The Civil War and Fort Stanton

The Civil War and the efforts to defend the Union capital changed Anacostia. The Washington Navy Yard was a key strategic facility during the Civil War. Efforts to defend it included the construction of Fort Stanton, built in 1861, one of the first in a circle of fortifications around the city. Fort Stanton was intended to protect the Navy Yard and the Navy Yard Bridge from Confederate attacks. Fort Stanton was expanded throughout the war and was supplemented with Fort Ricketts and Fort Snyder. After the Army of Northern Virginia surrendered (marking the end of the Civil War) Fort Stanton was abandoned and then dismantled, never having seen wartime action.

After the Civil War, the Navy Yard continued to be the most prominent institution affecting the livelihoods of many Uniontown and Anacostia residents. The 1880 census records showed that the majority of inhabitants in Uniontown were engaged in occupations specific to the Navy Yard, such as carpentry, blacksmithing, boilermaking, shipmaking, and as enlisted and commissioned Navy personnel, rather than the agrarian occupations common in other suburbs (Hutchinson 1977). In 1886, the Navy Yard became the national center of all naval ordnance manufacturing. Through the 19th century and the World War I and World War II eras, it was the largest manufacturer of ordnance and armaments for the Navy. By the late 20th century, the Navy Yard shifted from production to administration with offices occupying the old factories. Currently, the Navy Yard houses the headquarters of Washington's Naval District and Historical Society, and is the Navy's longest continuously operated federal facility.

Post-Civil War Anacostia

The most significant effect of the Civil War on the Anacostia's development and history was the 1862 emancipation of slaves in the District of Columbia and the resultant influx of local freedmen and former slaves from other states.

Barry's Farm

In 1861, there were four distinct farms on Poplar Point belonging to Barry Family heirs. In 1867, under special order, the US Bureau of Refugees, Freedmen, and Abandoned Lands acquired 375 acres from Juliana and David Barry for $52,000 to create a distinct area for the growing population of freedmen. By that time, a "white backlash" against newly-emancipated African Americans, seen as a threat to the white labor force, was active in the District of Columbia. (Hutchinson 1977). The Barry's Farm planned community was a subdivision of the land into one-acre lots that were sold on installment plans to freed slaves and other African Americans. Benjamin D. Carpenter platted the community, and George F. Marble, Superintendent of Barry's Farm, oversaw surveying and clearing starting in 1868.

By the end of 1868, Barry's Farm had 180 lots and 80 houses (Hutchinson 1977). Lots and building materials sold for $125 to $300 per family on a two-year loan. The government provided lumber for sale, house plans, and some carpentry assistance. Materials were standardized in kits to construct a 14-foot x 24-foot house in an approved pattern. Houses had to be setback 20 feet and sited parallel with the street. Initially, these guidelines were strictly enforced by the Superintendent. By July 1868, 11

houses had been ordered (Hutchinson 1977). By 1869, at least 500 African American families had moved into Barry's Farm.

Many freedmen made down payments but were unable to continue to pay back their loans. Settlement proceeded erratically into the 1870s. Some areas of the subdivision were developed earlier than others, as many new owners continued to live and work in the city to save enough money to construct new homes. Many settlers worked in the city during the day, and then crossed the bridge to build their homes during the night. (Hutchinson 1977). As Barry's Farm (in some areas referred to as Potomac City) developed, the community established a church, a private school, and a civic association. The first school for African American children in Anacostia was established in 1871. The Barry's Farm community renamed itself "Hillsdale" and developed an identity that was further enhanced when Frederick Douglass moved to Anacostia in 1877. Douglass purchased and renovated Cedar Hill, originally the home of Uniontown developer John Van Hook.

Housing became Anacostia's dominant industry, although it was not systematic in its development (Cantwell 1974). Unregulated development of Hillsdale and additional subdivisions in Anacostia, including Whittingham, Griswold, Shannon, and Duvall, continued in the 1880s. Dwellings remained modest single-family houses in keeping with the low- to middle-income demographic of the Anacostia residents.

The rail line was important to the residential development of Anacostia. The Southern Maryland Railroad Company purchased land for the tracks in 1871, but did not develop it for a few years. The line became the Baltimore and Ohio and extended along the east bank to Uniontown, where its tracks were laid on trestles in the river to extend to Giesboro Point, with a terminus at Blue Plains. A railway freight yard was located along the river just south of the East Capital Street rail tracks. Railroads granted easier transportation for people and freight. Two bridges, the Benning Road Bridge and the Navy Yard Bridge were the only land access from the river until the Pennsylvania Avenue Bridge opened March 20, 1890. The opening of the Pennsylvania Avenue Bridge provided additional access to the city and acted as a catalyst for further development in Anacostia (Engineering-Science 1989). In 1892, Arthur Randle, a major developer, proposed the construction of an additional bridge between the Benning Road and Navy Yard bridges. Into the early 20th century, the population continued to grow, centered on major commercial districts, particularly along Good Hope Road, Anacostia Road, Howard Road, and Nichols Avenue (currently Martin Luther King, Jr. Ave). Poplar Point was completely divided into lots and occupied as part of Barry's Farm (Potomac City).

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Figure 3-18: J.F. Campbell Hardware and Stoves, Good Hope Road, c. 1910
Source: Library of Congress, Prints and Photographs, LC-F82- 10302

Dredging the Anacostia River

Washington, DC's marsh land and the high water table created several problems for the growing capital and its development. Sewers drained into grounds around the Washington Monument parade grounds. The Anacostia River contained sewer waste, as well as silting from commercial waste, sewage, and runoff from regional farming. In 1872, the Army Corps of Engineers began a comprehensive study of the Potomac and Anacostia Rivers, including the mudflats along the southeast riverfront in Anacostia. The navigation study, requested by Congress, included the assessment of the wetlands and riverbeds. The study was completed in 1876, and the estimated cost of repairs to dredge the mudflats and to define harbor lines was approximately $6 million (NPS 2008b).

The Army Corps of Engineers produced recommendations for the navigational study, with proposals in the early 1890s to fill in portions of the lower Anacostia River tidal flats to improve the navigational channel. In 1891, Lieutenant Colonel Peter C. Hains produced a map that indicated areas for potential fill, including an area near Poplar Point (Figure 3-19) (Parsons 2007). Dredging was planned for the opposite bank of the river near the Navy Yard; as the plans were initiated by the military, it may have been associated with Navy Yard expansions (Parsons 2007). The Army Corps of Engineers was focused primary on the reclamation of the Potomac River mudflats, with a Congressional Appropriation of $288,000 in 1890 (NPS 2008b). The Anacostia River projects received $20,000 of that money, and infill activities began in the 1890s (NPS 2008b). Transportation maps show that the beginning of infilling

around Poplar Point began by the 1900s, with the majority of the infill completed in the 1920s (Soil Systems 1981).

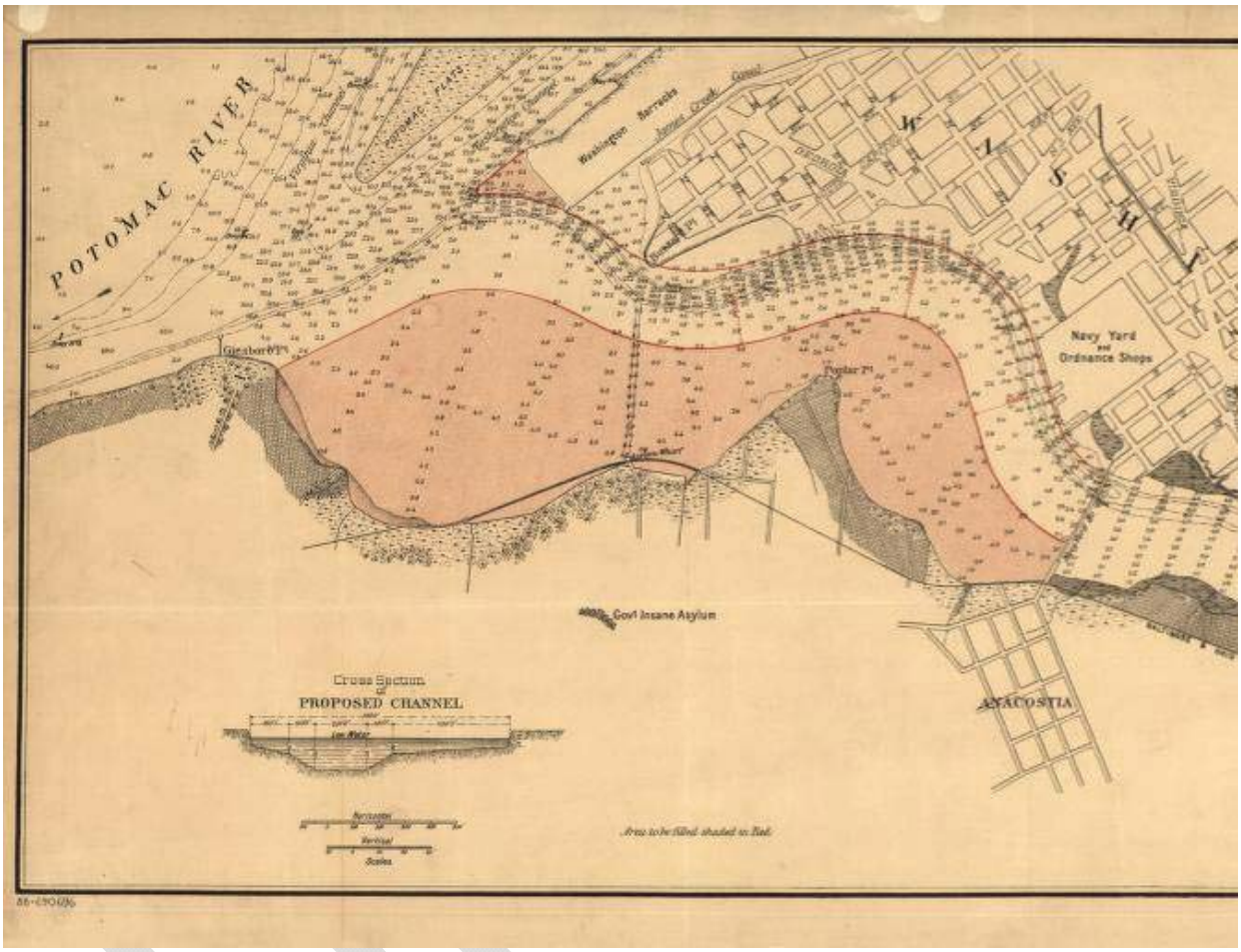

Figure 3-19: Portion of Map entitled "Anacostia River Basin" by Peter C. Hains, 1891
Note: Area to be Filled Shaded in Red
Source: Library of Congress, Geography and Maps Division, G3852.A5N2 1891 .H3

After the dredging starting in 1891, construction began on the Anacostia River seawall. Portions of seawalls were constructed near Fort McNair and the Navy Yard that delineated new embankments made with dredged material. The dredged material was also used to form one embankment on the east shore between Poplar Point and St. Elizabeths, and another on the western shore. The seawall and new embankments did not extend to the rest of the Anacostia shoreline. Limited funding stalled the infill projects, and in 1898 Congress approved a joint resolution to appropriate funds for further improvements including more extensive reclamation of the Anacostia River marshes (NPS 2008b). The 1902 River and Harbor Act authorized further improvements to the navigation channel including dredging a 20-foot deep by 400-foot wide channel to a depth of 6 feet. However, the seawalls and embankments at Poplar Point were not constructed until 1905.

Figure 3-20: Anacostia Flats, 1912
Source: Library of Congress, Prints and Photographs, LC-F81- 524

Planning for and the Establishment of Anacostia Park

Throughout the 19th century, Washington, DC was developed according to L'Enfant's Plan for the city. In 1901, Congress directed the McMillan Commission to develop a new plan for Capital City. Influenced by the City Beautiful Movement, a Progressive movement espousing urban beautification to enhance civic virtue, the McMillan Commission developed a new plan for the District of Columbia, focusing on park lands and public spaces. On the Commission were well-known architects, landscape architects, and artists including Daniel H. Burnham, Frederick Law Olmsted, Charles F. McKim, and Augustus St. Gaudens. Using the L'Enfant Plan as the framework for its plans, the Commission proposed a park system that extended through the city and beyond.

Figure 3-21: View Looking North From Anacostia by John Trout, c. 1901
Source: Library of Congress, Geography and Maps Division, G3851.A3 1901 .T7

With the goal of implementing a comprehensive plan for the District of Columbia, the 1902 McMillan Report included imagery for the proposed parks and a map series that compared Washington with other cities. The report recommended sites for parks, including Olmsted's suggestion for the reclamation of land for a park that would benefit Anacostia residents (NPS 2008b). The proposed Anacostia Park was an integral part of the new plan. The Commission based its proposal for Anacostia Park on the established plans for reclamation. The Anacostia flats were reclaimed in 1909 and developed through 1928 (NPS 2008b). The dredged material used to fill the embankments was supplemented by refuse including demolition materials from the Long Bridge, the Old Navy Yard Bridge, and the Washington Aqueduct. The seawall was not completed until the 1940s (NPS 2008b).

A new advisory committee, the Commission of Fine Arts, was formed in 1910 to succeed the McMillan Commission. The Commission included Burnham and Olmsted, as well as Thomas Hastings, Francis D. Millet, Cass Gilbert, and Daniel Chester French. The Commission continued the work of the McMillan Commission in advising on the design of statues, fountains, monuments, and any matters relating to public art. Anacostia Park was included in the Commission's 1914 Annual Report as Anacostia Water Park. The plans for Anacostia Water Park included damming the river to create a manmade lake for boating (NPS 2008b). Anacostia Park was officially established in 1919, and construction began in 1923. With approximately 1,200 acres of open recreational area, few permanent structures, and a five-mile stretch of riverfront, the park became the District of Columbia's largest park and catered to the needs of the surrounding urban neighborhood (NPS 2008b). Throughout the 1920s, the citizens of Washington, DC used the park as a recreational area to go boating, fishing, and walking.

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The Bonus March

In 1924, Congress passed the Adjusted Compensation Act in order to appease WWI veterans who had been demanding additional compensation for their wartime service. Under the 1924 Act, veterans were promised interest-bearing certificates worth $1 to $1.50 for each day of their service, not to be paid out until 1945 or at the time of their death to their beneficiaries (NPS 2008b). While this act was meant to appease the veterans, the demand for this Soldiers' Bonus became a hot political topic. The Veterans of Foreign Wars (VFW) and certain congressional leaders generated and supported the movement to demand the full and immediate cash payment of the deferred Bonus. By 1929, the Bonus became the VFW's signature issue based on the notion that wartime service severely disrupted the economic lives of veterans (Ortiz 2006).

The momentum of the Bonus movement escalated between 1929 and 1932, and was further exacerbated by the onset of the Great Depression (Ortiz 2006). Political divisions between Republicans and Democrats over this issue were significant during the election year, as President Herbert Hoover was opposed to the immediate payment of the deferred Bonus. The stock market crash and the ensuing Depression contributed to the sense of unfairness at the veterans' unstable economic situation, with Veterans' Administration 1930 and 1931 statistics showing that veterans had a 50 percent higher unemployment rate than their non-veteran counterparts (Ortiz 2006). The VFW undertook a publicity campaign and aggressively rallied veterans' support in the introduction of a new bill to Congress for the Bonus payment. In April 1932, the VFW organized the first Bonus procession to the Capital with between 1,500 and 2,000 regional supporters for the new Bonus Bill (Ortiz 2006). The bill was shelved on May 6, 1932, and the Bonus March demonstration began four days later with hundreds of veterans leaving Portland, Oregon to march on Washington, DC.

Veterans continued their protest by convening in Washington, DC and lobbying at the Capital. The protesters called themselves the Bonus Expeditionary Force (BEF). Twenty thousand veterans, the majority of which had served in the 3rd, 4th, 5th and 6th Regiments, along with their families and other protesters, took part in the Bonus March in May 1932. The BEF set up their camp in Anacostia Park, just north of Poplar Point, with access to the Capital via the 11th Street drawbridge (NPS 2008b). Although the BEF veterans were spread throughout the city, squatting in abandoned buildings and other camps, the Anacostia camp was the primary location of the BEF. The encampment was called Camp Marks, housing almost fifteen thousand people in an extensive and integrated community of generally unemployed veterans and their families, as well as a small Communist faction of veteran supporters.

Camp Marks was a shantytown comprised of tents and temporary shelters made of cardboard and discarded materials from the local dump. Many slept outside with no shelter, and there were sanitary problems as well as food shortages. Despite its squalor, Camp Marks had delineated streets and basic organization. Food and entertainment were shared amongst the desegregated camp residents, even drawing locals from nearby neighborhoods into Camp Marks (NPS 2008b).

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Figure 3-22: Bonus Expeditionary Force Camp, 1932

Source: Library of Congress, Prints and Photographs, LC-F8314- 18039-X

After weeks of peaceful protests and marches, the Bonus Bill was put to a vote, passing first in the House of Representatives, but summarily defeated in the Senate on June 17. Between 5,000 and 6,000 veterans received money from the government to return home; thousands remained in the camps insisting that they would not leave before receiving the Bonus even as more veterans arrived. Tensions grew as camp conditions and disgruntlement worsened. On July 28, 1932, the government began attempts to expel the BEF from the city using the local police, which resulted in riots and the death of two veterans. Hoover then ordered US Army forces under the command of Maj. General Douglas MacArthur to force the BEF from the Capital and the city. MacArthur carried out the order, using tear gas, tanks, and cavalry to drive the marchers out of Camp Marks, and then burned it down (Ortiz 2006).

The Bonus March was one of the first demonstrations in the long tradition of protests in the capital's public spaces. The timing, magnitude, and duration of the protest during the Depression made the Bonus March a significant event in the political and social arena. Although Hoover insisted that the March had been organized by Communists, hoodlums and ex-convicts, his political career was forever marred by the cruelty and insensitivity he displayed by ordering armed soldiers to use force against destitute veterans. Hoover's marred reputation gave Roosevelt fodder for a strong campaign in the reelection, which Roosevelt won (American History 2004).

Anacostia Park Expansion

In 1933, management and oversight responsibilities for Anacostia Park were taken away from the Secretary of War and placed under the jurisdiction of the National Park Service. New areas were added to the park, including the Kenilworth Aquatic Gardens, the Langston Golf Course, and a segregated community recreational center with a field house and a swimming pool for white patrons.

After the Civil War, Walter B. Shaw purchased 37 acres of land on the Anacostia River flats. The parcel had an ice pond built in the wetlands, and Shaw successfully planted 12 hardy American white lilies in the pond from his native state, Maine. Shaw developed the parcel with more ponds by damming areas

of the flood plain and grew a wide variety of flowers. Then known as the Shaw Gardens, the lily ponds were initially Shaw's hobby. Shaw and his daughter L. Helen Shaw Fowler began a commercial enterprise to sell 63 varieties of lilies in 1912, and sold their experimental hybridized lilies nationally. Fowler took over the business after her father's death in 1921, and developed the Shaw Gardens into a local attraction. Thousands of visitors, including US presidents and their wives, visited the lily ponds during the 1920s and 1930s (NPS 2008b). In 1938, Congress authorized the purchase of 8 acres for $15,000 and added them to Anacostia Park. Later renamed Kenilworth Park and Aquatic Gardens, the park has remained intact and was listed in the National Register of Historic Places in 1978.

Another significant addition to Anacostia Park in the 1930s was the 145-acre Langston Golf Course. Named for the African-American abolitionist and Congressman John Mercer Langston, the golf course was developed as the first public golf course specifically for African American golfers. In 1927, John Langford, a prominent architect and member of the Capital City Golf Club (later the Royal Golf Club), petitioned the US Navy to allocate land for a golf course in the planned redevelopment of the Anacostia riverfront.

In 1934, after more years of campaigning, representatives of the Royal Golf Club—the first golf club for African Americans—were finally invited to plan a course with the Navy. Designed by S.G. Leoffler Company, the first nine holes of the course were constructed by the Civilian Conservation Corps (CCC) and the Works Project Administration (WPA) (Dawkins and Kinloch 2000). Although limited to 9 holes rather than 18, Langston Golf Course opened on June 11, 1939. The Royal Golf Club continued to push for desegregation of the city's public courses until desegregation of all public facilities was mandated in 1955. Also in 1955, the course was expanded to 18 holes and a driving range. The Langston Golf Course was listed in the National Register of Historic Places in 1991 for its association with the development of golf as a popular recreational and professional sport for African Americans and for its association with the first golf clubs built specifically for African American golfers (NPS 2008b).

The 1930s development of recreational facilities at Anacostia Park also included the construction of the Anacostia Field House and a community swimming pool in 1932. Constructed by the WPA, it was one of six swimming pools built at public parks in the city. Although the six public pools managed by the federal government were nominally desegregated, discrimination prevailed based on custom and official practices. Between June 25 and June 29, 1949 African American protesters attempted to swim at McKinley swimming pool and Anacostia swimming pool, challenging the segregation. At McKinley, they succeeded with no incident; however, this was not the case at the Anacostia pool. A fight was broken up by the police, with five arrests and violence causing tensions across the city. Although about 400 people were involved, the magnitude of the event was effectively squelched in the media in an attempt to avoid race riots (Gilbert 1994). The pool was closed and reopened the following year as an integrated facility. The original elements of the facilities are intact, and the field house and swimming pool were nominated to the National Register of Historic Places in 2002 as part of the entire Anacostia Park for their association with the important events in the struggle for civil rights (NPS 2002).

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Figure 3-23: Anacostia Park Pool, 1937
Source: Gilbert 1994

Anacostia Park became part of the National Park system, transferred under legislation to the jurisdiction of the National Park Service in 1953. While this transfer ensured the maintenance of the park by the National Park Service, the construction of the Anacostia Freeway in 1958 divided Anacostia Park from the adjacent neighborhoods. The construction of the freeway disrupted its easy access by Anacostia residents.

Post-World War II Anacostia

Systematic housing development due to the effects of WWII transformed Anacostia from semi-rural to urban, with the housing stock nearly tripling between 1940 and 1950 (Cantwell 1974). With a housing boom during the War and urban renewal following, many of the older structures were replaced with multi-family apartments. Activities at the Navy Yard necessitated the construction of housing all over the city, and particularly in the Hillsdale area with the Barry Farms Dwellings. With 442 garden apartments, the two story brick dwellings encompassed six acres in the original Barry's Farm development.

To improve transportation for defense industry employees during WWII, Roosevelt authorized the construction of the Suitland Parkway. As a national defense road, it provided access from Bolling Field to Camp Springs Army Air Base (Andrews Air Force Base) in Maryland. The parkway officially opened on December 9, 1944, creating a major thoroughfare in Anacostia. An additional bridge connecting South Capitol Street to the Suitland Parkway was constructed in 1949, and dedicated as the Frederick Douglass

Memorial Bridge in October 1965. Although the Frederick Douglass Bridge and Suitland Parkway provided new access to and from Anacostia, they also served to disconnect Barry Farm from Poplar Point and the riverside. The Anacostia Freeway (I-295) further disrupted access to Poplar Point from Historic Anacostia.

In 1978, the Anacostia Historic District was listed in the National Register of Historic Places. The historic district includes the original Uniontown neighborhood, an 1879 addition, and some adjacent parcels. Anacostia Park has also been determined eligible for listing in the National Register.

3.2.1.5 Archaeological Resources

Archeological Surveys and Sites

Surveys

Several archeological surveys have been conducted in the Poplar Point area (Table 3-28). WMATA conducted surveys prior to construction of the Anacostia Metro station (Soil Systems 1981; Berger 1986) and DDOT conducted studies for the South Capitol St. Bridge project (Parsons Brinkerhoff 2006, 2007). The National Park Service also conducted investigations for Anacostia Park (Engineering-Science, Inc. 1989a); this was a Phase Ia investigation only and no subsurface testing occurred. A Phase I investigation was also accomplished at the north end of Bolling Air Force Base in the mid-1990s and the Anacostia Annex (Louis Berger 1995 and 2005). Currently, Elizabeth Anderson Comer (EAC) Archaeology is conducting investigations in association with the 11th Street Bridge project. There are also investigations on a property just south of the project area (personal communication with Ruth Trocolli).

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Table 3-28: Archeological Surveys in or near the Project Area

Name	Project Type	Report Number	Agency	Consultant	Related Reports
Green Line Segment F5 Anacostia Station, Section 2	Phase I Intensive	90	WMATA	SSI 1981 (Soil Systems)	114
Green Line Segment F5 Anacostia Station, Section 1	Phase I Intensive	90	WMATA	SSI 1981 (Soil Systems)	114
Green Line Segment F5 Anacostia Station, Section 3	Phase I Intensive	90	WMATA	SSI 1981 (Soil Systems)	114
Howard Rd./ Anacostia Metro Station	Phase III	114	Wallace, Roberts & Todd/ WMATA	Berger 1986	90
South Capitol Street Corridor Phase Ib	Phase I Intensive	336	DDOT	Parsons Brinkerhoff 2007 (Ward & Reed)	337 (Phase Ia)
South Capitol Street Corridor Phase Ia	Phase Ia -Intensive Archival	337	DDOT	Parsons Brinkerhoff 2006	336 (Phase Ib)
Naval Annex Anacostia Annex Assessment	Phase I Reconnaissance	338	Naval District Washington	Berger 2005 (Geoarch Wagner)	See 280

In addition to relatively recent archaeological investigations, informal survey of the area was accomplished in the late 19th and early 20th centuries around Poplar Point, resulting in large collections of prehistoric material at the National Museum of Natural History of the Smithsonian Institution (Humphrey and Chambers 1985). Archaeologists such as S.V. Proudfit, Armistead Peter III, and William Henry Holmes collected archaeological materials from a variety of locations within and around the project area. However, the records regarding the exact provenance of these artifacts are old and somewhat contradictory, so it is difficult to determine where the artifacts came from with any certainty.

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Nevertheless, the record does indicate that Native American cultural material was prevalent in the Poplar Point area. Holmes and others identified this area as being one of the most prolific (Engineering-Science 1989a: 39). In the late 1800s, Proudfit interpreted both the archaeological record and Captain John Smith's account of Anacostia from his visit in 1608 to conclude that there were once dispersed Native American villages on the banks of the Anacostia. These villages were said to have dwellings that were within 300 ft of the shoreline (Engineering-Science Inc. 1989a).

Previously Recorded Archaeological Sites

The sites identified during both informal and formal surveys in and around the project area are included in Table 3-29.

Table 3-29: Archeological Sites within and in the Immediate Vicinity of the Project Area

Site Number	Description	In Project Area	Reference
P09	Mixed historic and prehistoric	Yes	Dupin 2008
51SE011	Campsite of mixed age	Yes, reportedly within the nursery	Smithsonian Records; DC SHPO report #203
51SE012	Campsite of mixed age	No	Smithsonian Records; DC SHPO report #203
51SE024	Preshistoric	Possibly*	Smithsonian Records
51SE034	Historic and Prehistoric Site	No	Soil Systems 1981; Berger 1986
51SE035	Historic site	No	Engineering-Science Inc.
51SE036	Barry's Farm Site	No	Engineering-Science Inc. 1989b
BP 25	Prehistoric Camp	Possibly*	1966 Bruce Powell map
BP 26	Prehistoric Camp	Possibly*	1966 Bruce Powell map

*See discussion in text about the accuracy of mapped site locations

Just southeast of the project area, Louis Berger and Associates (1986) uncovered a multicomponent site (51SE34) next to the former floodplain of the Stickfoot Branch. The site's prehistoric component contained lithic debitage, projectile points, and ceramics and appeared to date to the Late Archaic period through the Late Woodland period. The historic component was related to the Barry's Farm settlement established by the Freedmen's Bureau to help former slaves transition into free society. The

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archeological site and the associated standing structures formed the Howard Road Historic District with a period of significance from 1880-1920.

A recent study around the 11th Street Bridge has also yielded both historic and prehistoric materials. That study is still being completed and information on the materials found is forthcoming. In addition, on the Navy property south of Poplar Point, archaeologists have recently found prehistoric materials (personal communication with Ruth Trocolli).

Several archeological sites are within the project site, (though their exact location is not known) and they are discussed below. Three of the sites (51SE011, 51SE012, and 51SE024) were identified by looking at records from the informal surveys at the National Museum of Natural History. The exact locations of these sites are not known because the land was filled in, obscuring the locations before they were mapped by archeologists. Therefore, two of the sites (51SE011 and 51SE024) are currently mapped within the project area but this should be further verified. One of the sites, 51SE012, is currently mapped just outside the project area but its exact location is also yet to be verified. Likewise, two more sites (BP25 and BP26) are mapped within the project area based on a map that National Park Service archaeologist Bruce Powell prepared in 1966 (personal communication with Ruth Trocolli). It is possible that these two sites are actually part of sites 51SE011 or 51SE012. Further analysis of the material housed at the National Museum of Natural History may help to clarify some of this information.

One site is known to be within the project area, as it was recently found and mapped. Avocational archeologist Doug Dupin recently conducted a survey on private property just outside the project site and identified intact subsurface deposits now known as P09 (Dupin 2008).

Archaeological Potential

Archaeological Evidence of Archaeological Potential

In the project vicinity where archeological investigations have been undertaken, the archeological sensitivity has been variable. The area around 51SE34 was previously considered to have a low sensitivity for the presence of archeological sites because the Stickfoot Branch stream channel had been filled in with soil. Although portions of the site lacked good preservation (for instance, bone and structural evidence such as postholes were absent from the prehistoric component) the study found that the fill soil was imported from elsewhere and seemed to have protected portions of the site. Other land in the vicinity (such as an area south of Howard Road) was disturbed by landscaping activities that actually served to displace prehistoric materials and destroy the research potential (Louis Berger and Associates 1986: 339). In some areas, repeated plowing also limited the research potential of archeological deposits, most of which were in the plowzone.

A Phase 1(b) archeological study done for the South Capitol Street Project (Parsons Brinkerhoff 2007) showed that the east side of the Anacostia River, south of Howard Road, had the potential for the presence of archeological resources. The study used maps showing the original pre-fill shoreline from the late 1800s to indicate where the highest potential was. The project area was bounded by Howard Road, Firth Sterling Avenue, and South Capitol Street.

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Historical Evidence of Archaeological Potential

One site that has never been located (Anacosten Fort) is thought to be near Poplar Point (Engineering-Science, Inc 1989b: 13). Anacosten Fort was a pallisaded village which has never been located. Engineering-Science conducted an archival study of the area from the 11th Street Bridge to the Benning Bridges and concluded that the Anacosten Fort was possibly near the Sousa Bridge (1989b).

Several historic maps indicate that portions of the project area had structures on them. A map from 1862 shows a structure on what is mislabeled “Giesboro Pt” but is actually Poplar Point (Arnold 1862). It has the name “Barry” next to it. The structure itself was on the tip of Poplar Point and may lie just outside the project area, but outbuildings that would have been associated with it may have stood within the project area. Just to the northeast of the Barry structure, and south of the Navy Bridge, is another structure with the name “G.W. Talbert” next to it. This structure was within the boundaries of the current project area. By 1903 (see Figure 3-24), that same property four buildings and has the name Catherine A. Talbert associated with it (Baist 1903). In addition, historic maps indicate that several residents were living along Howard Road from about the 1860s. These houses were part of the Barry’s Farm development. When comparing a 1867 map of the parcels that were part of the development with the current project area, it appears that approximately 11 parcels were at least partially within the project area. The 1903 map shows 13 parcels within or partially within the project area and there are 8-9 structures on them (Baist 1903).

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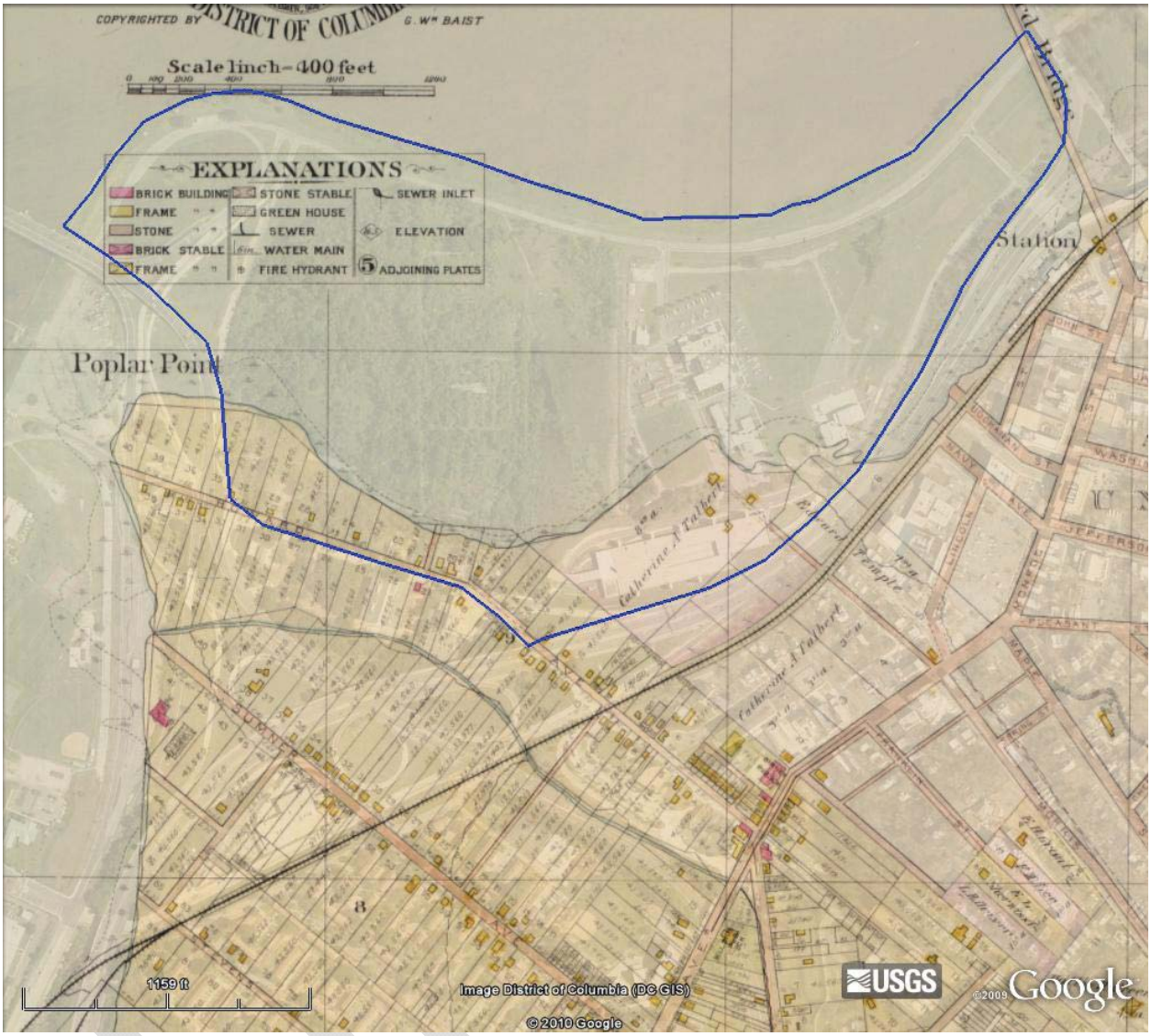

Figure 3-24: 1903 Baist Map overlying Google Earth Imagery of the Project Area (blue outline is approximate project boundaries)
Source: AECOM 2010

Geomorphic/Geoarchaeological Studies and Archaeological Potential

In addition to the archaeological and historical information that indicate the potential for archaeological materials near the project area, geomorphic investigations have also provided information on archaeological potential. Three such investigations have taken place near Poplar Point; one was undertaken in 2009 near the 11th Street Bridge; one was conducted in 1995 on Bolling Air Force Base land, and the third was took place in 2005 in the Anacostia NSF. These studies involved core samples and trenching. The first two yielded the best information. Geoarchaeological testing for the third study was inconclusive owing to the extremely rocky character of the surface deposits.

