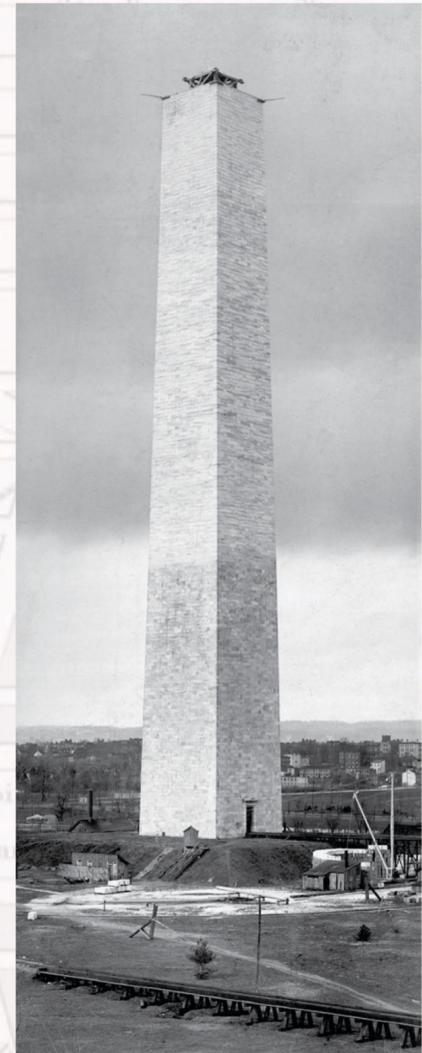


# THE U.S. ARMY CORPS OF ENGINEERS in the District of Columbia

## Overview



*Office of History*



Columns rising on the Lincoln Memorial while its upper foundation remains exposed and visible, ca. May 1916. *Office of Public Buildings and Grounds*

U.S. Army Engineers have had a hand in the development of Washington, D.C., from the city's beginning. In 1791 President George Washington engaged Pierre Charles L'Enfant, formerly an engineer in the Continental Army, to survey and plan for America's new capital city. Since that time, the Corps of Engineers and its individual officers have been instrumental in designing and constructing many of the city's federal buildings, parks, and monuments; governing the district and building its infrastructure; and undertaking civil works projects in the city.

Prior to the Civil War, Army Engineer involvement in Washington's affairs was primarily ad hoc, with one exception. One of the Corps' primary missions was to construct defensive fortifications, which it did in and near Washington before and after the War of 1812 and again during the Civil

**On the Cover:**

*Top:* The new larger dome of the U.S. Capitol under construction, September 1860. *Office of History*

*Middle:* Dredging the Anacostia River and depositing the spoil behind previously built sea walls, April 1933. *National Archives 18-AA-146-24*

*Bottom:* The west wing of the State, War, and Navy Building, for the War Dept., nearly finished, February 1886. *National Archives 121-BD-90A*

*Right:* The Washington Monument approaching its final height, February 1884. *Office of History*



**For More Information:**  
**U.S. Army Corps of Engineers**  
**Office of History**  
7701 Telegraph Road  
Alexandria, VA 22315

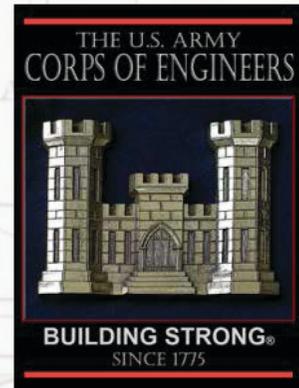
[www.usace.army.mil/about/history](http://www.usace.army.mil/about/history)

EP 870-1-74 | Mar. 2014

War and Cold War. More typical of the era were individual officers assigned to specific projects. Army Engineers advised on the repair of the Capitol in 1814, the piping of spring water to the White House, the construction of bridges, and the paving of streets. They sat on the board that guided the new Smithsonian Institution. Others built government buildings, constructed the Washington Aqueduct, and oversaw expansion of the U.S. Capitol.

