhile had advertised for proposals for further dredging on September 30, and on October 30 he opened them. Again, the Atlantic, Gulf and Pacific Company won the contract, signed on November 24, its fourth in succession. The contract called for dredging 275,000 cubic yards of material. They were to begin January 8 but did not actually have their men at work forming embankments until February 1, 1906, and that part of the work was not completed until April 20. The dredger finally went to work July 20, but then worked continuously, night and day, until completing the contract on October 5. The dredged mud was deposited on Section III.⁶⁵

Under a new appropriation of March 2, 1907, Colonel Cosby invited bids on July 13 for dredging the tidal reservoir, the Virginia Channel, and the Anacostia River. He opened the bids a month later and on August 26, 1907, signed a contract with the Maryland Dredging and Contracting Company.⁶⁶

The firm began forming embankments September 30, 1907, and continued the work into the summer of 1909. Actual dredging was begun in the tidal reservoir on October 8, 1907, with a 15-inch hydraulic dredger named Potomac. The tidal basin had, over the years, filled up so that its average depth was four and a half feet, and the Potomac was redredging it to the specified eight-foot depth. The contract also

65. Cosby, 1906, p. 1092. House Documents, 60th Congress, 1st Session (1907-1908), Vol. 15, Doc. No. 26, Part 2, Appendix K-1 to "Report of the Chief of Engineers," comprising Report of Maj. Spencer Cosby, July 10, 1907 (Serial 5284), pp. 1163-1164. Hereafter cited as "Cosby, 1907."

66. Cosby, 1907, p. 1164. House Documents, 60th Congress, 2d Session (1908-1909), Vol. 21, Doc. No. 1052, Appendix K-1 to "Report of the Chief of Engineers," comprising Report of Major Spencer Cosby, July 20, 1908 (Serial 5431), pp. 1205-1206. Hereafter cited as "Cosby, 1908."

called for the removal of wrecks, logs, snags, etc. Surprisingly, wrecks of 11 boats and 22 logs or snags came out of the relatively small area, some of which may have been older than the District itself.⁶⁷

Meanwhile, over the past decade and a half the problem posed by Long Bridge had been in the process of resolution. The flood of 1889 had seriously damaged the portion of the bridge over the Washington Channel and forced the railroad to strengthen it with trestle work. About the same time, on March 7, 1890, the Senate passed a resolution calling for an investigation of the desirability of separating the wagon road from the railroad at this location. In a report submitted April 2, Colonel Hains had replied in the affirmative. It was desirable, he said, to raise the grade of the railroad tracks across the flats high enough to provide for passage of vehicles beneath them, and to build separate railroad and wagon road bridges over the head of the Washington Channel. He then went on to argue again, as he had so often in past years, in favor of rebuilding Long Bridge over the Virginia Channel, suggesting a bridge of eight 270-foot spans and a pivot draw.⁶⁸

Colonel Hains' arguments did not seem particularly persuasive to the railroad officials, but the flood of 1889 had been. The Washington Channel span could not survive indefinitely after the damage it had sustained, even with temporary trestle supports and other repairs. On July 14, 1891, the Baltimore and Potomac Railroad submitted to the Secretary of War plans for a bridge of two plate girder spans on masonry piers. Some of the distance covered by old wooden spans now rendered unnecessary by reclamation of land beneath them were to be replaced with an extension of the causeway. The plans were sent down through channels to the Chief of Engineers and then to Colonel Hains. The latter prepared a report recommending approval of the railroad's plans, which he forwarded on July 20. Eight days later, the plans were approved by the Secretary of War.⁶⁹

67. House Documents, 61st Congress, 2d Session (1909-1910), Vol. 23, Doc. No. 111, Appendix K-1 to "Report of the Chief of Engineers," comprising Report of Maj. Jay J. Morrow, July 20, 1909 (Serial 5726), pp. 1209-1210. Hereafter cited as "Morrow, 1909."

68. Hains, 1890, pp. 1040-1045.

69. Davis, 1892. p. 1036.

The railroad immediately began construction. By the summer of 1892 the new Washington Channel bridge was nearly completed. But when the company began to fill the Potomac Park approaches with earth, the southwest abutment sank 18 inches in the treacherous mud bottom and the downstream wing moved forward four feet, endangering the whole span. The railroad hurriedly put up temporary trestle supports and drove emergency pilings to halt further movement, and removed all the fresh earth fill pressing against the abutment.⁷⁰

Meanwhile, the railroad managed to have introduced in the Senate in the First Session of the 53rd Congress a "bill to provide for doing away with certain grade crossings on the lines of the Baltimore and Potomac Railroad in the City of Washington, D. C., and for other purposes." Among the "other purposes," Section 10 gave the railroad the right to lay a second track over Long Bridge, and freed it of the obligation to "maintain the said railway bridge in good condition for ordinary highway travel," further requiring the government to build a new highway bridge. The bill also said that the railroad would build two additional 140-foot spans in place of the northern end of the causeway on the Virginia shore, presumably to increase the discharge area in case of flood and thus obviate one of the criticisms of Long Bridge.⁷¹

This proposal overlooked the fact that Long Bridge was not primarily a railroad bridge, had not been built by the railroad, and at the time this bill was introduced, was the only highway bridge over the Potomac below Georgetown in the District. The railroad had in 1870 been given something for nothing: use of a public bridge for the mere cost of upkeep. Now they wanted to take it all and force the taxpayers to replace the highway part of it out of their own pockets. Major Davis was incensed.⁷²

70. Davis, 1892, p. 1036.

71. Davis, 1893, pp. 1274-1280.

72. Davis, 1893, pp. 1279-1280.

When the bill was referred to him for comment, he argued forcefully against its passage in a special report dated December 20, 1892. First, it was necessary in his opinion to build a new bridge or bridges and eliminate the existing span entirely, rather than perpetuate it by giving it entirely to the railroad and thus removing it from government control. The existing span, he said, was an obstruction to navigation, interfered with the progress of the Potomac River development, endangered the work already done in river improvement, and was an unsafe structure.⁷³

Instead, Major Davis recommended rewriting Section 10 of Senate Bill 3477 to provide that the government build a new steel draw bridge on masonry piers to carry a double track railroad, a roadway, and a sidewalk. The railroad would pay half of the cost of building the new bridge and half of the cost of tearing up the old one, and would assume the total cost of maintaining the new structure in exchange for its use.⁷⁴

Meanwhile, the railroad had continued trying to solve the problem of the traveling abutments on the Washington Channel. The movement of the south abutment proved so serious that it was entirely dismantled down to the water level and rebuilt.⁷⁵ Then the Panic of 1893 intervened, bringing on a depression that was in some ways the worst of the century. It lasted more or less for five years, leaving the Washington Channel span, almost literally as well as figuratively, up in the air.

On February 12, 1901, Congress passed an act that provided in Section 12:

73. Davis, 1893, pp. 1278-1279.

74. Davis, 1893, p. 1280.

75. Davis, 1893, p. 1270-1271.

That the Secretary of War be, and he is hereby, authorized to enter into a contract with the Baltimore and Potomac Railroad Company or any other party to construct within two years after the passage of this Act, at a point not less than five hundred feet above the site of the present Long Bridge, a new and substantial bridge for highway travel, of iron or steel, resting upon masonry piers and provided with suitable approaches, and with a sufficient draw, all in accordance with plans and specifications to be approved by the Secretary of War; and there is hereby appropriated (one-half out of the revenues of the District of Columbia and one-half out of the revenues of the District of Columbia and one-half out of any money in the Treasury not otherwise appropriated) the sum of five hundred and sixty-eight thousand dollars, or so much thereof as may be necessary, to be paid from time to time, as the construction of the said bridge progresses, by the Secretary of War, under such regulations as he shall prescribe.

The act went on to provide for street railroads to cross the bridge. The Washington, Alexandria and Mount Vernon Railway already crossed Long Bridge in addition to the Baltimore and Potomac and would be allowed to change its streetcar line to the new structure, but would pay a half cent per passenger crossing the bridge on its cars.⁷⁶

A Board of Officers of the Corps of Engineers, consisting of Lieutenant Colonel Charles J. Allen, Chairman, Captain Edward Burr, Captain Lansing H. Beach and First Lieutenant G.M. Hoffman, recorder, was convened by Special Orders No. 8, dated March 22, 1901, to select a site, formulate plans, specifications, and estimates for the new bridge. The board assembled on April 3, 1901, at the U. S. Engineer Office at 2001 I Street, Northwest, and then took steps to examine the location and have witnesses appear who so desired.⁷⁷

76. U. S. House Documents, 57th Congress, 1st Session (1901-1902), Vol. 12, Doc. No. 2, "Report of the Chief of Engineers," Brig. Gen. G. L. Gillespie, Oct. 1, 1901 (Serial 4279), p. 119.

77. U. S. House Documents, 57th Congress, 1st Session (1901-1902), Vol. 64, Doc. No. 138, "Bridge Across the Potomac River, Washington, D. C." (Serial 4331), pp. 1-2. Hereafter cited as "Potomac Bridge Board."

The Act of 1901, incidentally, directed in Section II that the Baltimore and Potomac Railroad remove the existing Long Bridge which was, according to the act, "inadequate for the accommodation of the largely increased railroad and vehicular traffic, is in a measure obstructive of navigation, and needs to be reconstructed" As its own expense, the railroad was "directed and required" to build a new bridge on practically the same location as Long Bridge, in accordance with plans to be approved by the Secretary of War. The new bridge was to be for "two or more railway tracks," was to have an "efficient draw," and was to accommodate other railways upon "such reasonable terms as may be agreed upon between the companies or prescribed by Congress."⁷⁸

On April 4, the Board listened to various people including brick interests and real estate interests who argued for various locations within the specified limit. The engineer of the Pennsylvania Railroad, acting for the Baltimore and Potomac, presented plans his company had already drawn up, as did a representative of the Scherzer Rolling Lift Bridge Company.⁷⁹

The provision that the electric railway would cross the highway bridge meant that the structure would have to carry an unusually heavy load, so test borings were necessary which, made at intervals of 500, 1,000 and 1500 feet above Long Bridge, showed that bedrock was 80 to 100 feet below low tide.⁸⁰

The board selected as the proper location a line roughly parallel to Long Bridge but 1,190 feet upstream from the latter's drawspan, which would be about 1,000 feet above the line selected by the Baltimore and Potomac Railroad for its new bridge. The distance between the two structures would allow District tugs to break up ice between the bridges in winter and had other advantages.⁸¹

78. Potomac Bridge Board, p. 3.

79. Potomac Bridge Board, p. 4.

80. Potomac Bridge Board, p. 4.

81. Potomac Bridge Board, p. 5

Providing for a single track of the electric railway, whose cars were 8' 3" wide, and for the widest wagons (such as lumber wagons and furniture vans), the Board chose a width for each traffic lane of eight feet with 10' 3" provided for the street-car line, and two sidewalks each six feet wide.⁸² The roadway, the Board concluded, should be no less than 40 feet from curb to curb.⁸³

For the floor, the Board turned away from wood and chose asphalt. Although its heavier weight would require stronger trusses, it would also diminish vibration. According to the Act of 1901, the electric railway up to the bridge would be operated with the same underground electric system used on the District streets--a center slot between the rails to accommodate a subterranean trolley connection. But the bill did not stipulate that this would be so over the Bridge, and as the line changed to overhead wires on the Virginia shore, either system could be used. The board, however, recommended overhead wires on the bridge, providing for a sturdier bridge than if a slot had to be provided in the floor of the span.⁸⁴

In conclusion, the Board submitted two plans, one for a bridge that could be built within the appropriation, and another, which they recommended, that would be more costly. The latter was to consist of eleven fixed spans of 216 feet each, and one horizontal revolving drawspan of 290 feet, providing a clear opening of a hundred feet on each side of the piers.⁸⁵ It would carry two trolley lines with overhead wires, and have an electric drawspan. The pavement would be sheet asphalt with granolithic paved sidewalks. The spans recommended were Pratt Truss.⁸⁶

82. Potomac Bridge Board, pp. 5-6.

83. Potomac Bridge Board, p. 7.

84. Potomac Bridge Board, pp. 8-10

85. Potomac Bridge Board, pp. 9-10.

86. Potomac Bridge Board, pp. 11-12.

As an afterthought, the Board mentioned that it considered a third plan of a masonry arched bridge (similar to the present Arlington Memorial Bridge), which would be aesthetically more handsome. But it reported that this type was really impractical.⁸⁷

The report was sent to the Chief of Engineers on October 25, 1901. He forwarded it to Secretary of War Elihu Root on November 4, and Root sent it on to the Speaker of the House of Representatives on December 14.

On February 6, 1903, Colonel Allen advertised for bids for the bridge. All those opened on March 27 were in excess of the appropriation, so on June 10, he advertised again.⁸⁸

The Pennsylvania Steel Company of Philadelphia won the contract for building the bridge on August 29, 1903. In October, test pilings were driven along the line of the bridge at the sites of the piers and abutments. As indicated by the conclusions reached by the army engineers in 1901, pilings 70 to 80 feet long would be necessary on the Washington side of the stream, while on the Virginia Channel 40-foot piles would do. Work was shut down for the winter in December but resumed in March 1904, and by summer the Potomac Park abutment foundation was complete, while filling of the Potomac Park approach embankment had begun.⁸⁹

87. Potomac Bridge Board, pp. 1-2, 13.

88. U.S. House Documents, 58th Congress, 2d Session (1903-1904), Vol. 13, Doc. No. 2, Appendix CCC3 to "Report of the Chief of Engineers," comprising "Highway Bridge Across the Potomac . . ." (Serial 4639), p. 2484.

89. U.S. House Documents, 58th Congress, 3d Session (1904-1905), Vol. 9, Doc. No. 2, Appendix BBB2 to "Report of the Chief of Engineers" (in Vol. 8 of Reports of the War Department), comprising "Highway Bridge Across the Potomac . . ." (Serial 4788), pp. 3879-1881.

Tardy arrival of materials caused numerous delays, but the two abutments and seven of the twelve piers were finished by the end of the year and work on the superstructure had begun in September 1904. Six spans were in varying stages of completion when winter closed down the work on January 7, 1905.⁹⁰

Construction resumed about the middle of March and the last of the piers was finished by the end of May. In June 1905, five of the eleven spans were in place and nearly completed, and another four were being erected. Early in June, however, the bridgemen called a general strike. A contract, meanwhile, was negotiated in April with Ernest Miner of Petersburg, for building up the earth embankment for the Virginia approach and good progress was made.⁹¹

The strike was settled at the end of July, and rapid progress continued to be made. The last of the structural work was put in place and riveted up in November 1905. Meanwhile, work was progressing on the roadway and sidewalk paving, installation of operating machinery on the drawspan, rail and equipment for the double track electric railway, electric lights, etc. Final adjustment of the draw span and operating mechanism were done in January and February 1906.⁹²

90. Ibid., p. 3879. U. S. House Documents, 59th Congress, 1st Session (1905-1906), Vol. 8, Doc. No. 2, Part 3, Appendix BBB₂ to "Report of the Chief of Engineers," comprising "Highway Bridge Across the Potomac . . ." (Serial 4948), pp. 2605-2607.

91. Ibid., p. 2605.

92. Ibid., p. 2607.

Construction of macadam pavement on the Potomac Park approach was begun in August and finished in October, and a drainage system for these approaches was finished in December, that on the Virginia side being completed in January 1906.⁹³

The bridge was accepted from the contractors on February 7, 1906. On February 12, it was first opened to traffic, although only to light or unloaded vehicles since only a temporary macadam had been laid. Heavier vehicles continued to use Long Bridge. For a period of 14 months the streetcar line was allowed by Congress to use overhead trolley wires from 14th Street and Maryland Avenue, Southwest, to the bridge. Permanent paving had to be postponed until the streetcar line had its underground wiring installed on this approach.⁹⁴

On November 1, 1905, a contract was signed with the Penn Bridge Company of Beaver Falls, Pennsylvania, for construction of an approach bridge over the Washington Channel, consisting of three fifty foot span reinforced concrete arches. Work was begun in November 1905, but the contractor moved slowly. In June 1906, the plans of the bridge were somewhat modified to reduce costs.⁹⁵

Delivery of 80-foot pilings for this bridge was very slow, and when they were delivered, the existence of much riprap stone and remains of the old cofferdams from construction of the tidal basin outlet seriously interfered with pile-driving. The piers and abutments up to the spring lines of the arches were not finished until December 1906, but no steel reinforcing bars had arrived. The weather repeatedly interrupted the work in December, January, February, and March. When in May the bridge was ready for the streetcar tracks, the streetcar company failed to begin the work and did not commence for two weeks, which meant more delay. By June 7, 1907, it was nearly finished and the falsework on the bridges was removed.⁹⁶

93. Ibid., p. 2606. U.S. House Documents, 59th Congress, 2d Session (1906-1907), Vol. 42, Doc. No. 22, Appendix CCC₂ to "Report of the Chief of Engineers," comprising "Highway Bridge Across the Potomac . . ." (Serial 5145), p. 2081.

94. Ibid., pp. 2080-2085.

95. Ibid., p. 2084.

96. U.S. House Documents, 60th Congress, 1st Session (1907-1908), Vol. 16, Doc. No. 26, Appendix FFF₂ to "Report of the Chief of Engineers," comprising "Highway Bridge Across the Potomac . . ." (Serial 5285), pp. 2274-2275.

Meanwhile, in September 1906, work began on permanent paving of the new highway bridge. This was completed on December 15 and the bridge opened to all traffic. On that date Long Bridge was finally closed, and during the summer and fall of 1907 it was demolished by the railroad, the last of the work being completed on November 26. A very historic structure had passed from the Washington scene.⁹⁷

The streetcar company got an extension to June 30, 1907, for completing their tracks, another extension was granted to December 1, and when they failed to react, the Corps of Engineers threatened to seek an injunction. The completed approach bridge was opened in August 1907, although the railroad was not ready to operate across it.⁹⁸

During the construction of these three bridges, work continued on reclamation of Potomac Park.⁹⁹ Captain Cosby was in the process of finishing off the old sewer canal, the last vestige of the old Washington City Canal sewer. In January and February 1908, a foundation was prepared for a seawall across its mouth. John Miller and Charles G. Smith and Son did the work dredging a trench 20 feet wide by six feet deep for a distance of 150 feet across the mouth of the old ditch, and riprap stone was then dumped to a height of four feet above mean low tide. Dredged mud was meanwhile used to fill the ditch itself in. The special pond intended to flush the sewer canal, located between the ditch and the tidal basin, just northwest of the latter, had never been connected with the canal for its original purpose and had been used instead as a bathing pool. This, too, was filled in 1908 with dredged mud. With the filling of the ditch and this pond, the land area of West Potomac Park was increased by some seven acres.¹⁰⁰

97. Ibid., p. 2275.

98. U.S. House Documents, 60th Congress, 2d Session (1908-1909), Vol. 23, Doc. No. 1052, Appendix EEE₂ to "Report of the Chief of Engineers," Part 3, comprising "Highway Bridge Across the Potomac. . . ." (Serial 5433), pp. 2347-2352.

99. U.S. House Documents, 61st Congress, 2d Session (1909-1910), Vol. 25, Doc. No. 111, Appendix CCC₂ to "Report of the Chief of Engineers," Part 3, comprising "Highway Bridge Across the Potomac . . ." (Serial 5728), p. 2303.

100. Cosby, 1908, p. 1208.

The Maryland company's dredger Potomac continued working throughout the relatively mild winter. For two months--January 5 through March 5, 1908--the Potomac was laid up for repairs, after which she resumed work in the tidal basin.¹⁰¹

On May 6, 1908, the Maryland company put a second dredger, the 22-inch hydraulic dredge Mackenzie, to work on the Virginia Channel between the new railroad and highway bridges. The material from this work was dumped on Section I. Two supplemental agreements with the Maryland firm signed in the fall of 1908 provided for removal of a mound of riprap in the tidal basin and a gravel lump in the Virginia Channel, and the work was done by a dipper dredge, the Maryland, between August 26 and September 4, 1908. The Mackenzie, meanwhile, finished up in the Virginia Channel on August 15, and the Potomac completed the part of the contract in the tidal basin ten days later. From August 25, 1907, to 1909, 418 cubic yards of material were dumped on Sections I and II, not to mention 189,205 cubic yards of fill on Section III.¹⁰²

In addition, over the years about 200,000 cubic yards of earth had been dumped and graded by private parties under permits issued by the Engineer Office. As a consequence, **Majoy** Cosby considered reclamation of Sections I and II to be finished and on April 24, 1909, transferred almost all of that section that had not already been reassigned to the responsibility of the Office of Public Buildings and Grounds.¹⁰³

There were several changes in staff that had taken place about this time. Captain E. J. Dent was temporarily in charge of the project from April until July 18, 1908. Major Spencer Cosby took over on the following day, also in a temporary capacity. On December 22, 1908, he relinquished the office to Major Jay J. Morrow. On March 15, 1910, Morrow departed, leaving his subordinate, Captain Warren T. Hannum, in charge.¹⁰⁴

101. Cosby, 1908, pp. 1205-1206.

102. Cosby, 1908, p. 1206. Morrow, 1909, p. 1210.

103. Morrow, 1909, p. 1212.

104. Morrow, 1909, p. 1209. House Documents, 61st Congress, 3d Session (1910-1911), Vol. 17, Doc. No. 1010, Appendix K to "Report of the Chief of Engineers," comprising Report of

Meanwhile, the last major engineering work of the project, construction of the tidal reservoir inlet gates and bridge, was well underway. Preliminary surveys were carried out for the inlet gates in the fall of 1907. General plans were drawn up that winter and submitted to the Chief Engineer, who duly approved them. In April 1908, the equipment and tools used in building the outlet gates were assembled and repaired, and temporary construction buildings were built. Some of the old seawall which would have interfered with the cofferdam was removed. Dredging of the whole area to a foundation depth of 16 feet below mean low tide was begun in May with equipment hired by the day. On May 4, a contract was signed with Carter and Clarke of Washington for furnishing, delivering and driving pilings, and the driving of 55 foot piles was begun early in June, with a total of 1,184 being used.¹⁰⁵ The cofferdam on the east side was finished first

Capt. Warren T. Hannum, July 20, 1910 (Serial 5961), P. 1335. Hereafter cited as "Hannum, 1910."