In May and June of 2009, John Milner Associates (JMA), Inc. (June 18, 2009) conducted the geoarchaeological investigations for the 11th Street Bridge Replacement Project. These studies included geomorphic investigations of areas that would be impacted by the project. The intent was to determine whether cultural materials were present and if so, whether they had any integrity. These studies were conducted just north of the project area and were meant to establish the presence or absence of archeological resources. On the Poplar Point side of the Anacostia River, 11 auger locations and five backhoe trenches were examined. They resulted in the identification of buried cultural materials potentially related to both the historic and prehistoric periods. The investigations within Anacostia Park revealed a stratified fill sequence up to 4 feet overlying nearly 8 feet of intertidal layers, overlying a buried floodplain. They also revealed the presence of a paleo-tributary channel. This channel was probably much like the Stickfoot Branch and likely would have meandered across the floodplain before it was filled.

The investigations at Bolling Air Force Base showed that one of the trenches spanned what appeared to be the transition from shoreline to river bottom. Natural soils were found at a depth of approximately 6 feet and were said to be a "…Pleistocene terrace of the Anacostia River lying at a height of roughly 9 feet above modern sea level" (Louis Berger 1995). The investigation posited that earlier in the Holocene, the terrace would have been higher and had better drainage, making it very suitable for human occupation. Even in historic times, it was thought to be well drained enough for cultivation, due to the plow scars that were present in the trench.

Archeological Potential within the Project Area

Much of the area around Poplar Point has a high archeological sensitivity. Figure 1 of the Humphrey and Chambers study (1985) shows a Nacochtanke Village site in the vicinity and a number of sites (both historic and prehistoric) have been found within the area. The terraces lining the river in other areas have proven to be of high sensitivity for both prehistoric and historic activities due in part to the fact that proximity to the river would have made fishing and agriculture viable pursuits. There are outcrops of lithic materials suitable for making stone tools not far from the project area as well (Engineering-Science, Inc 1989b: 13).

Much of the current project area is made up of fill that was placed there in the late 19th-early 20th century in order to reclaim land from the Anacostia River. In general, this would imply a low level of sensitivity for archeological resources due to the fact that the fill either obscured materials or it covered areas that represented the original river bottom. However, in the project area vicinity it has been shown that archeological resources exist within the land that represents the original shoreline. In addition, some of the investigations have shown that the filled land near the project area has preserved archeological materials rather than destroying them (e.g. Site 51SE34).

Most of the 19th century maps show that the depth of most of the offshore area that is now within the current project area was between one and six feet. Because the level of the Anacostia River is related to the tides, a zone adjacent to the shoreline would have alternated between being inundated with water and being a mud flat. In addition, there have been periods during Native American occupation of the

area when the sea level was lower than it is today so areas now inundated may have been solid ground at some point.

The results of the geomorphic investigations for the 11th Street Bridge project revealed that the south side of Highway 215 had a high sensitivity for archeological resources because there was less than three feet of fill. The north side of the highway had 3-10 feet of fill, resulting in a range of high to low sensitivity. While the original shoreline can be estimated (Figure 3-25), the amount of fill is not known for the current project area. Within the current project area, the original shoreline appears to have been mostly along the southern extent of the project area and sites have been recorded within this area as well as the area that would have been offshore in the 1800s (although their exact location is no longer known). The area that represents the original shoreline is of highest archeological sensitivity for both historic and prehistoric sites. Using the protocol established in the JMA assessment, the area adjacent to the original shoreline is of a moderate sensitivity due to the fact that remnants of Native American fishing and other activities could be present within this area.

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Figure 3-25: Shoreline as mapped in 1903 (Baist) overlaying Current Aerial photograph (historic shoreline in gold, Stickfoot Branch in green, unnamed creek in pink)
Source: AECOM 2009

3.2.1.6 Historic Structures and Districts

The APE contains a number of historic structures and districts. The location of these resources is shown in Figure 3-17. A summary of their significance and relationship to Poplar Point is outlined below.

Anacostia Historic District

The Anacostia Historic District is roughly bounded by Martin Luther King Avenue on the west, Good Hope Road on the north, Fendall Street and the rear of the Frederick Douglass National Historic Site on the east, and Bangor Street and Morris Road on the south. It is significant both for its historic and its architectural contributions to Washington, DC. The core of the District is Uniontown, a 17-block subdivision established in 1854 to house the working class laborers at the Washington Navy Yard. The District contains approximately 550 buildings dating from c. 1854-1930, with dominant styles including the Cottage, Italianate, and Washington Row. While predominantly low-scale brick and frame residential structures, the District also includes two commercial thoroughfares, Good Hope Road and Martin Luther King Jr. Avenue. The Frederick Douglass National Historic Site, Cedar Hill, is located within the Anacostia Historic District. The District was listed in the DC Inventory of Historic Sites in 1973 and the National Register of Historic Places in 1978.

Figure 3-26: Anacostia Historic District
Source: AECOM 2009

Frederick Douglass National Historic Site (Cedar Hill)

The Frederick Douglass National Historic Site is located within the Anacostia Historic District, at 1411 W Street, SE. The house was constructed between 1855 and 1859 probably as a brick 2-1/2 story center hall structure. It was added to substantially in subsequent decades, likely after 1877 when Douglass purchased the property. Additions included a two-story kitchen wing, two one-story bays off the central parlor, and a second story wing over the original library. A series of outbuildings were also constructed on the grounds.

Douglass was born into slavery, but escaped to the north at the age of 21 and became an important leader in the Abolition movement. He was initially an agent of the Massachusetts Anti-Slavery Society and later became a leader in the Underground Railroad and the editor of the North Star, an abolitionist paper. Perched on a hill at the south end of the Anacostia Historic District, the house and grounds afford sweeping views of the Capitol City. These views include Poplar Point in the foreground. The property was identified as a National Historic Site and listed in the DC Inventory of Historic Sites in 1964. In 1966, it was listed in the National Register of Historic Places. It is recognized by the National Park Service as a cultural landscape.

Figure 3-27: Frederick Douglass National Historic Site (Cedar Hill)
Source: AECOM 2009

St. Elizabeths Hospital Historic District

St. Elizabeths Hospital was established in the 1850s as the Government Hospital for the Insane. Located on a portion of Barry Farm, the site affords sweeping views of the Anacostia River and the Monumental Core of Washington, DC. The original hospital building was designed in the Gothic Revival style by Thomas U. Walter. By the 1890s, the facility had grown to include a complex of residential, treatment and support structures. Around 1900, the facility was expanded substantially with a number of new buildings designed by the firm of Shepley, Ruttan and Coolidge in the popular Italianate style. The facility was one of the first mental hospitals designed based on the “Kirkbridge” or “Linear“ Plan. It served as a model for later institutions, both for its humane treatment of residents and its use of innovative techniques. The St. Elizabeths Hospital Historic District was listed in the National Register in 1979, identified as a National Historic Landmark in 1990, and listed in the DC Inventory of Historic Sites in 2005. A Cultural Landscape Report was undertaken by the General Services Administration in 2008 that documents character-defining features of the campus, including historic structures and objects, walls, walkways, lawns, woodlands, and a cemetery.

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Washington Navy Yard Historic District

Established in 1799 as the nation's first naval yard and home port, the Washington Navy Yard became the center for naval operations in the 19th century. After the War of 1812, the site became a testing ground for ordnance and other naval technology, and at the end of the 19th century the Navy Yard was expanded to the west to accommodate more gun and ordnance manufacture. In 1962 the Naval Gun Factory was closed; today the Navy Yard functions as a naval administrative center. The Washington Navy Yard Historic District was listed in the DC Inventory of Historic Sites in 1964, in the National Register in 1973, and as a National Historic Landmark in 1976. In 2008, the District was expanded to include the former Navy Yard Annex. The District includes several structures that are individually listed in the DC Inventory and the National Register including the Latrobe Gate, Quarters A, Quarters B, and the Commandant's Office.

Figure 3-28: Washington Navy Yard
Source: AECOM 2009

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Main Gate, Washington Navy Yard (Latrobe Gate)

The Washington Navy Yard's Main Gate, located at 8th and M Streets, SE was designed by Benjamin Henry Latrobe in 1804. It was one a few structures that survived the 1814 fire at the yard and today is the only extant structure attributed to Latrobe at the facility. Latrobe designed the gateway in the Greek Revival style, with north and south facades placed 40 feet apart and connected by a double Doric colonnade. The structure was capped by a hipped roof and flanked on the east and west sides by one-story brick guard houses. In the 1880s, the gate was incorporated into the first story of a three-story Victorian style building. At this time the guard houses were demolished. The gate is significant as one of the oldest surviving examples of Greek Revival architecture in the US, as an important example of the work of Latrobe, and as a key component in the overall design of the Washington Navy Yard. The Main Gate was listed in the DC Inventory of Historic Sites in 1964 and in the National Register of Historic Places in 1973. It is also a contributing element within the Washington Navy Yard Historic District.

Figure 3-29: Latrobe Gate at the Washington Navy Yard
Source: AECOM 2009

Quarters A, Washington Navy Yard (Commandant's House)

Quarters A, also known as the Tingey House or Commandant's House, was constructed in 1804 within the Washington Navy Yard. The two-and-one-half-story Flemish bond brick structure was originally designed in the late-Georgian style; however, over time the windows were lengthened and other Victorian features were added. The building has served as the residence for every Commandant of the Washington Navy Yard since its construction. Quarters A was listed in the DC Inventory of Historic Sites in 1964 and in the National Register of Historic Places in 1973. It is also a contributing element within the Washington Navy Yard Historic District.

Figure 3-30: Quarters A, Washington Navy Yard
Source: NPS, National Register of Historic Places

Quarters B, Washington Navy Yard (Second Officer's House)

Quarters B is located at the north portion of the Washington Navy Yard facing west on Charles Morris Avenue. The building was constructed in 1801 as a two-and-a-half-story Federal-style brick residence with a slate gabled roof. Over the next sixty years, the structure was expanded significantly. It is significant as the first permanent structure erected at the Washington Navy Yard, as well as the quarters of the second ranking officer at the Navy Yard. Quarters B was listed in the DC Inventory in 1964 and the National Register in 1973. In addition, it is a contributing element in the Navy Yard Historic District.

Figure 3-31: Quarters B, Washington Navy Yard
Source: NPS, National Register of Historic Places

Commandant's Office, Washington Navy Yard

Constructed between 1837 and 1838, the Commandant's Office at the Washington Navy Yard occupies a prominent location at the end of Dahlgren Avenue. The two-story brick structure is surrounded by two-story frame porches and is capped by a bellcast hipped roof. It is significant both for its design and for as an administrative center within the Navy Yard. The Commandant's Office was listed in the DC Inventory in 1964 and in the National Register in 1973. In addition, it is a contributing element in the Washington Navy Yard Historic District.

L'Enfant and McMillan Plans

Pierre Charles L'Enfant conceived his plan for the city in 1791. Considered to be one of the country's most important achievements in urban planning, the L'Enfant Plan is characterized by an orthogonal grid overlaid by a system of radiating avenues, vistas, and parks. More than a decade later, the McMillan Commission expanded upon the L'Enfant Plan, terminating several visual axes with monuments. One component of the McMillan Plan was a coordinated system of parks that would serve residential neighborhoods at the edges of the L'Enfant City. This plan included designs for Anacostia Park, as well as the Fort Circle Park System. The Plan of the city of Washington is listed in the National Register of Historic Places, as well as the DC Inventory of Historic Sites.

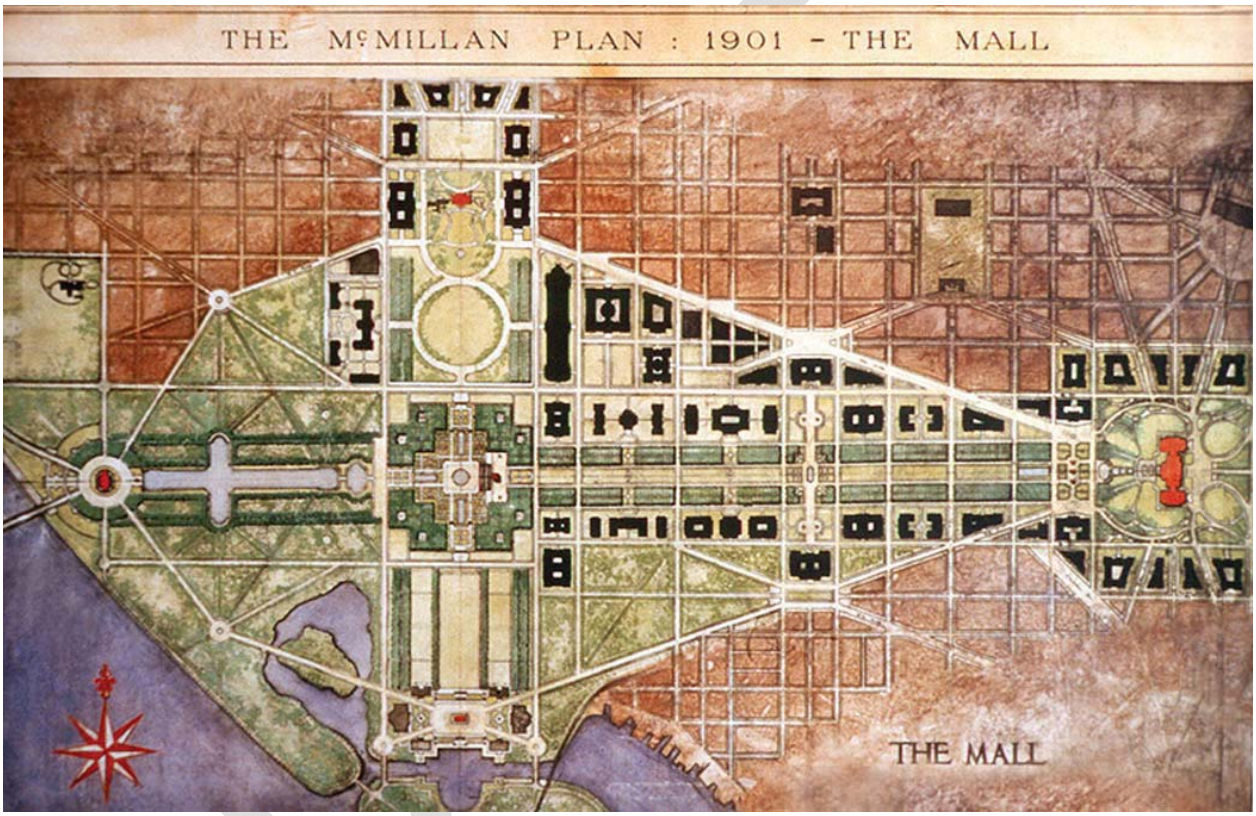

Figure 3-32: McMillan Plan for the City of Washington

National War College (Army War College)

The National War College is located on Greenleaf Point, a prominent site at the confluence of the Potomac and Anacostia Rivers. Part of L'Enfant's Original Appropriation #5, the property was the former site of the historic Washington Arsenal. It is also located within Fort McNair (see discussion of the Fort McNair Historic District below). The Arsenal, dating to the early 19th century, was torn down between 1901 and 1903 to make way for the National War College. The College was intended to centralize Army education and planning, and served as the center for joint Army-Navy training. It is an important representation of the rise of the US as a military and economic power. The College building, designed in the Beaux-Arts style by McKim, Meade, and White, was constructed of beige brick with granite trim and is capped by a domed central pavilion. The National War College was listed in the DC Inventory of Historic Sites in 1964 and in the National Register of Historic Places in 1972. It was also designated a National Historic Landmark in 1972. Poplar Point is included in views southeast from the Naval War College across the Anacostia River.

Figure 3-33: National War College
Source: NPS, National Register of Historic Places

Fort McNair Historic District (Washington Arsenal)

Located at 4th and P Street, SW, Fort McNair was established in 1791 on the banks of the Anacostia River and today is the third oldest US Army installation in continuous use. At the end of the 18th century, a one-gun battery and other defenses were installed in order to defend the fledgling city. In 1803, an arsenal building, called the Washington Arsenal, was constructed to store the munitions for Washington, DC. Between 1826 and 1831, the Federal Penitentiary for the District of Columbia was constructed just north of the Arsenal. The Arsenal itself was enlarged in the middle of the nineteenth century to allow for the construction of a hospital and the penitentiary was subsequently closed to accommodate the expansion of activities at the Arsenal. Between 1901 and 1903 the Arsenal was torn down and the installation was redesigned in the Beaux-Arts style by McKim, Meade, and White to house the Army War College. Since 1966, the facility has served as the headquarters of the Army's Military District of Washington. The complex was listed in the DC Inventory of Historic Sites in 1964, and determined eligible for listing in the National Register in 1978. In addition, it is located within L'Enfant's Original Appropriation #5. Poplar Point is included in views southeast from Fort McNair across the Anacostia River.

Figure 3-34: Gates to Fort McNair on P Street, SW
Source: AECOM 2009

Syphax School

The Syphax School was named for William Syphax, the first president of the *Board of Trustees of Colored Schools of Washington and Georgetown* (established 1868). William Syphax argued for equal educational standards and a unified school system in Washington, DC. Designed in the Colonial Revival style, the school is a two-and-one-half-story red brick structure with white terracotta trim. It is capped by a dentiled cornice and hipped roof. In 1941, the building was expanded significantly. The Syphax School was listed in the DC Inventory in 1999 and in the National Register in 2003.

Figure 3-35: Syphax School
Source: AECOM 2009

Capitol Hill Historic District

The largest residential historic District in the city, the Capitol Hill Historic District is also one of the oldest residential areas in the country. The District grew from two primary areas. At the west end of the District, adjacent to the Capitol complex, a boarding house community was built that generally served members of Congress. At the southeast end of the District, residences were constructed outside of the gates of the Washington Navy Yard to house Navy Yard employees. The District includes rowhouses constructed in a variety of materials and styles, from simple, unadorned frame to elaborately decorated brick residences. These diverse structures form a continuous building line along L'Enfant's grid of streets. In addition to residential buildings, the District includes historic commercial buildings and several L'Enfant Reservations. The Capitol Hill Historic District was preliminarily listed in the DC Inventory in 1964 and in the National Register in 1973. The District was expanded in 2002 and the period of significance was expanded in 2003.

Figure 3-36: Capitol Hill Historic District
Source: AECOM 2010

Thomas Law House (Honeymoon House)

The Thomas Law House was constructed as a speculative building when the seat of government was being moved from Philadelphia to Washington, DC. Located at 1252 6th Street, SW, the Federal-style brick residence is three stories high and distinguished by its simple proportions and symmetrical facades. The property was listed in the DC Inventory in 1964 and the National Register in 1973.

Duncanson Cranch House

Like the Thomas Law House, the Duncanson Cranch House was developed as a speculative property just before the turn of the 19th century. The three-story Flemish bond brick residence displays vernacular elements typical of early architecture in the Capitol City. Key details include recessed arches on the second story of the north façade, and a wooden cornice with a fluted frieze and paired modillions. The Duncanson Cranch House was listed in the DC Inventory in 1964 and the National Register in 1973.

Edward Simon Lewis House

Located at 456 N Street, SW, the Edward Simon Lewis House was constructed around 1817. The two-and-one-half-story, three-bay, Federal-style brick residence is one of only a few older buildings preserved during the urban renewal of Southwest, DC. It is representative of early 19th century vernacular building in Washington, DC. The Edward Simon Lewis House was listed in the DC Inventory in 1964 and the National Register in 1973.

Wheat Row

Wheat Row comprises four attached three-story brick residences. Located at 1315, 1317, 1319, and 1321 Fourth Street, SW, these structures were built at the end of the 18th century as speculative properties. The main bodies of the buildings are Flemish bond brick founded on stone basements. The main facades are symmetrical and characterized by stone sills, lintels, and keystones. Wheat Row was listed in the DC Inventory in 1964 and the National Register in 1973.

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WASA Pump Stations (S. Capitol Street and O Street)

Constructed c. 1915, the South Capitol Street Pump Station is a two-story, concrete and stucco building designed in the Art Deco style. It is located within the infrastructure for the South Capitol Street Bridge on the east side of the Anacostia River. The O Street Station is a two-story Beaux Arts-style brick structure located on the west side of the Anacostia River. These two stations, as well as the Engineer's House within Poplar Point, were determined eligible for listing in the National Register in 2006.

Figure 3-37: WASA Pump Station (South Capitol Street)
Source: AECOM 2010

Washington National Airport Terminal and South Hangar Line

Washington National Airport Terminal was designed in 1941 as part of a larger airport complex. The terminal is a four-story, arc shaped structure that blends elements of Art Deco/Streamlined Moderne, Colonial Revival, and Stripped Classical styles. Its stepped massing, banded window, modern materials, and horizontal orientation are all hallmarks of the Art Deco/Moderne movement. The building affords sweeping views of the DC skyline, as well as the runways that lie between the terminal and the river. These views are important to the modern notion of the "spectator airport". The South Hangar Line was constructed between 1941 and 1948, and represents an important technological advance in the construction of airplane hangars. The terminal and south hangar line were listed in the Virginia Landmarks Registry in 1995 and in the National Register in 1997.

Figure 3-38
Washington National Airport
Source: AECOM 2010

Additional Resources

Additional properties located within the APE that have been determined eligible, or may potentially be eligible, for listing in the National Register of Historic Places. These include: Carrollsburg Place; the Old National Capital Pump Station; the Metrobus Garage at 17 M Street, SE; the PEPCO Power Plant on Buzzard Point; and Bolling Air Force Base.

3.2.1.7 Cultural Landscapes

Anacostia Park

Just after the turn of the 20th century, the McMillan Commission developed a plan for Washington, DC that focused on park lands and public spaces. Frederick Law Olmsted, a member of the Commission, identified the need for a park for Anacostia residents, and called for reclamation of the Anacostia flats. Responding to this plan, the Army Corps of Engineers began filling the flats in 1909, bordering the new land by a seawall. The seawall provided the structure for the placement of fill materials behind the wall, resulting in fast land.

Anacostia Park was formally established in 1919, and its construction began four years later. With approximately 1,200 acres of open recreational area, few permanent structures, and a five-mile stretch of riverfront, the park became the District's largest park and catered to the needs of the adjacent urban neighborhoods, providing space for boating, fishing, and walking. The park was also the site of the Bonus Army encampment, Camp Marks, in 1932, and an incident at the Anacostia Park Pool associated with the desegregation of public facilities in Washington, DC.

Anacostia Park was listed in the DC Inventory of Historic Sites in 1964. It has been determined eligible for listing in the National Register of Historic Places and a draft National Register Nomination was prepared in 2008. It is eligible under Criterion A for its association with the Bonus March, as well as for its association with the desegregation of public facilities in Washington, DC. Further, it is considered eligible for listing under Criterion C for its design and construction, and under Criterion D for its potential to yield both prehistoric and historic information. One contributing building, the Engineer's House, and one contributing structure, the Anacostia seawall, are located within the project site. In addition, the site may contain prehistoric and historic archaeological materials.

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Figure 3-39
Anacostia Park
Source: AECOM 2009

Figure 3-40
Engineer's House
Source: AECOM 2009

Figure 3-41
Anacostia River Seawall
Source: AECOM 2010

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Suitland Parkway

Suitland Parkway extends more than nine miles from the Anacostia River adjacent to Poplar Point to Andrews Air Force Base in Maryland. Planned by the National Capitol Park and Planning Commission in 1937, it was not built until 1943-1944. One of a series of parkways constructed within the National Capitol area during this period, the plans for Suitland Parkway grew out of recommendations made by the McMillan Commission to develop a network of parks and parkways within the city. Its construction was also important from a military standpoint as it provided a swift connection between the Capital and a major US airfield. The Suitland Parkway was listed in the National Register of Historic Places in 1995.

Figure 3-42
Suitland Parkway at Firth Sterling Avenue
Source: AECOM 2009

Civil War Fort Sites and Fort Circle Park System

During the Civil War, Union forces built a ring of forts to defend the Capitol city, including Fort Stanton and Fort Dupont in proximity to Polar Point. At the end of the war in 1865, there were 68 enclosed forts and batteries, 98 unarmed batteries, three blockhouses, and more than 20 miles of trenches connecting the defenses. The majority of the defenses have not survived; however, the land that contained them now forms a 23-mile greenbelt that includes the Anacostia Highlands. The Civil War Fort Sites and Fort Circle Park System were listed in the DC Inventory in 1964 and in the National Register in 1974.

Figure 3-43
View from Fort Stanton With the US Capitol Building and Washington Monument in the Distance
Source: AECOM 2010

Frederick Douglass National Historic Site

For a discussion of the Frederick Douglass National Historic Site, please refer to Section 3.2.1.6, Historic Structures and Districts.

St. Elizabeths Historic District

For a discussion of the St. Elizabeths Historic District, please refer to Section 3.2.1.6, Historic Structures and Districts.

East and West Potomac Parks Historic District

An essential element of the McMillan Plan for the city, East and West Potomac Parks were established through the reclamation of the flats along the Potomac River. As designed, the core of West Potomac Park was intended to contain passive recreational uses, while active uses were envisioned for East Potomac Park. The golf course at East Potomac Park was constructed in two phases, between 1917 and 1922. Additional contributing features include a miniature golf course, a field house, and a swimming pool. The picnic area at Hains Point provides views across the river to Poplar Point.

Figure 3-44
East Potomac Park
Source: AECOM 2009

The George Washington Memorial Parkway

Beginning with the Capper-Cramton Act of 1930, and constructed in stages from 1930 to 1966, the George Washington Memorial Parkway (GWMP) extends from Memorial Bridge south to Mount Vernon, and north and west on the Potomac River to the Capital Beltway. The GWMP preserves a portion of the natural terrain that existed when the city of Washington was founded by George Washington, providing important views of the city and the Potomac River. Further, the parkway is associated with planning for the city of Washington that occurred over several centuries, from the founding of the city with the L'Enfant Plan, to the extension of the Permanent System of Highways Plan in 1898, and the McMillan Plan in 1902. Landscape architects Frederick Law Olmsted, Jr., Charles W. Eliot II, and Gilmore D. Clarke were involved in the planning and execution of the parkway over this period. Thus, its importance is derived from its landscape features, formal landscape design elements, its role in planning for the federal city, and as the first modern motor parkway. The parkway contains a wide range of wildlife habitats, recreation areas, historic sites, and memorials. The south section of the Parkway was listed in the Virginia Landmarks Register in 1981, and in the National Register in 1991. The north section of the GWMP was listed in the Virginia Landmarks Register in 1991, and in the National Register in 1995.

Figure 3-45
George Washington Memorial Parkway

Additional Resources

As documented within the St. Elizabeths EIS, the Anacostia Freeway may also be eligible for listing in the National Register of Historic Places.

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3.2.2 Visual Resources

3.2.2.1 Methodology

The existing visual resources of the areas that are in proximity to the project site were determined through field reconnaissance. These visual resources are categorized into a series of subareas or "visual character areas" in the description of the study area. The visual character areas include the neighborhoods, open space, and street corridors that surround Poplar Point, such as Historic Anacostia, St. Elizabeths, and Barry Farm, as well as those areas across both the Anacostia and Potomac Rivers that are visually connected to the site due to the open expanse of the river or topography. The visual character areas are identified in Figure 3-46.

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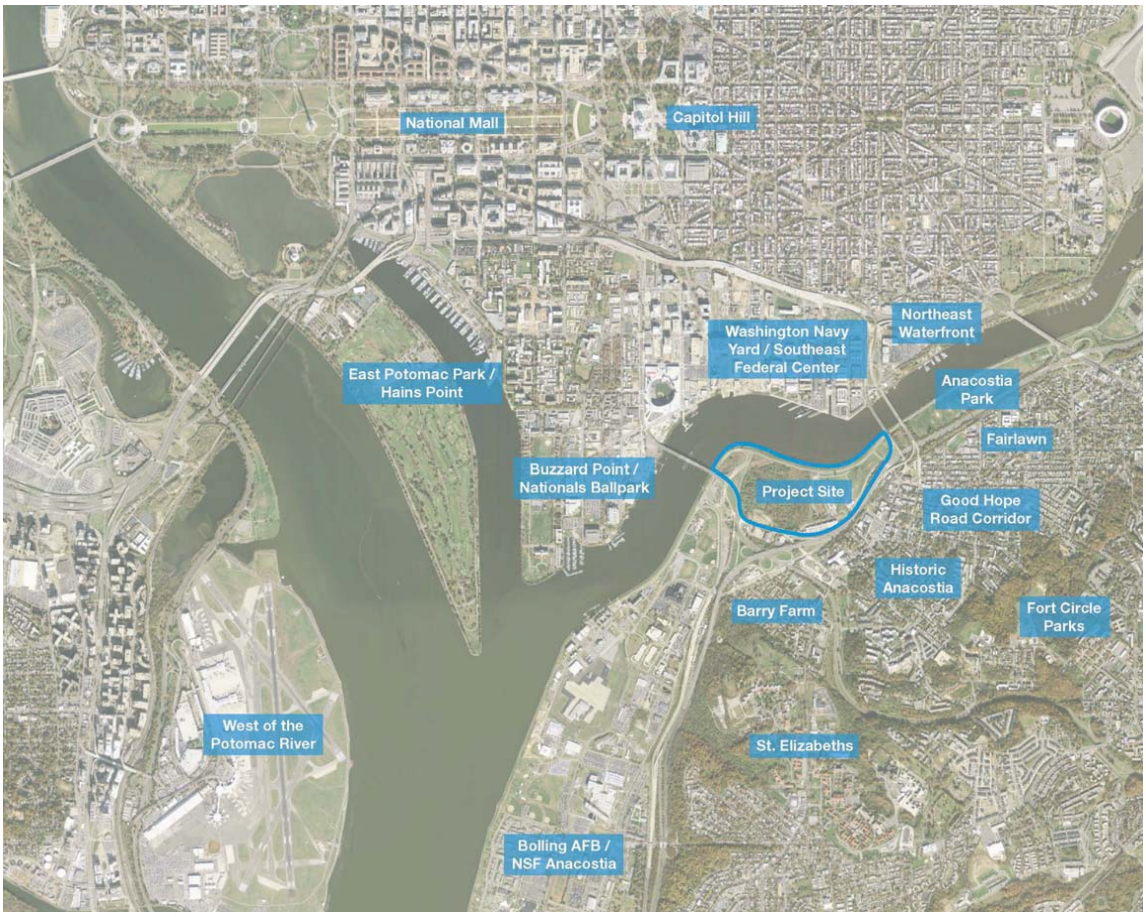

Figure 3-46: Visual Character Areas
Source: AECOM, 2010

3.2.2.2 Regulatory Environment

Policies and regulations apply to the Poplar Point development that guide building height, mass, scale, and aesthetics. The principal regulatory agencies involved with the proposed project and its potential effects on visual resources are the District of Columbia Office of Planning and the National Capital Planning Commission. Excerpts from appropriate laws, regulations, and planning documents that are potentially applicable to the proposed action are presented below.

Comprehensive Plan for the National Capital: Federal Elements: The Comprehensive Plan for the National Capital: Federal Elements includes policies intended to preserve the physical appearance and design of the National Capital. The following policies from the Preservation and Historic Features Element are particularly relevant to the proposed development at Poplar Point:

- Preserve the horizontal character of the national capital through enforcement of the 1910 Height of Buildings Act (36 Stat. 452; D.C. Code, sec. 5-401 et seq.);
- Protect the skyline formed by the region's natural features, particularly the topographic bowl around central Washington, as well as historically significant built features, from intrusions such as antenna towers, water towers, and rooftop equipment;
- Protect and enhance the vistas and views, both natural and designed, that are an integral part of the national capital's image;
- Design exterior lighting to contribute to the capital's nighttime image and suggest an appropriate hierarchy among the symbols and features of the nation's capital;
- Protect views outward from the L'Enfant City and views inward from vantage points along the rim of the topographic bowl from inappropriate intrusions. Open space should be preserved to allow for public use and enjoyment of these views. (Examples include the west campus of St. Elizabeths Hospital and other parts of the Anacostia ridge, the Arlington ridge, and the escarpment north of Florida Avenue, NW.);
- Protect and enhance the later extensions of major L'Enfant rights-of-way and associated reservations throughout the District of Columbia as part of the open space framework of the national capital;
- Protect the character of the historic parkways in the region through the careful planning of public and private development within their viewsheds.

Comprehensive Plan for the National Capital: District Elements: The District Elements of the Comprehensive Plan also includes policies intended to preserve and enhance visual quality and key viewsheds within the National Capital region. Relevant policies include the following:

- ***Policy UD-1.1.4: Height Act of 1910:*** Protect the civic and historical character of the city, particularly the "horizontal" urban quality of Central Washington, by limiting building heights in accordance with the Height Act of 1910.
- ***Policy UD-1.2.2: Protecting the Topographic "Bowl":*** Consistent with the Federal Elements of the Comprehensive Plan, maintain the prominence of the topographic bowl formed by lowland

and rim features of the L'Enfant city. This should include preserving the green setting of the Anacostia hills and maintaining the visual prominence of the Florida Avenue escarpment.

- ***Policy UD-1.2.4: View Protection:*** Recognize and protect major views in the city, particularly characteristic views of city landmarks, and views from important vantage points. Recognize the importance of views to the quality of life in the city and the identity of Washington and its neighborhoods.
- ***Policy HP-2.3.2: Historic Image of the City:*** Protect and enhance the views and vistas, both natural and designed, which are an integral part of Washington's historic image. Preserve thehistoric skyline formed by the region's natural features and topography and its historically significant buildings and monuments from intrusions such as communication antennas and water towers. Preserve the horizontal character of the national capital through enforcement of the 1910 Height of Buildings Act.

Building Height Act of 1910: The Building Height Act of 1910 regulates the scale of buildings by establishing a maximum building height that is determined by adjacent street width. The federally prescribed height limitation is intended to enhance the architectural character of the capital city, and its nationally significant public buildings and historic monuments. The height limitation for the nation's Capital is one of the important aesthetic features that distinguishes Washington, DC from other major cities. Under the Act, the height limitation for new buildings within Poplar Point would be 130 feet.

3.2.2.3 Historic Urban Design Framework

The physical structure and design of Washington, DC is based upon the L'Enfant Plan of 1791. The Plan has been distinguished as one of the most important achievements in urban planning. The new city was sited within a topographic bowl, formed by a ridgeline that surrounds low-lying lands and the adjacent rivers. The plan incorporates a coordinated system of radiating avenues, vistas, and parks overlaid on an orthogonal grid of streets. The diagonal avenues provide physical as well as visual connections between prominent features throughout the District of Columbia, ultimately terminating at the ridgeline that encircled the new city. The main axis for the street system includes North and South Capitol Streets, which run perpendicular to East Capitol Street and the National Mall. All of these axes intersect at the US Capitol Building.