Partly owing to the success of these individuals, in the ensuing years the Corps of Engineers' roles in the capital became formalized within three organizations. In 1867 the Office of Public Buildings and Grounds fell under the Chief of Engineers. This office, led by an Army Engineer, managed construction and maintenance of federal public works in D.C., mainly parks, memorials, and government buildings. In 1874 Congress created a three-member commission to govern Washington, D.C. An Army Engineer officer led the commission—which oversaw most every aspect of municipal affairs, such as streets, lighting, sewers, and building codes—until its dissolution in 1967. Finally, since 1875 a regular Corps of Engineers district (Washington, 1875–1961; Baltimore, 1961–today) has worked on the rivers and built facilities for the military in D.C.

In the 20th century, the Corps' involvement in the city waned. In 1933 the new National Park Service took over responsibility for federal parkland and memorials. Home Rule for the District of Columbia arrived in 1967 when the D.C. Commission gave way to an elected mayor and council. Today only the Washington Aqueduct Division and the Baltimore District play a direct role in Washington, D.C., by providing drinking water and by carrying out the traditional Corps missions of civil works and military construction.



Capitol	1	4	Methodist (Wesley) Church	38	3
Presidents House	2	1	D <sup>o</sup> (Protestant)	39	3
State Dep <sup>t</sup> & Land Office	3	1	D <sup>o</sup>	40	3



The Army War College building on the south end of Washington Barracks (now Ft. McNair) nearing completion, July 1906. *National War College*

### Fortifications & Military Construction

One of the Corps' earliest missions was to construct coastal and defensive fortifications. Fort Warburton, six miles south of the D.C. border, was completed by Engineer Capt. George Bomford in 1809 and was destroyed during the War of 1812. In 1816 Col. Walker K. Armistead built Fort Washington on a higher bluff as a replacement. (It stands today as a national park.) Later, during the Civil War, Army Engineers constructed a ring of 68 forts and 93 batteries in and around Washington and connected them with roads and rifle pits. These defenses, particularly Forts Stevens and Totten, protected the city from its only serious threat when in July 1864 Confederate Lt. Gen. Jubal Early unsuccessfully attacked from the north. Nineteen of these forts, including Forts Stanton and Ricketts, are now National Park Service sites. In the 1950s the Corps built a ring of batteries of Nike anti-aircraft missiles to defend Washington against attack from its Cold War nemesis, the Soviet Union.

Following the 1901 move of the Engineer School to the Washington Barracks in southwest D.C. (today's Fort McNair), Engineer Capt. John S. Sewell constructed school buildings, barracks, quarters, and the Army War College building. In 1991 the Corps' Baltimore District completed the award-winning Marshall Hall of the National Defense University on the east side of the installation.

In 1941 the workload greatly expanded when the Corps gained responsibility for all military construction for the Army and later the Air Force. Over the years, the Corps has built facilities at Walter Reed Army Medical Center, the Soldiers' and Airmen's Home, and what is now Joint Base

The five-sided War Department building beginning to take on its distinctive shape during World War II, March 1942. *Office of the Secretary of Defense*



Anacostia-Bolling, and in 1944 the Washington District and the Public Roads Administration built the Suitland Parkway to what is now Joint Base Andrews. The most noteworthy construction project was undoubtedly the Pentagon. In late 1941 the assignment fell to the Corps of Engineers, which established an Arlington District under Maj. Clarence Renshaw to supervise the effort. The five-story, five-sided building relied on a structural framework of concrete to conserve steel during World War II and was designed to house 20,000 workers. A mere sixteen months passed between contract award and completion of the building.