Elliott Johnstone Dent of Pennsylvania was appointed a cadet at West Point on June 19, 1897, and graduated 7th in a class of 74 in 1901, at which time he was commissioned a 2d lt. in the Corps of Engineers, effective Feb. 2, 1901.

Jay Johnson Morrow of West Virginia was appointed to West Point from Pennsylvania on June 16, 1887. Graduating 5th in a class of 65, he was commissioned an additional 2d lt. of Engineers on June 12, 1891, 2d lt. on Feb. 3, 1895. Promoted 1st lt. on May 26, 1896, Morrow entered the volunteer service as a major of the 3d U.S. Volunteer Engineers on Sept. 15, 1898, but was discharged from the volunteers on Oct. 6 and reverted to the rank of 1st lt. in the Regular Army. He was promoted capt. on Feb. 2, 1901.

Warren Thomas Hannum of Pennsylvania was appointed to West Point on July 5, 1898, graduating 2d in his class of 54 and being commissioned 2d lt. in the Corps of Engineers on June 12, 1902. Heitman, op. cit., pp. 145, 368, 498, 730.

105. Cosby, 1908, p. 1207.

and construction of the eastern concrete piers was begun. The cofferdam on the west was soon completed and the two were then united to a single large one. The completed bridge was to have a 25-foot wide roadway, 184 feet long, with sidewalks 7'3" wide on each side. The tidal gates were wooden and operated by the tide, as in the outlet structure. But the inlet was also equipped with steel curtain gates which could be lowered into place by machinery. These were intended to be closed when the river was turbid at flood stage to prevent silting up of the reservoir and to exclude silt-bearing flood waters which would open the automatic gates regardless of the level of the tide.¹⁰⁶

The bridge was built with a removable floor system over the lock to provide for the passage of large vessels such as dredgers into the tidal basin whenever the necessity for such movement was sufficient to justify the work of removing the floor.¹⁰⁷

Construction of the bridge and gates necessitated relocation and construction of 497 feet of seawall, and the project engineer decided to rebuild, in addition, 515 feet of the old dry-masonry seawall which had settled in the form of a larger wall set in cement mortar.¹⁰⁸

106. Morrow, 1909, p. 1211.

107. Morrow, 1909, p. 1211.

108. Morrow, 1909, p. 1212.

Work continued in 1909 and 1910 in rebuilding the seawall around the park east of the railroad embankment, and the seawall closing the old sewage canal, which had been started in January 1908, was completed by the summer of 1910. The engineers had also decided to rebuild the old dry masonry seawall along the Virginia Channel side of East Potomac Park. The work was started on October 28, 1909 with a force varying from 22 to 36 hired men. Work was suspended because of weather on November 30, 1909, but resumed on March 14, 1910, and continued until the 8,353 linear feet of rebuilt wall were completed on October 27 that year. Additional work on the Washington Channel seawall, begun on October 28, 1910, was completed on August 16, 1911.¹⁰⁹

The railroad embankment had, by force of circumstance, become a divider of Potomac Park into East Potomac Park and West Potomac Park, although the tidal basin with its inlet and outlet seems a more logical division point. But that reclaimed land west of the railroad embankment had all been transferred to the Office of Public Buildings and Grounds while that east of the railroad had not. The division between the part of the project that was completed west of the railroad and that not yet finished east of the railroad simply led to the railroad being considered the division of Potomac Park into east and west sections.

The only part of West Potomac Park that had not been turned over to the Office of Public Buildings and Grounds on April 24, 1909, was a small area at Easby's point where the U. S. Engineer Office superintending the reclamation project maintained a wharf, storehouse, and offices. Authority had been granted on February 16, 1909, to move this establishment to a new location, and the site selected was a two-acre patch of East Potomac Park on the Washington Channel immediately east of the railroad. The work of building a new wharf at that site was begun April 2, 1909, but little progress was made until the middle of the summer.¹¹⁰

109. Cosby, 1908, p. 1207. Morrow, 1909, p. 1213. House Documents, 62d Congress, 2d Session (1911-1912), Vol. 21, Doc. No. 124, Appendix K to "Report of the Chief of Engineers," comprising Report of Lt. Col. W.C. Langfitt, 1911." House Documents, 62d Congress, 3d Session (1912-1913) Vol. 19, Doc. No. 936, Appendix K-1 to "Report of the Chief of Engineers comprising Report of Lt. Col. W.C. Langfitt, July 25, 1912 (Serial 6385) p. 1658. Hereafter cited as "Langfitt, 1912."

110. Morrow, 1909, pp. 1212-1213.

Then it went forward rapidly and by August 16 the buildings had been moved and were ready for occupancy, although they were not painted and repaired until the following spring. On August 16, 1909, the Easby Point site was turned over to the Office of Public Buildings and Grounds, that date representing the final acquisition of land for park purposes in West Potomac Park. The new engineer yard and dock area was seeded with grass and trees were planted in the spring of 1919, and it continued to serve as the head office for work on the Potomac, Anacostia and Rappahannock Rivers.¹¹¹

On October 15, 1910, the new head of the Engineer Office, Lieut. Col. W.C. Langfitt, negotiated a contract with the Atlantic, Gulf and Pacific Company for another 1,500,000 cubic yards of dredging. The firm worked at building embankments in East Potomac Park from October 26, 1910, until March 9, 1911, and had put their 27-inch hydraulic dredger Pittsburgh to work on January 18 that year. Unfortunately several small breaks in the embankments occurred between April 1 and April 20, and another on April 26 caused, some thought, by an animal burrowing in the bank, led to the drainage of 60,000 cubic yards of freshly-dredged mud back into the river.¹¹² The Pittsburgh worked its way down the Washington Channel from the foot of 14th Street to Giesborough Point, leaving a channel 25 feet deep and 400 feet wide along the docks, with a margin south of the channel 18 to 24 feet deep, extending to within about 30 feet of the seawall on the edge of East Potomac Park. Once the 1,819,114 cubic yards of mud dredged under this contract had been dumped and the job completed, on August 30, 1911, the grade in East Potomac Park was 14 feet above mean low tide in the center and 11 feet on the sides.¹¹³

111. Hannum, 1910, p. 1337.

112. Langfitt, 1911, p. 1438. William Campbell Langfitt of Virginia was appointed from Ohio a cadet at the U. S. Military Academy on July 1, 1878. He graduated 2d in a class of 52 and was commissioned a 2d lt. in the Corps of Engineers on June 13, 1883. Langfitt was promoted 1st lt. on Sept. 30, 1884, capt. on March 31, 1895, and entered the volunteer service during the Spanish-American War as a major of the 2d U. S. Volunteer Engineers on June 7, 1898. He was mustered out of the volunteer service on May 16, 1899. Heitman, op. cit., pp. 145, 615.

113. Langfitt, 1912, pp. 1657-1658.

Colonel Langfitt reported that as of August 30, 1911, reclamation of East Potomac Park was completed. Consequently, he had the land transferred on August 24, 1912 to the responsibility of the Office of Public Buildings and Grounds for development as a park. The United States Engineer Office retained its two-acre yard, wharf, and buildings in East Potomac Park and for some years continued to direct from that location other reclamation projects and continuing work to maintain the navigability of the Potomac and other rivers in the area.¹¹⁴

114. House Documents, 62d Congress, 2d Session (1911-1912), Vol. 22, Doc. No. 124, Appendix EEE to "Report of the Chief of Engineers," comprising Report of Col. Spencer Cosby, Aug. 11, 1911 (Serial 6204), p. 2965.

IV. THE DEVELOPMENT OF WEST POTOMAC PARK

1901 - 1925

On August 12, 1901, Lieutenant Colonel Charles J. Allen transferred the first part of Potomac Park on which reclamation had been completed to the Office of Public Buildings and Grounds for development as a park. This represented the beginning of development of the reclaimed land for park purposes as required by the Act of March 3, 1897. Although in accord with this statute the area was called Potomac Park, the reclaimed land hardly had a parklike appearance, for it was covered with a wild growth of willows, grasses, bushes and trees that had taken root in the rich and fertile mud from the bottom of the Potomac. It would be a major task to convert these 723.4 acres into a public park, and one that could not be done overnight.¹

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1. House Documents, 57th Congress, 2d Session (1902-1903), Vol. 8, Doc. No. 2, Appendix DDD to "Report of the Chief of Engineers," comprising Report of Col. Theo. A. Bingham, July 19, 1902 (Serial 4447), p. 2739. Hereafter cited as "Bingham, PB&G, 1902." In the abbreviated citations I am using the initials "PB&G" to signify the Office of Public Buildings and Grounds in order to differentiate this series of annual reports from the annual reports of the officer in charge of harbor improvements and the reclamation project. Major Spencer Cosby, for example, held both offices at different times.

Theodore Alfred Bingham, whose report is cited above, was a native of Connecticut appointed to the U. S. Military Academy from New Hampshire on Sept. 1, 1875. He graduated 3d in a class of 67 and was commissioned 2d. lt. of Engineers on June 13, 1879. Bingham was promoted 1st lt. on June 17, 1881, captain on July 2, 1884, and major on July 5, 1898. On Mar. 9, 1897, he was jumped over the grade of lt. col. to the rank of col. and was on that date appointed Superintendent of Public Buildings and Grounds, which position he held until April 30, 1903. Heitman, op. cit., pp. 145, 218.

The small 33-acre initial area that was to be developed lay between the tidal basin and the Washington Monument grounds, and extended from 17th Street and Virginia Avenue, Northwest, to 14th Street and Maryland Avenue, Southwest. On October 30, 1901, Col. Theo. A. Bingham, the officer in charge, submitted an estimate of costs for improving the ground, and in a sundry civil act approved June 28, 1902, Congress appropriated \$70,000 for the development. This was the first money to be spent in turning the reclaimed land into a park.²

The overall plan to be followed in Potomac Park was dictated by the United States Senate in the report of the Senate Committee on the District of Columbia submitted on January 15, 1902, and vigorously promoted by Senator James McMillan. This vast and comprehensive elaboration of and supplement to the original city plan of Pierre L'Enfant was never to be followed in its entirety, but virtually all of its major features were adopted, although with some modifications. Minor details of the development of the interior of Potomac Park were not spelled out, but the plan did specify locations on both the east-west and north-south axis, terminating in West Potomac Park, as sites for major memorials, the one at the end of the east-west axis to honor Abraham Lincoln, the other left for future decision. In time these two aspects of the plan were fulfilled in the building of the Lincoln and Jefferson Memorials, but most of the details of the McMillan Plan were never fully carried out. And certainly the immediate planning and development was left to the Corps of Engineers.³

2. Bingham, PB&G, 1902, pp. 2734-2735, 2739.

3. U. S. Senate Reports, 57th Congress, 1st Session (1901-1902), Vol. 3, Report No. 166, Chas. Moore, ed., "The Improvement of the Park System of the District of Columbia," (Serial 4258), pp. 47-48, 51-57, 117-120.

Colonel Bingham drew up a plan for improving the small part of West Potomac Park in his charge and submitted it on July 5, 1902. The Chief of Engineers approved it July 10, and four days later Symons put a crew to work. They built a new roadway along the north side of the tidal basin, connecting 15th Street with 17th Street, which they had extended from "B" Street North southward toward the tidal basin. This entailed grading, laying a limestone base known as "Telford," and paving the surface with macadam. Gutters were installed adjacent to the roadway and a bridle path 17½ feet wide was laid on the east and a cinder sidewalk on the west of the new road. The work was all completed on October 16, 1903, and the new road, passing around the Washington Monument grounds to the south and west, was opened to the public on Monday, October 19. It was reserved on Saturdays from 4 to 6 p.m. for "speeding purposes."⁴

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4. House Documents, 58th Congress, 2d Session (1903-1904), Vol. 13, Doc. No. 2, Appendix EEE to "Report of the Chief of Engineers," comprising Report of Maj. Thos. W. Symons, July 20, 1903 (Serial 4639), pp. 2552-2555. Hereafter cited as "Symons, PB&G, 1903." House Documents, 58th Congress, 3d Session (1904-1905), Vol. 9, Doc. No. 2, Appendix DDD to "Report of the Chief of Engineers" (in Vol. 8 of Reports of the War Department) comprising Report of Capt. Chas. S. Bromwell, July 20, 1904 (Serial 4788), pp. 3939-3941. Hereafter cited as "Bromwell, PB&G, 1904."

Thos. William Symons, a native of New York, was appointed from Michigan to the academy at West Point on Sept. 1, 1870. He graduated 1st in a class of 41 and was commissioned 2d lt. of Engineers on June 17, 1874. He was promoted 1st lt. on May 2, 1878, captain on June 2, 1884, and major on March 31, 1896. When appointed Superintendent of Public Buildings and Grounds on April 30, 1903, he was promoted colonel, thus jumping over the rank of lt. col. as had Bingham.

Chas. Summers Bromwell, a native of Kentucky, was appointed to West Point from Ohio on July 1, 1886. He graduated 4th in a class of 54 on June 12, 1890, and was appointed additional 2d lt. of Engineers as there was then a shortage of openings in the Corps. He became a regular 2nd lt. on May 18, 1893, was promoted 1st lt. on Oct. 12, 1895, and capt. on Feb. 2, 1901. Heitman, op. cit., pp. 145, 247, 942.

Symons next took steps to fill in the old bathing beach which had been established in a 478 foot gap in the seawall northeast of the tidal basin inlet. On October 23, 1902, a contractor began removing the sand which had been dumped there to form the beach, leaving the earlier stone riprap as a foundation. On this, a contractor began work on November 8, 1902, building a seawall to fill the gap. This was completed January 14.⁵

The seawall north and west of the tidal basin had been built to only a height of three feet above mean high tide, and Major Symons advertised for bids to raise the height of this wall to six feet above mean high tide, but when he opened the bids on September 15, 1902, he considered them all far too high. Consequently he chose to hire labor and supervise it himself. His crew commenced work on November 13, 1902, building the three feet of wall entirely out of portland-cement concrete rather than of stone in a cement mortar, as had previously been done. The work was suspended because of weather in January and February 1903 but resumed that spring and was completed April 18.⁶

At the point where the new extension of 17th Street began stood the old Chesapeake and Ohio Canal lockhouse, a stone building in very dilapidated condition occupied by a family of negro squatters. The family was requested to vacate the premises and left about August 1, 1902. Major Symons then obtained title to the house from the trustees of the canal company on August 14, and in May 1903 began renovating the old structure. New floor joists and flooring were put in on both floors, new window sashes were fitted, the interior was divided by a partition, and the rooms were wainscoted. The old roof was replaced with a new shingle roof and the dormer windows were repaired. Symons planned to use the building as a toolhouse and watchman's lodge. The work on the building and its surrounding grounds was completed late in the summer of 1903.⁷

5. Symons, PB&G, 1903, pp. 2553-2554.

6. Symons, PB&G, 1903, p. 2554.

7. Symons, PB&G, 1903, p. 2554 and the three illustrations following. Bromwell, PB&G, 1904, pp. 3939-3940.

On November 21, 1903, the 50 acres of unimproved park land between the railroad, the tidal basin, and the Potomac River were transferred to the Office of Public Buildings and Grounds. Major Symons planned to use most of this area for a propagating garden in which trees and shrubs could be grown and prepared for use in the newly developing park areas. He suggested building a road on the north and west sides of the tidal basin, which he estimated would cost \$65,000, and a brick building for tools, storage, and watchmen at the new outdoor nursery.⁸

Captain Charles S. Bromwell replaced Major Symons on June 1, 1904, and undertook to complete improvement of an area east of the tidal basin. This work included paving a stretch of 15th Street as well as a short stretch of the Potomac Park roadway which was extended west from Seventeenth Street and, when completed was lined at intervals with portrait statues from St. Louis.⁹

No appropriation had been made for the new nursery south of the tidal basin, but Captain Bromwell had the brush on the land burned and cut off, and then had it surveyed. Some grading and filling was done. On March 3, 1905, an appropriation for \$65,000 for this project was approved and Bromwell planned to start work at the beginning of the new fiscal year.¹⁰

The new work, completed by the summer of 1906, included a road around the north and east sides of the tidal basin as well as one along the Potomac. Where one day the Jefferson Memorial would be built, an oblong grass athletic field was laid out, and south of it the new outdoor nursery.¹¹

8. Bromwell, PB&G, 1904, p. 3941.

9. Bromwell, PB&G, pp. 3901, 3940.

10. House Documents, 59th Congress, 1st Session (1905-1906), Vol 8, Doc. No. 2, Appendix DDD to "Report of the Chief of Engineers" (in Vol. 7 of Reports of the War Department) comprising Report of Capt. C.S. Bromwell, July 20, 1905 (Serial 4948), p. 2646. Hereafter cited as "Bromwell, PB&G, 1905."

11. House Documents, 59th Congress, 2d Session (1906-1907), Vol. 42, Doc. No. 22, Appendix EEE to "Report of the Chief of Engineers," comprising Report of Col. C.S. Bromwell, July 20, 1907 (Serial 5145), pp. 2136-2137.

A sundry civil bill for the following fiscal year appropriated \$80,000 for extending the Potomac River roadway from the tidal basin inlet west along the shore to the foot of 26th Street, Northwest. Work was begun on this extension in March 1907 and was finished in 1908. There was yet no bridge over the tidal basin inlet, however.¹²

At the tidal basin, a boat dock was built near the old bathing beach site in 1907. The old boathouse there was transferred to the Office of Public Buildings and Grounds by the District Commissioners on December 5, 1907, and on January 11, 1908, the Chief of Engineers renewed the lease of the current occupant, who had operated the concession since March 1902. He was to pay 50 dollars annual rental, maintain the building at his own expense, and rent boats and bathing suits to the public, as well as to sell bait and provide other such minor services to the public.¹³

During 1908, also, the polo field west of the tidal basin was graded and a band stand was erected there the following year. While work was proceeding on filling the old sewage ditch in 1908, it was temporarily bridged with a pile-bent timber-deck trestle. When the filling was completed, the temporary trestle was removed and a continuation of the roadway was built in its place. A short distance to the west a circle was laid out in the roadway. Next to the seawall, a new cinder walk was laid out, and eight park benches were strung out alongside it.¹⁴

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12. House Documents, 59th Congress, 2d Session (1906-1907), Vol. 16, Doc. No. 26, Appendix HHH to "Report of the Chief of Engineers," comprising Report of Col. C.S. Bromwell, July 20, 1907 (Serial 5285), pp. 2327-2329.
 13. House Documents, 60th Congress, 2d Session (1908-1909), Vol. 23, Doc. No. 1052, Appendix GGG to "Report of the Chief of Engineers," comprising Report of Col. C.S. Bromwell, July 18, 1908 (Serial 5433), p. 2397. Hereafter cited as "Bromwell, PB&G, 1908."
 14. Bromwell, PB&G, 1908, pp. 2399-2400.

On May 27, 1908, Congress appropriated \$70,000 for extending D Street (Constitution Avenue) westward to meet the new Potomac water-side drive (approximately at a projected intersection with 26th Street Northwest). It was necessary to acquire by condemnation land owned by 14 different parties. This was accomplished and completed by a District Supreme Court decision rendered on June 18, 1909. In the meantime, in May 1908 Colonel Bromwell began building an embankment for the new road on the land already owned by the government, for it was too low. Colonel Spencer Cosby, who had returned from duty as a military attache at the embassy in Paris, replaced Bromwell on March 16, 1909, and continued work on the extension of B Street. Grading of the embankment was begun in April 1909 and was completed in August. Construction of the road itself was begun immediately and completed in November 1909. This completed a roadway entirely around the fringes of West Potomac Park. In the spring of 1910, the cinder roadway and bridle path across the Tidal Basin inlet bridge was completed and opened to the public. During the next year it was relaid with a macadam surface. Meanwhile, each year a little more work was done to improve the still unimproved portions of West Potomac Park.¹⁵

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15. Bromwell, PB&G, 1908, pp. 2398-2400. House Documents, 61st Congress, 2d Session (1909-1910), Vol. 25, Doc. No. 111, Appendix EEE to "Report of the Chief of Engineers," comprising Report of Maj. Spencer Cosby, July 20, 1909 (Serial 5728), pp. 2355-2357. House Documents, 61st Congress, 3d Session (1910-1911), Vol. 19, Doc. No. 1010, Appendix FFF to "Report of the Chief of Engineers," comprising Report of Maj. Spencer Cosby, July 11, 1910 (Serial 5963), pp. 2669-2670. House Documents, 62d Congress, 2d Session (1911-1912), Vol. 22, Doc. No. 124, Appendix EEE to "Report of the Chief of Engineers," comprising Report of Col. Spencer Cosby, Aug. 11, 1911 (Serial 6204), p. 2971. The latter is hereafter cited as "Cosby, PB&G, 1911."