While the L'Enfant Plan encompassed the area west of the Anacostia River, it did not address development east of the Anacostia. At the turn of the century, the McMillan Commission envisioned a coordinated system of parks that would serve residential neighborhoods at the edges of the L'Enfant City. This resulted in the establishment of Anacostia Park on the eastern bank of the Anacostia River. Looking beyond L'Enfant's Plan area, the McMillan Commission also considered the opportunities presented by the Civil War Forts that ran along the city's escarpment. The McMillan Commission envisioned Fort Circle Drive as a ring of parkland formed by the forts and connected parkland. Although Fort Circle Drive was never completed, the ring of parkland is nevertheless an important defining element of the Capital City.

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3.2.2.4 Visual Environment

Poplar Point Site

The existing visual environment of Poplar Point can be characterized as predominantly open space on the eastern portion of the site with varying degrees of development on the western portion. The eastern boundary is formed by the 11th Street Bridge and its associated interchanges. The eastern portion of the site is also home to the National Park Service Complex, which houses: the US Park Police Aviation Facility; the US Park Police Anacostia Operation Facility; and the National Park Service, National Capital Parks-East Headquarters. Contained within the western part of the site are the former DC Lanham Tree Nursery and the Architect of the Capitol Nursery. Further west is transportation infrastructure that includes the Frederick Douglass Bridge, and Suitland Parkway interchange. The southern boundary of the site is formed by the Anacostia Freeway (Interstate 295), which physically and visually disconnects the site from Historic Anacostia.

Figure 3-47
View north from Poplar Point towards the US Capitol Building
Source: AECOM 2009

The western portion of Poplar Point is comprised of a complex of greenhouses, formerly used by DC Lanham and the Architect of the Capitol. They are a single story in height and long and narrow in mass.

The buildings were constructed in the 1920s and occupied until 1993. Since then, they have fallen into a state of disrepair. The greenhouse area has been fenced off and invasive plant species have grown such that they obscure views of the greenhouse buildings. A large parking lot for buses can also be found west of the greenhouses, in proximity to the Frederick Douglass Bridge. The northbound approach to the Frederick Douglass Bridge screens the parking area from view when looking west. Between the bridge infrastructure and the greenhouses is a large tract of grassy open space. Poplar Point's prominent location along the Anacostia River affords it impressive views of the Capitol City. When looking north from western portion of the site, the viewshed includes the U.S. Capitol Building along New Jersey Avenue, a direct line-of-site towards the Washington Monument northwest of the site, the National's Ballpark, the Southeast Federal Center, and the Washington Navy Yard. Looking west from the site, Hains Point, Bolling Air Force Base, and Buzzard Point are visible. Looking south, most of views are obscured by the vegetation and the Anacostia Freeway.

Figure 3-48
The east end of Poplar Point
Source: AECOM 2009

The National Park Service Complex lies within the eastern portion of the project site. The buildings range from one to three stories and are connected to each other through shared surface parking lots and sidewalks. The buildings are uniformly block-like in design and lack distinguishing architectural characteristics. A seawall runs along the northern end of this section of the site and follows Anacostia Drive, SE westward to its terminus at Good Hope Road. West of the Park Service Complex is a large tract of open space with a small grove of trees near the helipad. Significant views include the Southeast Federal Center and the Navy Yard north of the project site across the Anacostia River. Views to the west and obscured by the thick vegetation, while views to the east are partially obscured by the 11th Street Bridges. Views looking directly south from the NPS complex are obscured by the WMATA parking garage.

Figure 3-49
NPS and US Park Police Buildings at the West End of Poplar Point as Viewed from the WMATA Garage
Source: AECOM 2009

Visual Character Areas

The visual character areas surrounding the project site that could potentially be affected by the development at Poplar Point were determined through field reconnaissance. These areas are discussed below:

Historic Anacostia: The area known as Historic Anacostia is bounded by the Howard Road and the Anacostia Freeway to the north, Fort Stanton Park to the south, the Suitland Parkway to the west and Good Hope Road to the east. Two distinct visual areas exist within Historic Anacostia: the Martin Luther King, Jr. Avenue commercial corridor and the surrounding residential areas. The Martin Luther King, Jr. Corridor serves as one of the main commercial corridors in Anacostia. The wide, four-lane roadway is lined on both sides by mixed-use buildings constructed in a variety of architectural styles. The majority are small older two-story structures, however several larger, modern buildings are interspersed along the Avenue. Indicative of the area's urban setting, many of the buildings have no setback from the curb and are spaced close together. Views along Martin Luther King, Jr. Avenue towards the project site are largely obscured by the Anacostia Freeway, although the site is partially visible from the roadway's intersection with W Street.

Figure 3-50
Martin Luther King Jr. Avenue Looking Northeast
Source: AECOM 2009

The area south and east of Martin Luther King, Jr. Avenue is largely residential. Developed in the 19th century as worker housing for employees at the Washington Navy Yard, this portion of Historic Anacostia is dominated by detached single-family row houses displaying a range of architectural styles. Many of the homes are spaced very close together with minimal setback from the sidewalk. The streets are largely tree-lined, framing views along these corridors. Elevations rise as you move south up the Anacostia escarpment; views of the Monumental Core are provided along Howard Road, Maple View Place, and Talbert Street at these higher elevations. The Frederick Douglass National Historic Site is located on a prominent hill in the center of the community. This location provides panoramic views of downtown Washington, DC, as well as the Anacostia River and Poplar Point.

Figure 3-51
Historic Anacostia
Source: AECOM 2009

Good Hope Road Corridor: Good Hope Road, which runs perpendicular to Martin Luther King, Jr. Avenue and extends south to Fort Stanton Park, is comprised of mainly one- and two-story commercial buildings. These buildings tend to front the street with little to no setback and are visually connected by brick sidewalks that run from Martin Luther King, Jr. Avenue to Minnesota Avenue on both sides of the road. Views looking north and south along Good Hope Road are tightly framed by these buildings. A small triangular park is located at the intersection of Good Hope Road and Minnesota Avenue. Surface parking lots are also interspersed along the corridor. Views towards the site at the northern end of the corridor are obscured by the Anacostia Freeway. Moving south on the right-of-way, however, the topography rises affording views of downtown Washington, DC.

Figure 3-52
View North on Good Hope Road
Source: AECOM 2010

Anacostia Park: Anacostia Park forms a largely uninterrupted greensward from the Maryland line south and west to the Frederick Douglass Bridge along the Anacostia River. The west end of the park, closest to Poplar Point, contains open fields bordered to the east, west, and south by bands of trees. The Anacostia Fieldhouse, a multi-story frame and brick structure capped by a cupola, as well as a pool, tennis courts, playground, and large surface parking lot are located within this area, between the 11th Street and Sousa Bridges. Anacostia Drive, a narrow two-lane right-of-way, runs along the edge of the park by the water. Between the Sousa Bridge and the CSX Railroad Bridge, Anacostia Drive forms a loop, encircling a series of basketball courts, a roller rink, and a surface parking area. The roller rink is a large, modern open-air structure capped by a flat roof. It rests within an open, grassy landscape dotted by trees.

Figure 3-53
The Anacostia Fieldhouse within Anacostia Park
Source: AECOM 2010

Fairlawn: The Fairlawn neighborhood is located southeast of the site, north of Good Hope Road. The area is bordered by Good Hope Road on the west, Pennsylvania Avenue on the east, the Fort Circle Parks to the south, and the Anacostia Freeway to the north. Fairlawn is largely residential and dominated by single-family detached homes and attached townhouses set on small lots. There are also a number of low-scale apartment buildings. The major corridor through Fairlawn is Minnesota Avenue, a broad, four-lane thoroughfare that connects Anacostia to Prince Georges County. Directly north of Fairlawn is Anacostia Park. Views towards the project site from Fairlawn are obscured by the Anacostia Freeway.

Figure 3-54
View along Minnesota Avenue in the Fairlawn Neighborhood
Source: AECOM 2010

Fort Circle Parks: The Fort Circle Parks include land that was utilized for Union fortifications during the Civil War. In the mid-20th century, a plan to reuse the forts was developed by the federal government. The plan called for the creation of park system that connected the forts while creating a ring of green space around the District. Two of the forts in proximity to Poplar Point are Fort Stanton and Fort Dupont. Fort Stanton is located southwest of the site at the top of the Anacostia escarpment. It is primarily wooded, however, there is an open grassy area along Morris Road. The original Fort has been removed, however, the vantage point from where the fort once stood affords a panoramic view of downtown Washington, DC, including Poplar Point. Fort Dupont is located further east than Fort Stanton, near the intersection of Massachusetts Avenue and Alabama Avenue. Similar to Fort Stanton, the original fort structure does not exist; however, the area where it once stood has been converted to a picnic area. Looking towards Poplar Point, the thick vegetation of the park has obscured any potential views.

Figure 3-55
Fort Dupont
Source: AECOM 2010

Bolling Air Force Base/Naval Support Facility Anacostia: Directly adjacent to Poplar Point to the west are Bolling AFB and NSF Anacostia. These bases are bordered to the north by the Frederick Douglass Bridge, to the west by the expanse of the Potomac River, and to the east by the Anacostia Freeway. The Blue Plains Wastewater Treatment Plant lies south of the bases. Bolling AFB features historic two-story brick homes near the base's eastern perimeter and modern, two-story family housing occupies a large area of land near the western shoreline. Buildings in the interior of the base also vary in size and age from smaller one- and two-story historic buildings to two- to four-story infill buildings with the exception of one large, nine-story barracks building. NSF Anacostia is generally characterized by large, interspersed buildings separated by wide open spaces with small landscaped areas and large surface parking lots. Bolling AFB and NSF Anacostia afford significant panoramic views of Buzzard Point, Fort McNair, East Potomac Park, and Hains Point to the north and west, with the Washington Monument in the distance. Views of the U.S. Capitol Building up South Capitol Street are tightly framed by buildings across the river. Views directly west from the site include the Ronald Reagan Washington National Airport. Poplar Point can be seen from the northern part of NSF Anacostia, however, it is partially obscured by the Frederick Douglass Bridge and associated infrastructure.

Figure 3-56
View of NSF Anacostia from Frederick Douglass Bridge
Source: AECOM 2009

St. Elizabeths Campus: The St. Elizabeths Campus is located southwest of Poplar Point on an upland plateau. The western portion of the campus that abuts I-295 is densely wooded; the topography drops dramatically at the western edge of the property. East of this, an open grassy lawn dotted by trees forms the center of the west campus. The four-story Victorian hospital building sits in the center of this area and is surrounded by brick and frame structures in a variety of architectural styles and heights. A brick and stone wall with entry gates borders the west campus along Martin Luther King, Jr. Avenue. The northern edge of the west campus, where the topography begins to drop, affords panoramic views of the city, including the Washington Monument and the U.S. Capitol Building. The east campus is dominated by red brick structures capped by red tile roofs in a variety of styles and heights. They are encircled by a high iron fence. A dense tree line divides the east campus buildings from Suitland Parkway.

Figure 3-57
View of St. Elizabeths Gate from Martin Luther King Jr. Avenue
Source: AECOM 2009

Barry Farm: Southwest of the project site lies the Barry Farm neighborhood. Dating from the 1950s, Barry Farm is comprised of a series of two-story multi-family residential structures. The buildings are clad in stucco and each contain between four and eight residential units. The structures are arranged in a rectilinear fashion along tree-lined streets, and many are bounded by chain link fences. A large recreational center is located on the north side of the development, near Martin Luther King, Jr. Avenue. The development is physically and visually divided from surrounding areas by highway infrastructure, including Anacostia Freeway to the north and west, and Suitland Parkway to the east. As such, views north towards the city are obscured.

Figure 3-58
View of a typical Barry Farm Housing Unit
Source: AECOM 2010

Buzzard Point/Nationals Ballpark: Northwest of Poplar Point along the Anacostia River is Buzzard Point. Bounded on three sides by the Potomac and Anacostia Rivers and to the north by M Street, SW, this area includes the Florida Rock property, the massive PEPCO Power Plant, the James Creek Marina, and Fort McNair. Fort McNair, forming the western shoreline of Buzzard Point, is generally comprised of one to three-story buildings clustered at the edges of the property. An expansive lawn oriented north-south runs through the center of the campus, broken at its mid-point by several buildings and tennis courts. The southern end of the Fort is anchored by the monumental Army War College building. North and east of the Fort, the James Creek Marina and several mid-rise block-shaped buildings line the waterfront. Further east, the Florida Rock property is industrial in nature and dominated visually by large piles of gravel, heavy machinery and trucks, paved areas and limited structures. North and east of Florida Rock, beyond the Frederick Douglass Bridge, the massive Nationals Ballpark is a dominant visual feature on the waterfront, affording unencumbered, panoramic views of Poplar Point. Views from the southern tip of Buzzard Point (along with views from north and west of there) towards the site are partially obscured by the Frederick Douglass Bridge.

Figure 3-59
View north from Poplar Point towards the Nationals Ballpark
Source: AECOM 2009

Washington Navy Yard/Southeast Federal Center: Directly north of the site and across the Anacostia River is the Washington Navy Yard and Southeast Federal Center (SEFC). Buildings within this area range from two to ten stories. The Washington Navy Yard is comprised of a combination of 19th and early 20th century industrial structures, several historic residences, a series of modern office buildings and surface and structured parking. The predominant building material is brick, and a brick wall surrounds the property on the north and east sides. The USS Barry, a Navy destroyer, is a dominant visual element along waterfront. The Southeast Federal Center, located just west of the Washington Navy Yard, is undergoing redevelopment. Like the Navy Yard, the dominant building material is brick; however, the Southeast Federal Center contains a larger proportion of modern structures. M Street, along the northern border of the Southeast Federal Center and Navy Yard, is bordered by a series of modern mid-rise office buildings. The Department of Transportation Headquarters, a mid-rise brick and glass office building, is a dominant element in views along M Street as well as views from across the Anacostia River.

Figure 3-60
10th Street Within the Washington Navy Yard
Source: AECOM 2009

Northeast Waterfront: The Northeast Waterfront is located east of the Washington Navy Yard and includes the infrastructure for the 11th Street Bridges. Two modern four-story buildings are located at the corner of M and 12th Streets, SE, while a series of boathouses and marinas line the waterfront. The Southeast Freeway borders the area to the north, physically and visually segregating it from Capitol Hill. The Sousa Bridge is a dominant visual element at the east end of this area. Poplar Point is visible from the boathouses along the waterfront, however as you move east the site is less distinguishable, due in part to the 11th Street Bridges. Looking north and east from Poplar Point, views of the waterfront are partially obscured by the 11th Street Bridges.

Figure 3-61
View of the Northeast Waterfront (Boathouse Row) from Poplar Point
Source: AECOM 2009

East Potomac Park/Hains Point: East Potomac Park and Hains Point lie northwest of Poplar Point across the Anacostia River. The area extends from the Tidal Basin and National Mall southward towards the confluence of the Anacostia and Potomac Rivers. The topography of the park is flat, and the landscape is largely open grass punctuated by trees. Trees border the waterfront on both the east and west sides of the park. The center of the park is dominated by a golf course with tree-lined fairways. The park also includes a mini golf course, tennis courts, and a pool. A picnic area and small one-story visitor center are at the southern end of the park on the point; however, the visitor center is largely screened by vegetation. Views from Hains Point towards the project site are partially obscured by NSF Anacostia and the Frederick Douglass Bridge.

Figure 3-62
East Potomac Park
Source: AECOM 2009

National Mall: Anchored in the east by the US Capitol Building and the west by the Lincoln Memorial, the National Mall is an expansive greensward that runs through the center of Washington, DC. A key element in both the L'Enfant and McMillan Plans for the city, the Mall is characterized by a central tree-lined lawn with museums located along the edges of the greensward on the eastern end. The Washington Monument sits on a slight rise near the center of the National Mall, on axis with the US Capitol Building and the Lincoln Memorial. The landscaped gardens of the Ellipse and the White House Grounds lie north of the Washington Monument.

Figure 3-63
National Mall
Source: EDAW 2008

Capitol Hill: Capitol Hill rises topographically north of the Washington Navy Yard and Southeast Federal Center. The street patterns reflect L'Enfant's plan for the city, with a north-south grid punctuated by diagonal avenues. The area dominated by row-houses of varying heights, materials, and styles constructed over the last two centuries. Pennsylvania Avenue and 8th Street, SE are major commercial corridors within the district. Street trees line the roadways, framing views along the corridors. The area is bounded to the south by the elevated Southeast Freeway, a dominant visual element in this portion of DC. The US Capitol Building, sited at the peak of the hill, is visible along South Capitol Street, as well as from points across the Anacostia River, including Poplar Point, the Frederick Douglass National Historic Site (Cedar Hill), and Fort Stanton. Views towards Poplar Point from Capitol Hill are largely obscured by the street trees, the Washington Navy Yard, and the Southeast Freeway.

Figure 3-64
Capitol Hill
Source: AECOM 2010

West of the Potomac River: The area west of the Potomac River, in Arlington, Virginia, varies widely in its visual character. It is comprised of low-scale residential areas, high-rise commercial and residential structures, roadway infrastructure, open space, and a commercial airport. Views that include the project site are limited to points along the Potomac River, and topographic highpoints, including the Iwo Jima Memorial and Arlington House.

Figure 3-65
Looking south towards Washington National Airport and Crystal City from Gravelly Point
Source: AECOM 2010

Night Lighting

Outdoor lighting is provided in Washington, DC for visibility and security on roadways, parking lots, pedestrian pathways, and buildings. The degree of a visual lighting impact is affected by a lighting source's contrast with the ambient lighting background, as seen by the viewer. Sources of light on the project site are minimal. In views from the west side of the Anacostia River, the Anacostia Freeway, which borders the project site to the south, is dimly lit. Little light is also emitted from Historic Anacostia and the Anacostia Highlands. The Frederick Douglass Bridge is a prominent feature in night views to the south from the west bank of the Anacostia River, as it is brightly lit with a series of blue lights. Portions of Bolling/Anacostia are also dominant light sources, as is an apartment complex southeast of Poplar Point off of Good Hope Road, and National Airport across the Potomac River. In night views from the east side of the Potomac River, the Nationals Ballpark is the predominant light source, although only when in operation. Portions of the waterfront at the Washington Navy Yard are also brightly lit.

3.3 Natural Resources

3.3.1 Geophysical Resources

3.3.1.1 Geology

The project site falls within the Atlantic Coastal Plain Physiographic Province. The western border of the Atlantic Coastal Plain is a geographic Fall Line that spans a majority of the east coast and delineates the crystalline (Piedmont Physiological Province) and sedimentary (Atlantic Coastal Plain) rock formation regions present there. The project site is southeast of the geological Fall Line. The Atlantic Coastal Plain's geology is characterized by unconsolidated and semi-consolidated deposits ranging in geological age from the Cretaceous to Quaternary periods.

The unconsolidated materials on-site are classified as Alluvium and Artificial Fill (Qal). Alluvium is characterized by level or minimally sloping planes of sedimentary deposits of clay, silt, sand, gravel, and even large fragments of rock. These areas are generally associated with past or present drainage courses. No significant geological features exist on site. Bedrock was not encountered in any soil borings taken in 2002. (Ridolfi, Site Characterization Report: Poplar Point, Washington, DC, 2003)

3.3.1.3 Topography

The Poplar Point site is generally flat, with gently sloping terrain towards the Anacostia River, which comprises the site's northern border. Ground surface elevations are relatively consistent throughout the site ranging from a high point of 13 feet above mean sea level (msl) to a low point of one foot above msl. The highest recorded elevations were found in the southwest corner of the site and ranged from 9 to 13 feet above msl. The lowest recorded elevations were found in the central portion of the site within Wetland C and ranged from 1 foot to 5 feet above msl. The eastern portion of the site had similar characteristics as the southwest corner with elevations ranging between 5 and 12 feet above msl. The elevation near the southern greenhouses was approximately 6 feet above msl. (Ridolfi, Site Characterization Report: Poplar Point, Washington, DC, 2003)

The site's natural topography was altered by the dredging and filling of the Anacostia and Potomac Rivers. In order to widen the navigable channels of the rivers and to fill in the mudflats at Poplar Point, the riverbed was dredged and the dredging spoils most likely placed on the Poplar Point site due to its proximity to the rivers' junction. Prior to the dredging, which occurred between 1910 and 1920, much of the site consisted of tidally influenced mudflats periodically submerged under 3 to 5 feet of water. This historic condition was confirmed through an examination of historic nautical maps dating back to the late 1800s. In addition to the introduction of dredging spoils, grading activities have also played a large role in shaping the site's topography.

3.3.1.3 Surface Soils

The Poplar Point site contains several different soil types. In general, the surface soils consists of fill material and dredge spoils comprised of silt, clay, gravel, and sand with occasional solid materials interspersed such as brick, glass, wood and concrete fragments. The surface soil's depth varies

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throughout the site, ranging from 0.5 to 20 feet. Surface soil depth, in general, follows the topographic contours of the site with thickness ranging from 4 to 20 feet in the southwest corner of the site and 2 to 3.5 feet in Wetland 1. Along the eastern side of the site, soil boring tests revealed surface soil thickness ranging between 10 to 13 feet. Near the southern greenhouses, soil thickness ranged between 0.5 and 4 feet thick. (Ridolfi, Site Characterization Report: Poplar Point, Washington, DC, 2003)

In order to investigate the specific classifications of the site's surface soils, the U.S. Geologic Survey (USGS) was consulted. The following soils classifications exist on-site: Udorthents; Udorthents,smoothed; Udorthents,sandy; Urban land; and Melvin silt loam.

- Udorthents are comprised primarily of heterogeneous earth fill deposited on somewhat excessively or poorly drained soils. Composition of these soil types is approximately 80% earthy material and 20% other materials that are generally man-made. The earthen fill material is comprised of organic and inorganic waste material along with various soils. Thickness varies by location but is typically more than 20 inches. Permeability, available water capacity, runoff and internal drainage are also variable. Due to these physical properties, most areas of Udorthents are subject to subsidence and have poor suitability for use as building sites. The site contains three distinct Udorthernt classifications: Udorthents (U1); Udorthents, sandy (U3); and Udorthents, smoothed (U6). The various types of Udorthents comprise a majority of the site's soil content. Udorthents (U1) is found in the central portion of the site and along the Anacostia River banks. Udorthents, sandy (U3) is found in the eastern portion of the site near the 11th Street Bridges. Udorthents, smoothed (U6) is found mostly along the southern edge of the site with a large concentration adjacent on the west to the Melvin silt loam soil group.

- Urban land (Ub) is characterized as land with more than 80% of its surface covered by buildings, concrete, asphalt, or other impervious surfaces. It also includes lands containing miscellaneous fill over streams, swamps, floodplains, and tidal marshes. This soil can be found in the developed areas of the site including the National Park Services Building, WMATA Parking Garage, and along Howard Road.

- Melvin silt loam (Mp) soils are characterized as nearly level and very poorly drained. Permeability of this soil is moderate with slow runoff and little to no hazard of erosion. The soil is located primarily along the river and is subject to flooding. Due to the soil's wetness and the hazard of flooding, it has poor potential for building sites, planting, lawns, and vegetable gardens. It has fair to poor potential for most recreational uses. This soil can be found in the western-central portion of the site near the wetlands.

According to the USGS, the Melvin silt loam soils are considered "farmland of statewide significance." Due to this designation, portions of the site will be subject to the Farmland Protection Policy Act (FPPA) as amended in 1984 and 1994. The FPPA was proposed by the US Department of Agriculture "to minimize the extent to which federal programs contribute to unnecessary and irreversible conversion of farmland to nonagricultural uses, and to assure that federal programs are administered in a manner

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that, to the extent practicable, will be compatible with State, unit of government, and private programs and policies to protect farmland."

The Melvin silt loam is also considered to be hydric soil. Hydric soils are defined as soils sufficiently saturated during the growing season to support the growth and reproduction of hydrophytic vegetation. These soils can generally be found in or near the wetlands, as is the case with Poplar Point.

3.3.1.4 Subsurface Soils

A geophysical survey was conducted to provide insight on the subsurface soil conditions of the site. As previously stated, the uppermost layer consists primarily of fill and dredging spoils that vary in thickness from 6 inches to 20 feet. Under this layer of surface fill, the survey identified five distinct subsurface soil groups: Holocene Clay, Upper Permeable Unit, Middle Permeable Unit, Lower Permeable Unit, and Underlying Cretaceous Clay. (Ridolfi, Site Characterization Report: Poplar Point, Washington, DC, 2003)

- Holocene Clay was encountered throughout most of the site at a depth of approximately 20 feet. The clay is characterized as soft gray silty clay with occasional organics and pockets of peat. The clay displays a transgressive character evident in the fine-grain sediments organized in an aggradational pattern. This type of occurrence is caused by a major rise in base level, which occurred in the Holocene epoch. It is likely that areas where no Holocene Clay was encountered represent the former shoreline of Poplar Point. These areas are primarily concentrated in the southwestern portion of the site and are consistent with historic maps of the site. The thickness of the Holocene Clay varies between 35 to 42 feet below msl in the northern, central, and western portions of the site. This compares to elevations ranging between 20 feet below msl to 1 foot above msl in the southwestern and south-central portions of the site. Due to the varying depths of the Holocene Clay, it is believed that a channel and terrace feature was present prior to the placement of fill with the terrace located in the southwestern and south-central portions of the site. (Ridolfi, Site Characterization Report: Poplar Point, Washington, DC, 2003)

- The Upper Permeable Unit was encountered at some soil borings underneath the surface fill and above the Holocene clay. The unit is characterized as a coarse to fine-grained wet sand and is similar to the surface fill in composition. The similarities are so striking that it is reasonable to believe that the upper permeable unit is fill material deposited in the early stages of dredging. The major distinguishing characteristics between the two soils are: the upper permeable unit contained no man-made materials and is comprised of pockets of mottled clay. Surface soils associated with this unit were generally fine sand and consistent over large area. There also appears to be two distinct bodies of this unit found north of the terrace as it was encountered near Wetland 1 and between the southern and northern greenhouses. (Ridolfi, Site Characterization Report: Poplar Point, Washington, DC, 2003)

- The Middle Permeable Unit was encountered at several borings located south of the northern extent of the former terrace and below the Holocene clay. This unit is characterized as a wet, brown, fine sand and sandy, rounded gravel. It ranges in depth to 25 feet at its lowest point and

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appears to also be situated on top of the former terrace. The edge of the terrace is determined by the termination of this unit. (Ridolfi, Site Characterization Report: Poplar Point, Washington, DC, 2003)

- The Lower Permeable Unit is similar in character to the middle permeable unit as it is a wet, fine sand with sandy, rounded gravel. It was encountered north of the terrace and below the Holocene clay. Despite their similarities, the lower permeable unit and middle permeable unit were not connected at any boring. The lower permeable unit was encountered at depths varying from 37 feet to 40 feet below msl and extended to depths ranging from 46 to 51 feet below msl. In relation to the other soil units, the top of the lower permeable unit is approximately 12 to 15 feet below the middle permeable unit. (Ridolfi, Site Characterization Report: Poplar Point, Washington, DC, 2003)
- The Cretaceous Clay is the lowermost subsurface soil unit encountered during the study. It is characterized as a hard, silty, orange and gray mottled clay with sand and gravel. The clay was encountered below and in direct contact with the middle and lower permeable units and in one location in contact with the Holocene clay. (Ridolfi, Site Characterization Report: Poplar Point, Washington, DC, 2003)

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3.3.2 Water Resources

3.3.2.1 Surface Water

Poplar Point is located adjacent to the Anacostia River, which is a jurisdictional Water of the United States and subject to the regulatory control of the US Army Corps of Engineers (USACE). The Anacostia River joins the Potomac River approximately one mile downstream from the project site and the Potomac eventually discharges to the Chesapeake Bay in southeastern Virginia, approximately 110 miles downstream from this confluence. The Anacostia River and its tributaries are considered part of the Chesapeake Bay watershed. The District of Columbia, Pennsylvania, Maryland, and Virginia, are subject to the 1983 Chesapeake Bay Agreement. While the District of Columbia does not have regulations specifically designated as Chesapeake Bay Program regulations, its ordinances for erosion, sediment control, and stormwater management support the mission of the Chesapeake Bay Program by protecting the Potomac and Anacostia Rivers from surface runoff.

The Anacostia's watershed includes the District of Columbia and parts of Maryland, totaling approximately 176 square miles of predominantly urban developed land. The geographic distribution of the watershed is comprised of three jurisdictions. The majority of the area is within Prince Georges County, MD (49%), followed by Montgomery County, MD (34%), and the District of Columbia (17%). Historically, there have been additional surface water tributaries to the Anacostia; however, over time, they have been captured by storm drains and lost their status as surface water.

The Anacostia River is unique in that it is completely fresh water but remains tidally influenced. The northern extents of the tidal influence are the Northeast and Northwest branches, which are the River's main tributaries. The confluence of these two branches is approximately 8 miles upstream from the project site. The fluctuation in flow is akin to a tidally influenced lake, where, depending on the time of day, water levels can vary by approximately 2 feet. During the wet seasons of spring and fall, the direction of the river is predominantly downstream due to large quantities of runoff. This condition is different in the dry seasons when flow direction is influenced primarily by the tide. The average tidal prism, or volume of water exchanged during the tidal cycle, was estimated to be 20% of the river volume.

One of the tributaries to the Anacostia River that flows through Poplar Point is Stickfoot Storm Sewer, a captured stream. The stream, called Stickfoot Creek, once meandered through Poplar Point, feeding wetlands and eventually draining into the Anacostia River. Over time, however, the stream has been rerouted and are placed within an approximately 72-inch culvert that ends at the Combined Sewer Overflow (CSO) outflow in the central portion of Poplar Point. A survey of the existing sewer conditions found that the manhole near the pump house sits approximately 12 feet above msl, while the creek bed is approximately 1 foot above msl. (Ridolfi, Site Characterization Report: Poplar Point, Washington, DC, 2003)

During the wetland investigation, a surface water body was found within the eastern wetland complex. It is suspected that the water body was created, and currently sustained, by a broken pipe which runs

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underneath it. Aside from this man-made surface water resource, no other bodies of water are documented on-site. (Ridolfi, Site Characterization Report: Poplar Point, Washington, DC, 2003)

3.3.2.2 Water Quality

Water quality of the Anacostia River has been degraded predominantly by non-point sources, such as uncontrolled stormwater runoff from urban development as well as point source discharges into the River, including combined sewer overflows of untreated sewage. An extensive urban storm drainage system conveys runoff from streets and parking lots, depositing contaminants into the river. Sediment and contaminants are deposited into the river via stormwater runoff from exposed soils at higher elevations and along the river shorelines, and from impervious surfaces. Sediment loads have increased over the years as shoreline vegetation, which buffers the river, has been cleared to accommodate continuous construction activity.

The following pollutants have been identified as having the potential to be present at the project site based on a Phase I Environmental Site Assessment: oil, paint, cleaners and solvents, bacteria, and floatable materials (paper and trash). Water quality contaminants include fecal coliform, volatile organic compounds, inorganics (metals), pesticides, phosphorus, nitrates, PCBs, and petroleum hydrocarbons. These contaminants have the potential to contribute to the impairment of the river via uncontrolled stormwater runoff from industrial and agricultural areas.

The DC Department of Health (DC DOH), Water Quality Division is responsible for water quality control in the District of Columbia, including oversight of river sediments and contaminant levels, stormwater runoff, and submerged aquatic vegetation. Measurable parameters determining water quality include pH, total suspended solids, dissolved oxygen, conductivity, turbidity, temperature, and biological and chemical oxygen demand. Water quality of the river is currently monitored in the vicinity of Poplar Point. Pursuant to the Clean Water Act procedure, the Water Quality Division issues a report to the US EPA and US Congress every two years describing the water quality of water bodies within the District of Columbia and to what degree water quality affects the use of the water bodies. According to the most recent water quality report for the District of Columbia, the water quality of the Potomac River does not support the use of the river for primary contact recreation (i.e. swimming) or for the use of fish and shellfish for human consumption (DC EHA 1998). The water quality in the Lower Anacostia River and the Potomac River between Key Bridge and its confluence with the Anacostia River does, however, support its use for the protection and propagation of fish, shellfish, and wildlife (DC EHA 1998).

In an attempt to remediate the Anacostia River's poor water quality, several federal and local programs have been developed.

- Combined Sewer Overflow (CSO) Long Term Control Plan (LTCP): This initiative began in 2004 when a federal consent decree was signed by the EPA and DC WASA. The goal was to reduce 60 CSOs by 98% on a system-wide basis; eliminate 14 CSO outfalls (4 in the Anacostia watershed) by separation and consolidation; decrease the number of Anacostia overflows from 82 to 2 per year; reduce the number of days where the predicted fecal coliform concentration rises above 200/100 ml from 239 days to 182 days; reduce the number of days dissolved oxygen falls below

5mg/l from 93 to 66; and virtually eliminate solids and floatables. The LTCP is expected to cost $2 billion and will be implemented over a 20-year period.

- Total Maximum Daily Load (TMDL) allocations: TMDLs are pollution budgets that dictate the maximum amount of pollution a water body may receive while still maintaining water quality standards per the US Clean Water Act. In the case of the Anacostia River, the TMDLs assign the levels of reduction necessary to achieve water quality standards. Establishing the TMDLs for the Anacostia River has been a joint effort by the District of Columbia and Maryland, with oversight by the US EPA. Inter-jurisdictional coordination is necessary to ensure consistency and equitability in establishment of the pollutant levels. The EPA has approved 154 TMDLs in the Anacostia watershed with 152 in DC waters and 2 in MD waters. DC has completed the TMDL requirements as outlined in the federal consent agreement and approved by the Us EPA as of 2007.

- Municipal Separate Storm Sewer System (MS4): The MS4 permit is an extension of the National Pollution Discharge Elimination System (NPDES) program, contained within the US Clean Water Act, designed to control and manage storm water within the District of Columbia. As such, MS4 requires caps on effluent to manage storm water quantity and quality through the use of Best Management Practices (BMPs) and incorporates various Low Impact Development (LID) techniques. Further, the permit requires the implementation of approved TMDLs to augment the BMPs and LIDs in controlling stormwater in the Anacostia watershed.

Testing for groundwater contamination was conducted as part of a physical site assessment. Due to the previous site uses, including horticulture and military, some degree of contamination was expected to be present. Throughout the site, the concentration of several chemicals was recorded and compared to the lowest applicable screening level. Hazardous materials found at Poplar Point are discussed in greater detail in Section 3.6.3.

- Diesel, motor oil, or fuel constituents were detected above screening levels at monitoring wells located throughout the site, with the largest concentration located near the former storage tank (aboveground and underground) sites.

- Methyl tert-butyl ether, vinyl chloride, and benzene were all found in monitors located near the former AOC garage.

- Several inorganic and organic chemicals were found throughout the site. The inorganic chemicals were often found in isolated perches throughout the fill and are likely not widespread. The organic compounds also did not seem to indicate a pervasive problem in groundwater.

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3.3.2.3 Wetlands

Wetlands, as defined by the USACE, are those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support—and that under normal circumstances do support—a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands typically include swamps, marshes, bogs, etc., and are delineated by three factors: the presence of (1) hydrophytic vegetation, (2) hydric soils, and (3) wetland hydrology. Wetlands connected to waters of the US are jurisdictional to the USACE, and are subject to Section 404 of the Clean Water Act; permits are required to fill or excavate in a wetland or "Waters of the US".

