

NATIONAL PARK SERVICE

U.S. DEPARTMENT OF THE INTERIOR

Harmony Hall, Prince George's County / Fort Washington, Maryland

National Capital Parks – East, Washington, DC



Washington Suburban Sanitary Commission
Broad Creek Wastewater Pumping Station
Conveyance System Augmentation
Proposed Force Main Addition
Harmony Hall, National Capital Parks – East

Environmental Assessment

March 2013



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**Washington Suburban
Sanitary Commission**

PROJECT SUMMARY

The following Environmental Assessment (EA) evaluates the potential environmental effects of the proposed Broad Creek Wastewater Pumping Station (WWPS) Conveyance System Augmentation project at Harmony Hall, a National Park Service (NPS) property in Prince George's County, Maryland. The Washington Suburban Sanitary Commission (WSSC) and the NPS prepared the EA in accordance with the *National Environmental Policy Act of 1969* (NEPA) and other environmental laws, regulations, and executive orders. Because WSSC is required to obtain a Right-of-Way permit for construction on NPS property, and due to proposed permanent alterations, an EA is required. Compliance with Section 106 of the National Historic Preservation Act is documented in this EA.

Operated by WSSC, the Broad Creek WWPS pumps sanitary wastewater from an estimated 5,860 housing units in the Broad Creek sewer basin to the Piscataway Creek Wastewater Treatment Plant (WWTP), which discharges treated wastewater to the Potomac River. The Broad Creek WWPS has a history of frequent sanitary sewer overflows (SSOs)—unintentional discharges of untreated sewage from sanitary sewers into Broad Creek, near its confluence with the Potomac River—during extreme rain events. Although many of these SSOs have resulted from power failures, others are directly related to the substandard capacity of the pumping and conveyance systems during wet weather conditions.

To address this problem, WSSC has planned a number of separate but related actions to upgrade the Broad Creek WWPS and the Piscataway Creek WWTP. The proposed Broad Creek WWPS Conveyance System Augmentation project would include an additional conveyance pipeline, or “force main,” to carry wastewater to the Piscataway Creek WWTP. A portion of this project would take place on NPS property. By increasing the capacity of the Broad Creek WWPS, the proposed project—in conjunction with the other related improvements to the Broad Creek WWPS and the Piscataway Creek WWTP—would eliminate SSOs into Broad Creek during wet weather events. This EA documents the potential environmental effects of only that portion of the Broad Creek WWPS Conveyance System Augmentation project that would occur on NPS property.

The Broad Creek WWPS lies adjacent to the NPS Harmony Hall property, and a portion of its existing conveyance pipeline runs through that property. The historic buildings on the Harmony Hall property, including the mansion known as Harmony Hall and the ruins of another mansion known as Want Water, are part of one of the earliest European settlements in this part of Maryland. This property, which the NPS acquired under the authority of the *Capper-Cramton Act*, was originally slated to become part of a planned playground, park, and parkway system for the National Capital region on the east side of the Potomac River. Although this parkway system was never built, Harmony Hall remains an important historic property and is part of the Broad Creek Historic District.

Beginning in May 2007, the NPS and WSSC have sought input from a broad group of stakeholders, including residents living within the proposed project area, the Broad Creek Historic District, the Maryland Department of the Environment (MDE), the Maryland Department of Natural Resources, the Maryland-National Capital Park and Planning Commission, the Prince George's County Departments of Environmental Resources and Public Works and Transportation, and the Maryland State Highway Administration. Input from stakeholders has, among other things, addressed ways to minimize or avoid impacts to natural resources, historic properties, and unidentified archeological resources.

The EA documents the findings from a detailed analysis of potential impacts to the following resources (1) Soils (specifically, erosion and sedimentation resulting from the disturbance of soils), (2) Water quality, (3) Hydrology, (4) Wetlands, (5) Floodplains, (6) Wildlife and wildlife habitat, (7) Vegetation, (8) Protected (including threatened and endangered) species and habitat, (9) Cultural resources (including historic sites and districts, and cultural landscapes), (10) Visitor use and experience, and (11) Human health and safety.

During wet weather events, the Broad Creek WWPS is susceptible to SSOs; more than one per year on average [a total of 15 SSOs have occurred since 2003 (15 over a ten year period, or 1.5 per year)]. These events degrade the water quality of Broad Creek and downstream areas of the Potomac River, with potential impacts to public health and the environment. Some of these SSOs are attributable to inadequate capacity of the pumping and conveyance systems.

A December 2005 consent decree between WSSC, the U.S. Environmental Protection Agency, the U.S. Department of Justice, the MDE, and other parties requires WSSC to invest in sewer system improvements that will minimize and, where possible, eliminate SSOs. Specifically, the consent decree mandates an increase in capacity from the current 38.3 million gallons per day to a minimum of 55 million gallons per day. In addition, the current Broad Creek WWPS conveyance system to the Piscataway Creek WWTP lacks redundancy, so the system cannot be shut down for inspections or maintenance.

The purpose of the proposed Broad Creek WWPS Conveyance System Augmentation project is to provide adequate capacity to convey peak flows from the Broad Creek WWPS to the Piscataway Creek WWTP. This project, in conjunction with separate but related upgrades, would fulfill the requirements of the consent decree by eliminating SSOs. It would also provide redundancy in the conveyance system, facilitating inspections and maintenance.