On March 25, 1912, 3,000 Japanese cherry trees were received as a gift from the City of Tokyo, and two days later the President's wife, Mrs. William Howard Taft, ceremonially planted the first one. Some 1,800 of the trees were planted in March and April, and 55 flowering peach trees were also planted around the tidal basin to lend variety. In the spring when these trees were in bloom, the tidal basin was one of the most beautiful places in the city.¹⁶

The first permanent monument in the park was also completed in 1912. This was a statue of the naval hero, Captain John Paul Jones of the Revolution, for which Congress had appropriated \$50,000 in Public Law 208 in June 8, 1906. Sculpted by Charles Henry Niehaus, it was unveiled on April 17, 1912, near the shores of the tidal basin at the foot of 17th Street. In December, 24 architecturally trained linden trees were planted as a backdrop to the new statue.¹⁷

A sundry civil act which Congress had approved on March 3, 1911, appropriated \$5,000 for construction of a new park lodge on the road next to the river near the Potomac Park approaches to the highway bridge. The plans, drawn up by the landscape architect of the Office of Public Buildings and Grounds, had been approved by the Commission of Fine Arts. A contract was let on April 5, and the small one-story building was begun in May 1912. It was completed in October, and in the months following the grounds and walks around it were laid out. A number of trees were planted around the structure to render it inconspicuous.¹⁸

On October 1, 1913, Colonel William W. Harts replaced Spencer Cosby as the Officer in Charge of the Office of Public Buildings and Grounds.

16. House Documents, 62d Congress, 3d Session (1912-1913), Vol. 20, Doc. No. 936, Appendix EED to "Report of the Chief of Engineers," comprising Report of Col. Spencer Cosby, July 22, 1912 (Serial 6386), p. 3501. Hereafter cited as "Cosby, PB&G, 1912."

17. Cosby, PB&G, 1912, pp. 3513-3514.

18. Cosby, PB&G, 1912, p. 3501.

In the fall of 1915, Colonel Harts decided it was necessary to move the old C.&O. Canal lock house to a new location, as it jutted out into 17th Street on its original site. The shift in location was necessary to permit widening and improvement of the street. Consequently that fall it was moved 49 feet west and a little over six feet north. In 1917, it was converted into a public comfort station, although it still contained a locker room for the park watchman and also housed a bicycle room.¹⁹

As indicated earlier, West Potomac Park had been selected as the site for a major memorial to Abraham Lincoln which was to be located at the west end of an extension of the old mall, on an axis with the Capitol and the Washington Monument. The precise location was determined by the fact that the Washington Monument had not, as L'Enfant desired, been built at the intersection of the east-west and north-south axes, but somewhat southeast of that point, thus throwing out of balance the geometrical precision of the plan of the city. To take this aberration into account it was necessary to build the Lincoln Memorial a short distance south of what should have been its location.

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19. House Documents, 63d Congress, 3d Session (1916-1917), Vol. 17, Doc. No. 1408, "Annual Report of the Chief of Engineers." October 5, 1914 (Serial 6802), p. 1521. House Documents, 64th Congress, 2d Session (1916-1917), Vol. 20 Doc. No. 1377, Appendix to "Report of the Chief of Engineers," comprising Report of Col. Wm. W. Harts for fiscal year ending June 30, 1916 (Serial 7146), pp. 3594-3595, and photograph opposite p. 3596. Hereafter cited as "Harts, PB&G, 1916." House Documents, 65th Congress, 2d Session (1917-1918), Vol. 14, Doc. No. 596, "Annual Report of the Chief of Engineers," for the fiscal year ending June 30, 1917 (Serial 7344), p. 1891.

William Wright Harts was a native of Illinois appointed a cadet at the U. S. Military Academy effective September 1, 1885. He graduated 5th in a class of 49 in June 1889 and immediately entered the Corps of Engineers as an additional second lieutenant. He was promoted 1st Lt. on Feb. 3, 1895. From July 13 to Nov. 30, 1898, he served as a major of volunteers during the Spanish-American War, and during that period he was promoted captain in the Regular Army, to which rank and position he reverted after the war. Heitman, op. cit., pp. 145, 507.

Thus it would be located at the end of a line through the Washington Monument to the center of the Capitol Dome, but it would not be truly due west of the Capitol.²⁰

In February 1911 a bill had passed Congress establishing a commission "to secure plans and designs for a monument or memorial to Abraham Lincoln," and when organized this body had President William Howard Taft as its chairman. In a report issued July 17 that year, the Commission of Fine Arts meanwhile renewed the recommendation that a memorial to Lincoln be placed in West Potomac Park at the west end of the Washington Monument-Capitol axis. The Lincoln Memorial Commission, however, selected in August a number of different architects to plan buildings for several possible sites in the District, and the West Potomac Park site was one of them. John Russell Pope was authorized to prepare designs for a memorial suitable to be located in the Soldiers' Home grounds that Lincoln had frequented during the Civil War, as well as another for a site on the high ground at the intersection of 16th Street North and Florida Avenue. Henry Bacon was engaged to prepare designs for a memorial suitable for the Potomac Park site.²¹

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20. U.S. Senate Documents, 57th Congress, 2d Session (1902-1903), Vol. 21, Doc. No. 224 (Serial 4436), Frederick L. Harvey, "History of the Washington National Monument and the Washington National Monument Society," pp. 42-43. Also published separately by the Government Printing Office in 1903, the above may be found cataloged under the author and/or title in some libraries. U.S. Senate Documents, 62d Congress, 3d Session (1912-1913), Vol. 24, Doc. No. 960, "Report of the Commission of Fine Arts," Fiscal Year 1912 (Serial 6364), pp. 19-21. The latter item may also be found published separately by the Government Printing Office under its title. Hereafter cited as "Fine Arts, 1912."
21. Fine Arts, 1912, pp. 16-22. Edward F. Concklin, The Lincoln Memorial, pp. 15-21. The latter item, published by the Government Printing Office in a handsome format in 1927, was the work of a special assistant to the Director of Public Buildings and Public Parks of the National Capital; it represents a thorough and detailed official report on the background to and building of the Lincoln Memorial and the dedication ceremonies.

At the tenth meeting, on February 3, 1912, the Lincoln Memorial Commission selected the Potomac Park site as the best location, and on April 16, at its 14th meeting, the Commission chose Bacon to prepare the final design. He submitted it on June 28, 1912. The Commission adopted the design at its next meeting, on December 4, 1912, and reported to Congress on its action in the matter.²²

Congress approved the plans by Joint Resolution on January 29, 1913, and it was signed by the President on February 1. That same day, Bacon was officially confirmed as the architect for the memorial and directed to prepare working plans in accordance with the approved design. The Commission prepared an estimate of \$300,000 to be submitted to Congress for an appropriation to permit construction to begin. Senator Shelby Cullom was designated Special Resident Commissioner to oversee the work.²³

On June 27, 1913, the Secretary of War signed a contract with Bacon for the architect's full professional services, and in June 1913 Congress appropriated the full \$300,000 asked for as an initial appropriation. The engineer officer in charge of the Office of Public Buildings and Grounds served as the executive and disbursing officer of the Commission. This was, of course, Spencer Cosby until October 1, 1913, after which it was Colonel Harts.²⁴

On July 15, 1913, 29 working drawings prepared by the architect were approved by the Secretary of War, and during July and August copies were sent out to 78 prospective bidders. Proposals were opened on September 10, 1913; there were a total of 17. All of those for the foundation were rejected, and new specifications were issued in October. Only seven new bids were received on these specifications, and they were opened on November 1. Contracts with the lowest bidders for both the foundation and the superstructure were submitted to the Secretary of War in January 1914 and approved the following month.²⁵

22. Concklin, op. cit., p. 21.

23. Loc. cit.

24. Ibid., p. 22.

25. Ibid., pp. 22-23.

At noon on February 12, 1914, the contractors for the foundation broke ground for the monument. A small group was on hand for an informal ceremony. Several officials present ceremonially shoveled a bit of earth, and four Boy Scouts served as aides. There were a few spectators. Mr. Joseph Blackburn, who had succeeded Shelby Cullom as Special Resident Commissioner after the latter's death two weeks before, uttered a brief statement. Actual work on the foundation was begun on March 27, 1914, and completed by April 1915.²⁶

At a meeting held December 18, 1914, the Commission discussed various sculptors for the Lincoln statue inside the memorial, and finally selected Daniel Chester French. A year later, December 15, 1915, the Commission drew up estimates for \$594,000 for an appropriation by Congress to permit further work, partly on the approaches to the memorial.²⁷

At a meeting on November 9, 1917, the question of size of the Lincoln statue was discussed. It was decided that the 13½ foot statue would be too small in so monumental a memorial structure, and French was instructed to increase the height to 19 feet. There were some surplus monies available to pay for the increased expense without having to ask Congress for another appropriation.²⁸

To save money, the Commission had decided that although the memorial itself had to be built on foundations resting on bedrock, the terrace wall and the marble approaches could be placed merely on slab foundations. It was a bad decision, and a surprising one in view of the fact that the Commissioners were fully aware that they were building on recently reclaimed river bottom, certainly the most insubstantial sort of soil. By the end of 1920 it was painfully evident that the settling which was occurring in the memorial approaches was no temporary thing, and there was no telling when it would end. In January 1921 the Commissioners decided that it would be necessary to rebuild all the approaches on pile foundations, not to mention the heavy terrace wall. It would require an estimated \$363,000.²⁹

26. Ibid., p. 23.

27. Ibid., pp. 23-24.

28. Ibid., pp. 24-25.

29. Ibid., pp. 25-27.

On January 1, 1920, the Office of Public Buildings and Grounds took charge of the memorial. Dedication had already been once delayed on account of the settling and the fact Congress was not in session on the proposed date (September 22, 1920), and now another postponement was voted, awaiting congressional action on the estimate for new work on the approaches. Perhaps the Commissioners felt they had a better chance of getting an appropriation if the memorial was not yet open to the public than if it was opened and ostensibly completed.³⁰

On March 4, 1921, Congress appropriated \$345,720 for the further work on the approaches, and this was completed by December 1, 1921. Congress had also appropriated money for work on the roads to surround the memorial, and specified in the legislation that this work was to be done by the Lincoln Memorial Commission rather than by the Office of Public Buildings and Grounds, which usually did such work in Potomac Park.³¹

The Lincoln Memorial was regularly opened to visitors on June 21, 1921, but the dedication was not held until the afternoon of Decoration Day, May 30, 1922. Abraham Lincoln's eldest son, Robert, was present, as were many members of the Grand Army of the Republic, the organization of veterans of the Civil War. William Howard Taft, the chairman of the Commission, who had long ago retired from the Presidency and was now the Chief Justice of the United States Supreme Court, opened the ceremonies at 2:45 p.m. The speakers at the ceremony included Dr. Robert Moton of the Tuskegee Institute, Taft, and President Warren G. Harding. The day was warm, the sky clear; it could not have been more beautiful.³²

30. Ibid., pp. 25-28, 94.

31. Ibid., p. 27.

32. Ibid., pp. 28, 73-91.

During these years while the Lincoln Memorial was under construction, the Office of Public Buildings and Grounds continued to make progress in taming the wilder portions of West Potomac Park, seeding with grass and planting with trees a few more acres each year. On February 7, 1917, the Chief of Engineers approved a plan submitted by Colonel Harts dealing with treatment of that part of the park immediately around the Lincoln Memorial. Soon thereafter work was begun on moving out the seawall just south of the Lincoln Memorial site and filling in behind the new wall.³³ That same year a National Sylvan Theater stage was built near the Washington Monument.

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33. House Documents, 63d Congress, 2d Session (1913-1914), Vol. 19, Doc. No. 402, Appendix CCC to "Annual Report of the Chief of Engineers," comprising Report of Col. Spencer Cosby, Aug. 22, 1913 (Serial 6616), pp. 3224-3226. Hereafter cited as "Cosby, PB&G, 1913." House Documents, 63d Congress, 3d Session (1914-1915), Vol. 19, Doc. No. 1408, Appendix CCC to "Annual Report of the Chief of Engineers," comprising Report of Col. Wm. W. Harts, Aug. 15, 1914 (Serial 6804), pp. 3354-3356. Hereafter cited as "Harts, PB&G, 1914." House Documents, 64th Congress, 1st Session (1915-1916), Vol. 20, Doc. No. 91, Appendix to "Annual Report of the Chief of Engineers," comprising Report of Col. Wm. W. Harts for fiscal year ending August 30, 1915 (Serial 6974), pp. 3724-3725. Hereafter cited as "Harts, PB&G, 1915." Harts, PB&G, 1916, pp. 3593-3594. House Documents, 65th Congress, 2d Session (1917-1918), Vol. 16, Doc. No. 596, Appendix to "Annual Report of the Chief of Engineers," comprising Report of Col. Wm. W. Harts for the fiscal year ending June 30, 1917 (Serial 7346), pp. 3714-3715. Hereafter cited as "Harts, PB&G, 1917."

Col. Harts suggested in his report for 1917 that the point at the end of East Potomac Park be named for Colonel Hains, and that the Tidal Basin be named Twining Lake for its designer, Maj. Twining, but only the former name stuck.³⁴

The sundry civil act approved on June 12, 1917, provided the sum of \$35,000 to enable the Chief of Engineers to establish a public bathhouse on the shore of the tidal basin and to construct a sandy beach in front of it, thus restoring what had been eradicated just a few years earlier. To protect the health of the bathers, Colonel Harts drew up plans to install a liquid chlorine plant under the tidal basin inlet bridge to treat the water, thus converting the whole tidal basin into a gigantic swimming pool. A contract was let in May 1918 for the construction of a new bathhouse, but because of the increasing cost of materials, a supplementary appropriation of \$3,300 was necessary to complete the project. The building was finished on September 30, 1918. A beach 400 feet long by 100 feet wide was built by hired labor and completed by August 12, and the establishment was opened to the public, even before the building was finished, on August 24, 1918. Between May 30 and June 30, 1919, the bathing facilities accommodated 46,000 swimmers, and the establishment was already too small. Colonel Harts submitted an estimate of \$20,000 for enlarging the building and Congress appropriated the money in a sundry civil act approved July 19, 1919.³⁵

34. Harts, PB&G, 1917, p. 3715.

35. House Documents, 65th Congress, 3d Session (1918-1919, Vol. 17 Doc No. 1433, Appendix to "Annual Report of the Chief of Engineers," comprising Report of Col. C. S. Ridley for fiscal year 1918 (Serial 7486), pp. 3793-3794. Hereafter cited as "Ridley, PB&G, 1918." House Documents, 66th Congress, 2d Session (1919-1920) Vol. 24, Doc. No. 427, Appendix to "Annual Report of the Chief of Engineers," comprising Report of Col. C. S. Ridley for fiscal year 1919 (Serial 7695), pp. 3839-3840. Hereafter cited as "Ridley, PB&G, 1919." House Documents, 66th Congress, 3d Session (1920-1921), Vol. 18, Doc. No. 840 Appendix to "Annual Report of the Chief of Engineers," comprising Report of Col. C. S. Ridley for fiscal year 1920 (Serial 7812), pp. 4132-4133. Hereafter cited as "Ridley, PB&G 1920."

Unfortunately, while the World War was still in progress, the Wilson Administration had made a most unfortunate decision to build Government office buildings in West Potomac Park along B Street North (Constitution Avenue) just west of 17th Street. These two large concrete structures were completed in the fall of 1918, and occupied by the War Department and the Navy Department. These "temporary" buildings would constitute an eyesore until 1970.³⁶

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36. Ridley, PB&G, 1918, p. 1930. The buildings were demolished, at last, in 1970 and 1971. Initially the National Park Service planned to replace them with a project called "Humanisphere" which it described as a project "concerned with human value systems." Conceived by the Division of Urban Park Programs to be operated as a part of the "Parks for All Seasons" program of the National Capital Parks, Humanisphere's planners designed the initial project to incorporate five elements as a sort of living museum: "Man at Play," involving a 500 seat amphitheatre and the talent resources of the National Folk Festival Association; "Man at Work" involving modular structures to house exhibits and demonstrations sponsored in cooperation with the American Crafts Council; "Youth and Technology," in which the NPS would take over the faltering Westinghouse Corporation/Westinghouse Education Foundation program for searching out and rewarding scientific talent among high school age youth; "Man in the Sea," focusing on a model of the Tektite II underwater habitat, nested in a large tank representing its Lameshur Bay setting; and "Clean World Under a Dome," employing an air-pressurized walk-in inflatable dome developed primarily for agricultural purposes by Goodyear to show the contrast between polluted air and clean air. Involving as it did cooperation with other government agencies, private industry and non-government organizations, Humanisphere's planners projected its costs to the NPS at only \$60,000. But in view of the fiscal and economic crisis facing the United States in the summer of 1971, the White House killed the program about the end of June. Subsequently the NPS regraded the area and seeded it with grass. NPS Division of Urban Park Programs, "Humanisphere" (a xerox copy of this 14 page report is on file in NPC-Central, Division of Urban & Environmental Activities). Interview with Robert Cook, Chief of Branch of Horticulture and Landscape Maintenance, August 23, 1971.

The filling of the area behind the new seawall south of the Lincoln Memorial, begun on December 2, 1919, was finally completed in May 1922. The reflecting pool had been excavated in 1921 and a granite coping placed around it. The bottom was waterproofed in 1922, and the water was finally turned on on December 22, 1922. A smaller transverse pool at the east end of the large pool was finished about the same time.³⁷ With their completion, West Potomac Park was essentially a completed project.

37. House Documents, 67th Congress, 3d Session (1922), Vol. 8, Doc. No. 422, Appendix to Annual Report of the Chief of Engineers, comprising report of Lt. Col. Clarence O. Sherrill for fiscal year 1923 (Serial 8285), pp. 2030-2031. Clarence Osborne Sherrill was appointed a cadet at the U.S. Military Academy on June 19, 1897. He graduated 2nd in a class of 74 and was commissioned 2nd lt. in the Corps of Engineers on February 1, 1901. He was promoted 1st lt. on Jan. 29, 1903. Heitman, op. cit., Vol. I, pp. 145, 882.

V. THE DEVELOPMENT OF EAST POTOMAC PARK

1912 - 1925

On August 24, 1912, Congress approved a sundry civil bill which appropriated \$25,000 for beginning the construction of a macadam roadway around the fringes of East Potomac Park. This was the first improvement east of the railroad embankment and marks the beginning of the development of the land between the railroad and Hains Point, as the tip of the park had been named. Work on the new road was begun in September 1912. On June 23, 1913, Congress appropriated another 25,000, and provided an equal sum on August 1, 1914, along with \$10,000 for laying a water main and another \$10,000 for "care and improvement," which meant the planting of trees and shrubs, grading, and the seeding of grass. While this work was in progress, a temporary cinder road to the point was built to permit vehicles to reach the area. Another \$15,000 was appropriated in 1915 to complete the road, and it was finished in 1916.¹

Meanwhile, much other work had been done on the park during the four years in which the road was under construction. Low places behind the seawall were filled in 1913. The first appropriation for clearing the wild growth and grading, seeding, and planting the reclaimed land consisted of \$10,000 appropriated in the act of June 23, 1913. With this money, 50 acres of old cornfield and scrub-willow were cleared, the ground plowed, harrowed, seeded with grass, and rolled. Some of the area between the new road and the river seawall was graded. Some temporary watering facilities were laid and a bridle path was marked. Another \$10,000 for the following fiscal year funded the planting of 203 Japanese cherry trees along the road, and 46,650 shrubs were planted in a temporary propagating bed. More of the same sort of work was done in 1916.²

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1. With a few exceptions, the footnotes in this chapter are in abbreviated form, referring to original citations which may be found in full in the footnotes to Chapter IV. Cosby, PB&G, 1913, pp. 3225-3226. Harts, PB&G, 1914, pp. 3355-3356. Harts, PB&G, 1915, pp. 3724-3725. Harts, PB&G, 1916, p. 3595.
 2. Cosby, PB&G, 1913, p. 3226. Harts, PB&G, 1914, p. 3355. Harts, PB&G, 1915, p. 3724.

Meanwhile, on May 17, 1910, an act of Congress had established a permanent Commission of Fine Arts consisting of seven "well-qualified judges of the fine arts" appointed by the President of the United States to four-year terms. In cooperation with this Commission, Colonel William W. Harts, Officer-in-Charge of the Office of Public Buildings and Grounds, prepared a detailed plan for the development of East Potomac Park as a public recreation ground. This he submitted to the Chief of Engineers on February 11, 1916, and that officer sent it on February 18 to the Secretary of War ad interim, H. L. Scott, who that same day dispatched it to the Speaker of the House of Representatives.³

Colonel Harts' plan was to be the basis of much of the development that followed in East Potomac Park. The roads were already constructed basically in accord with it, and golf course, the field house and the baseball diamonds would be placed, in general, as the plan proposed. But there were as many features of the plan that were not adopted as there were features completed. An elaborate baseball stadium with concrete seats for 6,000 and provisions for temporary seating for an additional 34,000 was never built. The streetcar track extension into the park was never laid. The boat harbor on the Washington Channel was never excavated, nor was the boat canal cutting clear across East Potomac Park to the Virginia Channel. The idea of cutting a small channel just above the tip of the park, turning Hain's Point into an island, to provide a shelter for small craft, was never followed either.⁴ Similarly, of course, the McMillan Plan for the Mall in West Potomac Park and for the Tidal Basin was never carried to completion, the Lincoln and Jefferson Memorials and the reflecting pool constituting the only 1902 suggestions that were followed to completion. The McMillan Plan contained an elaborate scheme for turning the tidal basin into a formal, rectangular pool on the axis south of

3. The Commission of Fine Arts, Annual Report, 1911 (First Annual Report, 1911 (First Annual Report), pp. 1-3. House Documents, 64th Congress, 1st Session (1915-1916), Vol. 145, Doc. No. 1038, "Development of East Potomac Park" (Serial 7099). Hereafter cited as "EPP Development." Harts, PB&G, 1916, p. 3596.