The wetlands found on the project site were originally delineated as part of the South Capitol Street realignment initiative in a report entitled "Wetland Delineation, South Capitol Street Project," dated March 16, 2005. The results showed the existence of four wetland systems on Poplar Point, and the results were confirmed by the USACE during a Jurisdictional Determination Meeting held on April 15, 2005. This meeting was also intended to determine which of the wetlands found on-site are considered "Waters of the US" and subject to USACE control. Additional analysis was completed in the spring and summer of 2009 for several reasons. The first reason was to validate the previous delineation as the results expire after five years. The second reason was to assess the functions and values of each wetland found on-site, determining their biological and societal value. Function is defined as the physical and chemical processes that characterize wetland ecosystems. Values are the human-perceived benefits derived from functions or other characteristics of a wetland ecosystem. The analysis conducted in 2009 used four common methodologies for determining a wetland's function and value. The methodologies utilized were:

- The Delaware Rapid Assessment Procedure;
- The US Army Corps of Engineers Highway Method;
- The Virginia Institute of Marine Science's Technique for the Functional Assessment of Non-Tidal Wetlands in the Coastal Plain of Virginia; and
- Evaluation for Planned Wetlands.

An important component of this analysis was the use of a reference wetland to form a basis of comparison. A reference wetland displays the representative ecological conditions that are expected for a wetland of a particular type in a particular region. For the Poplar Point wetland comparison, the wetlands (Wetlands A and B) located at Huntley Meadow Park in Fairfax, VA were selected. Huntley Meadows is similar to the Poplar Point project site because they both contain non-tidal wetlands located within the coastal plain. Wetlands specifically chosen for the assessment were a palustrine forested wetland and a palustrine emergent wetland.

The following details for each of the four wetlands found at Poplar Point:

- **Wetland C:** A small palustrine forested (PFO) wetland in the western portion of the site was determined to be isolated and not jurisdictional under the USACE. However, this wetland is regulated by the District of Columbia. This wetland is a forested depressional wetland that has no inlet or outlet and has no jurisdictional connection to other waters of the US. The primary

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water source of this wetland appears to be stormwater runoff. Wetland C provides sediment and toxicant retention and nutrient removal functions; however, it is also fenced off from the public, which detracts from its overall value.

- **Wetland D:** The wetland in the western portion of the site was determined to be jurisdictional under the USACE and the District of Columbia because it is connected to the Anacostia River by a system of underground pipes. This wetland consists of a mosaic of wetland community types – the dominant community type is PFO wetland with smaller areas of palustrine scrub-shrub (PSS) and palustrine emergent (PEM) wetlands located along the wetland edge. A narrow channel meanders through the wetland system. The primary source of hydrology to this wetland appears to be stormwater runoff. The outlet to this wetland is somewhat constricted due the buildup of sediment and debris at the culvert. Wetland D provides sediment and toxicant retention and nutrient removal functions; however, it is also fenced off from the public, which detracts from its overall value.

- **Wetland E:** Two PEM wetlands were identified in the central portion of the site. These wetlands occur in an area that has been graded in the past. In the delineation report, Coastal Resources, Inc. indicates that the source of hydrology for the two PEM wetlands may be a broken water main line. The PEM wetlands were determined to be isolated and not jurisdictional under the USACE. However, these wetlands are jurisdictional under the District of Columbia's regulations. The two PEM wetlands are similar in composition, and during WSSI's field evaluation did not appear to have a distinct break in vegetation separating one from the other. Thus, for purposes of the functions, values, and conditions assessments, these wetlands were evaluated as one wetland system. Wetland E does provide some public value due to its accessibility from the road.

- **Wetland F:** Wetland F is a small PEM wetland in the western portion of the site. This wetland was determined to be jurisdictional under the USACE and the District of Columbia because the wetland is connected to the Anacostia River and to Wetland D by a system of underground pipes. Water ponds within this small depressional wetland due to its tightly compacted soils. Wetland F does provide some public value due to its accessibility from the road.

Based on the assessment methods applied, the wetlands at Poplar Point do successfully perform several wetland functions including flood storage and flood flow alteration, sediment and toxicant retention, and nutrient removal. However, the assessment methods also indicate that the wetlands at Poplar Point are severely stressed. Comparison of the assessed functions and values of reference wetlands (chosen to represent the expected ecological conditions of similar wetlands in the region) to the wetlands at Poplar Point suggests that the functions and values services of the Poplar Point wetlands may increase if the conditions of the wetlands improve. The following graphic depicts the location of each wetland:

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Figure 3-66: Existing Wetlands
Source: Wetlands Studies and Solutions 2009

3.3.2.4 Floodplains

The project site is located directly adjacent to the Anacostia River. The northern border of the site comprises a prominent segment of the Anacostia River waterfront. According to FEMA's Flood Insurance Map effective since November 1985, several areas of the site are within the river's 100- and 500-year floodplain. The areas that fall within the 100-year floodplain are located along the waterfront. At its greatest extent, the 100-year floodplain extends approximately 130 feet inland across the central portion of the site. The notation on the FEMA Flood Insurance Map is "Zone A10." This designation implies that the area is within the 100-year floodplain, the base flood elevation has been set at 10 feet, and flood hazard factors have been determined. Areas located within the 500-year flood plain are found in portions of the site further from the river than the A10 zone. The notation on the FEMA Flood Insurance Map is "Zone B." The largest tract of land that falls within Zone B is in the central portion of the site near the wetlands. The designation of Zone B implies that the land is between the 100- and 500-year floodplains, or certain areas are subject to 100-year flooding with average depths less than one foot or where the contributing drainage area is less than square mile. The remainder of the site is outside of the 500-year flood plain and has the designation of "Zone C." These floodplains are illustrated in the following graphic:

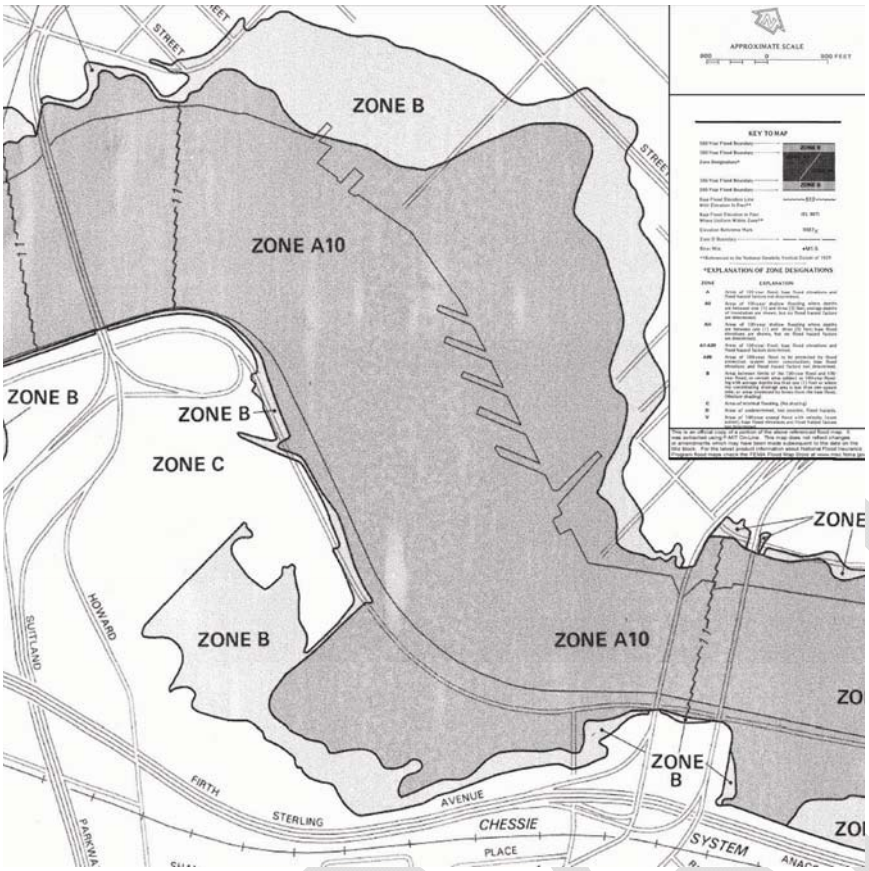

Figure 3-67: Existing Site Floodplains
Source: FEMA, accessed 2010

Flooding of the Anacostia River is a complex phenomenon that generally arises from factors like storm surges caused by a hurricane or by major storm tidal flooding. Among the most severe floods have been the storm surge tide of 1933, and the floods of March 1936, October 1942 and Hurricane Agnes in June 1972. Floods due solely to high river flows have been relatively minor and have never defined floodplain boundaries. The greatest recorded flood is therefore determined by a combination of storm surge, tidal and high river flow conditions. In response to flooding of the Anacostia River, in 1955 the US ACE initiated a flood control program for the river to address the persistent flooding problems.

3.3.2.5 Groundwater and Stormwater

Drinking water in the District of Columbia is supplied by DC WASA, through a purchase agreement with the Washington Aqueduct Division of the USACE. The source of this drinking water is the Potomac River. Despite not using the groundwater as a potable drinking water source, the District of Columbia has municipal regulations for different use classes that control surface water recharge, drinking water in other jurisdictions, and potential future use as a raw drinking water source. Water located within the District of Columbia is classified as G1, which is subject to the most stringent use regulations, until sufficient information is available to justify lowering the restrictions. Total water demand placed on surface and groundwater sources by the District of Columbia is approximately 340 million gallons per day (GPD). According to the USGS, approximately one million GPD is used for industrial and municipal

uses. The District Department of Energy estimates that construction activities that use sump pumps for groundwater control and dewatering are the largest uses of groundwater.

Poplar Point is located within the Lower Anacostia Watershed, part of the Northern Atlantic Coastal Plain. The Coastal Plain is characterized by numerous water bearing zones (aquifers) that exist among permeable materials, primarily sands and gravels. The primary aquifers located under the District of Columbia are part of the regional Potomac Group aquifers. The aquifers are separated by less permeable zones of silts and clays (confining layers). Within Holocene age alluvium in the Coastal Plain, the ground water table is generally within a few meters of the surface, especially in alluvium near major streams. Infiltration from these underground streams contributes to groundwater recharge.

According to the USGS, groundwater wells for aquifers in the Potomac Group range from 30 feet down to 1,250 feet below the surface. District-wide, the median depth to ground water observed in wells is 15 feet below ground surface level. Water quality for aquifers in the Potomac group is generally high in iron, exceeding the US EPA drinking water standard of 0.3 mg/L while the median concentration of dissolved solids is considerably lower than the drinking water standard. Further, the water is considered "soft" as the median hardness is 14 mg/L. Chloride concentrations (10 mg/L) and nitrate (10 mg/L) plus nitrate (as nitrogen) fall below US EPA standards. (Ridolfi, Site Characterization Report: Poplar Point, Washington, DC, 2003)

A groundwater survey was completed in 2002 to monitor the discharge and recharge rates along with the extent of contamination at the Poplar Point site. This survey was conducted by placing staff gauges, seepage meters, and piezometers at various locations throughout the site. The staff gauges and piezometers are used to measure the hydraulic head relationship between the surface water bodies and the surrounding shallow ground water. Seepage meters are used to determine if surface water is recharging the groundwater or if groundwater is discharging into surface water and the rate at which this exchange occurs. The monitors were left in place for an extended period of time to capture readings during a wide array of weather conditions (rain events or draughts).

Overall, four of the observed geotechnical units were considered water-bearing units: surface soil, and the upper, middle, and lower permeable units. While groundwater was encountered in the layer of Holocene Clay, it was determined to be localized and of insufficient quantity. Thus, the Holocene Clay layer is not considered a water-bearing unit. For units that are classified as water-bearing, the median depth to groundwater was 3.6 feet below ground surface. (Ridolfi, Site Characterization Report: Poplar Point, Washington, DC, 2003)

- Surface Soils: The hydrology of the surface soils varies considerably from borehole to borehole. Some saturated permeable material was encountered; however, these materials tended to be isolated. This discovery leads to the conclusion that there is no hydrologic connection between the pockets over a large area. Groundwater flow direction is thought to be influenced primarily by the slope of the underlying Holocene Clay. The topography of the clay also varies considerably; however, a north-south trending channel-type feature is thought to exist near the surface of the clay. The highest groundwater elevation was found slightly northwest of Wetland

E, with lower elevations recorded in the surrounding wells. The high level of groundwater is thought to be attributed to surface water intrusion of the fill placed within the void left by a previously installed underground storage tank. The varying groundwater elevations of the surrounding wells suggest that the shallower ground water flows outward from the site of the underground storage tank in a radial pattern.

- Upper Permeable Unit: It was determined that the surface soils and upper permeable unit are hydraulically connected in some areas. These two units display similar hydrogeologic characteristics. Groundwater flows to the north in the southern portion of the site and to the west in the area of Wetland D. Groundwater elevations of the Upper Permeable Unit ranged between 1 foot above msl in the south-central portion of the site and 3.38 feet below msl in the northern portion of Wetland D.

- Middle Permeable Unit: Groundwater elevations in this unit were highest at points west of the northern portion of Wetland 1 with readings ranging between 1.84 feet above msl and 1.63 feet above msl. The lower groundwater elevation recorded was near the southwestern site entrance with a reading of 1.02 feet above msl. An uncharacteristically high reading of 3.13 feet above msl was recorded near the southern greenhouses. These readings indicate that the groundwater within the Middle Permeable Unit flows towards the southwest.

- Lower Permeable Unit: Groundwater elevations in the Lower Permeable Unit were similar to those recorded in the Middle Permeable Unit. The highest recorded groundwater elevation was recorded slightly northwest of Wetland 2 with a reading of 1.8 feet above msl. The lowest recorded groundwater elevation was recorded north of Wetland 1 with a reading of 1.2 feet above msl. As a result of this overlap, there is the potential for a hydraulic relationship between the two units. The meter readings suggest that groundwater flow in the Lower Permeable Unit flow to the west.

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3.3.3 Vegetation and Wildlife Resources

3.3.3.1 Aquatic Ecology

The project site's northern boundary is formed by the Anacostia River, which is home to a wide diversity of plant and animal species. The following section outlines the aquatic vegetation and animal species present in the river.

Submerged Aquatic Vegetation

One commonly used indicator of an aquatic ecosystem's vitality is the presence of Submerged Aquatic Vegetation (SAV). SAV is defined as vascular plants that remain below the water surface throughout the year. These plants have developed several adaptations over time, allowing them to thrive in a completely aquatic environment. These adaptations include a thin or complete lack of cuticle as there is no need to prevent water loss in the environment they live in. SAV requires the proper water quality, water temperature, water depth and salinity to thrive. The result is that SAV tends to exist in high quality river and stream systems. SAV is also an important component in the larger aquatic ecosystem because it provides several vital functions that enhance the quality of life for other organisms. These functions include: generating habitat and food, adding oxygen to the water column as a byproduct of photosynthesis, prohibiting the growth of algae through the absorption of nutrients such as nitrogen and phosphorus, and filtering and sediment retention.

For the last several years the Virginia Institute of Marine Science (VIMS), a graduate school of oceanography at the College of William and Mary, has conducted field surveys of the extent of SAV in the tidal reaches of the Chesapeake Bay watershed. This survey area includes portions of the Potomac and Anacostia River that are near the project site. Between 1999 and 2002 VIMS findings showed that small pockets of SAV exist in the Anacostia River around the Frederick Douglass Memorial Bridge. However, since 2004 their findings have shown no presence of SAV near the project site.

Removal or alteration of SAV must be done in accordance with Section 404 of the Clean Water Act of 1977, as amended, and Section 10 of the Rivers and Harbors Act of 1899. Thus, SAV falls under the jurisdiction of the US Army Corps of Engineers. Locally, actions altering SAV must be pursuant to the District of Columbia's Water Pollution Control Act of 1984 (D.C. Law 5-188, DC Code §6-293).

Benthic Macroinvertebrates

In an aquatic ecosystem, the bottommost layer in the water column is referred to as the benthic layer. The benthic layer also includes the sediment surface and some sub-surface layers. Organisms that inhabit the benthic zone are collectively called benthos and can tolerate low oxygen levels and cool temperatures. Several types of benthos are permanently attached to the sediment or burrow within the sub-surface layers. Macroinvertebrates are animals without vertebrae (backbones) and are larger than ½ millimeter. Common benthic macroinvertebrates include crustaceans, mollusks, aquatic worms, and the immature forms of aquatic insects. Benthos play an important role in an ecosystem by acting as the

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middle link in the food chain; their main diet consists of algae and aquatic plant life and, in turn, they are consumed by larger organisms such as fish.

The study of benthic macroinvertebrates provides insight to the water quality and the overall health of an ecosystem. Their lack of mobility means they are unable to escape polluted waters in search for higher quality habitat. Second, benthos include species with a broad range of pollution tolerance. Thus, an inventory of species and examination of the effects of the contamination will accurately reflect the levels and types of pollutants present in the sample location. And due to their long lifespan, repeated investigations allow scientists to observe the extent of contamination over longer periods of time, revealing the rise or decline of pollution.

In the Anacostia River, the population of benthic macroinvertebrates has been described as severely diminished and is characterized by the lack of biodiversity and a prevalence of pollution-tolerant worms. This condition is the result of industrial activity and urban development that has degraded the water quality over an extended period of time. Several studies have been done in recent years to draw attention to this problem, evaluating sediment quality in the Anacostia River using a triad approach. The triad approach is a scientific method which consists of three measures to determine the level of sediment degradation. The three measures used in the USFWS study were sediment chemistry, benthic community structure, and sediment toxicity.

The samples were compared to the Benthic Index of Biotic Integrity (B-IBI), the bench mark developed to identify the degree to which the sample benthic community meets the Chesapeake Bay Program's Benthic Community Restoration Goals. The B-IBI is a finite numerical range with corresponding levels of degradation. After collecting data it was determined that the areas around Poplar Point were considered "degraded." Within the larger context of the Anacostia River, 40% of sample locations were also considered "degraded," with 20% were considered "marginally degraded," and 20% "degraded" or "severely degraded." The most prevalent organism found during the study period were pollution-tolerant oligochaetes (aquatic worms), which comprised between 80% and 90% sample population. Due to the significant concentration of these species, it can be determined that the Anacostia River has high levels of contamination and other aquatic live stressors, such has low dissolved oxygen.

Fish

Similar to the benthic macroinvertebrates, the health and diversity of the fish population can be used to evaluate a river's overall water quality. Due to their place near the top of the food chain, the fish population is dependent on, and subsequently indicative of, a water body's ability to support aquatic life. Low quality water bodies are characterized by a lack of aquatic vegetation and the presences of only pollutant tolerant bethos, which causes an effect up the food chain. Furthermore, fish provide an important recreational and economic amenity to the surrounding community.

The resident fish in the Anacostia River can be divided into three categories based on their spawning and life cycle characteristics. The first category is the freshwater resident fish population that completes both their spawning and life cycles in freshwater. This category includes species such as the brown bullhead (*Ameiurus nebulosus*), pumpkinseed (*Lepomis gibbosus*), and the spottailed shiner (*Notropis*

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hudsonius). The second category is the anadromous fish population that lives in marine or estuarine waters but return to freshwater to spawn. This category includes the gizzard shad (*Dorosoma cepedianum*), striped bass (*Morone saxatilis*) and white perch (*Morone americana*). The final category is the catadromous fish which live in freshwater but migrate to the sea to spawn. The only species present in the Chesapeake Bay watershed that falls within this category is the American eel (*Anguilla rostrata*). According to a fish study of the Anacostia River conducted by the Department of Consumer and Regulatory Affairs in 1994, 47 species, 13 families, and 30 genera were collected. The fish population in the Anacostia River is less diverse than that of the Potomac River.

The District Department of Health has issued a public health advisory suggesting that residents limit the consumption of certain game fish. The advisory recommends residents do not consume any channel catfish and only limited amounts of others, such as the largemouth bass. Species that tend to live and feed near the river bottom pose a greater risk to human health as a majority of the contamination can be found in the sediment. Several studies have been completed to assess the contamination levels of the resident fish population:

- A 1996 study conducted by the District of Columbia Department of Regulatory Affairs collected fish samples to test for levels of contamination in fish tissue. This study aimed to monitor chemical residues in fish to determine if their consumption presented any human health concerns. The study evaluated samples from fish in both the Anacostia and Potomac Rivers for comparison. It determined that the highest polycyclic aromatic hydrocarbons (PAH) concentrations were located in samples from the lower Anacostia River. The most common chemicals found were mercury, lead, zinc, and cadmium. The study suggests that the contamination is likely petroleum from previous oil spills, with stormwater runoff and CSOs. The reason for this conclusion comes from the distribution of PAHs in the fish tissue being mainly comprised of two- to three-ring aromatics (dominant group naphthalene and alky-substituted napthalenes). A petroleum-based source generally exhibits compounds with low-molecular weight PAHs as evident by the contaminants detected in the study.

- The USFWS conducted a survey in 2001 to determine the level of tumor prevalence among the brown bullhead population in the Anacostia River. The study used brown bullheads longer than 260 millimeters (at least 3 years old) and showed that 50%-68% of the samples had liver tumors. Additionally 13%-23% of the surveyed bullheads had skin tumors. Brown bullheads are considered benthic feeders and burrow in the sediment over winter. Thus, it is likely that the cause of these tumors is from the brown bullhead's frequent contact with the Anacostia's riverbed, a known source of contamination.

The National Marine Fisheries Service has determined that the shortnose sturgeon (*Acipenser brevirostrum*) is present in the upper tidal Potomac River. Thus, the species may be present in the Anacostia River, due to the proximity and confluence of the two water bodies. The shortnose sturgeon is on the federally endangered species list and will be discussed in further detail in the Threatened and Endangered Species section of this EIS.

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3.3.3.2 Terrestrial Ecology

Poplar Point provides an unusual habitat—given the urban context of the site—for terrestrial vegetation and wildlife. Large tracts of contiguous habitat and wetland habitat are generally not found in urban areas. Not only is Poplar Point unusual in its context, but the park also provides two distinct habitat types: wetland and upland. Much of the wildlife that can be found on site is common in the urban setting and has adapted to human presence.

The upland habitat of Poplar Point consists primarily of meadows and recreation fields. This habitat is located in the interior of the park with a higher concentration in the eastern portion of the site. The meadows can be characterized generally as open fields comprised of grasses and shrubs, with a sparse tree population. A large strip of meadow also runs north of Anacostia Drive, SE providing a green buffer between the road and the river. Several trees can be found along the river also providing a buffer for the site. Another meadow habitat can be found in the far western part of the site in the area known as the "point".

The wetland habitat is found in the central portion of the site. A significantly higher proportion of trees are found in this area due to the site's former use as a tree nursery; the unusually high number of trees may be due to the fact that this area has been fenced off for quite some time, allowing many species to mature and develop. It is important to note, however, that many of the species found in the central wetland area are non-native and invasive species. Invasive species are problematic in that they can take over an ecosystem and drive out native plant life.

Several species of mammals, reptiles, insects and birds take advantage of the diverse habitats present at Poplar Point. Mammals typically associated with developed areas such as raccoons (P*rocyon lotor*), woodchucks (M*armot monax*) and grey squirrels (S*ciurus carolinesis*) can be found at the project site. However, because Poplar Point is accessible by water, other mammals such as beavers and muskrats can also be found. Reptiles such as the red-eared slider turtle (T*rachemys scripta elegans*) and eastern garter snake (T*hamnophis sirtalis*) are drawn to the site's wetlands. A diverse array of birdlife is located at Poplar Point due to the ample hunting and living area that is present. Various osprey (*Pandion haliaetus*), eagles, song birds and waterfowl have been documented on site. (NPS Website – Anacostia Park, Accessed 2010) These species include the bald eagle (*Haliaeetus leucocephalus*), which has been known to nest, feed, or migrate on the Anacostia River.

3.3.3.3 Rare, Threatened and Endangered Species

There are no plant or animal species identified as threatened or endangered by the US Fish and Wildlife Service and the District of Columbia in the vicinity of Poplar Point. Similarly, there are no unique conservation areas or wildlife refuges at Poplar Point.

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3.4 Urban Systems

Urban systems consist of water supply, sanitary sewer and stormwater infrastructure, solid waste, and energy utilities that serve the Poplar Point site and the surrounding area. The utilities located within the boundaries of the site serve the existing uses located within Poplar Point. Trunk lines and other regional utility infrastructure also pass through the site.

3.4.1 Water Supply

The District of Columbia Water and Sewer Authority (WASA) is responsible for providing water to District users. WASA operates and maintains the pumping and distribution system located within the District. Water consumption is metered and users pay according to the quantity used.

Water supply in the District of Columbia comes from the Dalcarlia Water Treatment Plant (WTP) and the McMillan WTP. Both plants are supplied with water from the Great Falls intake on the Potomac River. Water is withdrawn at the Great Falls Intake and flows by gravity through two pipelines to the Dalecarlia Reservoir forebay, where it is pumped to the Dalecarlia Reservoir via a booster pumping station. The Dalecarlia Reservoir acts as a presedimentation basin for water drawn into the Dalecarlia WTP and for water diverted to the Georgetown Reservoir for subsequent treatment (source: DC WASA 2010 **http://www.dcwasa.com/about/facilities.cfm**).

The original Dalecarlia WTP was completed in 1928. The plant capacity was increased in the 1950s by the addition of two more sedimentation basins, a 30-million gallon clearwell, and a 577 million gallon per day (mgd) finished water pumping station and additional filters. According to WASA, the plant currently has a capacity of 164 mgd based on filtration rates of 2 gallons per minute per square foot (gpm/sf) and a maximum capacity of 264 mgd. The original McMillan WTP was constructed in 1905 as a slow sand filter plant. It was replaced in 1985 with a new rapid sand filtration plant at the same site with an average design capacity of 120 mgd based on a filter design rate of 4 gpm/sf and a maximum capacity of 180 mgd. According to WASA, the treatment capacity of the Dalecarlia and McMillian WTPs exceeds the day-to-day demands and peak requirements of the customers (source: DC WASA 2010 **http://www.dcwasa.com/about/facilities.cfm**).

All of the existing water mains on the Poplar Point site are part of WASA's low service pressure zone. The low pressure service area is supplied from the Washington Aqueduct's Dalecarlia Pumping Station and WASA's Bryant Street Pumping Station. Treated water storage in the low pressure service area is provided by WASA's Brentwood Reservoir (25 mg at overflow elevation 172 feet) (source: DC WASA 2010 **http://www.dcwasa.com/about/facilities.cfm**).

WASA's water distribution system includes almost 1,300 miles of pipes and mains ranging from 4 to 78 inches in diameter. According to WASA, its water transmission and distribution system includes about 87% cast iron pipe, 8% ductile iron pipe, 2.5% steel pipe, and 2.5% reinforced and prestressed concrete pipe (source: DC WASA 2010 **http://www.dcwasa.com/about/facilities.cfm**). Several of WASA's major water transmission mains traverse the northeastern corner of the Poplar Point site. These range in size from 30 inches to 42 inches in diameter and were installed between the 1930s and 1960s. Some of

these pipes are made of steel and the others of cast/ductile iron. One of the 30-inch pipes crosses under the I-295 through a larger concrete sleeve pipe located generally between U and V Streets SE. Two 30-inch pipes in this area cross the Anacostia River connecting the two parts of the District of Columbia on either side of the Anacostia River. No individual buildings are served directly off of these mains. There are also several short segments of abandoned 30-inch mains near the southbound ramp of the 11th Street Bridges (source: DeLon Hampton October 28, 2009).

The only water service in the central part of the site is provided by an 8-inch cast/ductile iron line dating from approximately 1953, which crosses under I-295 at Chicago Street SE, to serve the complex of NPS buildings located in that section of the site. Most of this line is owned by NPS and not WASA (Source: DeLon Hampton October 28, 2009).

The westernmost part of the Poplar Point site is served by a single 8-inch cast iron main installed around 1914 in Howard Road SE. This main runs from under I-295 along Howard Road and then under the northbound lanes of South Capitol Street; it serves WASA's Poplar Point Pumping Station. There are several small 4-inch and 6-inch mains that branch on the north side of the 8-inch main in Howard Road SE to serve various facilities in this section of the Poplar Point site (Source: DeLon Hampton October 28, 2009).

3.4.2 Sanitary Sewer and Stormwater Infrastructure

3.4.2.1 Sanitary Sewer

The sanitary sewer system in the District of Columbia is operated by WASA. WASA's wastewater collection system consists of approximately 1,800 miles of sanitary and combined sewers, 125,000 building sewers, 22 flowmetering stations, and 9 wastewater pumping stations. The sewers range from 8-inch pipelines to 27-foot arches. Historically, the sewers are generally constructed of vitrified clay, brick, and concrete. However, current and new sewer construction materials typically consist of PVC, ductile iron, and concrete (source: DC WASA 2010 **http://www.dcwasa.com/about/facilities.cfm**).

In general, wastewater collected within the District, as well as from some Maryland and Virginia suburbs, and is delivered to the Blue Plains Advanced Wastewater Treatment Plant (AWTP). According to WASA, the Blue Plains AWTP is the largest advanced wastewater treatment facility of its type in the United States with a rated annual average day capacity if 370 mgd and a peak wet weather capacity of 1.076 billion gallons per day. The existing wastewater treatment processes at the Blue Plains AWTP consists of preliminary and primary treatment, secondary treatment, nitrification/denitrification, effluent filtration, chlorination/dechlorination and post aeration (source: DC WASA 2010 **http://www.dcwasa.com/about/facilities.cfm**).

WASA's sanitary sewer system consists primarily of separate sanitary and storm sewers; however, combined sewers serving both sanitary flow and stormwater drainage are prevalent in the downtown area and in older portions of the service area, including in the vicinity of the Poplar Point site. Combined sewer overflows (CSOs) occur during certain storm events when the capacity of the combined sewer system is unable to convey the mixture of wastewater and stormwater to the treatment plant and this

excess water must be discharged directly. According to WASA, there are approximately 60 CSO outfalls within its system. These are all permitted under the District's National Pollutant Discharge Elimination System (NPDES) Permit issued by the EPA to WASA (source: DC WASA 2010 **http://www.dcwasa.com/about/facilities.cfm**).

At Poplar Point, the site contains a complex system of combined and separate sanitary and storm sewers. Some of these are major sewers serving a large part of the Anacostia section of the District traverse the project site. Others connect this section of the District to the center of the city west of the Anacostia River. There is also a major wastewater pumping station on the site.

Sewers located on the Poplar Point site were installed mainly during the first half of the 20th century. In addition, a major force main was completed and put into service in 1995. The 4-foot by 4-foot combined Anacostia Trunk Sewer crosses the northwest corner of the Poplar Point, roughly paralleling the southbound lanes of the 11th Street Bridges, and discharges through Outfall No. 006 to the Anacostia River. This sewer serves as an overflow for a combined sewershed in a section of Anacostia on the east side of I-295. The sewers in this combined sewershed are currently being separated into sanitary and stormwater sewers. Once the sewer separation project is completed, the Anacostia Trunk Sewer will be converted exclusively to function as a stormwater conduit (Source: DeLon Hampton October 28, 2009).

The 6-foot by 5-foot and 3-inch combined Chicago Street Trunk Sewer crosses the site opposite Chicago Street and discharges through Outfall No. 005 to the Anacostia River. This serves as an overflow for another combined sewershed in Anacostia on the east side of I-295. There are currently no plans to separate sanitary flows from stormwater flows in this sewershed, and therefore, no change to the Chicago Street Trunk Sewer is anticipated. Also to the west of the Chicago Street Trunk Sewer is a network of sanitary sewers ranging in size from 6 inches to 12inches in diameter. These discharge to the 4-foot and 6-inch by 5-foot Anacostia Main Interceptor, a combined sewer in this reach, which runs along the south side of Poplar Point approximately from Chicago Street to the Poplar Point Pumping Station to which it discharges (Source: DeLon Hampton October 28, 2009).

The 96-inch diameter sanitary Anacostia Force Main and Gravity Sewer runs along the southern edge of the site between the southbound 11th Street Bridges approach and Talbert Street SE, where it crosses to the south side of I-295. This sewer is currently out-of-service; however, WASA may rehabilitate and reactivate it in the future (Source: DeLon Hampton October 28, 2009).

The 108-inch diameter sanitary Anacostia Force Main traverses the site along its northern and western sides parallel to the shoreline from the southbound 11th Street Bridges approximately to the point where Howard Road would intersect South Capitol Street. This main is constructed mainly of pre-cast concrete cylinder pipe (PCCP) and was installed in stages from 1979 to 1995 (Source: DeLon Hampton October 28, 2009).

Two parallel combined outfall sewers, one of which is 9-foot and 4-inches by 8-foot and 4-inches, and one of which is 9-foot and 8-inches by 8-foot and 4-inches, cross the western edge of the Poplar Point site from north to south between the on- and off-ramps of the Frederick Douglass Bridge (South Capitol Street). The outfall sewers are essentially discharge pipes from the Main and O Street Pumping Stations.

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These sewers carry a large share of the combined wastewater flow from the portion of the District on the west side of the Anacostia River. The Poplar Point Pumping Station, which is located in a traffic island between the on- and off-ramps of the Frederick Douglass Bridge, receives inflow from the Anacostia Main Interceptor and pumps into these outfall sewers. There is also an emergency bypass from the Pumping Station connecting it to the adjacent 5-foot by 5-foot and 5-inch stormwater sewer. WASA plans to eliminate this Pumping Station by 2018, replacing it with a new station associated with the future Anacostia CSO Tunnel system. The new station is planned to be located in proximity to the present station within the Poplar Point site (Source: DeLon Hampton October 28, 2009).

3.4.2.2 Stormwater Infrastructure

Stormwater management in the District is regulated by the Stormwater Management Section of the DC Department of Consumer and Regulatory Affairs (DCRA), Soils Resources Branch. WASA's role in stormwater infrastructure presently is primarily directed toward cleaning of surface drains and inlets, and operation and maintenance of a number of stormwater pump stations. District of Columbia Law 5-188, Section 509-519 requires all new development to control non-point source pollution transferred by urban runoff using Best Management Practices (BMPs). This is discussed further in Section 3.3.2 above.

The Poplar Point site currently contains stormwater infrastructure that serves the site itself and the surrounding area. The central part of the site is crossed by numerous stormwater pipes ranging in size from 6-inches to 42-inches in diameter. These stormwater pipes ultimately discharge through an outfall to the Anacostia River located just to the west of the Chicago Street Trunk Sewer (Source: DeLon Hampton October 28, 2009).

An 11-foot diameter stormwater sewer (changing to 10-foot by 8-foot and 5-inches just north of Howard Road), known as the Stickfoot Branch Trunk Sewer, crosses the central part of the site from south to north and discharges to the Anacostia River. The northeastern corner of the Poplar Point site is served by an extensive system of separate stormwater sewers, consisting of pipes from 4 inches to 42 inches in diameter that terminate in an outfall to the Anacostia River opposite Good Hope Road SE. In addition, 90-inch diameter and 5-foot by 5-foot and 5-inch stormwater sewers cross the southwestern edge of the Poplar Point site between South Capitol Street and the Anacostia River where they discharge through outfall structures. As discussed above, the Poplar Point Pumping Station emergency bypass is connected to the 5-foot by 5-foot and 5-inch storm sewer (Source: DeLon Hampton October 28, 2009).