### Civil Works

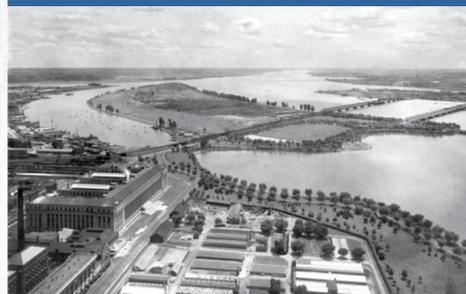
Another of the Corps of Engineers' earliest missions is civil works and water resources development. The Washington and Baltimore Districts have undertaken civil works projects in D.C. just as other engineer districts do around the country. The Corps has built and upgraded levees and seawalls for flood protection and has dredged the Potomac and Anacostia Rivers and cleaned them of debris and invasive vegetation to aid navigation.

One of the projects actually changed the shape and size of the land in the District of Columbia. The city lies where the Potomac River empties into a broad estuary and where it would drop its silt, forming a large area of marshy flats that threatened navigation in the river's eastern channel. At low water, these shoals emerged as a foul-smelling mud bank made worse by the sewage deposited there from the Washington Canal (now Constitution Avenue). For years the flats grew, creating ever more unpleasant and unhealthy conditions that even affected the White House a half-mile distant. Following a severe flood in 1881, Congress ordered the Corps to improve the area. Starting in 1882, District Engineer Maj. Peter C. Hains dredged the two channels in the Potomac River and used the spoil as fill behind seawalls to create over 600 acres of new land that formed West and East Potomac Park. The engineers also created a Tidal Basin to route tidal flows through the Washington Channel that flush it twice daily. As the Washington District created land, they turned

it over to the Office of Public Buildings and Grounds, which then improved the areas with leisure drives and recreational facilities. The area later became home to Japanese cherry trees and several memorials.

Similar efforts were later undertaken on the Anacostia, where the Corps placed flood control structures, used dredged material to turn the Anacostia Flats into usable parkland, and created an

Parklands and Tidal Basin (future site of the Jefferson Memorial) created with material dredged from the Potomac, Hains Point in the distance, ca. 1910. *National Archives 66-DC-19*



aquatic park out of the Kenilworth Gardens to protect the upper river. In the 1990s the Baltimore District worked to restore Kenilworth and Kingman Lake wetlands near the Maryland border.

### Transportation & Infrastructure

Army Engineers played a substantial role in the development of Washington's infrastructure, especially in the realm of transportation, beyond the routine maintenance of roads and sewers by the D.C. Commissioners.

Between 1916 and 1923 the Washington District built Key Bridge—1,791 feet long, unusually wide, and made primarily of reinforced concrete—to replace the Aqueduct Bridge connecting Georgetown to Rosslyn. Its graceful arches supported a surface equipped for streetcar, auto, and pedestrian traffic. A few years later, the Army Engineers from the Office of Public Buildings and Grounds served on the commission for the Arlington Memorial Bridge and supervised its construction just downstream from the Key. Built between 1925 and 1932, the bridge acts as a symbolic link between North and South, between Lincoln's memorial and Lee's home. It is also noteworthy for its ingenious hidden placement of the machinery to lift the center draw spans so as not to detract from the beauty of the granite arches and statues. The Army Engineer Commissioner also had a role in nearly every other major bridge constructed in D.C. through 1967—Chain, Roosevelt, Fourteenth Street, Douglass, Sousa, Young, Benning, and most bridges in Rock Creek Park.

The roadway that runs from that park to the Potomac is also a product of Army Engineer effort. Officers were involved in the acquisition of the land for Rock Creek Parkway, its design, and the majority of its construction until the project transferred to the National Park Service in 1933. Across the river, Army Engineers helped develop the Mount Vernon Memorial Highway, now a part of the George Washington Memorial Parkway. The Washington District suggested routes for the



Key Bridge sitting in the background as Arlington Memorial Bridge reaches across the Potomac from the Lincoln Memorial to the cemetery, May 1929. *DC Public Library*

road and in the 1920s used dredge fill to create a roadbed along the river. Soon thereafter in the late 1930s the Washington District was dredging again, this time creating land in the Potomac on which Washington National Airport would sit. The district also paved runways, landscaped the site, and built hangars and administration buildings.