4. EPP Development, pp. 11-16.

the White House, and this was incorporated into Colonel Hart's plan for East Potomac Park in 1916, but like many other features, this one common to both plans was never to be.⁵

As with almost all great plans drawn up for park development in Washington--symbolized so well by the Washington Monument which was never completed in its original form--these plans provided some ideas, produced some concrete development, but were less than half put into effect. So it was with East Potomac Park.

Work continued, however, on turning the raw reclaimed land into park land, and during the latter half of 1916, and the early months of 1917, another 88 acres of East Potomac Park were cleared of weeds and scrub willows and plowed. That spring the Boy Scouts were granted permission to plant a "war garden" to produce corn, marking the beginning of usurpation of land in Potomac Park for "war emergency" programs that typically continued the misuse of park land long after the emergency was over--in at least one instance for a half century. But this result could not be foretold in that small start, and other work in the park continued seemingly uninterrupted by American entry into the First World War. That same year the strip of land between the roadway and the Washington Channel was graded, topsoil was laid, and it was seeded and planted late in the year. Meanwhile, on June 19, 1917, a contract had been signed for building the end wings and the collonade sections of a field house in the park in accordance with the 1916 plan.⁶

In the fall and winter of 1917 and the spring of 1918, the three-acre triangular area bounded by the paved road on the base and the remaining part of the temporary cinder roadway at Hains Point was graded and seeded. Meanwhile, nine golf greens were constructed in 1917 and 1918 and seeded that fall. Special attention was given to proper drainage and contouring of these greens, with pipe being laid for both watering the greens and for runoff from heavy rains. Fairways were cleared through the still-untouched

5. U. S. Senate Reports, 57th Congress, 1st Session (1901-1902), Vol. 3, Report No. 166, Charles Moore (ed.), "The Improvement of the Park System of the District of Columbia," (Serial 4258), pp. 117-119.

6. Harts, PB&G, 1917, pp. 3714-3715.

wilderness of willows and other growth. But in June 1918, the Secretary of War directed that the latter work be discontinued and that the newly cleared land, as well as any other cleared land in the park, be turned over to the boy scouts for truck gardening.⁷

Also a consequence of the war, in 1918 some 15 acres of land near the railroad embankment of the Virginia Channel side of East Potomac Park were occupied by detachments of Regular Army troops assigned to guard duty in Washington. Forty-one wooden buildings were soon erected by the Construction Division of the War Department to accommodate these troops. Another 57 were erected on the Washington Channel side as barracks for enlisted clerks on duty in the War Department. After the war was over, they were used for storage.⁸

Following the war, work resumed on the golf course, and the fairways were laid out. Another green, 14 sand pits, and 19 hazards were finished. Elsewhere, 8.4 acres at Hains Point were cleared, graded and seeded to be used as a picnic grove. At intervals along the roadway, three drinking fountains were installed.⁹

The sundry civil act approved by Congress on July 1, 1919, included an appropriation of \$10,000 for installing and operating a ferry line from the vicinity of Seventh and Water Streets to East Potomac Park. On November 26, 1918, the army purchased a gasoline motor launch, named "Bartholdi" after the sculptor of the Statue of Liberty, since it had originally been used in New York Harbor to carry visitors to the island on which the statue stood. More recently, it had been used on the Chesapeake and Ohio Canal to carry visitors to Great Falls. The army repaired and remodeled it and installed a new engine. A part of

7. Ridley, PB&G, 1918, pp. 3786-3787.

8. Ridley, PB&G, 1919, p. 3829.

9. Ridley, PB&G, 1919, p. 3829.

the government wharf near Water and "O" Streets, occupied by the U. S. Naval Reserve of the District of Columbia Militia, was fitted up as a ferryhouse to serve as the city landing. A wharf to serve as the park landing was built on the Washington Channel side of the park near the new field house. Another landing stage on the park side sometimes used was the wharf constructed by the Navy Department in the spring of 1918 for the use of small boats from the U. S. Naval Air Station at Anacostia, located on the Washington Channel near Hains Point.¹⁰

The "Bartholdi" made its trial trip on June 21, 1919, and commenced regular service on June 26. George H. Winslow was the master of the little boat and A. E. Winfield was the engineer; it also had two deck hands. The ferry ran every half hour between noon and 8 p. m. Tickets cost five cents per crossing, one way, and the little launch had a capacity of one hundred passengers. The operation was stopped for the season on November 2, 1919, and resumed on May 2, 1920, although on June 27 it was suspended while repairs were made on the boat. It resumed operation on July 1, and ran until December 15. In 1921 it was put into operation on April 2 and ran to November 30. The ferry had carried to that date 68,104 passengers. Congress appropriated no money in 1922 for operation of the ferry the following year, so after four brief seasons it ceased to run. But it was a colorful little chapter in the park's history while it lasted.¹¹

Late in 1919 and in the early months of 1920, work continued on manicuring the end of Hains Point, which included seeding another 4.4 acres, extending the road around the end, building a cement walk around the end of the point at the edge of the seawall, and erecting a pipe rail fence at the edge. This set the pattern for a walkway entirely along the waterfront of the park, but it was not to be built for many more years.¹²

10. Ridley, PB&G, 1919, p. 3830.

11. Ridley, PB&G, 1919, p. 3830. Ridley, PB&G, 1920, pp. 4123-4124. House Documents, 67th Congress, 2d Session (1921-1922), Vol. 14, Doc. No. 232, Appendix to the "Annual Report of the Secretary of War," comprising Report of Lt. Col. C.O. Sherrill for fiscal year 1921 (Serial 8002), pp. 2060-2061. Hereafter cited as "Sherrill, PB&G, 1921." Sherrill, PB&G, 1922, p. 2187.

12. Ridley, PB&G, 1920, pp. 4122-4123.

Temporary improvements at the Point included two small toilets and a refreshment stand built by the Girl Scouts Association of the District of Columbia, which had been granted a permit to sell tea and other refreshments.¹³

Nine holes of the golf course were opened to the public on July 8, 1920, at a fee of 25 cents per round per player, which included use of a locker and shower in the field house. During its first year of operation 40,373 golfers used the facility, and the \$10,093.25 in revenue constituted about half the cost of maintenance and salary of attendants. Work continued, meanwhile, on building the second nine holes.¹⁴

Among other conveniences, the Army in 1920 erected a new drinking fountain at Hains Point.¹⁵

In May 1921, an automobile tourist camp of six acres was set up just east of the railroad embankment adjacent to the Virginia Channel. One of the old World War I barracks there was turned over to the Chief of Engineers and toilet and bath facilities were installed in it. Use of the camp was free.¹⁶

Demolition of the World War I temporary army buildings in East Potomac Park had begun, and on May 24, 1921, a number of those near the Virginia Channel were sold at auction and early in 1922 were torn down by the salvager. Those on the Washington Channel were still being used for storage by the Supply Division of the War Department and the General Supply Committee of the Treasury Department.¹⁷

13. Ridley, PB&G, 1920, p. 4123.

14. Sherrill, PB&G, 1921, p. 2059.

15. Sherrill, PB&G, 1921, p. 2059.

16. Sherrill, PB&G, 1921, p. 2059.

17. Sherrill, PB&G, 1921, pp. 2059-2060.

On July 20, 1921, hoping to escape financial loss, the Corps of Engineers negotiated a concession contract to operate the existing nine hole golf course and the field house. The concessionaire was required by this agreement to maintain the course in a first-class playing condition and to employ at his own expense all necessary help. He was allowed to sell golf supplies and refreshments and charge a fee per game.¹⁸

The Corps of Engineers meanwhile built a flagstone walk bordered with an iron post-and-chain fence from the Washington and Alexandria Streetcar line to the field house.¹⁹

In the spring of 1921 the agricultural agent for the District of Columbia of the Department of Agriculture was allotted 60 acres to be divided into 824 vegetable gardens, and 1,500 men were put to work in them.²⁰

The second nine holes of the 18-hole golf course were completed in 1923 and turned over to the concessionaire after a new contract was signed on April 18.²¹

A riding ground with four horse jumps was erected in 1923 near the Virginia Channel east of the railroad embankment. The embankment itself was screened with 109 12-foot high poplar trees.²²

18. Sherrill, PB&G, 1922, p. 2186.

19. Sherrill, PB&G, 1922, p. 2186.

20. Sherrill, PB&G, 1922, p. 2186.

21. Sherrill, PB&G, 1923, p. 2032.

22. Sherrill, PB&G, 1923, p. 2032.

Nearby at the tourist camp, on July 28, 1923, the Chief of Engineers negotiated another concession for operation and maintenance at the camp. The concessionaire could charge a small fee for each tourist party--it was no longer to be free --but he was also required to spend a certain amount of money yearly for improvements. A barracks building abandoned by the General Supply Committee of the Treasury Department who had been using it as a warehouse was signed over to the Corps of Engineers, who in turn gave it to the concessionaire, and he installed in it new toilets, showers, a commissary store for tourists, a dining room, a kitchen, an office, a reading room, an automobile repair shop, and an automobile accessories store. Across the road he put in gas pumps. The Corps of Engineers meanwhile laid a sewer for the camp and fenced it behind eight-foot-high wire mesh. More planting of trees and grass continued around it and elsewhere in East Potomac Park.²³

Since 1920 the Girl Scouts had operated a refreshment concession stand at Hains Point, and other temporary improvements such as a drinking fountain and two small toilets had been installed. In 1923 and 1924, an elaborate new shelter and comfort station was erected at the point. The old Girl Scouts' building was torn down, but after an agreement dated November 1, 1924, they continued to operate the tea house as a concessionaire, now located in the new building. They retained the concession through the season of 1925, and it was then awarded to the Joint Welfare Service.²⁴

23. Sherrill, PB&G, 1923, p. 2033.

24. Sherrill, PB&G, 1923, p. 2041. House Documents, 68th Congress, 2d Session (1924-1925), Vol. 37, Doc. No. 455, Appendix XX to "Annual Report of the Chief of Engineers," comprising Report of Lt. Col. C.O. Sherrill, fiscal year ending June 30, 1924 (Serial 8455), p. 2022. Hereafter cited as Sherrill, PB&G, 1924.

It is impossible to select a single, clear-cut date on which development of either East or West Potomac Parks was completed. The parks are ever changing as recreation needs change, as landscaping styles evolve. In a sense, 1925 seems as good a year as any to be pinpointed as the moment that Potomac Park was fully developed for recreational purposes, for by then the wild growth on the reclaimed land had almost all been cleared, the land graded and seeded with grass and planted with trees and shrubs. Yet this ignores the fact that, although the Lincoln Memorial was completed, the Arlington Memorial Bridge, and with it the surrounding approaches in West Potomac Park, were not. It ignores the fact that the Jefferson Memorial had yet to be built. Yet, all of these later developments may really be regarded as a part of continuing change in the parks which will never cease. The fact is that Potomac Park was fully developed for recreational use in 1925.

In another sense it is fitting that 1925 should be selected as the year of completion of the transformation of the raw, reclaimed land into usable park, for that was also the year the Office of Public Buildings and Grounds ceased to exist. Congress passed Public Law No. 478 on February 26, 1925, and two days later, the Office of Public Buildings and Public Parks of the National Capital replaced the old agency. In its immediate effects, this was little more than a change in name--and not a great one at that. But it may also be seen as the beginning of a new era in Potomac Park.²⁵

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25. Creation of the Office of Public Buildings and Public Parks of the National Capital was preceded by creation of the National Capital Park Commission by Public Law No. 202, approved June 6, 1924. The officer in charge of public buildings and grounds served as secretary of this commission. In addition, Public Law No. 202 provided for a comprehensive development of the park and playground system of the National Capital through acquisition by purchase or condemnation of lands in the District and nearby Maryland and Virginia. Those lands in the District, however, were to continue to be under the authority of the Chief of Engineers. Sherrill, PB&G, 1924, p. 2045.

VI

POTOMAC PARK UNDER THE DIRECTOR OF PUBLIC BUILDINGS AND PUBLIC PARKS OF THE NATIONAL CAPITAL

1925 - 1933

On February 26, 1925, Congress passed a bill which consolidated the Office of Public Buildings and Grounds and the office of Superintendent of the State, War and Navy Building. The new organization was called the Office of Public Buildings and Public Parks of the National Capital. The new organization was divided into seven divisions: administrative, buildings maintenance, design and construction, horticultural, park maintenance, protection, transportation and supply.¹

The director of the new office had enough responsibilities to keep a dozen men busy. These included the construction, maintenance, care, custody, policing, upkeep, and repair of the public buildings, grounds, parks, and monuments of the national capital. In addition, other specific legislation gave him a score of other duties. He was to serve as an executive and disbursing officer of the Rock Creek and Potomac Parkway Commission, the Lincoln Memorial Commission, the Arlington Memorial Bridge Commission, the Ericsson Memorial Commission, the Public Buildings Commission, and the National Capital Park and Planning Commission. He was also a regular member of the last two commissions named. He was, furthermore, executive officer of the Meade Memorial Commission and a member of the Zoning Commission of the District of Columbia. He was also in charge of supervising the erection of the memorial to the dead of the First Division in the First World War.²

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1. Annual Report of the Director of Public Buildings and Public Parks of the National Capital. 1926, pp. 5-7. These annual reports, published by the Government Printing Office in paperbound pamphlet format, will hereafter be cited as "DPB&PP" together with the appropriate year and page numbers.
 2. DPB&PP, 1926, p. 7.

Lieutenant Colonel Clarence O. Sherrill, who had served as the last officer in charge of the Office of Public Buildings and Grounds since March 21, 1921, was named on February 26, 1925, the first director of the new office, but on January 1, 1926, was replaced by Lieutenant Colonel U. S. Grant III.³

One of the first jobs that fell to the new office, other than normal maintenance, was the elimination of the bathing beach located at the tidal basin. Congress had called for the removal of the bathhouses and restoration of the grounds to their original park condition in February 1925. Colonel Sherrill had objected that enactment of the legislation would be to the "detriment of the people of Washington." Nevertheless, the bathing area was inconsistent with the McMillan plan for that area, and the new Office of Public Buildings and Parks began its removal. Demolition of all the buildings began on July 27, 1925, and was completed on September 9. Restoration of the lawn area was commenced on September 18 and completed by the end of December 1925.⁴

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3. Cornelius W. Heine, A History of National Capital Parks, p. 27.
 4. House Documents, 69th Congress, 1st Session (1925-1926), Vol. 34, Doc. No. 47, Pt. 1, Appendix XX to "Annual Report of the Secretary of War," comprising Report of Lt. Col. C. O. Sherrill for fiscal year 1925 (Serial 8595), pp. 1952-1953. The bathing beach and bathhouse on the shores of the Tidal Basin were open to whites only. A Congressional appropriation approved June 29, 1922, provided for construction of a separate facility for the District's Negro residents. Delays in selecting a site postponed the beginning of construction until December 1925. A considerable amount of work was done on the foundations for the segregated facility in the ensuing months, but another Congressional bill called for the removal not only of the Negro facility but of the white facility as well, killing the bathing beach project entirely. See also, DPB&PP, 1926, p. 27.

U. S. Grant III also had inherited from the old office the responsibility for completing the memorial to John Ericsson, the Swedish immigrant who had designed and supervised construction of the U.S.S. Monitor during the Civil War. Congress had authorized \$35,000 for a suitable memorial on August 31, 1916, and appropriated the money on June 30, 1918. Americans of Scandanavian descent donated an additional \$25,000 in the form of liberty bonds. Three sculptors were invited to submit models for a monument, and the Memorial Committee accepted the one submitted by James E. Fraser of New York on the recommendation of the Commission of Fine Arts. On May 19, 1921, Grant signed a contract with Fraser calling for construction of the monument within the next three years on a site south of the Lincoln Memorial in West Potomac Park. The precise location of the memorial, however, was not fixed until May 1924, at a point 820 feet south of the Lincoln Memorial.⁵

The government had learned something from its sad experience with the Lincoln Memorial approaches and decided to take no chances with the Ericsson Memorial, although it was hardly comparable in size or weight. It was to be placed on pile foundations resting on bedrock which, drillings showed, was roughly 40 feet below the surface of Potomac Park at that point.⁶

5. Ridley, PB&G, 1919, p. 3848. Sherrill, PB&G, 1921, pp. 2076-2077. Sherrill, PB&G, 1922, p. 2203. Sherrill, PB&G, 1923, p. 2052. Sherrill PB&G, 1924, pp. 2040-2041. Sherrill, PB&G, 1925, pp. 1960-1961. The full citation of which the above represent an abbreviated form may be found in the footnotes for Chapter V.

6. Sherrill, PB&G, 1925, p. 1961.

As the delay in progress in the project was due in part to the government's delay in turning the site over to Mr. Fraser, the time limit on his contract was extended indefinitely. Work was actually begun in October 1924. In December, 14 composite piles were driven, and when weather moderated the following March, the concrete slab was poured. The foundation was completed on March 18, 1925. In June, the contractor set the base for the memorial and began some stone cutting. In July 1925 the pedestal was completed, but no further work was done until December, when temporary sheds were built around the memorial to protect the workmen. The plaster model of the statue was placed on the stone pedestal, and the temporary buildings were removed. The monument was dedicated on May 29, 1926, in an impressive ceremony, with the plaster model filling in for the completed monument. The actual stone cutting was not done until April, May, and June 1927, and on July 1, 1927, all that remained was to place the granite curb and pavement around the monument.⁷

The World War temporary buildings continued to be a problem. The wooden foundations had decayed and been replaced several times, and it was decided to replace them with concrete footings, thus making the temporary buildings just a little more permanent.⁸

On December 9, 1926, a contract was signed with Z. A. Biggs and Joseph Kirchner for installation of 24 floodlights in the Lincoln Memorial to illuminate the statue, and 125 other lights for general lighting in the memorial. The work was delayed by a shortage of glass. In April 1927 a contract was let for construction of a pair of rest rooms under the east terrace of the Memorial, providing a much needed facility in that part of West Potomac Park.⁹

7. Sherrill, PB&G, 1925, pp. 1960-1961. For a detailed account of the dedication ceremonies, which included addresses by President Coolidge and the Crown Prince of Sweden, see U.S. Senate Documents, 69th Congress, 1st Session (1925-1926), Vol. 18, Doc. No. 161, "Proceedings at the Unveiling of the Statue of John Ericsson . . . , May 29, 1926" (Serial 8556). DPB&PP, 1926, p. 42.

8. DPB&PP, 1926, pp. 19-20.

9. DPB&PP, 1927, pp. 16-17.

An act of Congress approved on February 24, 1925, had authorized the construction of Arlington Memorial Bridge, which had been in the planning stage off and on since the last century. The first appropriation, however, was not made until March 4, 1925. Soon thereafter Mr. John L. Nagle was employed as designing engineer, Mr. J. W. Douglas as a consulting engineer, and the firm of McKim, Meade & White as architects. The first contract, let on April 9, 1926, gave H. P. Converse & Co. the job of building the piers and abutments from bedrock to the springing lines of the arches. This was the beginning of the first major project in Potomac Park since completion of the Lincoln Memorial, and one that would continue for the next five years.¹⁰

Meanwhile in June 1926, a contract had been let for construction of a headquarters and recreation building at the tourist camp in East Potomac Park. The contractor began construction in June 1926 and the building was finished in January 1927 at a cost of \$34,062.52. It was 94½ by 36 feet, and contained a large recreation room, a registrar's office, a manager's office, a first-aid room, rest rooms for men and women, and a boiler room. The building was brick with a pale yellow stucco finish and a red tile roof.¹¹

Although swimming was henceforth to be forbidden in the tidal basin, its use for boating purposes was approved, and to encourage this recreation plans were drawn up and a contract let in June 1928 for a boathouse with public restrooms to be erected near the foot of 17th Street. The building was to be a one-story frame structure, 64 by 31 feet, including a lunch room and a storage room for model yachts, as well as a large covered porch. Late in June the contractor began work on the foundation excavation, and the building was completed and accepted in October 1928 at a cost of \$10,668.52.¹²

10. DPB&PP, 1927, p. 19. U.S. Senate Documents, 68th Congress, 1st Session (1923-1924), Vol. 8, Doc. No. 95, "Report of the Arlington Memorial Bridge Commission (Serial 8240)". This report contains the proposals, the design studies and a legislative history of the bridge project.