The western section of the Poplar Point site is served by numerous storm drains that generally collect runoff from the various roads and highways in this section and discharge directly into the Anacostia River or into the larger stormwater sewers in this area. These drains range in size from 12-inches to 30-inches in diameter (Source: DeLon Hampton October 28, 2009).

In addition to the foregoing facilities, the sewer and stormwater infrastructure on the site includes numerous related manholes, catch basins, and junction, overflow and outfall structures (Source: DeLon Hampton October 28, 2009).

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3.4.3 Solid Waste Disposal

Solid waste disposal is operated by the District of Columbia Department of Public Works. Residential refuse from single family homes and multi-family uses with less than three units is collected by the DC Department of Public Works. Multi-family residential uses with three or more units and all commercial uses within the District are required to arrange for collection of solid waste through a private service provider (source: DC DPW http://dpw.washingtondc.gov/dpw/cwp/view,a,1203,q,518059,dpwNav,%7C31202%7C.asp). The District requires that residential and commercial facilities separate out all recyclable materials and that these recyclable materials be delivered to proper recycling facilities by the solid waste hauler (source: DC DPW http://dpw.dc.gov/DC/DPW/Services+on+Your+Block/Recycling). Because there are no residential uses currently located at the Poplar Point site, the existing government uses are served by private waste haulers.

Between 200,000 and 250,000 tons of solid waste is generated in the District every year. There are no active landfills within the District; solid waste is trucked to approximately six waste transfer services sites within the District for transfer to landfills in the region or farther away. The King George County landfill in Virginia, Prince George's County landfill in Maryland, and the I-95 Lorton incinerator in Virginia are three of the primary landfill sites for solid and construction waste in the metropolitan area (source: Southeast Federal Center EIS).

3.4.4 Energy Systems

3.4.4.1 Electricity

Electricity to the Poplar Point site is provided by Potomac Electric Power Company (PEPCO). PEPCO provides electricity service throughout Washington, DC and Maryland. They deliver electricity to more than 767,000 homes and businesses in the District of Columbia and its Maryland suburbs. The electrical power supplied by PEPCO is primarily generated by power plants located in Virginia and Maryland (source: PEPCO http://www.pepco.com/welcome/).

Within the District, PEPCO operates two types of underground electrical distribution service. Service from the low voltage network is supplied by the existing underground utility system. High voltage electric power is supplied directly from local power substations. The election of either of systems is determined by PEPCO and its customer; the decision is based on the electrical supply requirements, size, and cost of the proposed uses (source: PEPCO **http://www.pepco.com/business/**).

Electric service is currently provided to the NPS and USPP facilities located in the southern portion of the site from lines originating on Howard Road SE. No electrical service is currently provided to a large portion of the Poplar Point site.

3.4.4.2 Natural Gas

Washington Gas supplies natural gas to the Poplar Point site, as well as all of the District of Columbia. Washington Gas distributes gas supply through an underground network of conduits that are integrated

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into large, high-pressure transmission pipes (source: Washington Gas http://www.washgas.com/pages/CompanyProfileHistory). The pipes and conduits are typically located in the rights-of-way of streets throughout the District. This includes a gas service line in Howard Road SE that serves the NPS facility and Howard Road Academy located adjacent to the site. There is a gas service line that runs through the eastern portion of the Poplar Point site along the Anacostia Drive SE and Good Hope Road SE. This line serves the adjacent community located to the south and east (source: source: DDOT, 11th Street Bridges FEIS, prepared by CH2MHill, 2007, http://ddot.washingtondc.gov/ddot/cwp/view,a,1249,q,641882,ddotNav_GID,1586,ddotNav,%7C32399%7C.asp).

3.5 Transportation Systems

3.5.1 Traffic System

3.5.2 Parking System

3.5.3 Public Transportation System

3.5.4 Pedestrian and Bicycle Circulation

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3.6 Environmental Health

3.6.1 Noise

Noise is generally defined as unwanted or objectionable sound that alters or disturbs quality of life, communication, or may affect physical health. Most environmental noise, particularly in urban areas, consists of a variety of frequencies of common, distant noises that create relatively steady background noise levels. Periodic loud noises such as horns honking or trucks passing by are easily perceived above background noise levels. Noise levels are usually measured and expressed in decibels (dB) that are weighted to frequencies perceivable by the human ear, known as A-weighted sound levels and expressed as dBA. Noise levels are typically measured over a set period of time (1 hour, 8 hours, or 24 hours) and commonly expressed as dBA Leq, representing the equivalent or average noise level for a given time period.

Noise experienced by an individual is a function of the noise source and the physical conditions between the source and receptors (e.g., topography/structures, weather, background noise, time of day). Due to the location of the project site near the urban area of Washington, DC, ambient noise levels would generally be higher during the daytime and evening hours and lower during the night. The dominant sources of noise in the project area include local traffic on Martin Luther King Jr. Avenue, and vehicle traffic on Interstate 295 and the Frederick Douglass and 11th Street Bridges, which are all elevated above the project site. Noise levels are expected to reach their peak during morning and evening commuting hours as Interstate 295 and both bridges provide access to downtown Washington, DC. Helicopter and commercial aircraft flyovers also occur periodically but are typically of short duration.

Noise sensitive receptors are generally considered to be human activities or land uses that may be subject to the stress of significant interference from noise. Land uses associated with sensitive receptors include residential dwellings, hotels, motels, hospitals, nursing homes, education facilities, and libraries. Sensitive receptors may also include threatened or endangered noise sensitive biological species.

3.6.1.1 Noise Regulations

Noise levels within the District of Columbia are regulated by the District's Noise Control Act of 1977 and the noise control regulations found in Chapters 27 and 28 of the District of Columbia Municipal Regulations. Chapter 27 of the noise regulations establishes maximum allowable sound levels for daytime and nighttime periods for commercial, industrial, residential, and waterfront zones and identifies certain exemptions and variance procedures. The maximum allowable noise levels are illustrated in the following table:

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Table 3-30: Maximum Allowable Noise Levels

Zone	Maximum Noise Level	
	Daytime	Nighttime
Commercial/Light Manufacturing Zone	65 dB(A)	60 dB(A)
Industrial Zone	70 dB(A)	65 dB(A)
Residential, special purpose, or waterfront zone	60 dB(A)	55 dB(A)

Source: DC Municipal Regulations Title 20 Chapter 27, Section 2701.1

Individual pieces of construction equipment are exempt from the Chapter 27 noise control regulation; however, the equipment must be operated so as to comply with the noise limits established in Chapter 28, Section 2802 for construction. As stated in Section 2802.1, allowable noise levels resulting from construction and demolition activities (excluding pile driving) are limited to 80 dB(A) averaged over one hour between 7:00 a.m. to 7:00 p.m. on weekdays (Sec. 2802.1). If construction activities were to occur between the hours of 7:00 p.m. and 7:00 a.m., a noise limit of 55 dB(A) would apply to construction activities within the waterfront zone.

3.6.1.2 Current Conditions

Several of the current land uses present on site generate noise at varying levels. The first and most pronounced noise source is the US Park Police Aviation facility, which includes a heliport and helicopter hanger. Noise associated with this use includes the take-offs and landings of US Park Police helicopters along with any maintenance activities that occurs within the hanger (use of tools, jacks, etc.). Other uses associated with noise generation include the tour bus parking area, located in the west end of the site, and the WMATA parking garage, located in the south end of the site. Most noise associated with these two uses involves vehicular ingress and egress.

Near the project site, several current land uses also generate noise. Interstate 295 runs directly adjacent to the site, forming its southern border. As with any major freeway, noise is generated by vehicular traffic. These levels will be most noticeable during peak traffic volumes, generally during morning and evening commuting hours. The Frederick Douglass Bridge and 11th Street Bridges will generate similar levels and types of noise. Adjacent to the Frederick Douglass Bridge on the east side is the Naval Support Facility Anacostia and Bolling Air Force Base, both of which produce noise. Noise comes in the form of vehicular and training activities, along with aircraft.

Across the Anacostia River to the north are the Washington National's Ballpark, Florida Rock Property, and the Washington Navy Yard. The frequency and distance of the facilities minimize their affect on the project site. Similarly, Ronald Reagan Washington National Airport is west of the site and across the Potomac River. The potential for noise generation comes from aircraft flyovers during take-off and landing procedures.

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3.6.2 Air Quality

The Clean Air Act (CAA), 42 USC 7401 et seq. as amended in 1977 and 1990, is the principal federal statute governing air pollution. The CAA empowered EPA to promulgate National Ambient Air Quality Standards (NAAQS) for the criteria air pollutants including carbon monoxide (CO), ozone (O_3), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), lead (Pb), particulate matter equal to or less than 10 microns in size (PM_{10}), and fine particulate matter equal to or less than 2.5 microns in size ($PM_{2.5}$). The NAAQS include primary standards designed to protect human health and secondary standards to protect public welfare, such as visibility. The NAAQS are summarized in Table 3-30.

Regions of the country that do not meet the NAAQS are designated as “nonattainment” areas. States (or air quality regions) are required to demonstrate attainment of the NAAQS by preparing State Implementation Plans (SIPs) to be approved by EPA. Generally, SIPs are comprised of air quality rules and attainment strategies applicable to both stationary and mobile sources of air pollutants in the region. Nonattainment areas must prepare SIPs that show how and when the region will comply with the NAAQS.

3.6.2.1 Air Pollutants of Concern

Ozone is the principal air pollutant of concern in the Washington, DC metropolitan area. The region is currently designated as moderate non-attainment for the federal 8-hour ozone standard and is also located within an ozone transport region. As a result of these nonattainment designations, the Metropolitan Washington Air Quality Committee (MWAQC), as the region’s lead air quality planning agency, has undertaken regional planning efforts to bring the region into compliance with the NAAQS. Additional information on the sources of ozone, and the regional efforts to reduce ambient concentrations of these air pollutants, is presented in the following sections.

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Table 3-31: National Ambient Air Quality Standards

Pollutant	Averaging Time	National Standards	
		Primary	Secondary
Carbon Monoxide	1 hour(1)	35 ppm	—
	8 hour(1)	9 ppm	—
Lead	Calendar Quarter	1.5 µg/m^3	Same as primary
Nitrogen Dioxide (NO_2)	Annual (Arithmetic Mean)	100 µg/m^3	Same as primary
Particulate (PM_{10})	24 hour(2)	150 µg/m^3	Same as primary
Particulate ($PM_{2.5}$)	Annual (Arithmetic Mean)(3)	15 µg/m^3	Same as primary
	24 hour(4)	35 µg/m^3	Same as primary
Ozone	8 hour(5)	0.075 ppm (2008 std)	Same as primary
	8 hour(6)	0.08 ppm (1997 std)	Same as primary
	1 hour(7)	0.12 ppm (applies only in limited areas)	Same as primary
Sulfur Dioxide	Annual (Arithmetic Mean)	0.03 ppm (80 µg/m^3)	—
	24 hour(1)	0.14 ppm (365 µg/m^3)	—
	3 hour(1)	—	0.5 ppm (1,300 µg/m^3)

Source: http://www.epa.gov/air/criteria.html
Notes:
(1) Not to be exceeded more than once per calendar year.
(2) Not to be exceeded more than once per year on average over 3 years.
(3) To attain this standard, the 3-year average of the weighed annual mean PM2.5 concentrations from single or multiple community-oriented monitors must not exceed 15.0 µg/m^3.
(4) To attain this standard, the 3-year average of the 98th percentile of 24-hour concentrations at each population-oriented monitor within an area must not exceed 35 µg/m^3 (effective December 17, 2006).
(5) To attain this standard, the 3-year average of the fourth-highest daily maximum 8-hour average ozone concentrations measured at each monitor within an area over each year must not exceed 0.075 ppm (effective May 27, 2008).
(6)(a) To attain this standard, the 3-year average of the fourth-highest daily maximum 8-hour average ozone concentrations measured at each monitor within an area over each year must not exceed 0.08 ppm.
(b) The 1997 standard – and the implementation rules for that standard – will remain in place for implementation purposes as EPA undertakes rulemaking to address the transition from the 1997 ozone standard to the 2008 ozone standard.
(7)(a) The standard is attained when the expected number of days per calendar year with maximum hourly average ozone concentrations above 0.12 ppm is less than one.
(b) As of June 15, 2005, EPA revoked the 1-hour ozone standard in all areas except the 8-hour ozone nonattainment Early Action Compact (EAC) areas.
Definitions:
µg/m^3 micrograms per cubic meter
NO_2 nitrogen dioxide
PM_{10} particulate matter less than 10 microns in diameter
$PM_{2.5}$ particulate matter less than 2.5 microns in diameter
ppm parts per million
SO_2 sulfur dioxide

Federal agencies responsible for an action in a nonattainment area are required to determine that the action either conforms to the region's attainment plan or is exempt from conformity. Federal actions are exempt from conformity determinations when the total of all reasonably foreseeable direct and indirect emissions of nonattainment pollutants would either be: (1) less than their specified emission rate

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thresholds, known as *de minimis* limits, or (2) less than 10 percent of the area's annual emissions budget. The general conformity *de minimis* limits for ozone nonattainment areas inside an ozone transport region are 50 tons per year for VOC and 100 tons per year for nitrogen oxides (NOx).

Ozone

Ozone is a principal component of smog and is formed in the atmosphere through a complex series of photochemical reactions between the precursor compounds nitrogen oxides (NOx) and VOC. VOCs and NOx are emitted from a variety of sources including motor vehicles, industry, lawn and garden equipment, paints, and other commercial chemical compounds. Ozone levels are typically highest on hot summer afternoons.

Recent trends are showing steady improvement toward meeting the 8-hour ozone standard. In 2009, the Washington, DC metropolitan area experienced less pollution than at any time in the last decade (MWAWQ 2009 Annual Report). During the summer months, the region only experienced four days when pollution reached Code Orange, a level that is unhealthy for sensitive groups, and experienced no Code Red days. The previous year, 17 days reached at least Code Orange, 3 of which were Code Red (MWAWQ 2009 Annual Report). The ozone State Implementation Plan (ozone SIP) indicates that the Washington metropolitan area was on track to meet the federal requirements for reducing ground-level ozone by 2009 (MWCOG 2007). This compliance, however, was not attained due to new, more stringent, regulations approved by EPA on ozone pollution.

3.6.2.2 Current Conditions

Sources of air pollution on-site would stem from emissions generated by the US Park Police aviation facility and associated maintenance activities. Emissions from tour busses entering and leaving the site from the tour bus parking area would also contribute to air pollution. Several minor sources of air pollution are the heaters and furnaces present in the buildings currently found on the project site. Off-site sources of air pollution can be attributed to the motor vehicles using the major transportation corridors found around the site: Interstate 295, the Frederick Douglass Bridge and the 11th Street Bridges. Air quality on-site would be comparable to air quality at other locations along the Anacostia waterfront.

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3.6.3 Solid and Hazardous Waste

3.6.3.1 Project Site Conditions

The western portion of the site was the location of the former DC Lanham Tree Nursery. A tract within the central portion of the site was operated by the DC Architect of the Capitol and contains abandoned greenhouses, a garage building, a boiler room, offices, and other vacant buildings. The eastern portion of the site is undeveloped with the exception of an underground METRO tunnel. This tract was formerly operated by the US Navy. The Anacostia Metro Station is located on the southeastern portion of the site.

The project site was undeveloped mudflats prior to 1900. Between 1910 and 1920, the site was filled with dredge material from the Anacostia River as a result of navigational improvements made to the river. Beginning in 1927, the Architect of the Capitol used a portion of the project site for growing tropical and subtropical plants. This activity continued until 1993. At the same time, the western portion of the site was used as a nursery by DC Lanham Nursery. The U.S. Navy used the eastern portion of the project site from the 1940s through the 1960s as a naval receiving station. The METRO Green Line was constructed through the site in the late 1980s and early 1990s (Ridolfi 2003a).

3.6.3.2 Phase I Environmental Site Assessment

In January 2003, a Phase I Environmental Site Assessment was conducted of the project site by Ridolphi, Inc. (Ridolphi 2003a). The Phase I Environmental Site Assessment included an environmental database search, review of previous investigations, and interviews with cooperating property owners and tenants, as well as contact with representatives of the DC Environmental Health Administration and the DC Fire Department. Site reconnaissance was conducted where property access was permitted. The Phase I Environmental Site Assessment revealed the following environmental conditions:

- Petroleum in the groundwater and soil associated with releases from Underground Storage Tanks (USTs) near the former maintenance building;
- Petroleum in groundwater and soil associated with releases from a former 300-gallon Above-Ground Storage Tank (AST) in the southeastern corner of the project site;
- Petroleum in ground water and soil associated with releases from the nearby Green Oil Company and potentially from a former fuel pad within the area occupied by DC Lanham Tree Nursery;
- Elevated concentrations of arsenic in soil potentially associated with the placement of fill onsite in the early 1900s;
- Elevated concentrations of pesticides in surface soil that may be associated with former nursery activities onsite, or insect control activities; and
- Elevated concentrations of polynuclear aromatic hydrocarbons (Ridolphi 2003a).

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In addition, due to their age, buildings onsite have the potential to contain hazardous materials, such as lead-based paint, polychlorinated biphenyls (PCBs)-containing fluorescent lighting, and asbestos-containing materials.

3.6.3.3 Soil and Groundwater Investigations

In October 2003, a Site Characterization was completed by Ridolphi, Inc. for further investigation of the project site (Ridolphi 2003b). As part of the Site Characterization, soil borings were taken and monitoring wells were installed to determine if subsurface contamination is present near the USTs, ASTs, former disposal sites, possible points of discharge, and where previous studies were conducted.

The results of the soil sampling show that portions of the project site contain elevated levels of four chemicals in onsite soils: benzopyrene, 4,4'-DDT, arsenic, and petroleum products (diesel and motor oils). Benzopyrene was detected primarily in and around Wetland 1 near the fence line of the former Architect of the Capitol property and north of Anacostia Drive. Concentrations of 4,4'-DDT was detected in the southern greenhouses and storm drains in the former Architect of the Capitol property, in the north-central portion of Wetland 1, in the southern portion of the former DC Lanham Tree Nursery property. Arsenic was detected in soil samples near the southern end of Wetland 1, near the Green Fuel Oil property, and in the south-central portion of the former DC Lanham Tree Nursery property. Diesel-range hydrocarbons were detected in soil samples near a 275-gallon AST on the former Architect of the Capitol property and in the dog training area. Petroleum products were detected near the former burn pit on the former DC Lanham Tree Nursery property and near the Green Fuel Oil property (Ridolphi 2003b).

The results of the groundwater monitoring wells show that diesel-range hydrocarbons, motor-oil range hydrocarbons, and other fuel constituents were detected in concentrations exceeding screening levels in wells near the former USTs and ASTs. Concentrations of diesel-range organics were found at levels above the DC cleanup standard in the north-central portion of the former Architect of the Capitol property. A gasoline addition, methyl tert-butyl ether (MBTE), was detected at concentrations exceeding the DC cleanup standard in four wells located near the garage on the former Architect of the Capitol property. Vinyl chloride was also detected at high concentrations at a monitoring well north of the garage. High concentrations of benzene were also detected in monitoring wells near the garage (Ridolphi 2003b).

Other chemicals detected in the groundwater wells include inorganics, VOCs, and semi-volatile organic compounds (SVOCs). These chemicals were not widespread and are not considered to indicate a pervasive problem in the groundwater (Ridolphi 2003b).

Based on the pollutants found, and their concentrations in soil and groundwater, the contaminated material onsite would qualify as hazardous waste. If disturbed, hazardous waste can be a health hazard and would require appropriate handling, storage, transport, treatment, and disposal in accordance with local and federal laws and regulations.

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3.6.3.4 Human Health Risk Assessment

Human Health Risk Assessments were prepared for the project site to determine potential risks to human health, including cancer, from the site specific contaminants and conditions. In 2002, Environ conducted a Human Health Risk Assessment and determined that surface soil arsenic and benzopyrene values exceed the US EPA screening levels (Environ 2002).

A second Health Risk Assessment was prepared by EVS Environmental Consultants in February 2004 because additional site data was collected by Ridolphi in 2003 and the intended future use of the site was modified since Environ completed its original assessment (EVS 2004). During the site assessments, metals, pesticides, organics, and polycyclic aromatic hydrocarbons (PAHs) were found at concentrations in excess of applicable hazardous materials thresholds as detailed above. Accordingly, they were identified as the Chemicals of Concern (COCs) for the site.

The assessment of health risks is based on ways in which receptors are exposed to COCs, or exposure pathways. Based on the current and proposed future land use at the site, the Health Risk Assessment determined that potential human exposure pathways exist for the following receptors and exposure routes:

- Park visitors: Potential exposure of park visitors to metals and pesticides in surface soils and subsurface soils through inhalation of dust, incidental ingestion, and dermal contact;
- Park workers: Potential exposure of park workers to metals and pesticides in surface soils and subsurface soils through inhalation of dust, incidental ingestion, and dermal contact, and dermal exposure to surface from PAHs, organics, and pesticides;
- Construction workers: Potential exposure of excavation and construction workers to metals and pesticides in surface soils and subsurface soils by incidental ingestion, dermal contact, and inhalation of dust; and
- Neighboring residents: Potential exposure of neighboring residents to metals and pesticides in surface soil and subsurface soils through inhalation of dust, incidental ingestion, and dermal contact.

Exposure to groundwater was not considered a complete exposure pathway for this site based on the following:

- Groundwater is not currently used for drinking water;
- Future drinking water supplies would originate from the District of Columbia's treated water system; and
- VOCs are not present in groundwater concentrations that are sufficient to cause an adverse risk for indoor or outdoor inhalation of vapors.

Exposure to surface water was not considered a complete exposure pathway for this site because surface water is only present onsite in wetlands based on seasonal conditions. Potential exposure to

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surface water contaminants could occur if wading takes place within a wetland. However, this activity would not be permitted because it would disturb the ecological environment and wildlife within the wetland. Further, surface water from the Anacostia River would be clean or cleaner than the current surface water onsite.

The COCs that would be greater than the recognized acceptable level of $1x10^{-6}$ include the following:

- Metals – aluminum, arsenic, beryllium, cadmium, chromium, cobalt, manganese, and vanadium;
- PAHs included benz(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, dibenz(a)anthracene, and indeno(1,2,3-cd)pyrene;
- Pesticides included 4,4'-DDT, 4,4'-DDD, Aroclor 1248, and Aroclor 1260; and
- Organics included benzene, bis(2-ethylhexyl)phthalate, and vinyl chloride.

Metals and pesticides would pose a risk to all receptors. PAHs and organics pose a risk to construction workers and park workers. The risk to park visitors and off-site residents for PAHs and organics would not exceed acceptable levels. Off-site residents would be the least likely to be impacted, with park and construction workers generally demonstrating the highest level of carcinogenic risk. The largest calculated risk for metals would be the risk associated with the direct contact (ingestion, inhalation, and dermal contact) of chromium ($7.3x10^{-6}$) to construction workers and park workers. The largest calculated risk for PAHs would be the risk associated with dermal contact to surface water of indeno(1,2,3-cd)pyrene ($4.4x10^{-5}$) for construction workers. The largest calculated risk for pesticides would be the risk associated with surface soil ingestion and sediment ingestion/dermal contact of 4.4'-DDT ($5.9x10^{-6}$) for park workers. The largest calculated risk for organics would be the risk associated with dermal contact from groundwater of benzene ($1.4X10^{-5}$) for construction workers.

Based on the pollutants found and their potential carcinogenic risk, the contaminated material onsite would qualify as hazardous waste. If disturbed, hazardous waste can be a health hazard and would require appropriate handling, storage, transport, treatment, and disposal in accordance with local and federal laws and regulations.

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ENVIRONMENTAL CONSEQUENCES

4.1 Introduction

Under the National Environmental Policy Act, the purpose of an environmental impact statement is to determine the environmental consequences, or impacts, generated by or associated with proposed federal actions. The federal action under consideration for this study is the transfer of land from the federal government to the District of Columbia and the resulting redevelopment plan. The alternatives addressed in this document include a range of development options for Poplar Point.

The first portion of this chapter defines terminology and assumptions that are used in the discussions of impacts. The next two sections define and review cumulative impacts and impairment as they relate to the redevelopment of Poplar Point. There is a subsequent explanation of how impacts to cultural resources, determined through an analysis required by Section 106 of the National Historic Preservation Act (NHPA), are treated within this document. The following section defines the methodology employed in analyzing the impacts for each of the resource areas. Impacts are then examined by alternative: No Action, Alternative 1, Alternative 2, and Alternative 3.

4.1.1 Terms and Assumptions

In the analysis that follows, impacts are characterized by several factors including intensity, type, duration, and context. Definitions of these terms (and assumptions related to them) are provided below:

- *Intensity:* The intensity of an impact describes the magnitude of change that the impact would generate. Thus, impacts are classified as negligible, minor, moderate, or major. Because definitions of these thresholds necessarily differ depending on the resource area, impact intensity thresholds are defined separately for each topic.
- *Type:* The impact type refers to whether it is adverse (negative) or positive (positive). Adverse impacts are those that would deplete or harm resources. Positive impacts, by contrast, would improve resource conditions.
- *Duration:* The duration of an impact defines whether it is short-term, and thus occurs over a restricted period of time, or is long-term and persists over an extended period. For the purposes of this analysis, it is assumed that short-term impacts are those associated with construction. Long-term impacts refer to the on-going operation of the project site.
- *Context:* The context of an impact defines whether it is local or regional. In this analysis, local impacts are those that are confined to the area immediately surrounding the Poplar Point site. Regional impacts are those that affect the larger Washington, DC metropolitan area.

4.1.2 Direct, Indirect, and Cumulative Impacts

In addition to the four factors identified above, impacts may be characterized as direct, indirect, or cumulative. A direct impact is caused by the action and occurs at the same time and place. An indirect impact is caused by the action, occurs later in time or is farther removed in distance, but is still reasonably foreseeable. A cumulative impact is an “impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions” (40

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CFR 1508.7). Cumulative impacts can result from individually minor, but collectively significant actions taking place over a period of time.

In order to assess the potential cumulative impacts of the project, recently completed, ongoing, and planned projects were identified within the area immediately surrounding Poplar Point. These projects include:

- South Capitol Street Bridge (planned)
- 11th Street Bridges (under construction)
- Department of Homeland Security Headquarters at St. Elizabeths (under construction)
- New Community Initiative – Barry Farm (planned)
- Anacostia Waterfront Initiative (ongoing)
- Joint Base Master Plan (planned)
- Martin Luther King Jr. Avenue Great Streets Project (planned)
- The Yards (under construction)
- Capital Riverfront (ongoing)

4.1.3 Impairment of Park Resources

In addition to assessing the environmental consequences of implementing each alternative, NPS management policies require that a determination be made as to whether the actions described in the alternatives would impair park resources. The fundamental purpose of NPS, as established by the 1916 Organic Act and reaffirmed by the General Authorities Act of 1970, mandates the conservation of park resources and values. NPS must seek ways to avoid, or to minimize to the greatest degree practicable, adverse impacts on park resources and values. However, the laws do give NPS the management discretion to allow impacts to park resources and values when necessary and appropriate or to fulfill the purposes of a park, as long as the impact does not constitute impairment of the affected resources and values. That discretion is limited, however, by the statutory requirement that NPS must leave park resources and values unimpaired, unless a particular law directly and specifically provides otherwise. A prohibited impairment is an impact that, in the professional judgment of the responsible NPS manager, would harm the integrity of park resources or values, including the opportunities that would otherwise exist for the enjoyment of those resources and values.

An impact to any park resource or value may, but does not necessarily, result in impairment. An impact would be more likely to constitute impairment if it affects a resource or value whose conservation is:

- Necessary to fulfill specific purposes identified in the park's establishing legislation or proclamation;
- Key to the park's natural or cultural integrity; or
- Identified as a goal in the park's General Management Plan or other relevant NPS planning document.

In the impact analysis provided below, a determination of impairment is made within the conclusionary summary for each impact topic related to Poplar Point's cultural and natural resources. A determination

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of impairment is not required for impact topics such as socioeconomic resources, transportation systems, urban systems, and environmental health.

4.1.4 Impacts to Cultural Resources and Section 106 of the NHPA

This EIS considers both impacts to cultural resources, as defined under NEPA and corresponding Council on Environmental Quality regulations, and effects to cultural resources as defined by the NHPA. In accordance with NEPA, impacts to archaeological resources, historic structures and districts, and cultural landscapes identified within this document are characterized by their intensity, duration, context, and type, as discussed above. Thus, both adverse and positive impacts are recognized for each of the alternatives.

This EIS also assesses effects on cultural resources in accordance with Section 106 of the NHPA (Section 106). Section 106 defines an "effect" as follows: "an undertaking has an effect on a historic property when the undertaking may alter the characteristics of the property that may qualify the property for the National Register" (36 CRF 800.5). Furthermore, according to Section 106, "an adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Consideration shall be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property's eligibility for the National Register." Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, are farther removed in distance, or are cumulative.

Adverse effects on historic properties include, but are not limited to:

- Physical destruction of or damage to all or part of the property;
- Alteration of a property, including restoration, rehabilitation, repair, maintenance, stabilization, hazardous material remediation, and provision of handicapped access, that is not consistent with the *Secretary's Standards for the Treatment of Historic Properties* (36 CFR part 68) and applicable guidelines;
- Removal of the property from its historic location;
- Changes in the character of the property's use or of physical features within the property's setting that contribute to its historic significance;
- Introduction of visual, atmospheric, or audible elements that diminish the integrity of the property's significant historic features;
- Neglect of a property which causes its deterioration, except where such neglect and deterioration are recognized qualities of a property of religious and cultural significance to an American Indian tribe or Native Hawaiian organization; and
- Transfer, lease, or sale of property out of federal ownership or control without adequate and legally enforceable restrictions or conditions to ensure long-term preservation of the property's historic significance.

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If an undertaking is determined to have an adverse effect on properties included in, or eligible for inclusion in, the National Register of Historic Places, the lead federal agency and the State Historic Preservation Officer (SHPO) enter into consultation to identify ways to avoid, minimize, or mitigate adverse effects. The Advisory Council on Historic Preservation and other interested parties can also participate in the consultation. Consultation typically results in a Memorandum of Agreement that stipulates the measures required to mitigate adverse effects and identifies the responsible parties and implementation schedule.

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4.2 Socioeconomic Resources

4.2.1 Land Use

4.2.1.1 Methodology and Assumptions

Analysis Methods

This section examines the potential land use impacts of the No Action and Action Alternatives on existing and proposed land uses within the surrounding community. Land use impacts are determined by planned physical changes to the site, adjacent properties, and the surrounding area. Impact determinations are typically a function of proximity to the project site, existing zoning requirements, the availability of vacant or underutilized land, building conditions, and the presence of outside development forces. Impacts may be direct, indirect, or cumulative. Direct land use impacts are determined by physical changes to the existing land within the project site as well as potential effects on contiguous sites brought about by physical changes within the project site that may or may not be compatible with the overall area. Indirect land use impacts generally result from commercial, retail, and residential land use changes, especially revitalization, to adjacent neighborhoods and parcels. Cumulative impacts result from the implementation of the action alternative when considered with the implementation of ongoing or planned projects in the vicinity of the project site.

To assess potential impacts, site visits were conducted in conjunction with the review of maps, photographs, applicable development or project plans to identify land uses patterns potentially influenced by the proposed alternatives. Relevant plans considered include:

- Comprehensive Plan for the National Capital: District Elements
- Anacostia Waterfront Initiative Framework Plan (AWI)
- East of the River Project Plan
- Anacostia Transit Area Strategic Investment Plan
- St. Elizabeths
- The Yards
- Strategic Neighborhood Action Plans for Neighborhood Clusters 28, 34,and 37
- Barry Farms, Park Chester, and Wade Road Redevelopment Plan

Assumptions

In evaluating potential impacts to land use, it is essential to examine the physical context of the project site – a highly visible waterfront location east of the Anacostia River. As described in Section 3.1, the area of analysis includes the project site, adjacent properties, the surrounding community, and other areas where the proposed alternatives could directly and/or indirectly affect land use or development patterns. The areas used in this analysis include the properties adjacent to the site, the neighborhoods of Ward 8, and the areas that extend west of the Anacostia River.

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Impact Thresholds

Thresholds were developed to identify the magnitude of potential land use impacts resulting from the proposed alternatives. Positive impacts are those that would improve and solidify land use patterns and connectivity within the study area. Adverse impacts are those that would degrade land uses or connectivity within the study area. The following thresholds were used to determine the magnitude of impacts on land use:

Negligible: Impacts to land uses would be nonexistent or barely detectable.

Minor: Impacts to land uses would be minimal, though detectable. Mitigation measures, if needed to offset adverse impacts, would be simple and likely to be successful.

Moderate: Impacts result in changes to land uses that would be readily detectable, measurable, and consequential. Mitigation measures, if needed to offset adverse impacts, may be extensive, though likely successful.

Major: Impacts result in changes to land uses that would have substantial consequences. Extensive mitigation measures would be needed to off-set any adverse impacts and their success is not guaranteed.

Duration

With the land use analysis, short-term impacts would occur during construction. Long-term impacts would persist once construction is complete. This analysis assumes that impacts would be long-term, unless identified otherwise.

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4.2.1.2 No Action Alternative

Direct and Indirect Impacts

Under the No Action Alternative, development would not occur and Poplar Point would continue to operate as a passive open space managed by the National Park Service. In addition, the agreement under the DC Lands Act, which calls for the redevelopment of the Poplar Point Site, would not take effect and the site itself would remain undeveloped. The majority of the open space would remain inaccessible for restoration purposes and the site would continue to lack adequate connections to adjacent neighborhoods. Impacts to land uses on the site would thus be negative.

The No Action Alternative would not influence land use patterns adjacent to the site or in the surrounding community. The parcels immediately adjacent to the site would continue to remain under private ownership and would likely be developed anyway. Development of these parcels under the No Action Alternative, however, would occur less quickly, and contain lower quality, less complementary uses. The development would most likely come with no major investment in the East of the River community. As a result, the No Action Alternative would likely result in the loss of economic and community benefits associated with the proposed action. Further, the development currently proposed at Poplar Point would most likely occur in another part of the Washington Metropolitan region, contributing to the region's sprawl. The neighborhoods surrounding the site and across the river would not change as a result of the No Action Alternative. Thus, the No Action Alternative would have a negligible impact on existing or future uses of these areas.

Cumulative Impacts

Under the No Action Alternative, short- and long-term impacts to the site and study are would be negative. The reason being the development within the study area will occur; however, it is less likely to be cohesive with its surroundings without a major investment East of the River, such as the proposed action. Thus, there cumulative impacts to land use as a result of the No Action Alternative would be negative.

Conclusion

The No Action Alternative would have a negligible impact on land uses on the site and within the surrounding area.

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4.2.1.3 Alternative 1

Direct and Indirect Impacts

Project Site

The project site is currently comprised of approximately 40 acres of accessible parkland and open space, 30 acres of fenced-off open space, and 40 acres devoted to NPS facilities and infrastructure. Alternative 1 would convert the project site to 40 acres of development and 70 acres of fully accessible active and passive recreational uses.

Under Alternative 1 development will be focused in two "nodes", one at the "point" and one in the southeast portion of the site. Development at the "point" will focus on providing office space, and cultural and entertainment uses with a small amount of high-rise, multi-family residential uses. Development in the southeast node will focus on lower density residential uses, such as townhomes. Retail will be provided in both nodes and will occur on the ground floors of several of the proposed buildings. Introduction of these uses provides several benefits to the community. The first is adding additional units to the area's housing stock that currently do not exist. The second is providing retail uses that not only complement the community but are accessible. Finally, the cultural and entertainment uses proposed for the "point" could provide new and unique ways to enjoy Poplar Point.