One of the most noteworthy infrastructure projects by the Army Engineers, the Washington Aqueduct, supplies drinking water to D.C. In 1852 Congress first funded the project, and the Chief of Engineers assigned Lt. Montgomery C. Meigs to survey for water sources and to oversee construction of the aqueduct. Over the next decade Meigs built an 18.6-mile system with a masonry conduit, cast-iron mains, reservoirs, gatehouses, and bridges. In 1867 Congress formally assigned superintendence of the aqueduct to the Corps of Engineers. Soon after, the Corps added a new distributing reservoir (McMillan) connected to the Georgetown Reservoir by a tunnel and to downtown by new mains. Since then the Corps has built a sand filtration system at McMillan, a treatment plant at Dalecarlia, new conduits, pumping stations, and reservoirs. Today the aqueduct remains under the aegis of the Corps' Baltimore District.



The McMillan Fountain, Reservoir, and Pumping Station, built to increase the water supply to Washington, ca. 1915. *Washington Aqueduct Division*

### Government Buildings

The Army Engineers played an intermittent role in government construction in D.C. in the early 19th century. For example, in the 1840s Chief of Engineers Joseph G. Totten served on the board of regents of the Smithsonian Institution and helped guide construction of its earliest buildings. Later Barton S. Alexander, also of the Corps, served as the Smithsonian's superintendent of construction and designed and built the first structure for the Soldiers' Home. Army Engineers helped build extensions to the Treasury Department and to the Post Office.

At mid-century, such involvement expanded. In 1853 President Franklin Pierce called on the Corps to supervise one of the major ventures of the era—the extension of the U.S. Capitol. Montgomery Meigs got the assignment. Working closely yet competitively with architect Thomas U. Walter, Meigs had a hand in almost every aspect of the project. When a new dome was authorized, he ensured that the Corps of Engineers would oversee the work. For the next several years, Meigs strove to complete the additions and the dome, employing the most modern methods and materials whenever possible. After a new secretary of war relieved Meigs in 1859 for political reasons, Meigs transferred from the Engineers to the Quartermasters in 1861, and others completed the Capitol dome in 1863.

Meigs wasn't finished with Washington though. In 1879 the Smithsonian regents asked him to be consulting engineer for the new National Museum (now Arts and Industries) building, which was completed the next year. Upon retirement from the Army in 1882, Meigs designed and constructed the Pension Building (today's National Building Museum). The red brick structure, completed in 1887, was an inexpensive departure from the Greco-Roman style used previously, and it too contained innovative features such as a built-in ventilation system and accessibility for disabled veterans.

In 1888, after a troubled start under the Interior Department, construction of a new Library of Congress was assigned to

A new permanent home for the Library of Congress rising on a site adjacent to the U.S. Capitol, April 1893. The building incorporated many innovative features and was lavishly decorated. *Library of Congress LC-USZ62-118800*

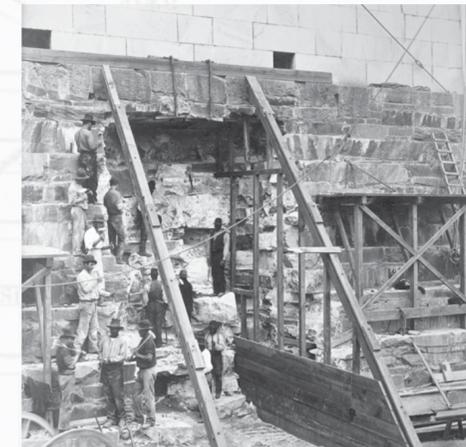


The Pension Building, made of brick and dominating an entire city block, awaiting final touches, November 1885. *Library of Congress LC-USZ62-56363*

Chief of Engineers Thomas Lincoln Casey, who for this project reported to the Treasury Department. Over eight years, working with Bernard Green, a civilian engineer with the Corps, and architects Paul Pelz and John Smithmeyer, Casey managed the construction of a very large, complex, and highly decorated building in which traditional materials coexisted with modern utilities and innovations.