11. DPB&PP, 1927, pp. 29-30.

12. DPB&PP, 1928, p. 21. DPB&PP, 1929, p. 26.

July 4, 1928 was the hundredth anniversary of the opening of the Chesapeake and Ohio Canal. At noon on Tuesday, June 5, a bronze tablet on the old C. & O. Canal lockhouse at 17th and Constitution was unveiled by Frederick D. Own, a retired architect and engineer who had devoted much of his life to development of the parks in Washington.¹³

Several floods which occurred after the park had been developed seemed to vindicate the opinion of Colonel Allen expressed in 1897 that the specified grade of the filling, above the freshet line of 1877, was not high enough, and that the reclaimed land should be raised above the higher freshet line of 1889. But it was too late to do this now, and the consequence of the earlier economizing was that Potomac Park was periodically subjected to partial inundation by either flood or excessively high tides. In August and September 1928, to cite merely one of a number of instances, the park was subjected to what Grant described as a "severe" flood which threatened to kill many of the cherry trees. Prompt action by park maintenance crews saved most of them, however.¹⁴

In the middle of December that same year, a large ornamental urn donated to President Coolidge by the President of Cuba was placed in the rose garden in West Potomac Park. The urn was made of marble that was a fragment of one of the columns supporting the monument to the U.S.S. Maine which had stood in Habana until destroyed by a hurricane on October 20, 1926. The 70th Congress had passed a public resolution authorizing the President to accept the gift.¹⁵

13. DPB&PP, 1928, p. 48.

14. DPB&PP, 1929, p. 29.

15. DPB&PP, 1929, p. 64

In 1930 a ten-foot wide reinforced concrete walk with an iron pipe railing along the water's edge was constructed along the seawall on the Washington Channel side of East Potomac Park from the U. S. Engineer Wharf at the head of the channel to Hains Point. The following year, after some 75,000 cubic yards of clay fill procured from various government building projects had been used to raise the grade of East Potomac Park along the Virginia Channel, a similar concrete walk and railing was constructed from the inlet bridge in West Potomac Park to Hains Point in East Potomac Park where it joined the walk built the year before. This was a great improvement and a significant contribution to visitor safety.¹⁶

In the years since the end of the war, numerous District residents had called for construction of some sort of Memorial to those District residents who had served in the armed forces during the war. In April 1926, a District of Columbia Memorial Commission established by Congress, with Frank Noyes elected its chairman, commenced a fund drive to collect the \$200,000 needed to build a memorial bandstand in the form of a marble Greek Doric temple. Architects Frederick H. Brooke, Horace W. Peaslee and Nathan Wyeth designed the proposed memorial and in the spring of 1931 the Commission awarded the construction contract to the James Baird Company, a firm which had recently erected the new Internal Revenue Building. The site of the new memorial, approved by the Fine Arts Commission, was south of the Reflecting Pool and a short distance west of 17th Street. Construction progressed swiftly with marble from a quarry at Danby, Vermont. Around the base sculptors chiseled the names of 435 men and women from the District who died in the war. The bandstand was dedicated on Armistice Day, November 11, 1931, with President Hoover participating in the ceremonies.¹⁷

16. DPBPP, 1930, p. 66. DPB&PP, 1931, pp. 66-67.

17. Washington Star, April 11, 1926; April 4, 1931; April 2, 1967, Sunday Magazine, pp. 10-12.

With construction of this marble memorial bandstand assured, the government had demolished the old wooden bandstand near the Polo Field. But the new bandstand remained more a memorial than a bandstand and thus did not really take its place. Watergate concerts eventually assumed the role played by the old wooden bandstand. As for the District of Columbia War Memorial, it was used principally on May Day and on Armistice Day each year in services sponsored by organizations such as the American Legion, the Society of Forty and Eight, the Gold Star Mothers, the Blue Star Mothers, the Jewish War Veterans, the Catholic War Veterans, the Military Order of the World War, and others. Although the United States Marine Band (The President's Own) played in the memorial at such observances, the D. C. War Memorial remained more memorial than bandstand, and today it is probably the least known memorial in Potomac Park.¹⁸

On a more mundane level, a new building to provide additional bath and toilet facilities was begun in East Potomac Park in 1931. It was of concrete and tile with the sides covered with asbestos shingles. Two new cabins were also built at the tourist camp, along with boiler facilities to provide them with steam heat. These were completed in June 1932.¹⁹

The Arlington Memorial Bridge was now nearing completion. It had proved no easy task. The Stone Mountain Granite Corporation furnished granite for facing the substructure of the bridge and the North Carolina Granite Corporation signed a contract on May 28, 1926, for furnishing and delivering granite for the superstructure. The Rosslyn Connecting Railroad was engaged to¹⁹ build a side track from the Rosslyn branch of the Pennsylvania Railroad to a point near the bridge on the Virginia shore to facilitate delivery of stone for construction of the bridge. The first concrete for the foundations was poured by the foundation contractor, H. P. Converse and Company, on September 23, 1926. The first granite was received that December. The navigation channel was dredged to pass through the location designated for the drawspan

18. Washington Star, Nov. 5, 1939; May 2, 1940; May 22, 1940; May 4, 1942; Nov. 11, 1942; Apr. 30, 1943; May 3, 1943; Nov. 11, 1943; Apr. 23, 1944; May 1, 1944; May 14, 1945; May 13, 1946; May 12, 1947; May 17, 1948; May 7, 1951; May 5, 1952. Washington Post, May 5, 1952; May 3, 1954.

19. DPB&PP, 1931, p. 68. DPB&PP, 1932, p. 19.

of the bridge, and the edge of Columbia Island on the Virginia shore was partially cut away to increase the flood discharge cross-section of the river to compensate for the area taken up by the bridge piers.²⁰

A great amount of design work, with experimentation on models, was necessary during construction of the bridge, and the Commission of Fine Arts continued debates and discussions on treatment of the approaches. The work on the draw span was contracted with the J. B. Strauss Bascule Bridge Company for a trunnion counterweight type of structure.²¹

The pier work under the Converse contract was completed in January 1928. On February 4, a contract was signed with the Hunkin-Conkey Construction Company, lowest of five bidders, for erection of the superstructure. The contractor assembled his construction plant and equipment in February and March and began work on the concrete work of the arch spans early in April. The government meanwhile did a considerable amount of dredging and blasting of rocks both in the new alignment of the navigation channel and along the shore of Columbia Island.²²

In March 1928 a solution was found to the problem of placing an underpass on the north end of the bridge that satisfied both artistic and practical requirements, and the revised plan was approved by the bridge commission on May 31, 1928.²³

20. DPB&PP, 1927, p. 19.

21. DPB&PP, 1927, pp. 20-21.

22. DPB&PP, 1928, pp. 49-51.

23. DPB&PP, 1928, pp. 51-53.

On September 26, 1928, a contract was signed with the Phoenix Bridge Company, lowest of four bidders, for erection of the bascule draw span. On October 5, bids were received for construction of the bridge between Columbia Island and the Virginia shore over the Boundary Channel, and a contract was signed with the lowest of eight bidders, N. P. Severin Company, on December 29, 1928. On May 18, 1929, a contract was signed with the Grier-Lawrance Construction Company, lowest of nine bidders, for building the foundations of the watergate, bridge plaza, and parkway approach to the Washington end of the bridge.²⁴

The Hunkin-Conkey Construction Company completed their contract in November 1929, which ended the masonry work on the bridge itself--the great bulk of the construction. There was still much work remaining, however; the pavement had to be placed, the Boundary Channel bridge had to be completed, the parkway approach to the Washington end of the bridge had to be graded and built, and carving on the ends of the piers and abutments and the pylons on the end of the bridge remained to be done.²⁵

On September 14, 1929, a contract was signed with the National Construction Company of Atlanta, Georgia, lowest of eleven bidders, for construction of the superstructures of the bridge plaza and the watergate, as the Grier-Lowrance Construction Company had completed the foundations.²⁶

After some negotiations the Pennsylvania Railroad agreed to allow their Rosslyn Branch to be depressed in a deep cut, and to permit the construction of a temporary shoefly while the work of relocating the railroad was in progress.²⁷

24. DPB&PP, 1929, pp. 65-68. DPB&PP, 1930, pp. 79-82.

25. DPB&PP, 1930, p. 79.

26. DPB&PP, 1930, p. 79.

27. DPB&PP, 1930, p. 82.

On September 26, 1930, the Severin Company finished the Boundary Channel bridge. On February 4, 1931, the National Construction Company completed the bridge plaza and the water-gate. On February 6, 1931, the Phoenix Bridge Company completed the erection of the bascule draw span. On June 11, 1931, Grenci & Ellis, Inc., completed the granite carving of the 16 low-relief eagles on the main bridge and the two free-standing eagles on the pylons at the west end of the bridge, as well as the pair at the east end of the Boundary Channel bridge.²⁸

The grading for the relocation of the Rosslyn Branch of the Pennsylvania Railroad, after an exchange of land for the new location was approved by an act of Congress, was done by the firm of Marye and Blankenship of Shawsville, Virginia. Their work was completed in October 1931. On January 18, 1932, J. H. Coleman and Son completed the underpass structure through which the lowered railroad would pass.²⁹

On January 18, 1932, the Union Paving Company completed paving both the Boundary Channel bridge and the main bridge with granite "Durax" blocks, and the Corson & Gruman Company on the same date completed paving the bridge plaza and some of the approaches, as well as sidewalks on the bridges and the approaches. The Corson & Gruman Company also won the contract for placing paving, curbs and gutters on the roads to and around the Ericsson Memorial and completed that work by the summer of 1932.³⁰

Arlington Memorial Bridge was first opened for traffic, beginning only with Saturday afternoons and Sundays, on January 16, 1932. On March 16 it was opened for daily traffic and on May 6 it was opened for night traffic, although work on finishing touches and landscaping continued for some time.³¹

28. DPB&PP, 1931, pp. 94-97.

29. DPB&PP, 1931, p. 95.

30. DPB&PP, 1932, pp. 51-52.

31. DPB&PP, 1932, p. 25.

On June 10, 1933, under an Act passed by Congress on March 3, the Office of Public Buildings and Public Parks of the National Capital was reorganized under the Department of the Interior, and on March 2, 1934, it was further reorganized as a part of the National Park Service. A new chapter in the history of Potomac Park was beginning.³²

32. Heine, op. cit., pp. 36-37

VII. POTOMAC PARK UNDER THE NATIONAL PARK SERVICE

1933 - 1941

On June 10, 1933, when the new Office of National Parks, Buildings and Reservations of the Department of the Interior, replaced, by executive order, the earlier agency which had responsibility for Potomac Park, Major General Ulysses S. Grant III, was still Director. But six days later he retired from the post and Colonel James W. Woodruff was appointed to replace him. It was under Colonel Woodruff, on August 9, 1933, that the reorganization became effective. He was replaced by Acting Superintendent Frank T. Gartside on August 30, but Superintendent C. Marshall Finnan was named to succeed Gartside on October 9, 1933. The Interior Department Appropriation of March 2, 1934, simplified the name of the new agency to "National Park Service," in which Finnan was the first superintendent with authority over Potomac Park. The term "National Capital Parks" was first applied to Finnan's superintendency in the appropriation act of June 4, 1934.¹

Twenty-two days after National Capital Parks was created, Congress on June 26, 1934, established the Thomas Jefferson Memorial Commission for the purpose of "considering and formulating plans for designing and constructing a permanent memorial . . ." to Thomas Jefferson, third President of the United States. The Commission was to be composed of three appointees of the President, three Senators appointed by the President of the Senate, three Members of the House of Representatives appointed by the Speaker of the House, and three members of the Thomas Jefferson Memorial Foundation, to be selected by the foundation.²

The foundation held its first meeting on April 12, 1935, and elected Representative John J. Boylan of New York as its chairman. The questions of site, design and construction were immediately taken up and the Commission consulted with the National Capital Park and Planning Commission and the Fine Arts Commission. The

1. Heine, op. cit., pp. 36-38.

2. Stanley W. McClure, The Thomas Jefferson Memorial, p. 1.

McMillan Plan of 1902, of course, had specified that

Where the axis of the White House intersects the axis of Maryland Avenue a site is found for a great memorial. Whether this memorial shall take form of a Pantheon, in which shall be grouped the statues of the illustrious men of the nation, or whether the memory of some individual shall be honored by a monument of the first rank may be left to the future; at least the site will be ready.³

The site was ready. In 1934 it awaited the decision of the Thomas Jefferson Memorial Commission.

Actually, four sites were considered: (A) the tidal basin site described above, (B) a site across the Mall from the National Archives building, (c) a site in Lincoln Park, and (D), the Anacostia site. Each, of course, had its champions, and despite the McMillan Plan the location was not a foregone conclusion, although perhaps the site on the shore of the tidal basin was the most logical one.⁴

At a meeting of the Commission held on December 4, 1935, the Architect John Russell Pope discussed the various sites with the members who selected him tentatively as the Commission's architect; the commissioners authorized and directed him to prepare designs and sketches for the four sites under consideration. On March 2, 1936, the Commission sent the sketches and designs Pope had prepared to the White House and the members of the Commission met with President Roosevelt. On March 24, Chairman Boylan was directed to introduce in the House of Representatives a resolution authorizing the Commission to build a memorial to Jefferson at a cost not to exceed three million dollars. The legislation

3. Ibid., p. 2. U.S. Senate Reports, 57th Congress, 1st Session (1901-1902), Vol. 3, Report No. 166, Chas. Moore, ed., "The Improvement of the Park System of the District of Columbia," (Serial 4258), p. 50.

4. McClure, op. cit., pp. 2-3.

passed Congress on June 3, 1936.⁵

At a meeting of the Commission held on December 1, 1936, the Commission

Resolved, That, subject to the concurrence of the President, the site selected for the Jefferson Memorial be the site on the south axis of the White House at the intersection with the central line of Maryland Avenue.⁶

In other words, it would be built on the southeast shore of the tidal basin in West Potomac Park. Final action was taken on the site at a meeting of the Commission held on February 18, 1937. At the same meeting the Commission formally appointed John Russell Pope the architect and adopted his "circular" plan for the memorial. The choice of this site was not, however, welcomed universally in Washington. Aside from the champions, for one reason or another, of each of the other proposed sites, lovers of the cherry trees around the tidal basin opposed it.⁷ The Washington Star editorialized on May 6, 1937, against what it called the "incidental spoliation of one of the capital's most charming parks," and further referred to construction at that location as "an intolerable trespass."

The McMillan Plan of 1902 had called for converting the irregular shoreline of the Tidal Basin into a formal rectangular pool. Pope's plan for the Jefferson Memorial similarly called for converting the tidal basin into a smaller squarish pool with three odd-shaped supplementary pools to the south and west. But beyond building the Memorial itself none of

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5. John Russell Pope, Thomas Jefferson Memorial. This is Pope's design proposal, consisting of a mimeographed text and photo-stats of design drawings of different schemes of treatment of the memorial and its surroundings.
 6. John Russell Pope, Thomas Jefferson Memorial Commission, June 30, 1937, p. 8. Printed as paper-bound pamphlets by the Government Printing Office, the reports of this commission will hereafter be cited as "TJMC" followed by the date and page reference.
 7. McClure, op. cit., p. 3. TJMC, June 30, 1937, p. 8.

this was ever done, for a modified scheme for the setting around the memorial was adopted on July 13, 1937, leaving the outline of the Tidal Basin undisturbed.⁸

In December of 1937 and the opening months of 1938, the Commission of Fine Arts declined to approve the Pantheon design of the Memorial submitted by Pope. One of the objections to it was that it was little more than an adaptation of a design made in 1926 for a Memorial to Theodore Roosevelt proposed for the same site. Part of the problem probably arose from the resignation of Charles Moore as Chairman of the Commission of Fine Arts and the election of Gilmore Clarke to replace him. However, the Commission of Fine Arts and the Jefferson Memorial Commission finally resolved their differences and on March 29, 1938, the latter body proceeded to final adoption of the Pantheon design, not unlike an edifice that that lover of classical architecture, Thomas Jefferson, had once designed himself.⁹

An appropriation of \$500,000 with which to begin construction of the memorial was made by act of Congress approved June 25, 1938, and the U. S. Engineer Office made test borings for foundations. Unfortunately, John Russell Pope died in August 1937, and the Commission was forced to sign a contract with his associates, Otto R. Eggers and Daniel P. Higgins, who undertook to complete the memorial Pope had designed. The death of a member of the Jefferson Memorial Commission in July, meanwhile, had afforded an opportunity for the appointment of Jefferson Randolph Kean, a descendent of Thomas Jefferson, to its membership. On September 12, 1938, Frederick Law Olmsted was retained to plan the layout of the surrounding grounds, and his plan was submitted to the Commission and approved by them on September 29, 1938. A total of 83 cherry trees would have to be moved, and another 88, too old to be moved, would have to be cut down.¹⁰

8. Pope, *op. cit.*, see plates for Scheme "A", June 30, 1937, also has plates for Scheme "A".

9. TJMC, May 31, 1938, p. 6. McClure, *op. cit.*, pp. 3-4.

10. TJMC, June 1, 1939, p. 3. McClure, *op. cit.*, pp. 2-4.

On the basis of the test borings made by the Army Engineers, the Commission publicly advertised for bids for the foundation, to be submitted on November 29, 1938. Five were received, and on November 29 a contract was awarded to the Raymond Concrete Pile Company of New York City.¹¹

Ground was formally broken for construction of the Memorial on December 15, 1938, in a ceremony featuring President Franklin Delano Roosevelt. The President handed the same gilded spade which had broken ground for the Lincoln Memorial and for the Tomb of the Unknown Soldier in Arlington Cemetery to Stuart G. Gibboney, Acting Chairman of the Thomas Jefferson Memorial Commission, who turned the first spadeful of earth. Roosevelt made a short address also.¹²

Bids were received not long thereafter for temporary roads to provide for circulation of traffic cut off by construction of the Memorial, and a contract was awarded on February 14, 1939. On March 16, Congress appropriated two million dollars for construction, and bids were requested for the superstructure under a deadline of March 17. The Commission awarded the contract to the lowest bidder, John McShain, Inc., of Philadelphia, on April 7, 1939. Under this contract the interior was to be of white Georgia marble and the exterior of Imperial Danby Vermont marble. At a hearing held on March 14, 1939, it was decided to hold a national competition for selection of a sculptor to do the statue of Jefferson. After two run-off competitions, the Commission on February 21, 1941, selected a design by Rudolph Evans.¹³

Unfortunately the Second World War intervened before the Memorial was finished and dedicated. In 1942 a plaster model of the Jefferson statue was placed in the Memorial, work on the bronze statue being deferred because of the need for the metal for shell casings. The Memorial was dedicated on April 13, 1943. The temporary plaster figure was finally replaced by the finished bronze statue in April 1947.¹⁴

11. TJMC, June 1, 1939, pp. 4, 6.

12. TJMC, June 1, 1939, p. 4. McClure, op. cit., p. 4.

13. TJMC, June 1, 1939, p. 6.

14. TJMC, June 1, 1939, p. 6. McClure, op. cit., p.

Thus was completed the second major memorial to be erected on the reclaimed land that constituted West Potomac Park.

Construction of the Jefferson Memorial was not, of course, the only work done in the park during these years. There was the usual maintenance and repair work, occasional filling, and occasional changes in the planting of the park. In 1936 a connecting parkway between Potomac Park and Rock Creek Park was completed. In 1937 the NPS placed in service a new ferry across the Washington Channel to East Potomac Park. But completion of initial development by 1925 dramatically reduced the amount of visible change in Potomac Park, and it now served as a popular recreation ground which accommodated golfers, baseball players, polo players, picnickers, fishermen, horsemen, swimmers, croquet players, badminton players, football players, rowers, tennis players, volleyball players, campers and myriad other Americans out for a good time.

By the end of the decade, however, the world was fast slipping into the second great war in the century. The pressures of war would bring many further changes to Potomac Park, for during the 1940s recreation was ranked low among wartime priorities in the park areas of the National Capital.

VIII. SOME PERMANENTLY TEMPORARY STRUCTURES

1941 - 1971

The government did not heed the lesson taught by the experience during the First World War that "temporary" structures develop a surprising degree of permanence, and the mistakes of 1917 were to be repeated fourfold in 1942. The general attitude of war planners, as voiced in an editorial in the Washington Star, was that "It does not make any difference what we do to Washington; We have a war to win." The war planners were allowed to "run roughshod" over the authorities of the National Park Service and the National Capital Park and Planning Commission charged with maintenance and development of the capital's parks and recreation areas.¹

One of the first projects to raise its hydra-like head was the construction of the Navy buildings on the ellipse just south of the White House. But this Navy project was scuttled, perhaps on the orders of the President himself.²

The war planners, however, were undeterred. They cast envious glances at the acres of "unused" land in East and West Potomac Parks. Their first encroachment was on the popular polo field. About January 12, construction crews moved in and on the 22nd the Star reported that the northern half of the polo field was covered with asphalt for use as a Navy parking lot; the War Department had the other half earmarked for the same purpose.³ This project had been

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1. Washington Star, July 16, 1942 (Editorial). On July 1 the Star commented that the tendency of the War and Navy Departments to by-pass established planning agencies such as the National Capital Park and Planning Commission in order to expedite war-related projects was in itself understandable. But it had become increasingly evident that some of the resulting decisions had been made altogether too hastily, and that a little planning, no matter how abbreviated, would have facilitated the war effort. The parking lot fiasco seemed to prove the newspaper's point.
 2. Washington Post, January 18, 1942.
 3. Washington Star, January 22, 1942.

represented to the National Capital Park and Planning Commission as a necessity; the agencies involved "just could not get along without the polo field." A picture was presented of thousands of war workers clamoring for places to park their cars near Constitution Avenue where they worked. Consequently, the commission gave its reluctant approval. The agencies involved, of course, promised to release the area once the war was over.⁴

Asphalt laying continued until the whole polo field was covered with six-inch-thick black pavement. The area was divided into two lots, one for the War Department and one for the Navy Department, accommodating 1,303 cars each or a total of 2,600 vehicles, lined up in 20 lanes marked by six-by-six wooden bumpers spiked into the asphalt. The George Hyman Construction Company did the work.⁵

The Washington newspapers restrained comment for about five months, and then the editorial storm broke loose. On July 1, 1942, the Washington Star devoted a long editorial column to the subject. It noted that the "super parking lot," the "ten acre asphalt slab," was a "dismal monument to a type of hasty and planless emergency construction that has been all too prevalent in Washington for the past year or so." The Star charged that a "shocking lack of preparatory study and planning . . . marked the decision . . . to convert the polo field into an army-navy parking area. . . ." It reported that

at no time since the asphalt was hurriedly laid--in an apparent effort to get the job done before the public knew what was going on--have more than twenty-five automobiles been parked on the huge War Department section of the lot, where there are two attendants and spaces for 1,303 cars. Eight or ten is the daily average. The Navy's part of the field has more customers, but only about half of the 1,303 which were expected to use it.⁶

4. Washington Star, July 1, 1942 (Editorial).

5. Loc. cit.

6. Loc. cit.

In a later editorial the Star termed the decision to lay the parking lot "hysterical,"⁷ and on July 2 it published an editorial cartoon by Berryman which showed the lot with two cars on it and a caption; "War and Navy Dept. Parking Lot. Formerly the Polo Grounds. Cost of converting park land to parking lot, \$115,353.73. Capacity 2,606 autos. Daily use--about 610 automobiles." In the foreground, Berryman posed Secretary of the Interior Harold Ickes upbraiding Secretaries Stimson and Knox: "Do you fellows have any more bright ideas on how to help the war effort by tearing up park areas?"⁸

Ickes was undoubtedly upset; the cartoonist was right about that. In addition to the parking lot fiasco, the temporary planners in the Public Buildings Administration had decided to place temporary buildings on the West Potomac Park golf course as well as in East Potomac Park. Ickes denounced the plan as another move to "grab our park areas."⁹ Public Buildings Administration Commissioner William E. Reynolds had announced on July 2 that the army was willing to release its half of the great asphalt mistake,¹⁰ and Ickes said it would be better to place those new temporary buildings on the already-destroyed polo field rather than to ruin still more valuable park land, but even then "only if they have to put them anywhere" in the parks. When told that the proposed dorms would occupy 45 acres of park land, the caustic Ickes remarked, "didn't know we had that much park left."¹¹

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7. Washington Star, July 16, 1942 (Editorial)
 8. Washington Star, July 2, 1942.
 9. Washington Star, July 9, 1942.
 10. Washington Star, July 2, 1942.
 11. Washington Star, July 2, 1942.