In addition, the alternative would improve visual and physical access to the river through such features as a canoe landing, meadow shoreline, and an observation tower. The use of pedestrian bridges or other similar features would improve connectivity with the existing Anacostia community and areas across the river. Thus, although there would be a loss of open space, the remaining open space (as well as the developed area) would be enhanced with more useful public amenities and would provide better connectivity to adjacent neighborhoods. The central portion of the site would include preserved wetlands, a created wetlands area, and space for active recreation. Overall, there would be moderate long-term adverse impacts due to the loss of open space, but also moderate long-term positive impacts due to improved access and bringing new housing, jobs and services to an underserved and deserving area.

Context Area

Redevelopment of the site under Alternative 1 has the potential to create short-term minor adverse impacts to adjacent land uses, including additional noise, increased traffic, and dust from construction operations. These impacts, however, would stop once construction activities are complete.

Anacostia Park: Under Alternative 1 the US Park Police facility would be relocated to the northern end of Anacostia Park, heavily influencing the land use in that area. Locating residential development in the southeast portion of the site allows easy access for residents to access the site to use the recreational uses there. Also Alternative 1 proposes open space along the shore and east of the residential area, creating contiguous habitat. Anacostia Park recently undertook a planning effort that resulted in a

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master plan for the site. Redevelopment at Poplar Point was considered during this effort, thus short-term impacts will be moderate positive impacts and long-term impacts will be minor and positive.

Howard Road: Based on the new investment, uses and activities proposed at the site, along with population growth anticipated at full build-out, Alternative 1 could spur additional commercial development immediately surrounding the site. Although the 11 acres of land on Howard Road is under private ownership, Alternative 1 could influence redevelopment patterns that complement and benefit both the project site and adjacent parcels. Based on the retail approach of Alternative 1 and resulting market forces, the parcels on Howard Road may be redeveloped with "big box" retail uses. The neighborhood and linear ground floor retail format of Alternative 1 would adequately balance a nearby large-scale retail establishment and could help to create a more cohesive waterfront shopping district. This development would result in a minor to moderate long-term positive impact to land use.

Martin Luther King, Jr. Avenue Central Business Corridor: Development under Alternative 1 would be compatible with the low and medium density business uses along the Martin Luther King, Jr. Avenue Business Corridor. The 210,000 gsf of proposed retail space at Poplar Point could complement the existing specialty shops along the corridor, which could have a moderate positive impact on the local commercial enterprises by creating additional demand. The additional demand is the result of the new residents to the area living at the site and people visiting the site, who may not have come to the area before. Buildings proposed under Alternative 1 will be larger in height and scale than what currently exists along MLK Avenue. To offset this, ground floor retail will be employed along major pedestrian corridors to mimic the pedestrian-scale experience of MLK Avenue. Development under this alternative could also benefit the existing housing in this corridor, as it may induce residential infill development and provide additional opportunities to strengthen the neighborhood.

Anacostia Heights: Anacostia Heights has suffered from disinvestment and inadequate public services. Alternative 1 could expedite the current and proposed revitalization efforts for this area by increasing the population in the area, increasing infrastructure capacity and providing new opportunities for businesses. It would also increase the connectivity between Anacostia Heights and the waterfront through the construction of a pedestrian bridge at Chicago Street and the vehicular bridge at W Street. Long-term positive impacts resulting from the increased connectivity and potential for revitalization would be moderate. Most impacts are likely to occur in the northern part of the neighborhood, in closest proximity to Poplar Point.

Fairlawn Neighborhood: Fairlawn is characterized as a middle-income neighborhood with traditional row houses, duplexes, small apartment buildings, and detached bungalows. Development under Alternative 1 would not likely influence future residential uses in the area due to the neighborhood's strong housing stock. However, the proposed action may indirectly spur infill development of retail uses because uses closest to this neighborhood are residential. Thus, there could be minor long-term positive impacts to land uses within the Fairlawn Neighborhood due to the continued revitalization.

Barry Farm Neighborhood: In late 2006, Washington, DC City Council approved the Barry Farm/Park Chester/Wade Road Community Revitalization Plan, with hopes of transforming the area into a vibrant,

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economically diverse, mixed-use community. Alternative 1 would be compatible with the redevelopment planned for the Barry Farm neighborhood, by providing a major investment in a traditionally underserved area. This investment could make the larger area a more attractive location for residents, encouraging further investment at locations such as Barry Farm. Thus, there could be minor long-term positive impacts to Barry Farm.

St. Elizabeths: Construction under Alternative 1 would not likely result in land use impacts to the St. Elizabeths campus. The proposed action could provide housing for the new employees introduced by the campus redevelopment.

Capitol Riverfront Area: Under Alternative 1, a pedestrian bridge would connect Poplar Point to the west side of the Anacostia River. The pedestrian bridge would improve connectivity, potentially enhancing the commercial and recreational uses around the Ballpark including the Florida Rock property. In addition, the Poplar Point development could further contribute to redevelopment efforts surrounding areas such as Buzzard Point.

Southeast Federal Center "DC Yards": The DC Yards is mixed-use development with residential and retail opportunities located across the river. Together, both projects would help revitalize the waterfront and provide residents and tourists with greater access to the river. Although Alternative 1 would not directly impact this area, the redevelopment of Poplar Point could help accelerate the redevelopment efforts due to increased investment, public amenities, resident population, new retail and cultural uses. In addition, a pedestrian bridge across the Anacostia River would increase connectivity between the east and west sides of the river. Long-term impacts would be positive and minor.

Washington Navy Yard: Construction under Alternative 1 would not likely result in land use impacts to the Washington Navy Yard because it is primarily built-out as a federal military facility.

Hains Point/East Potomac Park: Construction under Alternative 1 would not likely result in land use impacts to Hains Point or East Potomac Park.

NSF Anacostia/Bolling Air Force Base: Construction under Alternative 1 would not likely result in land use impacts to the nearby installation.

<u>Cumulative Impacts</u>

When considered with other ongoing and planned redevelopment projects in the area, this alternative would have moderate long-term positive cumulative impacts on land uses in the surrounding community. Over the last decade, several redevelopment efforts west of the river have been initiated and many more are being undertaken. Redevelopment under this alternative is likely to benefit the surrounding community East of the River by furthering revitalization efforts and reinforcing neighborhood character.

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Conclusion

Implementation of Alternative 1 is expected to have moderate positive impacts on local land use. Although there would be a loss of open space acreage on site, Alternative 1 would create an active mixed-use neighborhood that could:

- Strengthen connections to the waterfront and to the surrounding neighborhoods;
- Bring needed investment to Anacostia; and
- Raise the area's profile.

Further, by altering uses on the project site, and potentially influencing land use patterns in the surrounding community, the implementation of Alternative 1 would have long-term impacts on land use.

Mitigation

- Maximize vehicular and pedestrian connections to adjacent commercial corridors and neighborhoods; utilize W and Chicago streets to enhance connections with Anacostia Heights;
- Ensure that buildings on Poplar Point do not turn their back on existing neighborhoods;
- Provide a mix of retail uses that complement existing and future uses along MLK Avenue – through a variety of floor plates, national chains and "mom and pop" locations; and
- Provide residential and retail uses first to bring new customers and services.

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4.2.1.4 Alternative 2

Direct and Indirect Impacts

Project Site

The project site is currently comprised of approximately 40 acres of accessible parkland and open space, 30 acres of fenced off space, and 40 acres devoted to NPS facilities and infrastructure. Alternative 2 would convert the project site to 40 acres of development and 70 acres of active and passive recreational uses.

Under Alternative 2, development would be compacted in the central portion of the site around the Metro station. The intent is to create a walkable, transit-focused development that would become a regional retail shopping destination. Large-format retail establishments are proposed directly adjacent to the Metro station allowing easy access for shoppers. The retail core is supplemented by residential uses located at the perimeter of the development area. Buildings will be larger in height and scale closer to the Metro station, gradually getting smaller as you move towards the water. Extending from the Metro station is a “main street” corridor that would include ground floor retail. Introduction of these uses would benefit the community in several ways. The first is by removing all contamination from the existing wetlands to create usable and safe open space areas for residents and visitors. The second is providing large-format retail options to the community that are not currently available. Finally, adding quality housing units to the community’s housing stock will attract new residents and provide new options for current residents.

In addition, the alternative would improve visual and physical access to the river through such features as a riverfront observation deck and a waterfront overlook. The use of pedestrian bridges or other similar features would improve connectivity between Historic Anacostia and the Anacostia Metro Station. Thus, although there would be a loss of open space, the remaining open space (as well as the developed area) would be enhanced with public amenities and would provide better connectivity to adjacent neighborhoods. A created wetland habitat, a soft marsh edge and a community garden would be maintained on the point and along the edge of the river. Overall, there would be moderate long-term adverse impacts due to the loss of open space, but also moderate long-term positive impacts due to improved access and the creation of valuable public amenities.

Study Area

Generally redevelopment has the potential to create short-term adverse direct impacts to adjacent land uses, including additional noise, increased traffic from construction vehicles, and dust from construction operations. These impacts, however, would be minor and would stop once construction activities were completed.

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Anacostia Park: Under Alternative 2 the US Park Police facility would be relocated to the northern end of Anacostia Park, heavily influencing the land use in that area. Locating residential development in the central portion of the site allows for large amounts of open space in the eastern part of the site and at the "point". This open space will provide contiguous habitat and serve to connect the green space of Anacostia Park with that of Poplar Point. Anacostia Park recently undertook a planning effort that resulted in a master plan for the site. Redevelopment at Poplar Point was considered during this effort, thus short-term impacts will be moderate positive impacts and long-term impacts will be minor and positive.

Howard Road: Based on the new investment, uses and activities proposed at the site, along with the population growth anticipated at full build-out, Alternative 2 could spur additional commercial development immediately surrounding the site. Although the 11 acres of land on Howard Road is under private ownership, Alternative 2 could influence redevelopment patterns that complement and benefit both the project site and adjacent parcels. Based on the retail approach of Alternative 2 and resulting market forces, it is assumed that 11 acres of land would be redeveloped as mixed-use retail. The large, regional retail format in Alternative 2 would provide an attractive variation of retail uses, when combined with the mixed-use retail on Howard Road. Long-term positive impacts would be minor to moderate.

Martin Luther King, Jr. Avenue Central Business Corridor: Development under Alternative 2 would be compatible with the low and medium density business uses along the Martin Luther King, Jr. Business Corridor. The 354,373 gsf of proposed retail space at Poplar Point would complement the specialty shops on Martin Luther King, Jr. Avenue and could have a moderate positive impact on the local commercial uses by creating additional demand. This additional demand is the result of the new residents moving to the area and living at the site along with people visiting Poplar Point, who many not have come to the area before. Development under this alternative could also benefit the existing housing stock in this corridor, as it may induce residential infill development and provide additional opportunities to strengthen the neighborhood. The height and scale of some of the buildings proposed under Alternative 2 will be much larger and taller than those currently along MLK Avenue. Buildings along the "main street" will contain ground floor retail uses to create a pedestrian-scale experience similar to that of MLK Avenue.

Anacostia Heights: Anacostia Heights has suffered from disinvestment and inadequate public services. Alternative 2 would help the current and proposed revitalization efforts for this area through increasing population in the area and providing new attractive retail uses. It would also increase the connectivity between Anacostia Heights and the waterfront through the construction of a pedestrian bridge at W Street and new vehicular connections from the 11th Street Bridge, the South Capitol Street Bridge, and Chicago Street. Long-term positive impacts resulting from the increased connectivity and potential for revitalization would be minor. Most impacts are likely to occur in the northern part of the neighborhood, in closest proximity to Poplar Point.

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Fairlawn Neighborhood: Development under Alternative 2 would not likely change the residential uses in Fairlawn due to its strong existing residential base. Additionally, because the development is clustered around the Metro, the site would be less likely to be used by Fairlawn residents. The major investment associated with the proposed action could, however, bring a renewed sense of interest in the area. This interest could, in turn, spur infill development between the project site and Fairlawn. Thus, there could be minor long-term positive impacts to land uses within the Fairlawn Neighborhood due to the potential for revitalization.

Barry Farm Neighborhood: Alternative 2 would be compatible with the redevelopment currently taking place in the Barry Farm neighborhood, making the larger area a more attractive location for residents through major reinvestment. In addition, the proposed pedestrian bridge at W Street would serve to reconnect the area to the waterfront. Redevelopment at Poplar Point was considered during this effort, thus minor long-term positive impacts due to increased connectivity and the potential for revitalization could result from the implementation of Alternative 2.

St Elizabeths Campus: Construction under Alternative 2 would not likely result in land use impacts to the St. Elizabeths Campus. The proposed action could provide housing to accommodate the additional employees generated by that development.

Capitol Riverfront Area: In contrast to Alternative 1, Alternative 2 does not propose a pedestrian bridge that spans the Anacostia River. However, new vehicular access points at the 11th Street Bridge and South Capitol Street would provide greater connectivity to the areas east and west of the river. Alternative 2 also proposes a water taxi service that would have a minor benefit to the Ballpark and to new development at Buzzard Point and the Florida Rock property by providing an alternate form of transportation that would strengthen the connection between the east and west neighborhoods, and that would increase opportunities for tourism. This could result in minor long-term positive impacts to land use.

Southeast Federal Center "DC Yards": Alternative 2 would not directly impact this property. The implementation of Alternative 2 could have indirect impacts on the DC Yards by accelerating development in this area due to increased investment, public amenities, resident population and introduction of new cultural and retail uses. In addition, the water taxi proposed under Alternative 2 would increase connectivity between the east and west sides of the river. Overall, there would be minor long-term positive impacts on the DC Yards resulting from the implementation of Alternative 2.

Washington Navy Yard: Construction under Alternative 2 would not likely result in land use impacts to the nearby installation.

Hains Point/East Potomac Park: Construction under Alternative 2 would not likely result in land use impacts to Hains Point or East Potomac Park.

NSF Anacostia/Bolling Air Force Base: Construction under Alternative 2 would not likely result in land use impacts to the nearby installation.

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Cumulative Impacts

When considered together with other ongoing and planned redevelopment projects in the area, this alternative would have long-term moderate positive cumulative impacts on land use in the surrounding community. Over the last decade, several redevelopment efforts have been initiated and many more are being undertaken. Redevelopment under this alternative would likely benefit the surrounding community through revitalization efforts and reinforcing the neighborhood character.

Conclusion

Implementation of Alternative 2 is expected to have moderate positive impacts on local land use. Although there would be a loss of open space acreage on site, Alternative 2 would create an active mixed-use neighborhood that could:

- Strengthen connections to the waterfront and to the surrounding neighborhoods;
- Bring needed investment to Anacostia; and
- Raise the area's profile.

Further, by altering uses on the project site, and potentially influencing land use patterns in the surrounding community, the implementation of Alternative 2 would have long-term impacts on land use.

Mitigation

- Maximize vehicular and pedestrian connections to adjacent commercial corridors and neighborhoods; utilize W and Chicago streets to enhance connections with Anacostia Heights;
- Ensure that buildings on Poplar Point do not turn their back on existing neighborhoods;
- Provide a mix of retail uses that complement existing and future uses along MLK Avenue – through a variety of floor plates, national chains and "mom and pop" locations; and
- Provide residential and retail uses first to bring new customers and services.

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4.2.1.5 Alternative 3

Direct and Indirect Impacts

Project Site

The project site is currently comprised of approximately 40 acres of accessible parkland and open space, 30 acres of fenced-off open space, and 40 acres devoted to NPS facilities and infrastructure. Alternative 3 would convert the project site to 40 acres of development and 70 acres of active and passive recreational uses.

Under Alternative 3 the developed area would be located entirely in the eastern portion of the site. The intent is to extend the Anacostia community and activate the waterfront. Low-rise buildings are located in the area closest to the existing community and as you move towards the waterfront, the height and scale of the buildings increases. Retail uses will be medium format, located across from the Metro, and on the ground floor of buildings extending from the Metro to the waterfront. Office uses are located in close proximity to the metro and a cultural/entertainment and hotel destination is located at the waterfront. Introduction of these uses will benefit the community in several ways. The first is by creating an active and accessible waterfront with uses that are not found in the area. The second is by providing high quality housing to attract new residents and increase the quality of the existing housing stock. Finally, by providing retail uses that complement those found on Martin Luther King Jr. Avenue.

In addition, the alternative would improve visual and physical access to the river through the construction of features such as a two-level promenade, a pier, a marina, and a water taxi. Constructed wetland habitat, a community park, and an amphitheater would be maintained at the west end of the site, on the point and along the edge of the river. The use of pedestrian bridges or other similar features would improve connectivity with Historic Anacostia and the Anacostia Metro Station. Thus, although there would be a loss of open space, the remaining open space (as well as the developed area) would be enhanced with public amenities and better connectivity to adjacent neighborhoods. Overall, there would be moderate long-term adverse impacts due to the loss of open space, but also moderate long-term positive impacts due to improved access and the creation of valuable public amenities.

Study Area

Redevelopment under Alternative 3 has the potential to create short-term adverse impacts to adjacent land uses due to additional noise, increased traffic, and dust from construction operations. These impacts, however, would be minor and would cease once construction activities are completed.

Anacostia Park: Under Alternative 3 the US Park Police facility would be relocated to the northern end of Anacostia Park, heavily influencing the land use in that area. Locating residential development in the eastern portion of the site, allows residents easy access to the park. Anacostia Park recently undertook a planning effort that resulted in a master plan for the site. Redevelopment at Poplar Point was

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considered during this effort, thus short-term impacts will be moderate positive impacts and long-term impacts will be minor and positive.

Howard Road: Based on the new investment, uses and activities proposed at the site, along with population growth anticipated at full build-out, Alternative 3 could spur additional commercial development immediately surrounding the site. Although the 11 acres of land on Howard Road is under private ownership, Alternative 3 could influence redevelopment patterns that complement and benefit both the project site and adjacent parcels. Based on the development approach of Alternative 3 and the resulting market forces, it is assumed that these areas would be redeveloped for government office use. Long-term positive impacts would be minor to moderate.

Martin Luther King, Jr. Avenue Central Business Corridor: Development under Alternative 3 would be compatible with the low and medium density business uses along the Martin Luther King, Jr. Business Corridor. The 354,373 gsf of proposed retail space at Poplar Point would complement the specialty shops on the MLK Business Boulevard and could have a moderate positive impact on commercial uses by increasing demand. The increased demand would come from the new residents living at the site and from people visiting, who may have no visited Poplar Point before. Because this alternative could also add approximately 9,460 residents to the area and over 2,110 employees, commercial uses could be sustained by the area's large and stable customer base. Building heights and scale in Alternative 3 are oriented so shorter, smaller scale buildings are closest to the existing community. As you move towards the waterfront, the buildings get larger. This was done to accomplish the intent of this alternative, which is to extend the community.

Anacostia Heights: Anacostia Heights has suffered from disinvestment and inadequate public services. Alternative 3 would help revitalization efforts within this area by supporting increased retail activity and tourism-related expenditures. The Alternative would also have a positive impact by increasing connectivity to the waterfront through the construction of pedestrian bridges at Chicago and W Streets and new vehicular connections from the 11th Street Bridge, South Capitol Street, and Chicago Street. Long-term positive impacts resulting from the increased connectivity and potential for revitalization would be minor. Most land use impacts are likely to occur in the northern end of the neighborhood in closest proximity to Poplar Point.

Fairlawn Neighborhood: Development under Alternative 3 would not likely change the residential uses in Fairlawn due to its strong existing residential base. However, because the development is clustered in the eastern portion of the site closest to Fairlawn demand for additional services may rise. Also, the major investment associated with the proposed action could, however, bring a renewed sense of interest in the area. This interest could, in turn, spur infill development between the project site and Fairlawn. Thus, there could be minor long-term positive impacts to land uses within the Fairlawn Neighborhood due to the potential for revitalization.

Barry Farm Neighborhood: Alternative 3 would be compatible with the redevelopment currently taking place in the Barry Farm neighborhood, by providing a major investment and renewed interest in the

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area. The development of Poplar Point could complement the transformations in this area and make it a more attractive location for residents. The proposed pedestrian bridges at Chicago and W Street proposed under Alternative 3 would reconnect the neighborhood to the waterfront. Redevelopment at Poplar Point was considered during this effort, thus, long-term positive impacts from the enhanced connectivity and potential for revitalization would be minor.

St. Elizabeths Campus: Construction under Alternative 3 would not likely result in land use impacts to the St Elizabeths. The proposed action could provide housing to accommodate the additional employees generated by that development.

Capitol Riverfront Area: Alternative 3 does not propose a pedestrian bridge that spans the Anacostia River. However, new vehicular access points from the 11th Street Bridge and South Capitol Street would provide greater connectivity to the areas east and west of the River. Alternative 3 proposes a water taxi service that would have a minor positive impact on the Ballpark and new development at Buzzard Point and the Florida Rock property by providing an alternate form of transportation, which would strengthen the connection between the east and west neighborhoods, and would increase opportunities for tourism. This could result in minor long-term positive impacts to land use.

Southeast Federal Center "DC Yards": Although, Alternative 3 would not directly impact this area, it could indirectly accelerate development in this area, because the development would increase the population in the area and provide new cultural and retail uses. The water taxi proposed under Alternative 3 would increase connectivity between the east and west sides of the river. Overall, there would be minor long-term positive impacts on the DC Yards resulting from the implementation of Alternative 3.

Washington Navy Yard: Construction under Alternative 3 would not likely result in land use impacts to the nearby installation.

Hains Point/East Potomac Park: Construction under Alternative 3 would not likely result in land use impacts to Hains Point or East Potomac Park.

NSF Anacostia/Bolling Air Force Base: Construction under Alternative 3 would not likely result in land use impacts to the nearby installation.

<u>Cumulative Impacts</u>

When considered together with other ongoing and planned redevelopment projects in the area, this alternative would have moderate long-term positive cumulative impacts on land uses in the surrounding community. Over the last decade, several redevelopment efforts have been initiated and many more are being undertaken. Redevelopment under this Alternative is likely to benefit the surrounding community by furthering revitalization efforts and by reinforcing neighborhood character.

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Conclusion

Implementation of Alternative 2 is expected to have moderate positive impacts on local land use. Although there would be a loss of open space acreage on site, Alternative 2 would create an active mixed-use neighborhood that could:

- Strengthen connections to the waterfront and to the surrounding neighborhoods;
- Bring needed investment to Anacostia; and
- Raise the area's profile.

Further, by altering uses on the project site, and potentially influencing land use patterns in the surrounding community, the implementation of Alternative 2 would have long-term impacts on land use.

Mitigation

- Maximize vehicular and pedestrian connections to adjacent commercial corridors and neighborhoods; utilize W and Chicago streets to enhance connections with Anacostia Heights;
- Ensure that buildings on Poplar Point do not turn their back on existing neighborhoods;
- Provide a mix of retail uses that complement existing and future uses along MLK Avenue – through a variety of floor plates, national chains and "mom and pop" locations; and
- Provide residential and retail uses first to bring new customers and services.

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4.2.2 Planning Policies

4.2.2.1 Methodology and Assumptions

Analysis Methods

This section examines the compatibility and consistency of each of the proposed alternatives to the plans, policies, and regulations relevant to the project site and study area. A review of the relevant plans and policies was conducted to assess the applicability to the Proposed Action. The federal and local policies applicable to the Proposed Action include:

Federal Plans and Policies

- *Comprehensive Plan for the National Capital: Federal Elements*
- *Extending the Legacy*
- *Memorials and Museums Master Plan*
- 1910 Height of Buildings Act

Local Plans and Policies

- Comprehensive Plan for the National Capital: District Elements
- Anacostia Waterfront Initiative Framework Plan (AWI)
- Center City Action Agenda
- East of the River Project Plan
- Anacostia Transit Area Strategic Investment Plan
- Strategic Neighborhood Action Plans for Neighborhood Clusters 28, 34,and 37
- Current and proposed District zoning regulations

Assumptions

In general, the area of analysis for planning impacts is the Poplar Point site and the surrounding community. The surrounding community includes the neighborhoods of Ward 8, as well as the areas directly across the river from Poplar Point (i.e. the Washington Navy Yard, Nationals Ballpark, etc.) that could be directly or indirectly impacted by the redevelopment of the site under any of the proposed alternatives.

Impact Thresholds

The following thresholds were used to determine the magnitude of impacts on planning polices:

Positive: A positive impact occurs when an alternative is consistent with or fulfills applicable land use plans and policies.

Minor: A minor adverse impact occurs when an alternative is generally compatible with applicable plans and policies; however, there may be limited inconsistencies with specific goals, objectives, and priorities of these plans.

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Moderate: A moderate adverse impact occurs when an alternative is compatible with several applicable plans and policies yet also inconsistent with several plans and policies. A moderate adverse impact is sufficient enough to cause a noticeable change and may alter or inhibit the goals, objectives, and priorities of these plans.

Major: A major adverse impact occurs when an alternative is largely inconsistent and incompatible with applicable plans and policies. The conflicts with the goals, objectives, and priorities of these plans would be substantial, widespread, and long-term.

Duration

Short-term impacts would occur during construction, while long-term impacts would represent more permanent changes, persisting beyond the construction period.

4.2.2.2 No Action Alternative

Direct and Indirect Impacts

Under the No Action Alternative, Poplar Point would remain under the jurisdiction of the National Park Service and would continue to operate as a passive recreational space. The site itself would continue to exhibit some degree of soil/groundwater contamination and would suffer from an overall lack of connectivity to its surrounding neighborhoods and communities. The vast majority of the applicable plans call for the redevelopment of the Poplar Point site and the revitalization of the surrounding neighborhoods. Because the No Action Alternative does not support these goals and is largely inconsistent with the applicable plans and policies in the study area, it would have a long-term moderate adverse impact on plans and policies.

Cumulative Impacts

The implementation of the No Action Alternative would result in long-term moderate adverse impacts to plans and policies. When considered with the impacts of other past, present, and reasonably foreseeable future actions, including redevelopment of Barry Farm, revitalization of Martin Luther King Jr. Avenue, and full build-out of St. Elizabeths, there would be a major adverse cumulative impact because the majority of Poplar Point would continue to be inaccessible despite the increased demand for usable open space and amenities.

Conclusion

Under the No Action Alternative, the project site would not be redeveloped. This would be inconsistent with several federal and District plans, because of the fenced-off and inaccessible open space and unrealized potential of the waterfront at Poplar Point, there would be long-term moderate adverse impact.

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4.2.2.3 Alternative 1

Direct and Indirect Impacts

Comprehensive Plan for the National Capital: Federal Element

Alternative 1 supports the *Federal Environment*, *Parks and Open Space*, and *Preservation of Historic Feature*s goals to protect, preserve, and enhance the region's natural resources. Alternative 1 would be consistent with the *Federal Environment Element* because all of the wetlands on site would be preserved in place, and direct impacts to wetland are avoided. While development on the project site would increase the amount of impervious surface, using wetlands as a vegetated buffer between the proposed development and the river, as proposed in Alternative 1, could reduce non-point source pollutants and help restore Anacostia River's natural functions. Alternative 1 would be consistent with the environmental policies in this plan because it would provide enhancements to Stickfoot Creek, which add many ecological benefits and an invaluable aesthetic amenity to both the site and surrounding community.

The *Parks and Open Space Element* of the Comprehensive plan states that "it is the goal of the federal government to conserve and enhance the park and open space system of the National Capital Region, ensure that adequate resources are available for future generations, and promote an appropriate balance between open space resources and the built environment." Alternative 1 supports the policies within this portion of the Comprehensive Plan, as it provides over 70 acres of park space, including athletic fields, interpretive trails, walkways, and boardwalks. Alternative 1 would enhance the region's open space system and develop the banks of the Anacostia River as a high-quality urban park with a mix of active and passive recreational opportunities.

The *Preservation of Historic Features Element* seeks to integrate new development within the framework of the L'Enfant and McMillan Plans. Alternative 1 the supports historic preservation policies of this plan because it would enhance the appearance of the nation's capital, protect views that are an integral to the region's image, and preserve the horizontal character of the city through adherence to the Building Heights Act.

Extending the Legacy

Extending the Legacy calls for re-centering the District around the Capitol and suggests Poplar Point as a site for redevelopment to include museums, restaurants, housing, parks, and shopping venues. Alternative 1 is generally consistent with this vision. The plan further suggests that the Anacostia waterfront remain primarily undeveloped and informal in character to complement the surrounding neighborhood setting. While Alternative 1 would introduce many uses to Poplar Point, it would also preserve 70 acres for passive recreational spaces, interpretive trails, and athletic fields that both encourage activity and protect the open space character of the waterfront. In addition, Alternative 1 would preserve the continuous green space along the east side of the Anacostia River.

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Memorials and Museums Master Plan

Within the *Memorials and Museums Master Plan*, Poplar Point would be mentioned as one of the primary areas for the location of new memorials, museums, and commemorative sites. Alternative 1 is consistent with the goals in the Memorials and Museums Master Plan, because two key locations at the project site would be reserved as commemorative sites.

1910 Height of Buildings Act

Under this Act, the maximum allowable building height is limited to the width of the street plus 20 feet, with a general height limit of 130 feet throughout the District of Columbia. In the areas surrounding the project site, building heights vary from 40 feet to 90 feet. Under Alternative 1, building heights would range from 50 to 130 feet, which would support the objectives of this Act and complements the scale of the surrounding neighborhoods.

Comprehensive Plan for the National Capital: District Elements

The Comprehensive Plan for the National Capital: District Elements is comprised of 13 Citywide Elements. The sections relevant to Poplar Point include *Land Use*, *Transportation*, *Housing*, *Environmental Protection*, *Economic Development*, *Historic Preservation*, and the *Lower Anacostia Waterfront/Near Southwest Area* elements.

The revitalization efforts under Alternative 1 would fulfill stated land use and economic goals by providing a mixed-use development that would be compatible with the surrounding residential community and which would encourage continued reinvestment in the community. Alternative 1 would help rejuvenate the surrounding area by increasing job opportunities, improving the stability of existing businesses, and attracting additional residents and visitors to the area, all of which align with the District's *Land Use* goals and polices.

Alternative 1 is consistent with the applicable policies of the *Transportation* element, as most of the proposed residential development under Alternative 1 is within a ¼ mile of the existing Metrorail system. In addition to incorporating rail in its transportation plan, Alternative 1 would add new points of vehicular access north of the proposed South Capitol Street Circle and at W Street. This Alternative is also consistent with the *Transportation* Element because it would promote alternative modes of transportation through the use of pedestrian bridges over the Anacostia River and at Chicago Street, as well as interpretive trails and a pedestrian-friendly development structure.

Contrary to the goals of the plan, there would be a reduction in the total amount of open space and some existing trees would have to be removed to accommodate new development. However, to mitigate this impact, new trees would be planted on the site upon completion of construction and existing inaccessible open space would be transformed into attractive parkland and enhanced habitat. Alternative 1 supports the goals of the *Environmental Protection* and the *Parks, Recreation and Open Space* elements of this plan because it would create parkland for both passive and active recreation uses and protects or enhances the site's natural ecology.

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In accordance with the *Historic Preservation Element*, Alternative 1 would preserve and enhance the Anacostia riverfront. Furthermore, the alternative would protect the area's topographic character and preserve the wooded skyline along its ring of escarpments. While the development under Alternative 1 would not intrude upon views of the Anacostia Highlands from the Monumental Core, it would partially alter views from the Washington Navy Yard. Further, Alternative 1 would require the removal of the Engineer's House.

Alternative 1 supports the policies of The *Lower Anacostia Element* of the Comprehensive Plan, which calls for mixed-use development that enhances the waterfront experience, encourages the siting of new museums and cultural attractions, provides park land with a variety of active and passive uses, promotes environmental preservation, and contributes to the overall economic revitalization of the surrounding community. Alternative 1 would fulfill the objectives of this Element and provides multiply economic, recreation, and ecological benefits to the surrounding community.

AWI Framework Plan

Under Alternative 1, the proposed mixed-use development would establish a new image of the Anacostia waterfront and remove existing barriers to public waterfront access. Alternative 1 includes plans for enhancing connectivity by adding a pedestrian bridge across I-295 at Chicago Street and across the Anacostia River. Furthermore, development of the project site would transform the area into a vibrant mixed-use neighborhood and accelerate the AWI efforts to improve the Anacostia waterfront.

Because Alternative 1 would provide more than 70 acres of park land and preserve 6.25 acres of existing wetlands in place, it would exceed the open space provisions of the AWI. Alternative 1 would also meet other AWI goals by daylighting Stickfoot Creek, adding boat landings to the waterfront, and providing a wealth of new residential units, recreational spaces, and cultural amenities.

Center City Action Agenda

Alternative 1 would satisfy several of the goals outlined for Poplar Point as a major development site in the Center City Action Agenda. Alternative 1 would bring economic development and retail services East of the River and connect to existing communities through a pedestrian bridge across the Anacostia River and pedestrian connections at Chicago Street and Howard Road.

SNAPs

The implementation of Alternative 1 would introduce significant investment and physical improvements to Poplar Point and likely induce further development and revitalization of nearby Southeast neighborhoods. Alternative 1 would provide new and diversified community services. This alternative would also meet the plan's environmental goals by enhancing the ecological function of the site and adjacent river.

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Cumulative Impacts

Alternative 1 would meet the goals and objectives put forth in numerous federal and District plans and policies. Through the economic development of Poplar Point, implementation of Alternative 1, when considered with other ongoing or planned projects in the surrounding area, could contribute to the revitalization of Anacostia and result in a moderate positive cumulative impact to applicable land use and planning policies.

Conclusion

Development under Alternative 1 would transform an underutilized parcel into a vibrant mix of uses and thus would fulfill man of the goals and objectives of the relevant plans and policies, resulting in a long-term moderate positive impact. However, the Alternative would not comply with portions of other policies and plans; it would reduce the total amount of open space and result in the loss of a portion of Anacostia Park; it would alter natural area and habitat by removing contamination and invasive species; and it would partially modify views of the Anacostia Highlands from the Washington Navy Yard.

Mitigation

- Develop a vibrant mix of uses that complement Historic Anacostia
- Ensure connections to Anacostia
- Protect and enhance natural areas

4.2.2.4 Alternative 2

Direct and Indirect Impacts

Comprehensive Plan for the National Capital: Federal Elements

The overarching goal of the *Federal Environment* section is to protect, preserve, and enhance the region's natural resources. Alternative 2 would be moderately inconsistent with this section of the Plan because all of the existing wetlands on site are removed to create a compact and walkable retail destination. In response to the removal of the site's wetlands, replacement wetlands would be constructed. Because the removal of the site's existing wetlands would also remediate the areas of environmental contamination, this alternative is consistent with the fundamental goals and objectives present in this environmental section of the Plan. Additionally, Alternative 2 would include enhancements to Stickfoot Creek, which would provide many ecological benefits and an invaluable aesthetic amenity to the site and the surrounding community.