The building boom continued into the next century. Engineer Capt. John S. Sewell designed the interior and supervised the construction of the Government Printing Office building on G Street (1899–1904) and built the Agriculture Department's labs on the Mall (1903–07). In the early 1900s Bernard Green also superintended construction of what is now the National Museum of Natural History.

As the head of the Office of Public Buildings and Grounds, an Army Engineer officer was responsible for the upkeep of the White House for decades. Engineers also led three substantial renovation efforts—in 1902, in the 1920s, and an almost complete rebuilding of the interior from 1948 to 1952. Next door, from 1875 to 1888, the OPBG Engineer



Workers excavating the old rubble foundation of the Washington Monument to place a concrete underpinning over the sub-foundation, October 1879. *Office of History*

Officers (Orville Babcock & Casey), with assistance from Green, completed the Second Empire-style State, War, and Navy Building, begun by the State Department in 1871 and known now as the Eisenhower Executive Office Building.

### Monuments & Memorials

Some of Washington's most notable landmarks are its monuments and memorials, many of which came into being in the 19th and 20th centuries with the help of Army Engineers. Most projects received at least some funding from Congress, which established commissions to guide the memorialization efforts. The commissions often had engineer officer members and they usually delegated day-to-day supervision of construction to the Army Engineer head of the Office of Public Buildings and Grounds. Alongside the major memorial projects, the OPBG also managed the federal land in D.C., even the squares, circles, and triangles created by the city's street grid. The office improved many of these areas as parks and installed statuary, fountains, and playgrounds.

The tallest structure in D.C. is the Washington Monument, which began as a private endeavor in the 1830s. Construction began in 1848, but funds dried up and progress halted in 1854. In 1876 Congress adopted the project and created a commission to oversee it, which then named Lt. Col. Thomas Lincoln Casey of the OPBG as construction manager. His first step was to widen and deepen the monument's foundation. As the monument rose, Casey, assisted by Capt. George B. Davis and Bernard Green, applied classical proportions to the obelisk and its top (pyramidion), resulting in a height of 555 feet. Casey used cast aluminum for the capstone, which

was placed on a windy day in December 1884. Formal dedication took place in February 1885.

Several Officers in Charge of OPBG were involved with the commissions seeking to erect a memorial to Civil War General Ulysses S. Grant at the base of Capitol Hill. The sculptor, Henry M. Shady, began work in 1903. The largest element, a bronze equestrian statue of Grant, was placed in 1919, and the not-quite-finished memorial was unveiled in 1922. Somewhat concurrently, from 1911 these officers also held positions in the organizations planning a memorial to Abraham Lincoln. The OPBG officer served as secretary for the Commission of Fine Arts, where he could influence site selection and design, and he also worked for the Lincoln Memorial Commission, where he oversaw the construction. Because the memorial sat on fill dredged from the river, the foundations were driven 100 feet to bedrock and were taller than the visible structure. They support the temple and its 36 columns, designed by Henry Bacon, and Daniel Chester French's seated statue. The monument was substantially complete in 1917, but World War I delayed the dedication until 1922.

From 1915 to 1917, the OPBG supervised construction of the Memorial to Women of the Civil War in the form of a headquarters building for the American Red Cross (and two more Red Cross buildings subsequently). Between 1915 and 1920, the office also constructed the Arlington Memorial Amphitheater, a one-and-one-half-acre oval in the cemetery seating 5,000 for ceremonies such as those held on Memorial Day. The Corps has handled renovation and restoration of the amphitheater and the Tomb of the Unknowns ever since and has built columbaria and a visitors center in recent years. Corps officers even designed and installed the initial eternal flame for the burial of President John F. Kennedy. More recently, the Baltimore District has been involved with the construction of the Korean War Veterans Memorial and in the site selection and design competition for the Pentagon 9/11 Memorial.

West Point cadets attending the unveiling of Ulysses S. Grant's memorial statue just west of the U.S. Capitol, April 1922. *Office of History*