Although the Navy refused to release its parking lot,¹² the Army did so, and in the last week of November a steam shovel began to tear up the asphalt, which was badly needed by the District of Columbia Highway Department for building roads. A small strip of asphalt was left to accommodate tennis and badminton courts, and the excavation was to be filled with topsoil being removed from the old West Potomac Park golf course, which was being torn up and graded to serve as a site for the temporary buildings.¹³ Removal of the asphalt cost an estimated \$25,000.¹⁴ The whole episode was a "horrible example of what can happen in Washington, in too many cases, in the name of the war effort," said the Star.¹⁵

Meanwhile, an even more permanent "temporary" project was well along. This was the construction of dormitories for war workers in West Potomac Park. Plans called for placing them on the 9-hole golf course, despite the fact that Secretary Ickes and the Washington newspapers thought they should go on the discontinued Army parking lot site on the old polo grounds. The fact that plans had been drawn for specific sites, specifically the golf course in West Potomac Park and the western end of East Potomac Park, should not deter officials from switching the site, said the Star. The appropriation of any more park land for "temporary" use by war agencies would create a "recreational crisis which may seriously affect the morale, and physical fitness of government personnel."¹⁶ The editor thought that placing at least some of the "tempo" at the polo field would be a way to "atone" for the one mistake and possibly to avoid another one at the same time. Even more temporary structures could be placed there if the Navy would only give up its half of the unpatronized parking lot,¹⁷ but it refused to do so¹⁸ and on July 12, 1943, was reportedly "still clinging" to its little-used parking lot.¹⁸

12. Washington Star, July 24, 1942.

13. Washington Post, October 5, 1942.

14. Washington Star, July 11, 1942.

15. Washington Star, July 16, 1942.

16. Washington Star, July 3, 1942.

17. Washington Star, July 1, 1942.

18. Washington Star, July 12, 1943.

Thus the temporary structures went up in Potomac Park. Under a congressional appropriation of \$12,000,000, five were to be built on East Potomac Park providing 2140 rooms for war workers on a 4.4-acre plot. Three more were to be built on the nine-hole golf course north of the polo field, providing 1372 beds and 1307 rooms for war workers, occupying 2.8 acres of land. Others were proposed elsewhere in the city.¹⁹ Those in West Potomac Park were under construction in December.²⁰ As the war went on, more and more temporaries were built on West Potomac Park south of the reflecting pool. The lack of planning again became evident and again led to a wartime monstrosity. The war-time workers housed in the dormitories on the old golf course who worked for the Navy had to walk all the way around the long reflecting pool between the Lincoln Memorial and the Washington Monument, so two footbridges were built over the middle of the reflecting pool - another scar on the face of Potomac Park.²¹

The construction of wartime emergency structures, some intended to be temporary and others like the Pentagon permanent, had effects in other areas of park management as well. An expansion plan adopted in 1941 by the National Capital Parks, the Fine Arts Commission, and the District Recreation Board called for moving the tourist camp from East Potomac Park to the Virginia side of the river. The camp had originally been built in 1921 at a time when not all of Potomac Park was urgently needed for recreation, but by 1941 park use had so expanded that the tourist camp was in the way. Unfortunately, the war intervened, and during the war the Pentagon was erected on the site chosen for the new tourist camp, so the old tourist camp remained in business until 1963,²² another consequence of "temporary" planning during the war. It was then replaced by camping sites at Prince William Forest Park about 25 miles south of Washington where a free tent camping area with 120 sites had been set up.²³

19. Washington Post, July 2, 1942.

20. Washington Post, July 2, 1942.

21. Washington Star, June 4, 1947. These bridges were finally removed in the summer of 1947.

22. Washington Star, Feb. 10, 1946

23. Washington Post, Dec. 11, 1962.

Once the war was over, removal of the temporary buildings from West Potomac Park did not follow as automatically as everyone had hoped and as the Navy had promised when they were built. Late in 1947, Superintendent Thompson of National Capital Parks announced that a 21-acre formal rose garden was to go in their place.²⁴ The existing rose garden, started in 1923, had been near the foot of 14th Street in Potomac Park, and construction of a new bridge completed in 1949 had resulted in its destruction, hence plans for the new one.²⁵ On March 17, 1948, the Star reported that the Navy was planning to remove the temporaries, but in May the Navy asked for continued use of the temporary buildings for another year. In the summer of 1949 the National Park Service had funds ready for the proposed rose garden, but the temporary structures were still standing.²⁶

That summer the Navy moved out, but the buildings were converted into offices for the War Assets Administration and other agencies. The Public Buildings Administration said that demands for more office space made the demolition of the temporaries impossible.²⁷ Members of the Potomac Rose Society renewed talk of the rose garden on the site in 1954, but the temporaries still stood. They were not finally demolished until 1965. Other temporaries, some 20 buildings on a five-acre site between Independence Avenue, 15th Street, and East Basin Drive which in their last years had housed National Park Service facilities and offices, were finally demolished in 1962 and the garage and shops moved to the Brentwood yard.²⁸ Other offices moved into a building at 15th and C Streets, Southwest, and into the Interior Department building.

24. Washington Daily News, Dec. 2, 1947.

25. Washington Post, May 28, 1948.

26. Washington Daily News, June 17, 1949.

27. Washington Star, August 5, 1949.

28. Washington Star, August 26, 1962.

Thus, temporary buildings erected to last four years in some instances lasted 28 years, and the last remains of some structures built in World War I did not disappear until 1971. The lesson is clear here: "temporary" can indeed be a very elastic term.

IX. NEW BRIDGES IN POTOMAC PARK

1941 - 1971

For nearly a century, Long Bridge had played a crucial role in the formation of Potomac Park. When finally it was demolished, the District needed two bridges to take its place. But in the years that followed World War II, bridges seemed to proliferate like rabbits, one breeding another. Not all of the new bridges that touched Potomac Park crossed the river, and the first one, as if in rehearsal for what was to come, crossed merely the bay at the north end of the Tidal Basin.

At a joint meeting of the Fine Arts Commission and the National Capital Park and Planning Commission on November 14, 1941, Jay Downer presented on behalf of the latter organization a plan to extend Independence Avenue from 14th Street west to the Potomac near the Lincoln Memorial. The War Department originally requested construction of this link in order to provide improved access to the Pentagon building, then under construction in Arlington County across the river from West Potomac Park. War Department planners feared a monumental traffic tie-up should one of the bridges ever be destroyed by flood or enemy action, and the proposed traffic link offered commuters the alternative of using the 14th Street Bridge or the Arlington Memorial Bridge, whose southern exits bracketed the new Pentagon.¹

The plan stirred up immediate opposition. The Washington Daily News of November 15 said that it "imperils the beauty of the Tidal Basin," but criticism of this sort failed to stop the project. At a meeting of the Commission of Fine Arts on February 7, 1942, Captain H. C. Whitehurst of the District Highway Office submitted a design prepared by Architect Paul P. Cret for a bridge to carry traffic in one direction (eastbound) over the bay at the north end of the Tidal Basin. (Westbound traffic would pass just north of this bay on a separate roadway, with no necessity of crossing the water.) On June 5, 1942, the District Commissioners awarded a contract for this bridge to the firm of Alexander and Repass of Des Moines, Iowa, for \$773,845.²

1. Report of the Commission of Fine Arts, 1940-1944, p. 90.

2. Loc. cit.; Washington Post, June 6, 1942.

Specializing in bridge construction, this particular firm was notable for the career of its senior partner, for Archie Alexander was a Negro in an era when few Negroes had penetrated the prejudices of the engineering profession. At the time he undertook this contract, Alexander was eminently successful in this business.³

The Second World War had stimulated the construction of this stretch of Independence Avenue, and at the War Department's insistence the War Production Board certified the bridge project as necessary. In December 1942, however, the Board changed its collective mind. Inclined then to order work stopped and materials and labor diverted to other projects, the Board members listened to Captain Whitehurst's arguments that the bridge was by then 60 percent completed, and that the necessary materials for completing it were already on the ground. The Board members looked for themselves, and concluded that Whitehurst had overestimated progress, and that even with materials on hand the manpower was needed elsewhere. But somehow the Board's action on the matter got lost in the rush of more pressing business, and work continued on the bridge.⁴

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3. Alexander had been kicked out of Highland Park College in Des Moines when its president discovered he was a Negro and suggested that he'd "do better to get a job as a janitor." He had then enrolled at the University of Iowa where he played halfback on the football team and majored in engineering. Graduating in 1912, Alexander worked for a construction firm until 1917, when he formed a partnership with a white engineer which lasted until the latter's death in 1925. After going it alone for four years, in 1929 Alexander took in an old football buddy from Iowa, Maurice Repass, also white, as a junior partner. Together they constructed over 19 bridges for the Chicago, Rock Island and Pacific Railway Company, an airfield at Tuskegee, Alabama, a sewage disposal plant at Grand Rapids, Michigan, and a power plant at Columbus, Nebraska, among other projects. Washington Eagle, May 1943; Pulse, May 1943, pages 22-24; Washington Post, October 12, 1947.
 4. Evening Star, June 2, 1943; June 3, 1943.

Then in the spring of 1943, the WPB chairman issued a drastic order halting all construction across the nation not deemed vital to the war effort. The Board's Facilities Review Committee suddenly remembered the Tidal Basin bridge project, and deciding that it was not fair to stop projects elsewhere in the country while allowing this one in the capital to continue, the members voted early in June 1943 to issue an order stopping the work. District officials were astonished and protested vehemently. Captain Whitehurst now claimed that the bridge was 85 percent complete.⁵

The Washington Star editorialized that the stop order was "capricious and wasteful," especially as the construction had been "undertaken at the request of the War Department in connection with the Pentagon building." The Facilities Review Committee meanwhile met with the architect and officials of the highway office to iron out specifications which would allow continuation of work necessary to protect the structure from deterioration until the end of the war, such as completion of a stretch of seawall torn down for bridge construction. At least one member of the committee was now impressed with the futility of issuing the stop order when the bridge was so evidently near completion, and the result was that although the Committee did not rescind its vote to issue a stop order, neither did it ever issue the order itself, allowing a "sort of pocket veto," in the words of the Star, to kill it. Alexander and Repass continued their work.⁶

Whitehurst's estimates of progress must have been essentially accurate, for the Highway Office opened the bridge to traffic in the last week of July 1943, without dedication, fanfare, or even the courtesy of a press release. Not all the connecting roadways were ready, so the bridge initially carried two-way traffic, but when in August the roadways, too, reached completion, the bridge began to carry only the east-bound traffic for which it was designed. Constructed of concrete and steel on pilings, but with granite facings, the bridge consisted of 15 40-foot spans and was 833 feet long, with a roadway 34 feet wide flanked by a six-foot wide sidewalk on each side.⁷

5. Ibid., June 3, 1943.

6. loc. cit.; Evening Star, June 4, 1943; June 10, 1943.

7. Washington Times Herald, July 30, 1943; Evening Star, July 31, 1943.

With no official ceremony marking the opening, the bridge was known merely as the Independence Avenue Bridge until 1954. On February 24, 1954, more than a decade after its completion, Mrs. Charles W. Kutz dedicated the structure to the memory of her late husband, a brigadier general who served as Engineer Commissioner of the District of Columbia from 1914-1915, 1918-1920, and 1941-1944.⁸

During the time Kutz Bridge was under construction, District Highway Department engineers wrestled with the problem of highway bridges across the Potomac. The 1904 highway bridge had served the District well, but was rapidly growing inadequate and obsolete. The traction line to Mount Vernon ceased operation when the beginning of construction of the "Federal Triangle" eliminated its District terminal, and work crews removed the tracks from the bridge in the fall of 1933.⁹ By World War II the bridge was carrying near capacity loads during rush hour, and construction of the Pentagon across the river near the bridge's southern approaches boded ill for the future. The Washington Daily News commented on June 19, 1943, that the War Department had "redrawn traffic maps by concentrating 40,000 workers in the Pentagon," and as a consequence, despite the war then in progress, the National Capital Park and Planning Commission ordered plans drawn up for a new bridge. Work thus began during the war because it was believed to be a wartime necessity.¹⁰

On September 17, 1943, the Fine Arts Commission met with the National Capital Park and Planning Commission to look at plans submitted by Captain H. C. Whitehurst, District Highway Director. Among the proposals under consideration were two four-lane bridges, a single eight-lane bridge, and a single six-lane bridge.¹¹

8. Washington Post, February 25, 1954; Evening Star, February 25, 1954.

9. Evening Star, October 20, 1933.

10. Sunday Star, June 20, 1943.

11. Evening Star, September 18, 1943; November 20, 1943.

There soon developed a schism between the groups, for the National Capital Park and Planning Commission favored a single six-lane span near the old bridge and utilizing the old bridge approaches, while the chairman of the Fine Arts Commission notified Captain Whitehurst on September 30, 1943, that the Commission "unanimously approve of twin spans for this crossing." Other agencies in the District lined up behind one or the other, with the District Government and the Bureau of Public Roads supporting the two four-lane spans, while the Department of the Interior and the National Park Service favored a single six-lane span. The National Park Service feared the effect of two bridges and their approaches on the setting of the Jefferson Memorial.¹²

On July 21, 1944, the District Commissioners approved the plan for two bridges over the objections of the National Capital Park and Planning Commission and the National Park Service. The final decision, of course, rested with Congress and the President, who would have to approve funding. Meanwhile the District Commissioners hired Howard, Needles, Tammen & Bergendorff of New York and Kansas City as consulting engineers to prepare the working drawings. The Commissioners argued that a single six-lane span would not meet prospective traffic needs and a second bridge would prove necessary later anyway. They also concluded that two spans would not detract from the setting of the Jefferson Memorial and would not deliver traffic to Constitution and Pennsylvania Avenues in excess of their capacity. In October, the District Commissioners sent enabling legislation to Congress for two bridges costing an estimated seven million dollars.¹³

12. Report of the Commission of Fine Arts, 1940-1944, pp. 90-91; Evening Star, December 17, 1943; June 23, 1944; July 6, 1944.

13. Report of the Commission of Fine Arts, 1940-1944, pp. 90-91; Washington Post, July 22, 1944; Evening Star, October 15, 1944.

Senator Bilbo, Chairman of the District Committee, introduced a bill authorizing the bridge in November, and the battle was on in earnest. Those in opposition argued the damage that double approach roads would do to the background and setting of the Jefferson Memorial was unquestionably serious, not to mention the fact that the approach roads would require elimination of the rose garden in West Potomac Park. As the bridge bill headed for a showdown in the House District Committee, Secretary Ickes expressed the opinion that the two spans would cost too much, "do violence" to the appearance of this approach to the city, and overburden city streets, while Major General P. E. Fleming, Federal Works Administrator, countered by saying that a single span would be inadequate. Tunnels under the river, considered when the Pentagon was built, were considered too costly.¹⁴

A spokesman for the District Government wrote that the District Commissioners fully appreciated the convictions of the planning commission and the Secretary of the Interior, but added that if the decision made now should prove to be erroneous, the Commissioners alone would have to accept the responsibility, and they remained convinced that a single span would prove inadequate.¹⁵ Major General U. S. Grant III, Chairman of the National Capital Park and Planning Commission, remained the staunchest advocate of the single six-lane span, claiming to have "irrefutable proof" that only one bridge was needed, adding that to build two would be an "outrageous, unessential waste." The American Planning and Civic Association's Committee of 100 on the Federal City lined up with Grant and Ickes, but the Washington Board of Trade, the War Department, the Federal Works Agency, the American Automobile Association and the Arlington Chamber of Commerce all lined up in support of two spans.¹⁶

14. Planning and Civic Comment, October 1944, pp. 7-9; Evening Star, January 14, 1945, November 16, 1944. The Senate bill was S-2183, the House bill was H-5511.

15. Evening Star, January 14, 1945; February 11, 1945.

16. Washington Post, May 12, 1945; May 18, 1945, July 29, 1945; Evening Star, May 12, 1945; May 18, 1945; Sunday Star Gravure Section, September 30, 1945, p. 6.

The battle between the "municipal mind" and the "federal mind" as the Washington Daily News characterized it, continued into the fall.¹⁷ "Since Horatius, no one has taken a firmer stand on a bridge controversy than Major General U.S. Grant III," said the Star in an editorial which advocated locking commissioners of the Fine Arts Commission and the Planning Commission together in a room until they came to an agreement.¹⁸ Grant insisted that the two bridge plan was "unduly costly," would have "dire effects," and would "deluge the Jefferson Memorial with a congestion of trucks and business traffic."¹⁹ At this time, of course, the approach roads on the Potomac Park side of the highway bridge were directly tied into the Jefferson Memorial parking area. In December 1945, Secretary Ickes submitted a revised bill to Congress calling for one bridge, and testified that "The twin bridge plan would give the Jefferson Memorial a two-bit shooting gallery backdrop, as cars, trains and trucks move across like mechanical ducks."²⁰

Captain Whitehurst, however, testified that two four lane spans were the only "adequate facility," and argued that whatever you spend for an inadequate facility is poor economy. He insisted that one should look ahead not ten, but 20 or 30 years.²¹

Hearings in Congress concluded on December 19, 1945, and a little less than a month later, on January 14, 1946, President Harry Truman went up to the top of the Washington Monument with Ickes, Grant, T. Sutton Jett of the National Park Service, and others to study the problem from that vantage point. This was the first time an American President had ever gone to the top of the Monument. (It was the first time in 18 years that Truman as an individual had been there.) The President spent a half-hour discussing the problem.²²

17. Washington Daily News, October 29, 1945.

18. Evening Star, October 30, 1945.

19. Evening Star, December 11, 1945.

20. Washington Post, December 19, 1945.

21. Washington Post, December 19, 1945.

22. Evening Star, December 19, 1945; January 15, 1946.

Despite his briefing at the Washington Monument by officials almost unanimously opposed to the twin bridge plan, President Truman apparently found the arguments of the District Government more convincing. On July 10, 1946, the Senate passed the twin bridge bill--it had already passed the House--and on July 16 Truman signed it into Public Law 615.²³ After a year of further planning, early in August 1947 the firm of Merritt, Chapman & Scott won a \$2,800,000 contract to build piers and abutments for the easternmost of the two spans, the first to be built. By August 22 that firm had moved a pile driver into position for construction of the double-leaf bascule bridge. By July 1948 work was proceeding far ahead of schedule. In September, the workmen were finishing the piers, then 80 percent complete, with gray Chelmsford granite from the New Hampshire-Massachusetts border region, chosen to match the color of the North Carolina granite used on Arlington Memorial Bridge. Bethlehem Steel won the contract to supply the steel beams, and the Diamond Construction Company won the contract to erect the superstructure. Work continued ahead of schedule. The builders tested the draw span on August 15, 1949 for the first time, and the first boat under it was the tug "Virginia" with a tow of barges.²⁴

The unexpected happened in September. Where the rose garden and its topsoil had been removed at the Potomac Park end to make ready for work on the north approach roads, the builders brought in eighteen feet of fill weighing about a hundred thousand tons, consisting of earth taken from the road tunnel excavated under DuPont Circle. The addition of this weight on the unstable hydraulic fill of Potomac Park caused the north approach piers of the bridge to sink several inches. The planners had thought they could save \$30,000 by not driving pilings to bedrock under the Potomac Park approaches. They had been proved wrong, and it cost \$130,000 to correct the error and delayed the opening of the bridge by a month. The bridge opened to traffic at noon on May 9, 1950, carrying northbound traffic only while the old

23. Evening Star, July 10, 1946; Washington Post, July 18, 1946.

24. Evening Star, August 10, 1947; July 19, 1948; September 13, 1948; November 5, 1948; July 29, 1949; August 15, 1949; Washington Post, August 22, 1947; August 16, 1949; Washington Post, August 22, 1947; August 16, 1949; Washington Daily News, September 10, 1947.

highway bridge, still in service, carried southbound motorists. As a part of this project, a new bridge spanned the Washington Channel near the Tidal Basin outlet as well.²⁵

Unfortunately, construction of the one new bridge in a time of inflated currency had eaten up almost all of the \$7 million appropriation; there were insufficient funds to build the second span. Yet its construction became more imperative as time passed. By 1952 the old and new bridges together were reportedly the busiest highway bridges in the world, and the old bridge continued slowly to deteriorate. On August 4, 1955, the National Capital Planning Commission approved replacement of the old span with a \$9,000,000 new structure, the second of the two spans proposed in 1943. Time had proved Ickes, Grant and others wrong in their insistence that more than six lanes was unnecessary. By mid-1950 the twin spans carried 17,000 cars daily.²⁶

The need for a replacement for the obsolete 1904 bridge was obvious to all by now. In April 1957, the House of Representatives passed a bill to construct a \$10.7 million draw span like the one completed in 1950. The Senate had other ideas, and voted for a somewhat cheaper \$9.2 million span without a draw. The impasse lasted over a year. In May 1958, Representative Joel Broyhill proposed as a compromise a fixed span with a clearance of 30 feet above the water. A committee of Senators and Representatives got together in June and agreed on a \$9.2 million fixed span with a clearance of 27½ feet. The Senate approved the bill without debate on June 23 and the House passed it the following day. On July 3, 1958, President Dwight D. Eisenhower signed the bill authorizing a fixed span. Plans for this second bridge went before the Fine Arts Commission on September 11 and met speedy approval.²⁷

25. Evening Star, November 27, 1949; February 13, 1950; May 7, 1950; July 9, 1950; Washington Post, February 14, 1950; May 10, 1950; Washington Times Herald, April 7, 1950.