Alternative 2 supports the policies of the *Parks and Open Space* portion of Comprehensive Plan, as it would provide over 70 acres of park land; pocket parks between buildings and along the perimeter of the project site to diversify recreational opportunities; a gradual system of terraces leading towards the shoreline; and a wealth of interpretive trials, walkways, and boardwalks. Consistent with the parks and open space policies in this plan, Alternative 2 would enhance the region's open space system and

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develop the banks of the Anacostia River into a high-quality urban park with a mix of active and passive recreational opportunities.

The *Preservation of Historic Features Element* seeks to integrate new development within the framework of the L'Enfant and McMillan Plans. Alternative 2 would support the policies in this section because it would enhance the appearance of the nation's capital, protect views that are an integral to the region's image, and preserve the horizontal character of the city through adherence to the Building Heights Act.

Extending the Legacy

Extending the Legacy calls for the re-centering the District around the Capitol and suggests Poplar Point as a site for redevelopment to include museums, restaurants, housing, parks, and shopping venues. Alternative 2 is generally consistent with this vision. The plan further suggests that the Anacostia waterfront remain primarily undeveloped and informal in character to complement the surrounding neighborhood setting. While Alternative 2 would introduce multiple uses to Poplar Point, it would also preserve 70 acres as park land including passive recreational spaces, interpretive trails, and athletic fields that both encourage activity and protect the open character of the waterfront. In addition, Alternative 2 would preserve the continuous area of green space along the east side of the Anacostia River.

Memorials and Museums Master Plan

Within the *Memorials and Museums Master Plan*, Poplar Point is mentioned as one of the primary areas for the location of new memorials, museums, and commemorative sites. Alternative 2 would be consistent with the goals in the *Memorials and Museums Master Plan*, because two key locations would be reserved as commemorative sites.

1910 Height of Buildings Act

Under this Act, the maximum allowable building height is limited to the width of the street plus 20 feet, with a general height limit of 130 feet throughout the District of Columbia. In the areas surrounding the project site, building heights vary from 40 feet to 90 feet. Under Alternative 2, building heights would range from 50 to 130 feet, which would support the objectives of this Act and complements the scale of the surrounding neighborhoods.

Comprehensive Plan for the National Capital: District Elements

The revitalization efforts under Alternative 2 meet the District's land use and economic goals by providing a mixed-use development that is compatible with the surrounding residential community and would encourage continued reinvestment. Alternative 2 could rejuvenate the surrounding area by increasing job opportunities, improving the stability of existing businesses, and attracting additional visitors and residents to the area, all of which align with the District's *Land Use* goals and polices.

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Alternative 2 is consistent with the applicable policies of the *Transportation* element, as most of the proposed residential development is within a ¼ mile of the existing Metrorail system. Alternative 2 would also promote alternative modes of transportation through the use of pedestrian bridges, interpretive trails, and by placing development adjacent to existing community infrastructure. This alternative would also transform Anacostia Drive from a vehicular roadway to a pedestrian pathway along the River, increasing the potential for recreational and educational opportunities. Alternative 2 would add new points of vehicular access from the 11th Street Bridge, South Capitol Street, and Chicago Street.

Contrary to the goals of the plan, there would be a reduction in the total amount of open space and some existing trees would have to be removed to accommodate new development. However, to mitigate this impact, new trees would be planted on the site upon completion of construction and existing inaccessible open space would be transformed into attractive parkland and enhanced habitat. Alternative 2 supports the goals of the *Environmental Protection* and the *Parks, Recreation and Open Space* elements of this plan because it would create parkland for both passive and active recreation uses and protects or enhances the site's natural ecology.

In accordance with the *Historic Preservation Element*, Alternative 2 would preserve and enhance the Anacostia riverfront. Furthermore, the alternative would protect the area's topographic character and preserve the wooded skyline along its ring of escarpments by gradually reducing building heights as you move towards the water. While development under Alternative 2 would not intrude upon views of the Anacostia Highlands from the Monumental Core, it would partially alter views from the Washington Navy Yard. Alternative 2 would require the removal of the Anacostia Seawall and result in the loss of a portion of Anacostia Park.

The *Lower Anacostia Element* of the Comprehensive Plan calls for a mixed-use development that enhances the public's waterfront experience; encourages the siting of new museums and cultural attractions; provides parkland with a variety of active and passive uses; promotes environmental preservation; and contributes to the overall economic revitalization of the surrounding community. Alternative 2 would fulfill the objectives of this Element by providing various economic, recreation, and ecological benefits to the surrounding community.

AWI Framework Plan

Development of the Poplar Point site would further the goals of the Anacostia Waterfront Initiative by transforming the area and accelerating future development opportunities. Initiatives integral to this portion of the plan include provisions for adding more than four acres of new wetlands and 60 acres of park land. Alternative 2 provides more than 70 acres of improved park land. Consistent with the Plan, Alternative 2 also meets the AWI Framework's goals by daylighting Stickfoot Creek, adding boat landings to the waterfront, and providing a wealth of new residential units, recreational spaces, and cultural amenities.

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Center City Action Agenda

Alternative 2 would satisfy several of the goals outlined for Poplar Point as a major development site in the Center City Action Agenda. Alternative 2 would bring economic development and retail services East of the River and connect by to the community through a pedestrian bridge across the Anacostia Freeway at W Street and a pedestrian connection at Howard Road.

SNAPs

Development of the Poplar Point site would introduce significant investment and physical impairments to Poplar Point and likely induce further development and revitalization of nearby Southeast neighborhoods. Revitalization would meet economic goals by encouraging further development and diversification of community services. This alternative meets the Plan's land use objectives by constructing a development that compatible with the existing neighborhood character.

Cumulative Impacts

Alternative 2 would meet the goals and objectives put forth in numerous federal and District plans and policies. Through the economic development of Poplar Point, implementation of Alternative 2, when considered with other ongoing or planned projects in the surrounding area, could contribute to the revitalization of Anacostia and result in a moderate positive cumulative impact to applicable land use and planning policies.

Conclusion

Development under Alternative 2 would transform an underutilized parcel into a vibrant mix of uses and thus would fulfill man of the goals and objectives of the relevant plans and policies, resulting in a long-term moderate positive impact. However, the Alternative would not comply with portions of other policies and plans; it would reduce the total amount of open space and result in the loss of a portion of Anacostia Park; it would alter natural area and habitat by removing contamination and invasive species; and it would partially modify views of the Anacostia Highlands from the Washington Navy Yard.

Mitigation

- Develop a vibrant mix of uses that complement Historic Anacostia
- Ensure connections to Anacostia
- Protect and enhance natural areas

4.2.2.5 Action Alternative 3

Direct and Indirect Impacts

Comprehensive Plan for the National Capital: Federal Elements

The overarching goal of the Federal Environment section is to protect, preserve, and enhance the region's natural resources. In Alternative 3, only the highest functioning wetlands would be preserved

and new wetlands would be created to replace those lost during construction. Because most of the site's wetlands would be preserved and contamination is remediated, Alternative 3 would be consistent with the goals and objectives present in this environmental portion of the Plan. Alternative 3 would include enhancements to Stickfoot Creek, which would provide many ecological benefits and an invaluable aesthetic amenity to both the site and surrounding community.

Alternative 3 is consistent with The *Parks and Open Space Element* of the Comprehensive Plan, as it would provide over 70 acres of park land, athletic fields, and a promenade for both active and passive recreational uses. Consistent with the goals in this portion of the Plan, Alternative 3 would enhance the region's open space system by developing the banks of the Anacostia River as a high-quality urban park with a mix of active and passive recreational opportunities.

The *Preservation of Historic Features Element* seeks to integrate new development within the framework of the L'Enfant and McMillan Plans. Alternative 3 supports the policies in this section, as it enhances the appearance of the nation's capital, protects views that are an integral to the region's image, and preserves the horizontal character of the city through adherence to the Building Heights Act.

Extending the Legacy

Extending the Legacy calls for the re-centering of the District around the Capitol and suggests that redevelopment at Poplar Point should include museums, restaurants, housing, parks, and shopping venues. Alternative 3 would be consistent with this vision. The plan suggests that the Anacostia waterfront remain primarily undeveloped and informal in character to complement the surrounding neighborhood setting. While the Poplar Point development would include multiple uses, it would preserve 70 acres as park land including passive recreational spaces, interpretive trails, and athletic fields that both encourage activity and uphold the character of the waterfront.

Memorials and Museums Master Plan

Alternative 3 would consistent with the goals in the *Memorials and Museums Master Plan* as two key locations would be allocated for a range of memorials, gardens, commemorative sites, and signature cultural amenities.

1910 Height of Buildings Act

Under Alternative 3, building heights would range from 50 to 130 feet; this design supports the objectives in this Act by protecting the horizontal quality the skyline and by complementing the scale of the surrounding neighborhoods.

Comprehensive Plan for the National Capital: District Elements

The revitalization efforts under Alternative 3 would meet the District's land use and economic goals by providing a mixed-use development, compatible with the surrounding community and encouraging continued reinvestment in the area. Alternative 3 has the potential to rejuvenate the surrounding

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neighborhoods by increasing job opportunities, improving the stability of existing businesses, and attracting additional visitors to the area, all of which align with the District's *Land Use* goals and polices.

Alternative 3 would be consistent with the applicable policies of the *Transportation* element, as most of the proposed residential areas are within a ¼ mile of the existing Metrorail system. Alternative 3 would also promote alternative modes of transportation by the use of pedestrian bridges at W Street, Chicago Street, and locating development contiguous to the existing community.

Contrary to the goals of the plan, there would be a reduction in the total amount of open space and some existing trees would have to be removed to accommodate new development. However, to mitigate this impact, new trees would be planted on the site upon completion of construction and existing inaccessible open space would be transformed into attractive parkland and enhanced habitat. Alternative 2 supports the goals of the *Environmental Protection* and the *Parks, Recreation and Open Space* elements of this plan because it would create parkland for both passive and active recreation uses and protects or enhances the site's natural ecology.

In accordance with the *Historic Preservation Element*, Alternative 3 would preserve and enhance the Anacostia riverfront. Furthermore, the alternative would protect the topographic character of the area and preserve the wooded skyline along its ring of escarpments. While development under Alternative 3 would not intrude upon views of the Anacostia Highlands from the Monumental Core, it would alter views from the Washington Navy Yard. Alternative 3 would result in the loss of a portion of Anacostia Park.

The *Lower Anacostia Element* of the Comprehensive Plan calls for a mixed-use development that enhances the waterfront experience, encourages the siting of new museums and cultural attractions, provides park land with a variety of active and passive uses, promotes environmental preservation, and contributes to the overall economic revitalization of the surrounding community. Alternative 3 would support these objectives by providing various economic and ecological benefits to the surrounding community.

Center City Action Agenda

Alternative 3 would satisfy several of the goals outlined for Poplar Point as a major development site in the Center City Action Agenda. Alternative 3 would bring economic development and retail services East of the River and connect by to the community through a pedestrian bridge across the Anacostia Freeway at W Street and Chicago Street and a pedestrian connection at Howard Road.

SNAPs

Development of the Poplar Point site would introduce significant investment and physical impairments to Poplar Point and likely induce further development and revitalization of nearby Southeast neighborhoods. Revitalization would meet economic goals by encouraging further development and diversification of community services. This alternative meets the Plan's land use objectives by constructing a development that compatible with the existing neighborhood character.

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Cumulative Impacts

Alternative 3 would meet the goals and objectives put forth in numerous federal and District plans and policies. Through the economic development of Poplar Point, implementation of Alternative 3, when considered with other ongoing or planned projects in the surrounding area, could contribute to the revitalization of Anacostia and result in a moderate positive cumulative impact to applicable land use and planning policies.

Conclusion

Development under Alternative 3 would transform an underutilized parcel into a vibrant mix of uses and thus would fulfill man of the goals and objectives of the relevant plans and policies, resulting in a long-term moderate positive impact. However, the Alternative would not comply with portions of other policies and plans; it would reduce the total amount of open space and result in the loss of a portion of Anacostia Park; it would alter natural area and habitat by removing contamination and invasive species; and it would partially modify views of the Anacostia Highlands from the Washington Navy Yard.

Mitigation

- Develop a vibrant mix of uses that complement Historic Anacostia
- Ensure connections to Anacostia
- Protect and enhance natural areas

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4.2.3 Zoning

4.2.3.1 Methodology and Assumptions

Analysis Methods

This section examines the potential impact on zoning as a result of the proposed alternatives. If zoning changes are required as a result the alternatives, they have the potential to effect or influence other zoning districts in the surrounding area. Zoning impacts were determined by reviewing the District's recent zoning ordinances and maps, as well as land use patterns and growth trends.

Assumptions

The study area generally includes the areas in which the proposed alternatives could have a potential influence on future zoning, land use, or public policy. The area of analysis includes the project site, adjacent properties, and the surrounding communities within approximately a one mile radius.

Impact Thresholds

Thresholds were developed to identify the magnitude of potential zoning impacts resulting from the alternatives being considered. The following thresholds were used to determine the magnitude of impacts on zoning.

Negligible: The action is in compliance with local zoning ordinances.

Minor: The action is nearly in compliance with local zoning ordinances, as uses are similar.

Moderate: The action is in partial compliance with local zoning ordinances. Uses may not be compatible.

Major: The action is not in compliance with local zoning ordinances. Uses are not compatible.

Duration

Short-term impacts persist for less than five years. Long-term impacts persist beyond five years.

4.2.3.2 No Action Alternative

Direct and Indirect Impacts

The Poplar Point site is currently zoned GOV, Government. Under the No Action Alternative, development would not occur and Poplar Point would continue under its current zoning designation. As a result, land use and zoning would remain unchanged and impacts would be negligible.

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Cumulative Impacts

Because land uses and zoning would remain the same, the cumulative impact on zoning would be negligible.

Conclusion

The No Action Alternative would have a negligible impact on local zoning. While the No Action Alternative would not cause an adverse impact on zoning, it would conflict with the community's long range planning goals and several local planning policies.

4.2.3.3 Alternatives 1, 2, and 3

Analysis of Direct and Indirect Impacts

Implementation of any of the action alternatives would result in a substantial change in the physical character of the site. The site would change from passive recreation park land, to a mix of residential, office, retail, and recreational uses. Currently, the project site is zoned GOV. Under the action alternatives, the land would be transferred to the District of Columbia and local zoning regulations would apply. Under each of the three build alternatives, the project site would be assigned a W-2, waterfront medium density zoning designation.

The redevelopment of the project site could serve as a catalyst for further development in the surrounding area. Development would likely be consistent with current land use and zoning, as well as the applicable goals and policies within the Comprehensive Plan for the National Capital. Because indirect changes to land use and zoning are possible under Alternatives 1, 2, and 3, a long-term minor positive impact could be anticipated.

Cumulative Impacts

When considered with ongoing and future land use plans, the implementation of any of the action alternatives is not anticipated to adversely impact zoning or the overall character of the surrounding area. The redevelopment of the site, however, could spur additional redevelopment and/or zoning changes, resulting in a long-term minor impact.

Conclusion

Alternatives 1, 2, and 3 are expected to have a minor long-term positive impact on zoning in the surrounding community.

Mitigation

No mitigation measures for zoning are required.

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4.2.4 Community Facilities

4.2.4.1 Methodology and Assumptions

Analysis Methods

This section will evaluate the potential impact to community facilities from the redevelopment of Poplar Point. Community facilities include schools, recreational resources, medical care facilities, and public safety services such as fire and police protection. Changes to size, household composition, and age distribution are factors that were assessed to determine the impact on community facilities and/or the delivery of public services.

Assumptions

In general, the study area includes the project site and the surrounding neighborhoods within one mile of the site. The surrounding community includes areas and neighborhoods in which the proposed project could impact the community facilities or publicly funded services available to the community.

Impact Thresholds

The criteria used to identify community impacts are defined below:

Negligible: The demand and/or change in service levels for community facilities are nonexistent or barely detectable. The effect would not hinder operations or services offered at facilities. The effect would not require additional equipment or personnel to maintain acceptable service levels.

Minor: The demand and/or change in service levels for community facilities are small, but detectable. For minor adverse impacts, the effect may temporarily hinder operations or services offered at facilities. The effect may also require a small increase in equipment or personnel levels to maintain an acceptable service level. For minor positive impacts, the effect may temporarily improve operations or services offered at facilities.

Moderate: The demand and/or change in service levels for community facilities are readily apparent. A moderate adverse impact would hinder operations or services offered at facilities over a long period of time. The effect would require a modest increase in equipment or personnel levels to maintain an acceptable service level. A moderate positive impact would improve operations or services offered at a facility over a long period of time.

Major: The demand and/or change in service levels for community facilities are substantial. A major adverse impact would dramatically hinder operations or services offered, diminishing their use or function. Extensive mitigation measures would be needed to offset the adverse impacts, though their success may not be guaranteed. A major positive impact would dramatically improve operations or services offered.

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Duration

Short-term impacts would occur during construction or sporadically throughout the course of a year. Long-term impacts would persist beyond construction or would be constant for more than one year.

4.2.4.2 No Action Alternative

Direct and Indirect Impacts

Under this Alternative, development would not occur and Poplar Point would continue to operate as a passive recreational space managed by the National Park Service. There would be no change to the surrounding community associated with this project. The community and public facilities would continue to operate at demand levels similar to those in place today, and no displacement, loss, or change in service levels would occur. The No Action Alternative would thus have a negligible impact on community facilities within the study area.

Cumulative Impacts

Cumulative impacts were determined by combining the impacts of the alternative being considered with other past, present, and reasonably foreseeable future actions. As no changes to the site or surrounding community would occur under the No Action Alternative, there would be no cumulative impacts to community facilities.

Conclusion and Impairment Finding

The implementation of the No Action Alternative would result in negligible impacts to community facilities and public services. There would be no impairment of community facilities and public services.

4.2.4.3 Alternative 1

Short and Long-Term Impacts

Impacts to community facilities are examined in aggregate, and based on the changes to population, household composition, and age distribution at full build-out. Alternative 1 would be estimated to generate over 7,700 total residents and 3,630 employees upon completion. Impacts to schools, open space/recreational areas, medical resources, and public safety, are assessed below.

Schools

A total of 3,500 dwelling units are proposed under Alternative 1. These residential units would include a combination of low-income and market rate town houses, mid-rise, and high-rise structures. The number of students estimated to be added under Alternative 1 was calculated based on the *Housing in the Nation's Capital Report* (Fannie Mae Foundation, 2006). This reports states, "condominiums generate only seven public school students per 100 housing units, compared with 24 for multifamily rental housing and 40 for single-family housing, whether owner-occupied or rental", or.04 students per single family dwelling, .24 students per multi family unit, and .007 students per condominium. The

ratio of school age children per housing type in *Housing in the Nation's Capital* also corresponds with the U.S. Census Public Use Microdata Sample (PUMS) analysis. This analysis implies that the denser the housing is, the lower the number of students per dwelling. Single family units have the highest yield of school age children, though yields gradually decline as the number of units in a structure increase. Based on the best available data, 759 school age children would be added by the implementation of Alternative 1.

Table 4-1: Alternative 1, School Aged Children

Type	Average # of Units	# of School Aged Children Generated
Town house (condo)	350	3
Mid-rise (multi-family)	1,400	336
High-rise (multi-family)	1,750	420
Total school age children	**--**	**759**

*School aged children in town houses are generated at a ratio of .007, mid rise at .24, and high rise at .24

Using the most current enrollment data from the District of Columbia Public Schools (DCPS), the total population for the 2006-2007 school year was slightly under 50,000 students, of which 62% were in elementary school, 15% in middle school, and 24% in high school (ULI, DCPS School Enrollment Projections and Analysis, 2009). Assuming the distribution of school aged children remains equal for estimation purposes, Alternative 1 would result in the addition of 471 elementary students, 114 middle school students, and 183 high school students within the study area.

As documented in Section 3.1.3.1, each of the schools within the study area has excess capacity. There is adequate space for 543 more elementary school students, 1,074 middle school students, and 156 high school students within the study area. Together the study area schools could accommodate the influx of new elementary and middle school students. At its existing capacity, Anacostia Senior High School could not accommodate the new students resulting from Alternative 1; however, proposed improvements to the school will increase capacity to 1,100. This increase would be sufficient to accommodate the additional students from Alternative 1. Given the complex problem of predicting school enrollment and the impact on public facilities, these numbers should be used for estimation purposes only. This projection assumes that the increase in school age children on the site would be solely absorbed by DCPS traditional public schools. It does not take charter schools into effect. In contrast, public charter schools in the District of Columbia capture up to 30% of the student population and attendance has historically been highest among students living in neighborhoods east of the Anacostia River and in Northeast, where public school performance is much lower.

Based on the analysis provided above, Alternative 1 would have a negligible impact on the school facilities in the surrounding area.

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Open Space & Recreational Facilities

During the construction of Alternative 1, portions of the site would be inaccessible. Although unlikely, construction activities associated with Alternative 1 could also hinder access to other portions of Anacostia Park. However, adverse impacts would be short-term and minor.

The site consists of over 100 acres of park land, as well as the National Park Service complex and infrastructure. Alternative 1 would reduce the amount of park land on site to approximately 70 acres. This would result in a minor long-term adverse impact to recreational facilities in the area. However, this impact would be mitigated by the inclusion of a wide range of new passive and active recreational uses, memorials, and trails within the development.

In addition to enhancing recreational uses on the site recreational space, Alternative 1 would improve access to the parkland and the waterfront. As a result of the Interstate location, the surrounding neighborhoods are essentially isolated from the project site. The construction of a pedestrian bridge at Chicago Street would strengthen the connection between the neighborhoods and the waterfront, allowing residents better access to these important assets. This alternative includes a pedestrian bridge that spans the Anacostia River. This pedestrian bridge would provide the neighborhoods west of the Anacostia River with better access to the park lands on the east side of the river. This improved access would result in a long-term moderate positive impact to recreational facilities.

Additional recreational facilities in the vicinity of the project site include the Southeast Tennis and Learning Center, THEARC, the Smithsonian Institution's Anacostia Museum and Center for African American History, and several neighborhood recreation/community centers. Under this Alternative, redevelopment of the project site could introduce 7,700 total residents and 3,630 employees. Because of the number of recreational resources proposed under Alternative 1, residents and workers would have many of their recreational needs served by the site directly. Residents and employees who are inclined to use the recreational facilities in the surrounding community would generate a minor long-term adverse impact on recreational resources.

Medical Resources

The nearest community medical facility to Poplar Point is the Greater Southeast Community Hospital, located at 1310 Southern Avenue, SE, approximately three miles from the project site. While the onsite population would increase as a result of this alternative, this population increase would not represent a substantial increase in demand for this facility. Thus, long-term adverse impacts are anticipated to be minor.

Police Service

The project site is located within the jurisdiction of the Seventh District Metropolitan PSA. Although the District of Columbia does not track response time by PSA, Alternative 1 is not anticipated to create significant adverse impacts to service levels, personnel, or response times. Once construction is

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complete, a regular evaluation of staffing and other resources would need to be conducted to determine the impact on police services.

Typically, increases in population are associated with a greater demand for police services. However, it should also be noted that the opposite effect could occur. As a result of adding full-time residents and employees on the project site, this alternative enhances opportunities for natural surveillance and visibility, which subsequently discourages criminal activity. The Poplar Point site has the potential to induce additional renovation and reinvestment efforts within the surrounding community. In some of the more neglected areas of the surrounding community, this would be likely to have a positive impact, as it increases safety and the long-term well being of the neighborhood.

Fire Protection

The new residential and employee population generated on site is likely to increase the demand for both EMS and fire protection services. To determine the impact on service, equipment, and staff resources, the Fire Department would need to evaluate area operations over time and allocate resources on an as-needed basis. All of the structures on the site are expected to comply with the latest fire standards and would be constructed with modern fire suppression materials. Therefore, the impact on fire protection is anticipated to be negligible.

Cumulative Impacts

There could be short-term minor adverse impacts, and long-term minor adverse to moderate positive impacts to community facilities as a result of the implementation of Alternative 1. These impacts, when considered together with the planned improvements along the Anacostia Waterfront, could contribute to a moderate long-term positive impact to community facilities.

Conclusion and Impairment Finding

There could be short-term minor adverse impacts, and long-term minor adverse to moderate positive impacts to community facilities as a result of the implementation of Alternative 1. These impacts would not lead to an impairment of park resources.

Mitigation

- During construction, ensure access is maintained to Anacostia Park northeast of the project site;
- Once construction is complete, monitor demand for fire and emergency services to ensure that additional staffing is not required; and
- If necessary, supplement the city's provision of police services with a private security force.

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4.2.4.4 Alternative 2

Short and Long-Term Impacts

Impacts to community facilities are examined in aggregate, and based on the changes to population, household composition, and age distribution at the full completion. Alternative 2 provides 4,250 housing units and is estimated to generate over 9,350 total residents and 2,100 employees upon completion. Impacts to schools, open space/recreational areas, medical resources, and public safety, are assessed below.

Schools

Under Alternative 2, a total of 4,250 dwelling units are expected to be developed. These residential units would include a combination of low-income and market rate town houses, mid-rise, and high-rise structures. The number of students estimated to be added in Alternative 2 was calculated based on the *Housing in the Nation's Capital Report* (Fannie Mae Foundation, 2006). This reports states, "condominiums generate only seven public school students per 100 housing units, compared with 24 for multifamily rental housing and 40 for single-family housing, whether owner-occupied or rental", or.04 students per single family dwelling, .24 students per multi family unit, and .007 students per condominium. The ratio of school age children per housing type in *Housing in the Nation's Capital* also corresponds with the U.S. Census PUMS analysis. This analysis implies that the denser the housing, the lower the number of students per dwelling. Single family units have the highest yield of school age children, though yields gradually decline as the number of units in a structure increases. Based on the best available data, 1,020 school age children would be generated by Alternative 2.

Table 4-2: Alternative 2, School Aged Children

Type	Average # of Units	# of School Aged Children Generated
Town houses (condo)	0	0
Mid-rise (multifamily)	2,400	576
High-rise (multifamily)	1,850	444
Total school age children	**--**	**1,020**

*School aged children in townhomes are generated at a ratio of .007, mid rise at .24, and high rise at .24

Using the most current enrollment data from DCPS, the total population for the 2006-2007 school year was a little under 50,000 students, of which 62% were in elementary school, 15% in middle school, and 24% in high school (ULI, DCPS School Enrollment Projections and Analysis, 2009). Assuming the distribution of student-aged children remains equal for estimation purposes, Alternative 2 would result in the addition of 633 elementary students, 153 middle school students, and 245 high school students within the Poplar Point study area.

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As documented in Section 3.1.3.1, each of the schools within the study area has excess capacity. There is adequate space for 543 more elementary school students, 1,074 middle school students, and 156 high school students within the study area. Thus, while there is adequate capacity within the study area schools to accommodate the elementary and middle school students, there is not sufficient space to accommodate the increase in the number of high school students (there is a deficiency of 89 spaces). This projection assumes that the increase in school age children on the site would be solely absorbed by DCPS traditional public schools. It does not take charter schools into consideration. Public charter schools in the District of Columbia capture up to 30% of the student population and attendance has historically been highest among students living in neighborhoods east of the Anacostia River and in Northeast, where public school performance is much lower. Long-term impacts to schools are anticipated to be minor and adverse.

Open Space & Recreational Facilities

During the construction of Alternative 2, portions of the site would be inaccessible. Although unlikely, construction activities associated with Alternative 2 could also hinder access to other portions of Anacostia Park. However, adverse impacts would be short-term and minor.

The site consists of over 100 acres of park land, as well as the National Park Service complex and infrastructure. Alternative 2 would reduce the amount of park land on the project site to approximately 70 acres. This would result in a minor long-term adverse impact to recreational facilities in the area. However, this impact would be mitigated by the inclusion of a wide range of new passive and active recreational uses, memorials, and trails within the development.

In addition to enhancing recreational uses on the site recreational space, Alternative 2 would improve access to the parkland and to the waterfront. As a result of the Interstate location, the surrounding neighborhoods are isolated from the project site. The construction of a pedestrian bridge at W Street would strengthen the connection between the neighborhoods and the waterfront, allowing residents better access to this important asset. This improved access would result in a long-term moderate positive impact to recreational facilities.

Additional recreational facilities in the vicinity of the project site include the Southeast Tennis and Learning Center, THEARC, the Smithsonian Institution's Anacostia Museum and Center for African American History, and several neighborhood recreation/community centers. Redevelopment of the project site is expected to introduce 9,350 total residents and 2,100 employees. Because of the number of recreational resources on the project site, residents and workers are anticipated to have many of their recreational needs served by the new development directly. Residents and employees who are inclined to use the recreational facilities in the surrounding community would generate a minor long-term adverse impact on recreational facilities.

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Medical Resources

The nearest community medical facility to Poplar Point is the Greater Southeast Community Hospital, located at 1310 Southern Avenue, SE, approximately three miles from the project site. While the on-site population would increase as a result of this alternative, there should not be a substantial increase in demand that would impact service at the facility.

Police Service

The project site is located within the jurisdiction of the Seventh District Metropolitan PSA. Although the District of Columbia does not track response time by PSA, Alternative 2 is not anticipated to create significant adverse impacts to service levels, personnel, response times, or other police resources. Typically, the demand for additional police services cannot be determined until the need arises. If the development under Alternative 2 is constructed, a regular evaluation of staffing and other resources would need to be conducted to determine the impact on police services.

Typically, increases in population are associated with a greater demand for police services. However, the opposite effect could occur. As a result of adding full-time residents and employees on site, this alternative would enhance opportunities for natural surveillance and visibility, which could discourage criminal activity. In addition, the Poplar Point site has the potential to induce additional renovation and reinvestment efforts within the surrounding community. In some of the more neglected areas of the surrounding community, this is likely to have a positive influence as it would increase safety and the long-term well being of the neighborhood.

Fire Protection

The new residential and employee population generated on site is likely to increase the demand for both EMS and fire protection services. To determine the impact on service, equipment, and staff resources, the Fire Department would need to evaluate area operations over time and allocate resources on an as-needed basis. All of the structures on the site are expected to comply with the latest fire standards and would be constructed with modern fire suppression materials. Therefore, the impact on fire protection is anticipated to be negligible.

Cumulative Impacts

There could be short-term minor adverse impacts, and long-term minor adverse to moderate positive impacts to community facilities as a result of the implementation of Alternative 2. These impacts, when considered together with the planned improvements along the Anacostia Waterfront, could contribute to a moderate long-term positive impact to community facilities.

Conclusion and Impairment Finding

There could be short-term minor adverse impacts, and long-term minor adverse to moderate positive impacts to community facilities as a result of the implementation of Alternative 2. These impacts would not lead to an impairment of park resources.

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Mitigation

- During construction, ensure access is maintained to Anacostia Park northeast of the project site;
- Once construction is complete, monitor demand for fire and emergency services to ensure that additional staffing is not required;
- If necessary, supplement the city's provision of police services to the site with a private security force; and
- Consider a developer contribution if new school construction is necessary to accommodate additional high school students resulting from the redevelopment of Poplar Point.

4.2.4.5 Alternative 3

Short and Long-Term Impacts

Impacts to community facilities are examined in aggregate, and based on the changes to population, household composition, and age distribution at the full completion. Alternative 3 provides 4,300 housing units and is estimated to generate over 9,460 total residents and 2,110 employees upon completion. Impacts to schools, open space/recreational areas, medical resources, and public safety, are assessed below.

Schools

In Alternative 3, a total of 4,300 dwelling units are expected to be developed. These residential units would include a combination of low-income and market rate town houses, mid-rise, and high-rise structures. The number of students estimated to be generated in Alternative 3 is calculated based on the *Housing in the Nation's Capital Report* (Fannie Mae Foundation, 2006). This reports states, "condominiums generate only seven public school students per 100 housing units, compared with 24 for multifamily rental housing and 40 for single-family housing, whether owner-occupied or rental", or.04 students per single family dwelling, .24 students per multi family unit, and .007 students per condominium. The ratio of school age children per housing type in *Housing in the Nation's Capital* also corresponds with the U.S. Census PUMS analysis. This analysis implies that the denser the housing, the lower the number of students per dwelling. Single family units have the highest yield of school age children, though yields gradually decline as the number of units in a structure increase. Based on the best available data, 1,070 school age children would be added under Alternative 3.

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Table 4-3: Alternative 3, School Aged Children

Type	Average # of Units	# of School Aged Children Generated
Town house (condo)	150	2
Mid-rise (multifamily)	2,100	576
High-rise (multifamily)	2,050	492
Total school age children	**--**	**1,070**

*School aged children in townhomes are generated at a ratio of .007, mid rise at .24, and high rise at .24

Using the most current enrollment data from DCPS, the total population for the 2006-2007 school year was slightly under 50,000 students, of which 62% were in elementary school, 15% in middle school, and 24% in high school (ULI, DCPS School Enrollment Projections and Analysis, 2009). Assuming the distribution of student aged children remains equal for estimation purposes, Alternative 3 would result in the addition of 664 elementary students, 161 middle school students and 257 high school students within the Poplar Point study area.

As documented in Section 3.1.3.1, each of the schools within the study area has excess capacity. There is adequate space for 543 more elementary school students, 1,074 middle school students, and 156 high school students within the study area. While there is adequate capacity within the study area schools to accommodate the increase in the number of middle school students, there is not sufficient space to accommodate the increase in the number of elementary and high school students (there is a deficiency of 121 elementary school spaces and 101 high school spaces). It should be noted that this projection assumes that the increase in school age children on the site would be solely absorbed by DCPS traditional public schools. It does not take charter schools into consideration. Public charter schools in the District of Columbia capture up to 30% of the student population and attendance has historically been highest among students living in neighborhoods east of the Anacostia River and in Northeast, where public school performance is much lower. Long-term impacts to schools are anticipated to be minor and adverse.

Open Space & Recreational Facilities

During the construction of Alternative 3, portions of the site would be inaccessible. Although unlikely, construction activities associated with Alternative 3 could also hinder access to other portions of Anacostia Park. However, adverse impacts would be short-term and minor.

The site consists of over 100 acres of park land, as well as the National Park Service complex and infrastructure. Alternative 3 would reduce the amount of park land on the project site to approximately 70 acres. This reduction would result in a minor long-term adverse impact to recreational facilities in the area. However, this impact would be mitigated by the inclusion of a wide range of new passive and active recreational uses, memorials, and walkways within the development.

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In addition to enhancing recreational uses on the site recreational space, Alternative 3 would improve access to the parkland and to the waterfront. As a result of the Interstate location, the surrounding neighborhoods are isolated from the project site. The construction of pedestrian bridges at W and Chicago Streets would strengthen the connection between the neighborhoods and the waterfront, allowing residents to have better access to this important asset. This improved access would result in a long-term moderate positive impact to recreational facilities.

Additional recreational facilities in the vicinity of the project site include the Southeast Tennis and Learning Center, THEARC, the Smithsonian Institution's Anacostia Museum and Center for African American History, and several neighborhood recreation/community centers. Redevelopment of the project site is expected to add 9,350 total residents and 2,110 employees to the area. Because of the large number of resources on the project site, residents and workers are anticipated to have many of their recreational needs served by the development at the site directly. Residents and employees who are inclined to use the recreational facilities in the surrounding community would generate a minor long-term adverse impact on recreational resources.

Medical Resources

The nearest community medical facility to Poplar Point is the Greater Southeast Community Hospital, located at 1310 Southern Avenue, SE, approximately three miles from the project site. While the on-site population would increase as a result of this alternative, this is not anticipated to affect levels of service at this facility.

Police Service

The project site is located within the jurisdiction of the Seventh District Metropolitan PSA. Although the District of Columbia does not track response time by PSA, Alternative 3 is not anticipated to create significant adverse impacts to service levels, personnel, response times, or other police resources. Typically, the demand for additional police services cannot be determined until the need arises. If the development is constructed, a regular evaluation of staffing and other resources would need to be conducted to evaluate the impact on police services.

Typically, increases in population are associated with a greater demand for police services. However, the opposite effect could occur. As a result of adding full-time residents and employees on the project site, this alternative enhances opportunities for natural surveillance and visibility, which subsequently discourages criminal activity. The Poplar Point site has the potential to induce additional renovation and reinvestment efforts within the surrounding community. In some of the more neglected areas of the surrounding community, this is likely to have a positive influence, as it increases safety and the long term well being of the neighborhood.

Fire Protection

The new residential and employee population on site is likely to increase the demand for both EMS and fire protection services. To determine the impact on service, equipment, and staff resources, the Fire

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Department would need to evaluate area operations over time and allocate resources on an as-needed basis. All of the buildings on the site are expected to comply with the latest fire standards and would be constructed with modern fire suppression materials. Therefore, the impact on fire protection is anticipated to minor adverse.

Cumulative Impacts

There could be short-term minor adverse impacts, and long-term minor adverse to moderate positive impacts to community facilities as a result of the implementation of Alternative 3. These impacts, when considered together with the planned improvements along the Anacostia Waterfront, could contribute to a moderate long-term positive impact to community facilities.

Conclusion and Impairment Finding

As documented above, there could be short-term minor adverse impacts, and long-term minor adverse to moderate positive impacts to community facilities as a result of the implementation of Alternative 3. These impacts would not lead to an impairment of park resources.

Mitigation

- During construction, ensure access is maintained to Anacostia Park northeast of the project site;
- Once construction is complete, monitor demand for fire and emergency services to ensure that additional staffing is not required;
- If necessary, supplement the city's provision of police services at the project site with a private security force; and
- Consider a developer contribution if new school construction is necessary to accommodate additional high school students resulting from the redevelopment of Poplar Point.

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4.2.5 Demographics and Housing

Demographic and housing impacts are determined by changes to the residential population and employment patterns near the project site and in the larger study area. Changes that result from construction would be short-term in nature. Changes that ensue after build-out and continued operation could either directly or indirectly create a new set of conditions in the area, such as residential migration, changes in housing quality or value, and induced redevelopment of the surrounding areas. These changes would be considered the long-term impacts of the proposed action.

4.2.5.1 Methodology and Assumptions

Analysis Methods

This analysis is primarily based on estimates of the size of each component of development within the three alternatives, as presented in Table 4.4. The size range of the development components was determined by the project planners, and the average number of units or square feet was calculated based on this range; this number (the average value) is used for the remainder of the calculations in this analysis.

Table 4.4: Estimated Development Program of the 3 Alternatives

Development Program	*Alternative 1*			*Alternative 2*			*Alternative 3*		
	Range			Range			Range		
	Min	Max	Average	Min	Max	Average	Min	Max	Average
Town house (units)	300	400	350	0	0	0	130	170	150
Mid-rise (units)	1,200	1,600	1,400	2,300	2,500	2,400	1,800	2,400	2,100
High-rise (units)	1,500	2,000	1,750	1,700	2,000	1,850	1,800	2,300	2,050
Total Residential (units)	3,000	4,000	3,500	4,050	4,500	4,250	3,670	4,870	4,300
Liner (sq ft)	160,000	170,000	165,000	175,000	209,000	192,000	125,000	175,000	150,000
Medium Format (sq ft)	44,000	46,000	45,000	150,000	170,000	160,000	0	0	0
Large Format (sq ft)	0	0	0	280,000	316,000	298,000	95,000	125,000	110,000
Office (sq ft)	1,250,000	1,550,000	1,400,000	550,000	590,000	570,000	700,000	760,000	730,000
Other (sq ft)	475,000	525,000	500,000	525,000	575,000	550,000	430,000	490,000	460,000
Total Commercial (sq ft)	1,929,000	2,291,000	2,110,000	1,680,000	1,860,000	1,770,000	1,350,000	1,550,000	1,450,000

In order to estimate the number of full-time residents present on the project site at build-out, an estimate of the average household size (number of persons per units) in Washington, DC was gathered from the 2005-2007 American Community Survey (ACS). This value (2.2 persons per unit) was then multiplied by the average number of units to estimate the number of residents living in Poplar Point for each alternative (Table 4.5). Though it is unlikely each residential product type would have the same average household size (high-rise condominiums tend to have smaller households than town houses), data on the typical household size by product type was not available for this study.

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Table 4.5: Estimated Number of Residents in Each Alternative at Build-Out

Product Type	Alternative 1	Alternative 2	Alternative 3
Townhome	770	0	330
Mid-rise	3,080	5,280	4,620
High-rise	3,850	4,070	4,510
Total Residents	**7,700**	**9,350**	**9,460**

Employment density estimates from the Energy Information Administration of the US Department of Energy (2003), along with the average square foot estimates, were used to determine the number of full-time employees that would work within Popular Point at build-out. The employment density estimates vary by principal building activity, as shown in Table 4.6.

Table 4.6: Estimated Number of Employees in Each Alternative at Full Build-Out

Principal Activity	Employment Density	Alternative 1	Alternative 2	Alternative 3
Retail	1250 sq ft/emp	170	520	210
Office	435 sq ft / emp	3,220	1,310	1,680
Other (cultural center, hotel)	2,075 sq ft/emp	240	270	220
Total Employees		**3,630**	**2,100**	**2,110**

Assumptions

For this impact topic, the area of analysis, or study area, includes Ward 8 and the neighborhoods to the west directly across the river from Poplar Point.

Impact Thresholds

Thresholds were established to adequately define the magnitude of the impact on demographics and housing. These thresholds will describe the impacts of the proposed action relative to the site's existing conditions. Note that positive demographic and housing impacts result in improvements to the environment while adverse impacts would diminish the condition of the environment.

Negligible: Effects would be below detectable levels or detectable only through indirect means and with no discernible changes to the population or the housing conditions of the environment.

Minor: Effects would be detectable but localized in geographic extent and not expected to change the population or housing conditions of the environment.

Moderate: Effects would be readily detectable across a broad geographic area and could appreciably change the population and housing conditions of the environment.

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Major: Effects would be readily apparent, extend across the entire community or region, and are likely to noticeably change the population and housing conditions of the environment.

Duration

Short-term impacts would occur during the construction period. Long-term impacts would occur during operation of the project.

4.2.5.2 No Action Alternative

Direct and Indirect Impacts

Under the No Action Alternative, the project site would continue to be the home of the US Park Police Aviation Section Facility, the US Park Police Anacostia Operations Facility, the National Park Service – National Capital Parks-East Headquarters, and a large parking garage for the Washington Metropolitan Area Transit Authority's Anacostia Station. The site's predominant land use would also continue to be park land. Therefore, there would be no change in demographics and housing in Poplar Point or the surrounding community. No one currently lives on the Poplar Point site.

Cumulative Impacts

Under the No Action Alternative, there would be negligible impacts to demographics and housing and thus no cumulative impacts to population and housing.

Conclusion

As no changes to demographics or housing would occur due to the No Action Alternative, this alternative would have a negligible impact on population and housing.

4.2.5.3 Alternative 1

Direct and Indirect Impacts

At build-out, approximately 7,700 people would reside in 3,500 housing units within the project site, and the retail and office components of the project would result in the addition of over 3,600 permanent jobs within Poplar Point. The retail shops, cultural center, and recreation spaces would also attract additional visitors to the area, particularly during the weekends.

As no one currently resides at Poplar Point, no direct impacts to housing are anticipated under this alternative. However, the daytime employee population of Poplar Point would be affected by this alternative. The employees of the US Park Police Aviation Section Facility, the US Park Police Anacostia Operations Facility, and the National Park Service – National Capital Parks-East Headquarters would be relocated to north of Good Hope Road; this relocation could cause a minor, short-term disruption of the facility operations. Also in the short-term, construction activities on-site would have a minor, indirect impact on the day-time population of the communities surrounding the project site; this impact would

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be both positive and adverse, as a larger daytime population would affect street congestion but also could improve safety and would provide a larger customer base for local businesses.

The addition of 3,500 housing units (7,800 residents) and over 3,600 employees to Poplar Point would have an indirect impact on the demographics and housing of the neighborhoods of Ward 8 surrounding the project site. A portion of the new employees may choose to move to the area in order to be closer to work. There may also be changes to the existing shops in the neighborhood, as well as an influx of more retail and businesses, to serve the new employees and residents. Both activities could result in an increase in the demand for housing in the area and an increase in the property value of existing housing.

New, market rate residential construction usually demands a higher price than older housing comparable in size and amenities. Therefore, though the specific sale or rental prices of the units are unknown at this time, the low incomes (under $23,500 in 1999 according to the 2000 US Census) of the households in the study area indicate that the permanent residents of Poplar Point would have higher incomes than the majority of the study area's existing residents. The higher incomes, and therefore greater purchasing power, of the new residents would likely induce more retail businesses into the area. This trend could increase demand for existing housing, thus escalating property values. However, as the Southeast DC market is currently under-served by retail and services, the increase in businesses driven by the new population should also improve the quality of life of existing residents.

The additional residents and employees of Poplar Point would also have an indirect impact on the western neighborhoods directly across the river from Poplar Point. However, due to the presence of the river, the impact should be similar yet less significant than the impact on Ward 8, particularly in the short-term. In the long-term, this Alternative would create direct access to the waterfront, with the aim of drawing residents, employees, and visitors across the river in both directions.

Cumulative Impacts

As discussed in Chapter 3, there are several planned redevelopment and developments projects currently in the pipeline or under construction in the study area. These new investments, such as the redevelopment of Barry Farm/Park Chester/Wade Road and the proposed development at St. Elizabeths East Campus, in conjunction with the development of Alternative 1, would have a moderate cumulative impact on population and housing in the long-term. These impacts would be both adverse and positive, further improving the quality of life for nearby residents while placing increasing pressure on housing demand and likely escalating property values.

Conclusion

Action Alternative 1 would have a minor, short-term impact and a moderate, long-term impact on demographics and housing in Ward 8 and a minor, long-term impact on the neighborhoods across the river from Poplar Point. These impacts would be both adverse and positive.

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Mitigation

- An emphasis should be placed on increasing the supply of affordable housing in the area, as has already begun through the development of Henson Ridge HOPE VI in 2005 and is proposed for St. Elizabeths East.
- The City should consider creating a property tax endowment to assist low income homeowners with increases in property taxes or capping property tax increases for current residents; the inability to pay increasing property taxes is one of the primary drivers for economic displacement among homeowners.
- The City should consider a commercial stabilization planning process involving current Ward 8 residents and businesses. Through this process, participants create a shared vision of the commercial district, determine the public and private resources available to realize this vision, and develop a plan of active community-oriented management to ensure new investment benefits the current community. This would also help achieve the project's goal to complement, and not compete with, the existing amenities in the Anacostia community.

4.2.5.4 Alternative 2

Direct and Indirect Impacts

At build-out, almost 9,400 people would reside in 4,300 housing units within the project site, and the retail and office components of the project would result in the addition of approximately 2,100 permanent jobs within Poplar Point. As this alternative includes a large, regional format retail component in close proximity to a Metro station, as well as a cultural center and recreation opportunities, it is anticipated that visitors from across the region would be drawn to Poplar Point, significantly increasing the daytime population on-site, particularly during the weekends.

No direct impacts to housing are anticipated under this alternative as there are currently no residents on site. However, the daytime, employee population of Poplar Point would be affected by this alternative. The employees of the US Park Police Aviation Section Facility, the US Park Police Anacostia Operations Facility, and the National Park Service – National Capital Parks-East Headquarters would be relocated to north of W Street. This relocation could cause a minor, short-term disruption of the operations of the facilities. Also in the short-term, construction activities on-site would have a minor, indirect impact on the day-time population of the communities surrounding the project site. This impact would be both positive and adverse, as a larger daytime population would affect street congestion but also could improve safety and would provide a larger customer base for local businesses.

The addition of approximately 4,300 housing units (9,400 residents) and over 2,100 employees to Poplar Point would have an indirect impact on the demographics and housing of the neighborhoods of Ward 8 surrounding the site. A very small portion of the new employees may choose to move to the area in order to be closer to work. As a large portion of the jobs produced through this alternative are low wage retail jobs, it is more likely the new employees would come from the existing nearby neighborhoods. There may also be changes to the existing shops in the surrounding neighborhoods, as well as an influx

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of more retail and businesses, to serve the new employees and residents. Both activities could result in an increase in the demand for housing in the area and an increase in property values of existing housing.

Though the specific sale or rental prices of the housing units has yet to be determined, the low incomes (under $23,500 in 1999 according to the 2000 U.S. Census) of the households in the study area indicate that the permanent residents of Poplar Point would have higher incomes than the majority of existing residents in order to afford to rent or buy a new, market rate unit. The greater purchasing power of the new residents could induce more retail businesses in the area. In addition, as this alternative's significant retail component is intended to be a regional draw, if successful, the greater purchasing power of the larger region could further attract businesses to the Ward 8 neighborhoods near the Metro station and Poplar Point. This could increase demand for existing housing, escalating property values. However, as the Southeast Washington, DC market is currently under-served by retail and services, the increase in businesses driven by the new population should also improve the quality of life for existing residents.

The additional residents and employees of Poplar Point would also have an indirect impact on the western neighborhoods directly across the river from Poplar Point. However, due to the division created by the river and lack of strong connection across the river, the impact would be significantly less than the impact on Ward 8.

Cumulative Impacts

New investments in the study area, such as the redevelopment of Barry Farm/Park Chester/Wade Road and the proposed development at St. Elizabeths East Campus, combined with the development of Alternative 2, would have a moderate cumulative impact on population and housing in the long-term. These impacts would be both adverse and positive, furthering improving quality of life of study area residents while placing increasing pressure on housing demand and likely escalating property values.

Conclusion

Action Alternative 2 would have a minor, short-term impact and a moderate, long-term impact on demographics and housing in Ward 8 as well as a minor, long-term impact on the neighborhoods across the river from Poplar Point. These impacts would be both positive and adverse. The new retail and office development would provide additional services and employment opportunities for existing residents. However, the large number of higher income residents (adding almost 40 percent more residents to the study area, including the communities west of the river) and the regional retail proposed for this alternative could attract shops and businesses that do not serve the existing residents. It is also possible that the large amount of new retail proposed on the site could draw existing residents and visiting patrons away from existing shops.

Mitigation

- A commercial stabilization planning process involving current residents and businesses is recommended for Ward 8. Active community-oriented management of existing shops and

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vacant retail opportunity sites could help ensure the new investment benefits the current community.

- An emphasis should be placed on increasing the supply of affordable housing in the area, and strategies to reduce the impact of rising property taxes should be implemented for current, low income homeowners.

4.2.5.5 Alternative 3

Direct and Indirect Impacts

At build-out, over 9,400 people would reside in 4,300 housing units within the project site, and the retail and office components of the project would result in the addition of approximately 2,100 permanent jobs within Poplar Point. The retail shops, cultural center, and recreational opportunities would also attract additional visitors to the area, particularly during the weekends.

As no one currently lives in Poplar Point, no direct impacts to housing are anticipated under this alternative. However, the daytime employee population of Poplar Point would be affected. The employees of the US Park Police Aviation Section Facility, the US Park Police Anacostia Operations Facility, and the National Park Service – National Capital Parks-East Headquarters would be relocated to south of Good Hope Road. This relocation could cause a minor, short-term disruption of the operations of the facilities. Also in the short-term, construction activities on-site would have a minor, indirect impact on the day-time population of the communities surrounding the project site. This impact would be both positive and adverse, as a larger daytime population could affect street congestion but also could improve safety and would provide a larger customer base for local businesses.

The addition of 4,300 housing units (9,400 residents) and over 2,100 employees to Poplar Point would have an indirect impact on the demographics and housing of the neighborhoods of Ward 8 surrounding the site. Though it is assumed that the majority of new employees already live in the Washington, DC metropolitan area, a small portion of employees may choose to move to the area in order to be closer to work. There may also be changes to the existing shops and an influx of new shops to the neighborhood to serve the new employees and residents. Both activities could result in an increase in the demand for housing in the area and an increase in property values of existing housing.

In order to afford new, market rate housing, the new residents of Poplar Point would likely have higher incomes than the current residents of Ward 8, who had incomes under $23,500 in 1999 according to the 2000 U.S. Census. The higher incomes, and therefore greater purchasing power, of the new residents would likely induce more retail businesses into the area. This could increase demand for existing housing, escalating property values. However, as the Southeast DC market is currently under-served by retail and services, the increase in businesses driven by the new population should also improve the quality of life of the existing residents.

The additional residents and employees of Poplar Point would also have an indirect impact on the western neighborhoods directly across the river from Poplar Point. However, due to the presence of the river, the impact would be less significant than the impact on Ward 8. While Alternative 3 extends the

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development to the waterfront, creating a visual connection, it does not physically extend a pedestrian bridge across the river to improve access.

Cumulative Impacts

The combined effect of new investments in the study area and the development of Alternative 3 would have a moderate, cumulative impact on population and housing in the long-term. These impacts would be both adverse and positive, furthering improving quality of life for study area residents while placing increasing pressure on housing demand and further escalating property values.

Conclusion

Action Alternative 3 would have a minor, short-term impact and a moderate, long-term impact on demographics and housing in Ward 8 and a minor, long-term impact on the neighborhoods across the river from Poplar Point. These impacts would be both adverse and positive.

Mitigation

- An emphasis should be placed on increasing the supply of affordable housing in the area and mitigating the effect of property tax increases on existing, low income homeowners.
- A commercial stabilization planning process involving current residents and businesses is recommended for Ward 8; this plan of active community-oriented management would ensure new investment benefits the current community.

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4.2.6 Environmental Justice

4.2.6.1 Methodology and Assumptions

Analysis Methods

The goal of an environmental justice impact analysis is to:

1. Identify potential disproportionately high and adverse human health or environmental effects on minority or low-income populations, and
2. Identify alternatives that may mitigate these impacts.

Environmental justice impacts are determined by changes to the health and environmental quality of the communities within the study area. The changes may be those that result from project construction (short-term) or may be caused after build-out and full operation of the site (long-term). These long-term changes might include patterns of land use, changes in population density or community cohesion, increased urbanization, effects to natural systems, changes in travel patterns, or accessibility and safety issues.

Certain cultural, social, occupational, historical, and economic characteristics of an affected community may amplify the environmental effects of an action, as populations vary in their sensitivity to and resiliency in adapting to the effects of a proposed action. An environmental justice analysis must measure the levels of intensity for identified impacts, including:

- The degree to which the proposed action may affect the safety and health of such communities, and whether the effects are disproportional with those on the rest of the population;
- The degree to which the action may affect unique environmental characteristics valued by the affected communities, such as recreation areas;
- The extent to which the action could affect historic properties or other cultural resources important to the affected communities;
- The potential for impacts to be controversial in the eyes of the affected community;
- The potential for uncertain or unknown risks to the community;
- The degree to which the action may set precedents for carrying out other similar actions in the potentially affected community, or in other similar communities;
- The contribution the proposed action could make to cumulative impacts on the affected community, including exposure to one or more chemical, biological, physical, or radiological agents across air, water, soil, or other environmental media over time; and
- Whether the proposed action could result in violation of a Federal, State, Indian Tribal, or local law designed to protect the potentially affected communities from disproportionate adverse environmental impacts.

In addition to measures of intensity, the distribution of environmental and health effects within the affected community is important. Any affected communities that would disproportionately bear the burden of an action are considered to experience high and adverse impacts related to the action.

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Assumptions

For this impact topic, the area of analysis, or study area, includes Ward 8 and the neighborhoods to the west directly across the river from Poplar Point.

Impact Thresholds

To adequately define the magnitude of the environmental justice impact, the following thresholds were established. These thresholds describe the impacts of the proposed action relative to the site's existing conditions. Positive impacts result in improvements to established health and safety conditions of the environment while adverse impacts would diminish the condition of the environment.

Negligible: Effects would be below detectable levels or detectable only through indirect means and with no discernible effect on the health and safety conditions of the environment.

Minor: Effects would be detectable but localized in geographic extent or size of population affected and not expected to alter the health and safety conditions of the environment.

Moderate: Effects would be readily detectable across a broad geographic area or segment of the community and could have an appreciable effect of the health and safety conditions of the environment.

Major: Effects would be readily apparent, affect a substantial segment of the population, extend across the entire community or region, and are likely to have a noticeable effect on the health and safety conditions of the environment.

Duration

Short-term impacts would occur during the construction period. Long-term impacts would occur during operation of the project.

4.2.6.2 No Action Alternative

Direct and Indirect Impacts

As discussed in Chapter 3, all tracts within the study area were determined to qualify as potential Environmental Justice Communities of Concern using US Census data. Under the No Action Alternative, the existing uses would remain on-site and thus there would be negligible impacts to Environmental Justice Communities.

Cumulative Impacts

There would be negligible direct and indirect impacts to Environmental Justice communities as a result of the No Action Alternative. There would be no cumulative impacts.

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Conclusion

This alternative would not have disproportional ecological or health impacts on low-income and minority residents. However, the study area would not experience the positive impacts of increased investment at Poplar Point. Positive impacts might include increased employment opportunities and retail services. As the open space of Poplar Point is currently disconnected from the surrounding communities and as portions of the project site are fenced-off due to contamination, the No Action Alternative would preclude the community from realizing Poplar Point's full recreation potential.

4.2.6.3 Alternatives 1, 2 and 3

Direct and Indirect Impacts

The development of the action Alternatives would likely have a minor to moderate, positive impact on the potentially affected communities by increasing job opportunities in both the short- and long-term, and adding additional retail opportunities in the long-term. During construction, workers on-site might also patronize the existing businesses in the surrounding community, which would have a minor, positive, indirect impact on the area in the short-term. However, also in the short-term, construction activities could increase noise and air pollution and increase road congestion, potentially adversely affecting the neighboring residents and businesses. These impacts would not be disproportionately high or adverse. The surrounding communities would benefit from the remediation of contaminated portions of the project site. Finally, as all three alternatives would provide a range of both passive and active recreational uses on approximately 70 acres of open space, development at Poplar Point could improve recreation opportunities for the surrounding community in the long-term.

Cumulative Impacts

Several planned redevelopment and development projects are currently in the pipeline or under construction in the vicinity of Poplar Point, including the redevelopment of Barry Farm/Park Chester/Wade Road, and the proposed development at St. Elizabeths East Campus. The activity of these projects combined with the development proposed under the three action alternatives would likely have a long-term, moderate positive impact on the economic conditions of the study area. In the short-term, the cumulative construction activities may increase noise and air pollution and increase road congestion. The timing of construction should be coordinated to minimize these impacts.

Conclusion

Development of Action Alternatives 1, 2 and 3 would have a negligible effect on the health and safety conditions of the environment in the long-term. In the short-term, due to construction activities, development may have a negligible to minor, adverse impact on nearby communities.

Mitigation

- Construction impacts should be mitigated through the coordination of construction routes and activities with the surrounding community.

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4.2.7 Economic/Fiscal Resources

4.2.7.1 Methodology and Assumptions

Analysis Methods

The impacts of the proposed project on economic and fiscal resources are determined primarily by additional spending in the economy as a result of project construction and by money collected by various municipalities through taxes, including real property taxes, sales and use taxes, and individual income taxes. This analysis examines changes within the actual development site (direct impacts), changes that occur in response to the project in the areas neighboring the proposed development site (indirect impacts), and changes caused by combining the impacts of the alternative being considered with other past, present, and reasonably foreseeable future actions (cumulative impacts).

Construction Spending and Short-Term Job Impacts

The method of analysis for this section requires a specific analysis using the Bureau of Economic Analysis' Regional Input-Output Modeling System (RIMS II). RIMS II provides regional input-output (I-O) multipliers, which account for inter-industry relationships within regions, in order to estimate how much a one-time increase in economic activity (i.e. project construction) would be supplied by industries located in the Washington–Arlington–Alexandria, DC–VA–MD–WV Metropolitan Statistic Area (MSA) region. The RIMS II model is commonly used in both the public and private sectors in order to estimate the economic impact resulting from new development projections.

Table 4.7 displays the estimated cost to build the residential and commercial components of each development alternative. Total project costs are significantly higher than these estimates, as these estimates do not include infrastructure, landscape construction (recreation space and constructed wetlands), environmental remediation, or soft costs (architecture, engineering, financing costs).

Table 4.7: Summary of Development Costs

	Alternative 1	Alternative 2	Alternative 3
Residential	$881,019,300	$959,475,000	$963,711,500
Commercial	$456,400,000	$394,050,000	$315,950,000
Total	**$1,337,419,300**	**$1,353,525,000**	**$1,279,661,500**

The results in Table 4.8 were derived by applying the development costs to the RIMS II model. The estimate of construction jobs are those in the construction industry, while the estimate of total jobs includes construction industry jobs as well as the employment resulting from purchases made by construction employees and construction companies. The indirect regional impact is the total amount spent across all industries as a result of the dollars spent for project development.

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Table 4.8: Job Impact of Development

	Alternative 1	Alternative 2	Alternative 3
Construction Jobs	10,800	11,000	10,400
Total Jobs	19,900	20,100	19,000
Indirect Regional Impact	**$2,473,824,500**	**$2,503,615,200**	**$2,366,989,900**

Long-Term Employment Impacts

At build-out and operation, the commercial components of each of Poplar Point's alternatives would provide permanent employment opportunities. This information is also discussed and presented in the Demographics and Housing section of Chapter 4. Employment density estimates from the Energy Information Administration of the US Department of Energy (2003), along with the average square foot estimates, were used to determine the number of full-time employees that would work within Popular Point at build-out; the employment density estimates vary by principal building activity, as shown in Table 4.9.

Table 4.9: Estimated Number of Employees in Each Alternative at Full Build-Out

Principal Activity	Employment Density	Alternative 1	Alternative 2	Alternative 3
Retail	1,250 sq ft/emp	170	520	210
Office	435 sq ft/emp	3,220	1,310	1,680
Other (cultural center, hotel)	2,075 sq ft/emp	240	270	220
Total Employees		**3,630**	**2,100**	**2,110**

Tax and Fiscal Impacts

Depending on where people employed within the Poplar Point office and retail components choose to live, the project would have tax and fiscal impacts across the District of Columbia-Maryland-Virginia region. Determining these impacts again requires a specific analysis, as discussed below.

Individual Income Taxes: According to the US Census (2000) County to County Worker Flow Files, 28 percent of District of Columbia employees live in the District, 42 percent live in Maryland, and 28 percent live in Virginia. The remaining 2 percent live in a variety of locations throughout the country. Assuming the permanent employees within Poplar Point have the same distribution, Table 4.10 displays the place of residence for the permanent employees within Poplar Point for each alternative. The US Department of Labor Statistics (2008) estimates the mean hourly wage for the Washington-Baltimore-Northern Virginia, DC-MD-VA-WV CSA to be $24.80 or approximately $52,000 per year for a full-time employee. Table 4.11 provides an estimate of the total individual income tax revenue (sum of all employees predicted to live in each location) for the District of Columbia, Maryland, and Virginia for each alternative.

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Table 4.10: Permanent Employees by Place of Residence in Each Alternative

Place of Residence	Alternative 1	Alternative 2	Alternative 3
District of Columbia	1,016	588	591
Maryland	1,525	882	886
Virginia	1,016	588	591
Other Location	73	42	42
Total Employees	3,630	2,100	2,110

Table 4.11: Individual Income Tax Revenue Estimates by Place of Residence

Place of Residence	Alternative 1	Alternative 2	Alternative 3
District of Columbia	$ 3,272,808	$ 1,893,360	$ 1,902,376
Maryland	$ 3,685,721	$ 2,132,235	$ 2,142,389
Virginia	$ 2,777,313	$ 1,606,710	$ 1,614,361

Real Property Tax: Table 4.12 estimates the annual real property tax revenue the District of Columbia would receive from the residential component of each Poplar Point alternative, assuming all residential units are sold at an average price of $381,000.[1]

Table 4.12: Residential Real Property Tax Estimates

	Alternative 1	Alternative 2	Alternative 3
Number of Residential Units	3,500	4,250	4,300
Real Property Tax per Unit	$3,239	$3,239	$3,239
Total Real Property Tax	**$11,334,750**	**$13,763,625**	**$13,925,550**

The District of Columbia could also earn real property tax revenue from the commercial component of each alternative, assuming the commercial components are sold to a non-tax exempt entity. Table 4.13 estimates the real property tax for each alternative based on the improved value of the property alone (not including land costs).

Table 4.13: Commercial Real Property Tax Estimates

	Alternative 1	Alternative 2	Alternative 3
Improvements	$456,400,000	$394,050,000	$315,950,000
Real Property Tax	**$8,437,400**	**$7,283,925**	**$5,839,075**

Retail Sales and Sales Taxes: In each alternative, new residents and employees within Poplar Point would increase retail spending in the study area and potentially in the region at large, depending on the previous place of residence or employment. Table 4.14 estimates the annual retail spending of Poplar Point residents and employees in the study area.

[1] This value is the median sales price of all residential units sold in the District in the 2nd quarter of 2009 according to DataQuick.

Table 4.14: Annual Employee and Resident Retail Spending in Study Area

	Alternative 1	Alternative 2	Alternative 3
Poplar Point Resident Spending (a)	$11,550,000	$14,025,000	$14,190,000
Poplar Point Employee Spending (b)	$8,330,900	$4,819,600	$4,842,500
Total Spending	**$19,880,900**	**$18,844,600**	**$19,032,500**

(a) Estimate based on BLS, Consumer Expenditure Survey, 2007. National average annual spending on food, alcoholic beverages, entertainment, apparel, household goods and furnishings, personal care is $15,000 per person. This estimate assumes 10% of a resident's total annual spending would occur in the study area.

(b) Estimate Based on ICSC, 2004. "Office Worker Retail Spending Patterns."

Market Classification: Downtown Limited.

84% purchased lunch outside office; amount spent per week: $32.00

61% shopped before/during/after work; 24% shopped closer to work; amount spent $82.00

35% socialized after work; amount spent: $15.00

The District of Columbia would also earn additional sales tax revenue on this increased spending, assuming this revenue is new and does not detract from existing spending in the city. Table 4.15 estimates the annual tax revenue the District of Columbia might earn from employee and resident spending. In addition to this spending, the additional retail space within the Poplar Point alternatives would increase sales tax revenue for the District of Columbia, again assuming this retail spending is new and does not shift existing spending from other locations in the city. While these estimates are not quantified, it can be assumed that retail tax revenue generated is proportional to the amount of retail space provided. The amount of retail space proposed in each alternative is listed in Table 4.16.

Table 4.15: Estimated Sales Tax Revenue from Employee and Resident Spending in Study Area

	Alternative 1	Alternative 2	Alternative 3
Annual Tax Revenue from Resident Spending (a)	$693,000	$841,500	$851,400
Annual Tax Revenue from Employee Spending (b)	$666,500	$385,600	$387,400
Total Annual Tax Revenue	**$1,359,500**	**$1,227,100**	**$1,238,800**

(a) Estimate assumes that the District's 6% sales tax applies to all spending.

(b) Estimate assumes that the District's 6% sales tax applies to 50% of spending and the 10% restaurant meal sales tax applies to the remainder.

Table 4.16: Average Estimated Retail Space in Each Alternative

	Alternative 1	Alternative 2	Alternative 3
Total Retail Space (sq. ft.)	210,000	650,000	260,000

Assumptions

For this impact topic, the area of analysis, or study area, includes Ward 8 and the neighborhoods to the west directly across the river from Poplar Point.

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Impact Thresholds

To adequately define the magnitude of the economic impact, the following thresholds were established. These thresholds will describe the impacts of the proposed action relative to the site's existing conditions. Positive impacts result in improvements to established economic conditions of the environment while adverse impacts would diminish the economic condition of this environment.

Negligible: Effects would be below detectable levels or detectable only through indirect means and with no discernible effect on the character of the economic environment.

Minor: Effects would be detectable but localized in geographic extent or size of population affected and not expected to alter the character of the economic environment.

Moderate: Effects would be readily detectable across a broad geographic area or segment of the community and could have an appreciable effect of the character of the economic environment.

Major: Effects would be readily apparent, affect a substantial segment of the population, extend across the entire community or region and are likely to have a noticeable effect on the character of the economic environment.

Duration

Short-term impacts would occur during the construction period. Long-term impacts would occur during operation of the project.

4.2.7.2 No Action Alternative

Direct and Indirect Impacts

Under the No Action Alternative, the US Park Police Aviation Section Facility, the US Park Police Anacostia Operations Facility, the National Park Service – National Capital Parks-East Headquarters, and a large parking garage for the Washington Metropolitan Area Transit Authority's Anacostia Station would continue to be the primary activities on-site. Therefore, there would be no change to the economic or fiscal resources in Poplar Point, the surrounding community, or the Washington, DC MSA.

Cumulative Impacts

Under the No Action Alternative, there would be negligible direct and indirect impacts to economic and fiscal resources. There would be no cumulative impacts to these resources.

Conclusion

As no changes would occur due to the No Action Alternative, this alternative would have a negligible impact on economic and fiscal resources in the short- and long-term.

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4.2.7.3 Alternative 1

Direct and Indirect Impacts

Transforming a site mostly used as park land into over 6.5 million square feet of commercial and residential space requires a significant investment. As was shown in Table 4.X.1.1, it is estimated to cost approximately $1.34 billion to build the residential and commercial components of this project; this estimate does not include environmental remediation, public infrastructure, planting, and other fringe development costs.

Alternative 1 would also have significant fiscal implications on the District of Columbia and the surrounding states. As was shown in Table 4.X.1.2, the 3,630 employees in Poplar Point would generate approximately $3.27 million in income tax revenue for the District of Columbia, over $3.68 million for Maryland, and almost $2.78 million for Virginia. Granted these estimates do not necessarily indicate an increase in revenue, as some of these employees may already be employed and living in each jurisdiction.

Alternative 1 would also generate tax revenue for the District of Columbia through property and sales taxes. Property tax revenues would likely exceed $11.3 million for the residential units and $8.4 million for the commercial component. Sales tax revenues would likely reach $1.36 million from resident and employee spending in the study area. Spending within Alternative 1's 210,000 square feet of retail space by other residents and employees in the study area and the larger region would also generate a minor amount of additional sales tax revenue for the District of Columbia.

In the short-term, Alternative 1 would create direct employment opportunities for approximately 10,800 people in the construction industry and a total of 19,900 jobs across numerous industries in Washington, DC MSA. It is also estimated to have an indirect regional impact of approximately $2.5 billion across all industries in the Washington, DC MSA. If local residents are hired to work on-site and if construction workers spend income in the nearby businesses while on-site, the investment in Poplar Point would have a positive impact on the economic conditions of the surrounding community in the short-term.

Alternative 1 would provide permanent retail and office employment opportunities for over 3,600 individuals. Depending on the skill requirements of the available jobs and assuming the jobs created are new and not transferred from another area of Washington, DC, Alternative 1's employment opportunities would have a minor, positive impact on the study area and the region in the long-term.

Tax revenues from Alternative 1 would have a minor to moderate, positive impact on the District of Columbia and a minor, positive impact on the larger region. These impacts would occur primarily in the long-term.

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