26. Evening Star, July 9, 1950; March 24, 1952; Washington Post, August 5, 1955.

27. Washington Post, April 9, 1957; April 29, 1957; June 27, 1957; May 30, 1958; June 20, 1958; September 12, 1958; Evening Star, June 20, 1958; June 24, 1958; June 25, 1958; July 4, 1958.

Congress had also during this period considered the question of naming these bridges. In November 1948, Representative Miller had proposed naming one bridge for Admiral Chester W. Nimitz and the other for General Douglas MacArthur, both of whom had commanded American forces in the Pacific during the Second World War. In May 1949 it was proposed in Congress to call the completed bridge "The Ohio Bridge." There was another proposal to name one for Franklin Delano Roosevelt, and the idea of calling them together the "George Washington-Thomas Jefferson Memorial Bridges." In 1957 the Committee on the District of Columbia reported in favor of a bill to call the two spans the "Rochambeau Memorial Bridges," but the House had already passed a bill to name one bridge after the French General Rochambeau, a hero of the American Revolution, and the other after George Mason, a Virginia statesman of the same era. The Senate finally agreed to the House bill, and on October 19, 1958, Mme. Herve Alphand, wife of the French Ambassador, cut the ceremonial ribbon dedicating the eight-year old northbound span as the Rochambeau Memorial Bridge.²⁸

A little less than a year later, in mid-September 1959, the District Highway Department advertised for bids for construction of the southbound George Mason Bridge. In November, a Savannah, Georgia, firm, the same Diamond Construction Company which had built the superstructure of the Rochambeau Bridge, won a \$4,629,637 contract for building the substructure of the new bridge, located a few feet upstream from the old 1904 highway bridge. The second bridge was expected to cost less than the first one, because there was no draw, but also because it was to be welded structure, cheaper than a riveted bridge, and because the highway department

28. Evening Post, November 7, 1948; October 20, 1958; Washington Post, May 13, 1949; a handy reference to statistics on the modern bridges, accompanied by a brief historical narrative, is A Pictorial Report on Bridges and Structures in the District of Columbia, published by the Office of Planning, Design and Engineering of the District Department of Highways in cooperation with the Bureau of Public Roads of the Department of Commerce, March 1, 1956. There are several editions of this study in the Washingtoniana Room of the District of Columbia Public Library.

had put out alternate designs for both concrete and steel bridges which pitted the concrete and steel industries against each other in the bidding.²⁹

The builders broke ground for the George Mason Bridge during the second week of February 1960. Construction proceeded smoothly on the 2265-foot four lane span, and on the afternoon of January 26, 1967, William Beverley Mason, Jr., a direct descendent of the statesman for whom the bridge had been named, unveiled the plaque dedicating the bridge before a small crowd in a drizzling rain.³⁰

The highway department barricaded the old bridge and closed it to traffic as the new bridge opened, but this did not spell the immediate doom of the old bridge. As early as February 1961 the District Highway Department had been considering engineering studies that recommended keeping the old span, repairing it, and using it during the rush hours to carry exclusively northbound traffic in the morning and southbound traffic in the evenings, as a supplement to the other two bridges. Originally this bridge was scheduled for demolition as soon as the Mason bridge opened, because the Mason bridge was so close to it that the swing span of the old highway bridge could not be opened. But in December 1960 the American Oil Company, whose tankers were the only shipping that still required the opening of the swing span, switched to barges for hauling their oil, and the tugs and barges could pass under even the low old bridge with ease, so it was no longer necessary to tear down the old bridge in order to keep the channel open for shipping.³¹

29. Washington Post, September 25, 1959; November 7, 1959; November 17, 1959; December 5, 1959; Evening Star, November 15, 1959.

30. Washington Daily News, February 13, 1960; January 26, 1962; Washington Post, January 27, 1962; Evening Star, January 27, 1962.

31. Evening Star, February 19, 1961; Washington Post, January 5, 1961.

In April, William Finley of the National Capital Planning Commission admitted that there was "unfortunate" pressure to keep the old structure. Despite engineering studies which indicated otherwise, Director Conrad L. Wirth of the National Park Service, who believed the old bridge should be removed, said that he "always had the impression it was an unsafe bridge." A deputy **assistant commissioner of the Bureau of Public Roads** claimed that the old bridge had been built as a temporary structure in the first place, which was untrue. Nevertheless, it was true that the span had been built in days of smaller vehicles, slower speeds and much less traffic, that steel over a period of years does suffer fatigue, and that it would undoubtedly cost a lot of money to repair the structure, money which might better be used for construction of a new bridge.³²

Still, the National Capital Planning Commission voted 4 to 3 in July 1961 not to interfere with the District plan to retain the old bridge, despite the statement of the Commission's own director that the structure was "horrible looking." The Fine Arts Commission similarly refused to interfere.³³

By this time it was evident that the two bridges proposed in 1943 were not enough, and whether one used the old bridge or built a third new one, an **additional bridge would soon be a necessity.**

The question now was where to place the third bridge. After rejecting the plan of a bridge to touch the Virginia Shore at Roaches Run, which meant that it would be east of both the Rochambeau Bridge and the railroad bridge and would cross East Potomac Park instead of West Potomac Park, in the vicinity of Buckeye Drive, District planners finally approved the idea of a third new bridge on the same location as the old 1904 bridge.

32. Evening Star, April 7, 1961.

33. Washington Post, April 20, 1961; July 20, 1961

As early as June 1963 Representative Broyhill of Virginia had introduced a bill in the House authorizing reconstruction of the old bridge on the same piers, and perhaps using the same superstructure, but at public hearings in December 1964 District witnesses supported construction of an entirely new four-lane \$9.3 million structure.³⁴

The matter dragged on into 1966, and that summer a new controversy developed. On June 21, 1966, the House District Committee reported out the bridge bill and astonished its original advocates by favoring a six-lane bridge. Virtually none of the agencies concerned favored more than four lanes. The National Capital Planning Commission, the District Government, the Virginia Highway Commission, the Department of Commerce and the National Park Service all wanted a four-lane bridge. NPS Director George B. Hartzog, Jr., was among those testifying against the six-lane span. The Senate nevertheless agreed with the House, approving in September a six-lane replacement with the suggestion that two of the lanes be held in reserve for future traffic or for use by a rail rapid transit system. The District government subsequently swallowed their opposition, although the National Park Service remained opposed because additional approach roads would mar the park setting of the Jefferson Memorial.³⁵

In March 1967, the Diamond Construction Company commenced the ten-month demolition of the 1904 highway bridge. Wrecking crews loosened the girder spans from the piers and floated them by barge to the Virginia shore, moving the first span in May. There scrap crews with torches cut the girder spans up for scrap metal. One span met a different fate. Purchased by the United States Navy for \$44,500, this span was barged down the Potomac to the Naval Weapons Laboratory at Dahlgren, Virginia, where it would serve as a test target for missile warheads.³⁶

34. Washington Post, April 20, 1961; Washington Daily News, December 9, 1964.

35. Washington Daily News; June 22, 1966; Washington Post, August 3, 1966; September 23, 1966.

36. Examiner; January 11, 1968; Washington Post, May 13, 1967; November 8, 1967; Washington Daily News, June 17, 1967; Evening Star, November 8, 1967.

By the end of 1967, the Diamond Construction Company had its 12-by-103-foot cofferdams down and had completed removal of Pier 7 of the old bridge, the first to go, and on the same site they built the first of 14 piers for the new bridge. By the fall of 1970 the superstructure was nearly complete.³⁷

At the time this is written (September 1970) the new bridge is not yet open, for although the structure itself is almost finished, the approaches, especially in Potomac Park, are not. Nor has it yet been named. In the summer of 1969 Representative Broyhill proposed naming the structure "Light Horse Harry Lee Bridge" after the somewhat controversial Virginian who served in the Revolutionary War. The District Government, not at all in favor of this name, replied when the bill was referred to it for comment that the bill was unnecessary because 1944 legislation gave the District the power to name highways, circles, and bridges. Congressman Broyhill then re-wrote his bill not only to impose the name, but to remove from the city government any right to name bridges, streets, circles, and even buildings. There the matter rests at present.³⁸

These new Potomac crossings required construction of a new Washington Channel crossing as well, and planning for it began in 1958. The new structure necessitated removal of the 45-year old municipal fish market between 10th and 12th Streets on Maine Avenue. Ground was broken for the eight-lane eight million dollar span on the afternoon of August 20, 1959, in East Potomac Park when a power shovel took its first bite. The now-familiar equipment of the Diamond Construction Company was once again on the scene. The new channel crossing required the driving of 95-foot pilings for 22 piers, and when completed, the bridge would link the Potomac spans and the proposed Southwest Freeway.³⁹

37. Evening Star, January 31, 1968; Washington Post, November 15, 1967.
38. Evening Star, August 3, 1969; Washington Daily News, August 5, 1969; Washington Post, August 4, 1969; August 5, 1969.
39. Evening Star, August 21, 1959; December 16, 1959; Washington Post, November 13, 1958; August 20, 1959.

The Washington Channel Bridge opened to traffic on the afternoon of July 31, 1962. It had cost \$7.1 million. It was proposed in Congress that year to name the bridge for Senator Francis Case of South Dakota, who before his death had served on the Senate District Committee and had been its chairman for two years. In 1964 Senators George McGovern and Karl Mundt introduced such a bill, but it died for lack of action in the House. A similar bill subsequently passed, and Jane Case Williams, Senator Case's daughter, was among those who dedicated the 1312-foot bridge on April 20, 1966.⁴⁰

Another bridge which was proposed but never built was a pedestrian bridge over the Washington Channel connecting the Tenth Street Mall and Maine Avenue with East Potomac Park in the vicinity of the proposed National Fisheries Center and National Aquarium. The National Park Service contracted with Chloethiel Woodard Smith & Associates, Architects, to produce in 1966 a design for the structure, and the firm proposed a modernistic bridge incorporating a warren of shops built over the water, an idea inspired by Italy's Ponte Vecchio, whose name came to be applied to the Washington Channel project.⁴¹ Unfortunately, the National Aquarium plan died with its principal supporter in Congress, and by the end of the decade, the Ponte Vecchio plan seemed doomed as well.⁴²

40. Washington Post, August 1, 1962; August 2, 1962; August 6, 1964; April 21, 1966; Washington Daily News, July 6, 1965; April 21, 1966.

41. Evening Star, October 8, 1966; Washington Post, October 8 1966. The details of the "Ponte Vecchio" proposal are to be found in A Washington Channel Bridge, a "Preliminary design for a bridge across the Washington Channel to connect the Tenth Street and the Maine Avenue Waterfront with the proposed National Fisheries Center and Aquarium and other educational and recreation facilities on East Potomac Park; proposal published by: Ecloethiel Woodard Smith & Associates, Architects; Severud-Perrone-Fisher-Sturm-Conlin-Bandel, Structural Engineers; Cosentini Associates, Mechanical & Electrical Engineers; and Larry Smith & Company, Economic Consultants;" 1966. This report was submitted in accordance with their contract No. 14-10-0028-3086 with the National Park Service. A copy of this report is on file in the National Capital Parks library at 1100 Ohio Drive, S. W.

42. Washington Post, September 16, 1965; August 4, 1969.

Whether or not a Ponte Vecchio ever touches the shores of Potomac Park, it is certain that other bridges will serve the park in the future. Just as past growth has proliferated the number of Potomac and Washington Channel bridges, so will growth of the Nation's capital in the future. The history of Potomac Park bridges has just begun.

X. POTOMAC PARK AND THE FUTURE OF THE NATIONAL PARK SERVICE

With the conclusion of World War II and the eventual demolition, some 20 years late, of the temporary construction in Potomac Park, the National Park Service moved forward with plans for further development. Potomac Park was discussed as a site for a memorial to Theodore Roosevelt, although this was later erected on Mason's (Analostan) Island, and the island, renamed Theodore Roosevelt Island, itself became a sort of memorial to the nature-loving President. Plans for re-establishment of a rose garden in Potomac Park were drawn up, but delayed removal of the temporary dormitories put it off again and again.¹

As time went on, the necessity of doing something about the land itself became more evident. There had been talk ever since the 1920s of raising the land in Potomac Park by dumping material from excavations in the District, or by further dredging the river, and some of this had been done. But it was not enough. In 1950, NPS engineers calculated that the land had sunk three and a half feet since it was first filled, and that all of East Potomac Park would be under water by 1995. They calculated that it was settling at a rate of a half inch a year, with no sign that the settling ever would stop. However, every time plans were drawn up for closing one of the golf courses to permit the dumping of dredged mud, howls of outrage arose from the golfers, who apparently preferred to have their golfing ankle deep in water than to play elsewhere or to give up their game for a year or two. By 1958, the seawall and the riverside walk near the tip of Hains Point was **so badly undermined by tidal action that the NPS closed** a 150-yard section for \$63,000 worth of repairs. But no very serious raising of the park was undertaken even then, and the question becomes more pressing every year, as some parts of the seawall have sunk to the point that they are entirely under water at high tide.²

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1. U. S. House of Representatives, Bill 9431, 81st Congress, 2d Session. Franklin Delano Memorial Competition in NCP-Central history file. Washington Post, Monday, May 9, 1960. Washington Star, Sunday, May 20, 1962.
 2. Washington Evening Star, October 3, 1929; September 14, 1948. Washington Times-Herald, November 19, 1942.

Meanwhile, there were numerous changes in the interior of Potomac Park in the postwar years. The bicycle center, located in the old Engineer Dock building, closed in 1955. Bike rental had hit a peak during World War II when dorms were located in Potomac Park, but had rapidly declined after the war. The building was converted into National Park Service offices. The stables and bridle path in Potomac Park closed in 1950, as it seemed that horses and automobiles in the park simply did not mix and created a safety problem. In 1962, the teahouse at Hains Point operated for its last season, and when reopened on March 16, 1962, it served as a National Park Service visitors' center instead. It continued to serve that purpose until 1967, but the construction of visitor-information kiosks staffed by information-receptionists throughout the Mall and Potomac Park areas had superseded it, and it was not reopened in 1968. The old tourist camp and motor court in East Potomac Park closed at the end of 1962 and a new National Capital Region NPS office building built on the site and occupied in the fall of 1963.³

Plans were drawn up in the early 1960s for a National Aquarium to replace the small one in the basement of the Department of Commerce, and East Potomac Park was selected as the site for the structure. Initially the NPS considered using Hains Point for the location, but finally selected a site just south of the head of the Washington Channel, next to the railroad. Congress directed the General Services Administration in 1964 to draw up plans for a ten million dollar structure. Plans called for construction to begin early in 1966, with completion scheduled in 1968, but by 1971 it had not even been started, and the unexpected death of the National Aquarium's chief congressional proponent, Representative Michael J. Kirwin, a Democrat from Ohio, in 1971, apparently spelled the death of these plans.⁴

In connection with the Aquarium a "Ponte Vecchio" style pedestrian bridge, a modernistic structure with shops and buildings lining it, was to be erected across the Washington Channel, but like the aquarium, these plans seem to have died by 1971.

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3. Evening Star, April 25, 1940. NCP Report of Staff Meeting, January 23, 1950; pp. 3-4. Evening Star, March 10, 1962; March 16, 1962; July 8, 1962.
 4. Evening Star, December 16, 1962; March 22, 1963; May 29, 1963; April 23, 1963.

In December 1967 Mrs. Lyndon B. Johnson revealed to her beautification committee a \$160,000 gift which was to be used to create a 150-foot jet of water below the tip of Hains Point, and that same fall Secretary of the Interior Stuart Udall opened a "jogging trail" in East Potomac Park, on the existing sidewalk along the Virginia Channel seawall.⁵

During these years there were several administrative reorganizations of the National Capital Parks. First, on January 22, 1962, the superintendency of National Capital Parks was elevated to regional status as Region Six of the National Park Service, reflecting the increasing importance of the parks in and around the national capital. On July 10, 1963, the numerically designated regions were renamed geographically, and Region Six became the National Capital Region. In the succeeding three years, it became increasingly evident that benefits would accrue from decentralization of the increasingly complex management of the parks in Washington and the surrounding vicinity. After extensive planning the decentralization was finally implemented on May 23, 1965, and Potomac Park again fell under a superintendency, this one known as Central National Capital Parks, one of five areas in the National Capital Region. In an apparent trend towards recentralization, Central National Capital Parks was moved from its office in the Engineer Dock building to the Regional Office Building in 1968, and that spring the superintendency was renamed "National Capital Parks, Central."⁶ The future will no doubt bring further changes.

As is evident from the story of its development, the uses of Potomac Park have been extremely varied. There are the orthodox games and recreation activities, including swimming, bicycling, horseback riding, golf, tennis, polo, baseball, soccer, field hockey, lacrosse, cricket, football, picnicking, boating, frisbee, throwing, and others. Some have changed with the years. Horses, once popular, no longer roam in the park, and the bridle paths were removed after 1950. Bicycles have partially replace horseback riding. Driving horse-drawn buggies, and "speeding" in such buggies, were rendered

5. NCP Information sheet entitled "Hains Point Jet Fountain." Washington Post, April 14, 1966.

6. Memorandum from Supt. to All Employees, January 18, 1962.

obsolete by motor vehicles long ago. On the other hand, frisbee is a relatively new sport and one, incidentally, which requires no fixed facility.⁷

Many people drive out to East Potomac Park to sit and watch river craft go by or to watch aircraft coming and going from Washington National Airport across the Potomac. Perhaps they derive as much satisfaction from this passive form of recreation as the enthusiastic golfer energetically driving towards his 18th hole on the links in the park behind them. Among other passive activities, the visitor to Potomac Park may simply enjoy flower gardens, or the blooming cherry trees in the spring, but even the enjoyment of nature in Potomac Park has at times been organized, as during the nature walks conducted by park rangers in the vicinity of the Tidal Basin during the summer of 1968.⁸

Water sports have proved an important part of Potomac Park's offerings. Among the earliest recreational uses of the park was swimming in the Tidal Basin, employing a fully developed bathing beach, although one for "whites only." An attempt by the army engineers to construct a separate facility there for Negro residents of the District aroused congressional wrath which resulted in a review by Congress of the whole question of proper use of the Tidal Basin. The consequence was removal of even the white bathing beach, viewed by at least one member of Congress as an "eyesore." This did not eliminate swimming in Potomac Park, for a formal swimming pool was built in East Potomac Park near the golf course, but swimming was removed from public view. Once the Jefferson Memorial graced the shores of the Tidal Basin, a public swimming beach would indeed have seemed out of place there, even were the waters of the Potomac not so dangerously polluted as to render them a menace to health anyway. One might note that swimming did not entirely stop in the Tidal Basin with removal of the beach, but those who have taken the plunge since then did so by accident,

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7. NCP Report of Staff Meeting, January 23, 1950. The suggestion of replacing bridle paths with bicycle paths was made by Edward J. Kelly, who seven months later became superintendent of the park.
 8. Nature walks in the vicinity of the Jefferson Memorial in West Potomac Park were offered in 1968 in lieu of the history walking tour around Lafayette Park which could not be given that year as Lafayette Park was closed for reconstruction of the Walks and installation of some new fountains. The author of this study, although an historian, nevertheless conducted some of these nature walks.

illegally, or attempting to escape pursuit following a crime. Except for those who have fallen in the water or had boats sink beneath them, Tidal Basin swimmers in recent years have faced arrest and prosecution.⁹

Boating in the Tidal Basin, another form of water sport, has been much more varied than one might imagine. In the 1920s, the Washington Star, then the District's most popular daily newspaper, sponsored the introduction of an especially constructed "Swan Boat" into the Tidal Basin, profits from its operation going to the Children's Welfare Fund for use in supporting the Children's Home. The first "Swan Boat" was a crude specimen, copied from similar boats which had proved very popular in New York City's Central Park. Eventual such operations came under the control of a park concessioner, and a "Swan Boat" of very different design operates there today.¹⁰

In addition to the "Swan Boats," the Tidal Basin accommodated a number of battery powered "Speedboats" during the 1930s whose racy design belied their complete lack of speed. The "speedboats" lasted only two seasons, but man-powered "pedal boats" introduced about the same time have remained popular, along with more orthodox canoes. In winter, the frozen water of the Tidal Basin and the Reflecting Pool in front of the Lincoln Memorial have been carved by the sharp blades on the feet of ice skaters.¹¹

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9. Evening Star, February 18, 1935. Washington Post, August 12, 1935; August 21, 1936. Senator Walsh of Montana favored eliminating the bathing beach, and Senator Norris of Nebraska, originally one of its advocates, now considered it an eyesore.
 10. Evening Star, June 16, 1926; June 19, 1926.
 11. National Geographic, June 1923, p. 660. Washington Star, May 7, 1932. Washington Herald, April 13, 1934. The "speedboats" operated only in 1932 and 1933. Washington Star, Oct. 22, 1939.

For special pageants, a number of very unusual crafts have sailed the waters of the Basin. In 1950, the Navy Department and the Naval Gun Factory recreated on four evenings the War of 1812 battle between the United States Frigate Constitution and His Britannic Majesty's Ship Guerriere, using models about the size of a rowboat. The model of the Guerriere featured folding masts designed to be "shot" down by the Constitution each night the pageant was presented, and blank shotgun shells simulated cannon fire during each battle.¹²

The centennial in 1954 of Commodore Perry's epoch opening trip to Japan featured replicas of Perry's whole squadron floating around the Tidal Basin. But perhaps the oddest craft to be used there were replicas of Venetian gondolas, complete with gondoliers, which carried patrons around the placid waters in the mid-1930s. Occasionally Washingtonians could watch an Army dredger cleaning silt out of the basin. Indeed, a surprising variety of craft have navigated the waters created by Major Twining's plan.¹³

One water-borne activity originally held in the Tidal Basin subsequently employed the Potomac waters off the southern edge of Hains Point. Once power boat regattas churned the waters of the Tidal Basin, but the President's Cup Regatta, as it is known today, has required the broad expanse of the Potomac to accommodate the powerful craft of the 1960s and 1970s.¹⁴

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12. Washington Post, September 9, 1950; Evening Star, September 9, 1950.
 13. Evening Star, May 1, 1931; May 5, 1931; Washington Times, April 7, 1932. The gondolas were brought to Washington from Florida. Washington Post, July 4, 1953; Evening Star July 14, 1953; July 10, 1935. The Dalecarlia, a U.S. Corps of Engineers dredger, worked in the tidal basin during the summer of 1935, to mention just one occasion.
 14. Evening Star, May 29, 1931. Washington Times, March 29, 1932.

In land as well as in water-borne transportation, Potomac Park has experienced many changes. From the horses and buggies of the Edwardian Era to the powerful jet aircraft and whirring helicopters flying over the park today, Potomac Park has experienced all of the changes in 19th and 20th century technology. A portion of West Potomac Park once served as an airfield to launch the first flight carrying air mail from the District of Columbia. The roads which once accommodated fringed surreys drawn by horses have served the whole range of automobiles of both foreign and domestic manufacture, from the Motel T Ford to the Thunderbird, from the Rolls Royce to the Volkswagen and the Opel, and on occasion even an amphibious auto, which bobbed along the Potomac with its headlights on while its passengers paused to listen to a Watergate Concert.¹⁵

In rail transportation, too, the region now known as Potomac Park has experienced nearly the whole range of American locomotive and equipment development. The first rails used to cross the park were laid over Long Bridge by the U. S. Army in 1861 or early 1862, and the trains which rolled over them were undoubtedly hauled by the primitive wood-burning 4-4-0 locomotives of the U. S. Military Railroads. In ensuing decades, the rails linking the District of Columbia and Virginia supported the whole range of American steam locomotives, including almost every pattern of wheel development and not only wood but coal and oil-burners as well. Beginning in 1935 electric locomotives operated over these rails, as well as the mere recent diesel electric locomotives commonly seen today. After 1896 Long Bridge and its successor highway bridge carried the tracks of an interurban electric railway that connected Washington with Mount Vernon, until construction of the Federal Triangle in the 1930s destroyed its District terminus. Electric streetcars never quite reached the park, despite a 1916 plan to have a streetcar loop in the park near the Engineer Dock; but a streetcar loop did exist just across the Washington Channel, at the foot of 14th Street, and patrons of the park frequently used it.¹⁶

15. The helicopters are generally army craft going between the Pentagon and other military installations or carrying the President out from the White House.

16. Edward Hungerford, The Story of the Baltimore & Ohio, Vol. 2, pp. 103-104. Poor's Manual of Railroads, annual volumes for 1868-1873, 1880, 1890, 1900, 1910, 1920, 1930.

Fishing has also been a popular sport in Potomac Park, and remains so today, although somewhat diminished in popularity due to the dreadful pollution in the river. At times, a number of fish such as black bass were planted in the Tidal Basin by the Bureau of Fisheries, and fishing was sometimes limited during the spawning season. Beyond the Tidal Basin, fishing on the Potomac has also proved popular.¹⁷

Perhaps the most famous activity held in Potomac Park is the annual Cherry Blossom Festival held each spring. The festival is focused on West Potomac Park around the Tidal Basin, but flowering cherry trees also line the drives in East Potomac Park so that both parts of the park are involved. The idea for planting flowering cherry trees in Potomac Park originated in 1909 when President William Howard Taft took office. At that time the park was still undergoing development from raw reclaimed land, and there was great interest in its future use. Mrs. Taft became intrigued with the idea of planting flowering cherry trees, especially around the Tidal Basin. A well-known Japanese chemist, discoverer of adrenalin, was visiting the United States at that time and learned of Mrs. Taft's idea. He, in turn, interested Yukio Ozaki, Mayor of Tokyo, in presenting such trees as a gift. The first shipment proved to be diseased, and all the trees had to be destroyed. A second shipment, consisting of trees raised at the Okitsu Imperial Horticultural Experiment Station at Shizoukan, left Japan in December 1911 and arrived in Seattle on February 14, 1912. Transferred to insulated freight cars, the trees moved by rail to Washington, D. C., arriving March 25. In a simple ceremony two days later, Mrs. Taft planted the first of the trees, and Vicountess Chinda, wife of the Imperial Japanese Ambassador, planted the second, both on northern edge of the Tidal Basin.¹⁸

The first pageant featuring the blooming of the cherry blossoms was a commemoration of the 1912 planting conducted by Washington school children in 1927. In 1934 a three-day celebration sponsored by the District Commissioners celebrated the blooming of the cherry buds, and in 1935 a "Cherry Blossom Festival" took place which has been repeated every year except during the Second World War. In 1948, Cherry Blossom Princesses from each state participated, and the festival has grown in importance every year since. On March 30, 1954,

17. Evening Star, April 11, 1925; May 29, 1925; October 24, 1932. Wire mesh placed over the tidal basin inlets and outlets kept the fish from escaping into the river, and carp in the basin were to be seined out.

18. Cosby, PB&G, 1912, p. 3501. Harts, PB&G, 1916, p. 3595.

the Governor of Tokyo presented a 300-year-old granite Japanese lantern which the National Park Service placed along the shore of the Tidal Basin. This gift commemorated Commodore Perry's mission to Japan a century earlier. In 1958, the Mayor of Yokohama presented a stone Japanese pagoda in commemoration of the Treaty of Yokohama.¹⁹

Generally about 650 cherry trees line the banks of the tidal basin, 90 percent of them the white Yoshino variety, the remainder of the pink Akebono variety. An additional 1,800 trees line the drive around East Potomac Park, these including the Kwanzan, Taki-noi, Higan, Beni-Higan, Jugatsu-sakura, Prunus subhirtella Pendula, and Yoshino varieties. The trees bloom between March 20 and May 1, the blossoms remaining on the trees for only a week, not always coinciding with the Cherry Blossom Festival.²⁰

Unfortunately, the varied uses of Potomac Park extend beyond those such as the Cherry Blossom Festival which may be described as legal and legitimate. As an urban park, Potomac Park has experienced a wide range of misuse during the 20th century, including a wide variety of urban crime. The park has provided a setting for armed robbery, murder, rape, and less serious crimes such as purse-snatching, disturbing the peace, public drunkenness, indecent exposure, violating speed limits on park roads, and the like. On one occasion in 1970, for example, U.S. Park Police arrested a dozen people whom officers found seated in a circle smoking marijuana on Hains Point late one summer night.²¹

19. Evening Star, April 7, 1962; April 9, 1962; April 15, 1962; April 5, 1963; March 23, 1964; April 6, 1964; April 12, 1964; Washington Post, April 7, 1965; April 25, 1965; April 10, 1966; April 11, 1966; April 13, 1966.

20. See file of correspondence and interpretive material in the U&EA Office, NCP-West.

21. U.S. Park Police "Case Records" (Form 43) for summer months, 1967-1971.

A history of the park police force and the problems of law enforcement in Potomac Park merits a separate volume rather than the mere paragraph that can be devoted to the subject here, for the police force which regulates use of Potomac Park traces its history back to park watchmen hired as early as 1791. Prior to 1867 these watchmen were appointed by the Commissioner of Public Buildings and Grounds; after that date they came under the authority of the Chief of Engineers through the engineer officer in charge of Public Buildings and Grounds. An act of Congress approved August 5, 1882, gave the force of park watchmen concurrent jurisdiction with the metropolitan police in all of the District of Columbia. With this greatly expanded authority and with a rapidly growing park system to patrol, by 1915 the force had grown to a complement of a first sergeant, a second sergeant, and 40 privates. By an act approved December 5, 1919, Congress changed the title of the force from Park Watchmen to United States Park Police; thus the police have had a longer relationship with Potomac Park than the National Park Service itself. By the end of 1924, the park police consisted of an officer detailed from the War Department, a lieutenant, a first sergeant, five other sergeants and 54 privates. The police force became subordinate to the National Park Service in 1933, and by August 1971 the force had grown to include a chief, a deputy chief, three inspectors, nine captains, 22 lieutenants, 50 sergeants and 345 other officers in various categories, although 25 of these positions were at that time unfilled. Even a force this large was inadequate to its task, with its authority extended over the George Washington Memorial Parkway, the Baltimore-Washington Parkway, Spout Run Parkway, with officers detached for duty in Yosemite, at various regional offices, and elsewhere, and with an increasing number of protest demonstrations in Washington.²²

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22. Heine, National Capital Parks, pp. 66-67. Harts, PB&G, 1915, p. 1665. Telephone interview with Lt. P.T. Hill, U.S. Park Police, regarding strength figures current for August 1971. Statement of Justification As To The Need Of A Separate Protective Force For The National Capital Park System, 10 pp. mimeographed document in NCR History File in U&EA Office, NCP Central. Annual Reports, U.S. Park Police, 1952, 1966, 1968.

Aside from the violent crimes with which the U. S. Park Police must deal, there are those gray areas of minor crime and activities which, although not usually considered criminal, have never on the other hand been considered "proper" uses of the park. Kite flying, for instance, was considered illegal up to 1969, and the U. S. Park Police had some violent clashes with kite flyers as a result, until the law was repealed. After the repeal, the National Park Service began sponsoring a "Kite Day" through its Parks For All Seasons program.²³

Then, too, there are other uses of Potomac Park which, although perhaps not explicitly illegal as was kite flying, have never been considered "proper" uses. Until crime made it dangerous at night, Hains Point and Ohio Drive had a reputation as a "Lovers' Lane" and in some sectors of the community still do. On hot summer nights, whole families from the poorer districts of the city whose dwellings are not blessed with air conditioning sometimes drove out to East Potomac Park to sleep all night, where it was somewhat cooler than in the inner city. Although camping has not been permitted in the park, tourists have nevertheless parked their campers there and slept on their sleeping bags on the manicured lawns. These, too, are uses of Potomac Park.²⁴

During the late 1960s and early 1970s, under pressure from the courts, the National Park Service has changed its concepts of "proper" use of Potomac Park and other parks under its jurisdiction in the District of Columbia. Use policies in 1971 were more permissive than they had ever been before. Furthermore, the parks in the District of Columbia had increasingly become the focus of demonstrations and protests for or against certain issues.

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23. U. S. Park Police "Occasion Reports" (Form 43-01) for summer seasons, 1967-71. Interview with Jack Arnold, Park Historian in NCP Central at the time of this incident.
 24. U. S. Park Police "Case Records" (Form 43) for summer months, 1967-71. Evening Star, July 2, 1963.

While these have not generally involved East Potomac Park, a number of these demonstrations have centered on either the Washington Monument or on the Lincoln Memorial, or both, with a few minor ones centered at the Jefferson Memorial. Thus West Potomac Park has hosted such activities on a number of occasions.²⁵

The first really massive demonstration was the "March on Washington for Jobs and Freedom," popularly known as the "Civil Rights March," held on August 28, 1963. This included a program at the Lincoln Memorial which featured speeches by Roy Wilkins of the NAACP, Rev. Dr. Martin Luther King, Jr., of the Southern Christian Leadership Conference, Whitney M. Young, Jr., Executive Director of the National Urban League, Mrs. Medgar Evers, widow of the slain civil rights marcher, Walter Reuther, president of the United Automobile, Aerospace and Agricultural Implement Workers of America, and others. George Lincoln Rockwell and 74 counter-demonstrators of the American Nazi Party appeared, but police and national guardsmen isolated them from the rest of the crowd and they eventually went home. More than 200,000 Americans participated in the Civil Rights March, and it was a model of orderly demonstration. The only casualties were those felled by the heat and a number of police and National Guardsmen who suffered food poisoning from some poorly prepared canteen meals.²⁶

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25. Decisions rendered by the U. S. Court of Appeals in July and August, 1969, forced a complete change in the handling of "special events" in the National Capital Parks. A concise study of the background with a summary of these decisions may be found in Federal Register, Vol. 35, No. 138 (Friday, July 17, 1970), pp. 11485-11493. This matter involves the adoption of a whole new philosophy of park management, especially regarding what is the "proper" use of the parks. The subject merits much more thorough handling than I have been able to give it in this survey history of Potomac Park.
 26. File on "Civil Rights March" in office of Division of Special Events, NCP.

The next demonstration of comparable impact was the "Poor People's Campaign," popularly known as the "Poor People's March," culminating in "Solidarity Day," June 19, 1968, with another assemblage at the Lincoln Memorial. In contrast to the 1963 demonstration, the "Poor People's Campaign" was characterized by violence and lawlessness throughout. Many who came to Washington to participate lived in a camp of tents and plywood A-frame structures known as "Resurrection City" which sprouted in May among the trees between the Reflecting Pool and Independence Avenue west of 17th Street. By agreement with leaders of the campaign, neither U. S. Park Police nor any other agency enforced law within the camp, and that task was left to the campaign's own marshals.²⁷

While it would not be accurate to say that the Poor Peoples' Campaign set a pattern of violence, it was nevertheless a foretaste of what was to come. Violence steadily escalated from the more-or-less incidental crime and confrontation of the Poor Peoples' Campaign of 1968 to the carefully planned attempts at disruption of the Federal Government in 1971. These more recent demonstrations were directed against American involvement in the Vietnamese Civil War, and were sponsored by such groups as Vietnam Veterans Against the War (October 2, 1970), the Washington Mobilization Committee (October 10, 1970, and the Peoples' Coalition for Peace and Justice (May 1, 1971).²⁸

To place demonstrations in perspective, however, one should note that they are not new to the nation's capital. Pennsylvania veterans of the Revolutionary War demonstrated against Congress in Philadelphia in 1783 seeking pay long overdue them. "General" Jacob Coxey's "Army of the Unemployed" marched on Washington in 1894, a consequence of the Silver Crash of 1893 and the depression which had followed. In 1932 the Bonus Expeditionary Force not only marched on Washington but camped there, until driven out by troops under **General Douglas MacArthur using bayonets, tear gas,** horse-mounted cavalry and a contingent of tanks under Major Dwight Eisenhower. While none of these precedents involved

27. File on "Poor People's Campaign" in office of Division of Special Events, NCP.

28. Monthly Public Use Reports, (Form 10-157), for January 1969-August 1971, filed in U&EA Office, NCP-West.

Potomac Park, they suggest that demonstrations--even violent confrontations--have **always been a part of the history of our nation's capital**, and one may predict that they probably always will be. Potomac Park will no doubt host its share of future demonstrations.²⁹

These many uses of Potomac Park, added to the nature of the park, define it as an urban park, virtually a city park. Potomac Park is significant in that it, along with the other federal parks in and around the District of Columbia, are the most truly urban parks administered by the National Park Service. It is true that the National Park Service administers other areas in or near urban locations, but most of them, Fort McHenry at Baltimore, **for example, are historic sites rather than parks.** Other parks administered by the National Park Service, Prince William Forest Park in Virginia, for example, lie near urban areas; some of them have been called urban parks because of their location near a city, but as they are natural areas they do not fit a definition of an urban park as a man-made, landscaped, "manicured" park. In this sense, Potomac Park and its sister areas in the National Capital Parks are unique.

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29. NCP Report of Staff Meeting, May 7, 1951, p. 1, cites incident of veterans protesting the execution of a Negro convicted of a capital crime in Tennessee; this is just one example of demonstrations in Washington of a minor nature which have taken place prior to recent upsurge in interest in civil rights and the issue of the Vietnamese Civil War. See also, Green, op. cit., Vol. I, p. 10; Vol. II, pp. 19, 367-377.

APPENDIXES

APPENDIX A.

Appropriations for improvement of the Potomac River for navigation
and for reclamation of the flats or
shoals.

First federal projects

Improvement/Reclamation project of 1881:

August	2, 1882		\$ 400,000.00
July	5, 1884		500,000.00
August	5, 1886		375,000.00
August	11, 1888		300,000.00
September	19, 1890		260,000.00
July	13, 1892		200,000.00
August	18, 1894		150,000.00
June	3, 1896		100,000.00
March	3, 1899		74,000.00
June	13, 1902		75,000.00
April	28, 1904		50,000.00
March	3, 1905		50,000.00
March	2, 1907		258,000.00
March	3, 1909		25,000.00
June	25, 1910		180,000.00
February	27, 1911		60,000.00
July	25, 1912		40,000.00

Total			\$3,388,500.00
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Income from other sources:

Sale of blueprints		.50
Sale of condemned property	. . .	349.58
Judgment recovered		235.71

Total		\$3,389,085.79
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APPENDIX B.

OFFICERS IN CHARGE OF RECLAMATION OF THE POTOMAC FLATS AT WASHINGTON

Major Nathaniel Michler	Mar. 13, 1867	Nov. 1870
Major William P. Craighill	Nov. 1870	Jul. 9, 1874
Mr. S. T. Abert	Jul. 9, 1874	- Aug. 14, 1882
Major Peter C. Hains	Aug. 14, 1882	- Nov. 23, 1891
Major Lewis Overman	Nov. 23, 1891	- Dec. 7, 1891
Captain Thomas Turtle	Dec. 7, 1891	- Jan. 5, 1892
Major C.E.L.B. Davis	Jan. 5, 1892	- Jan. 16, 1896
Major Charles J. Allen	Jan. 16, 1896	- Jan. 9, 1904
Colonel A. M. Miller	Jan. 9, 1904	- Jul. 31, 1905
Lieut. Col. R. L. Hoxie	Aug. 1, 1905	- Dec. 15, 1905
Captain Spencer Cosby	Dec. 16, 1905	- Apr. 11, 1908
Captain E. J. Dent	Apr. 11, 1908	- Jul. 18, 1908
Major Spencer Cosby	Jul. 19, 1908	- Dec. 22, 1908
Major Jay J. Morrow	Dec. 23, 1908	- Mar. 15, 1910
Captain Warren T. Hannum	Mar. 16, 1910	- 1911
Lieut. Col. W. C. Langfitt	1911	- 1913

APPENDIX C.

OFFICERS OF NATIONAL CAPITAL PARKS 1861-1972

Commissioner of Public Buildings and Grounds

B. B. French (2nd term)

Officer in Charge of Public Buildings and Grounds

Gen. N. Michler	Appointed Mar. 13, 1867
Gen. O. E. Babcock	" June 1, 1871
Col. T. L. Casey	" Mar. 3, 1877
Col. C. F. Rockwell	" April 1, 1881
Col. John M. Wilson	" June 1, 1885
Col. O. H. Ernst	" Sept. 7, 1889
Col. John M. Wilson (2nd term)	" April 1, 1893
Lt. John S. Sewell	" Feb. 8, 1897
Col. Theo. A. Bingham	" Mar. 9, 1897
Col. Thomas Symons	" Apr. 30, 1903
Col. Charles S. Bromwell	" May 31, 1904
Col. Spencer Cosby	" Mar. 16, 1909
Col. William W. Harts	" Oct. 1, 1913
Col. Clarence S. Ridley	" Sept. 24, 1917
Lt. Col. Clarence O. Sherrill	" Mar. 21, 1921

DIRECTOR OF PUBLIC BUILDINGS AND PUBLIC PARKS OF THE
NATIONAL CAPITAL

Lt. Col. Clarence O. Sherrill	Appointed February 26, 1925
Maj. Gen. Ulysses S. Grant, 3rd.	Appointed January 1, 1926
Col. James A. Woodruff	Appointed June 16, 1933

SUPERINTENDENT, NATIONAL CAPITAL PARKS

Frank T. Gartside	Appointed Acting Superintendent August 20, 1933
C. Marshall Finnan	Superintendent October 9, 1933 - July 31, 1939
Frank T. Gartside	Appointed Acting Superintendent August 1, 1939
Edmund B. Rogers	Appointed Acting Superintendent February 1, 1940
Francis F. Gillen	Appointed Acting Superintendent April 10, 1940
Irving C. Root	Superintendent January 2, 1941 - January 2, 1950
Edward J. Kelly	Superintendent July 28, 1950 - April 30, 1958
Harry T. Thompson	Superintendent May 10, 1958 - February 25, 1961
T. Sutton Jett	Superintendent March 29, 1961 - January 21, 1962

GENERAL SUPERINTENDENT, NATIONAL CAPITAL REGION

T. Sutton Jett

General Superintendent
January 22, 1962 - January 13, 1968

I. G. Castro

General Superintendent
January 14, 1968 - September 1, 1969

GENERAL SUPERINTENDENT, NATIONAL CAPITAL PARKS

Russell E. Dickenson

General Superintendent
December 11, 1969 - May 9, 1971

DIRECTOR, NATIONAL CAPITAL PARKS

Russell E. Dickenson

Director
May 10, 1971 -