How to comment

Note to reviewers and respondents: If you wish to comment on the EA, you may mail comments directly via U.S. Post or submit them electronically. Before including your address, phone number, e-mail address, or other personal identifying information in your comment, please be aware that your entire comment—including your personal identifying information—may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

Mailed comments can be sent to:

Superintendent

Attn: Broad Creek WSSC EA

National Capital Parks-East

1900 Anacostia Drive, S.E.

Washington, DC 20020

Comments can also be submitted on-line by following the appropriate links at:

http://parkplanning.nps.gov/broad_creek_alignment

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1 INTRODUCTION/PURPOSE AND NEED

1.1 Introduction

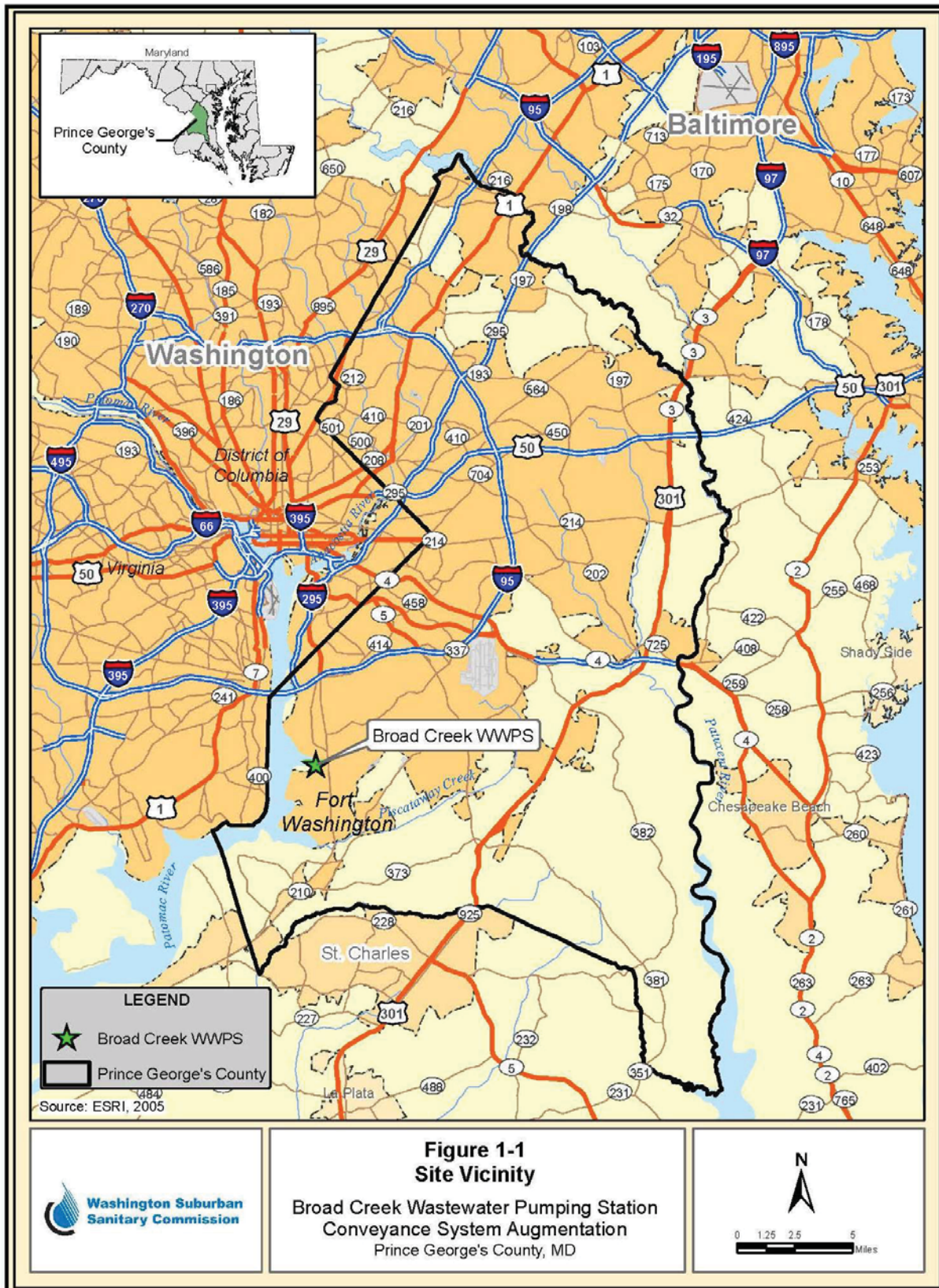
This Environmental Assessment (EA) has been prepared by the Washington Suburban Sanitary Commission (WSSC; the Commission) and the National Park Service (NPS) to evaluate the potential environmental effects of the proposed Broad Creek Wastewater Pumping Station (WWPS) Conveyance System Augmentation project at the National Capital Parks – East (NACE) property known as Harmony Hall located in Prince George’s County, Maryland (see Figure 1-1, Site Vicinity). The Harmony Hall historic site contains the (18th century) Harmony Hall manor house, as well as the ruins of an older dwelling called Want Water.

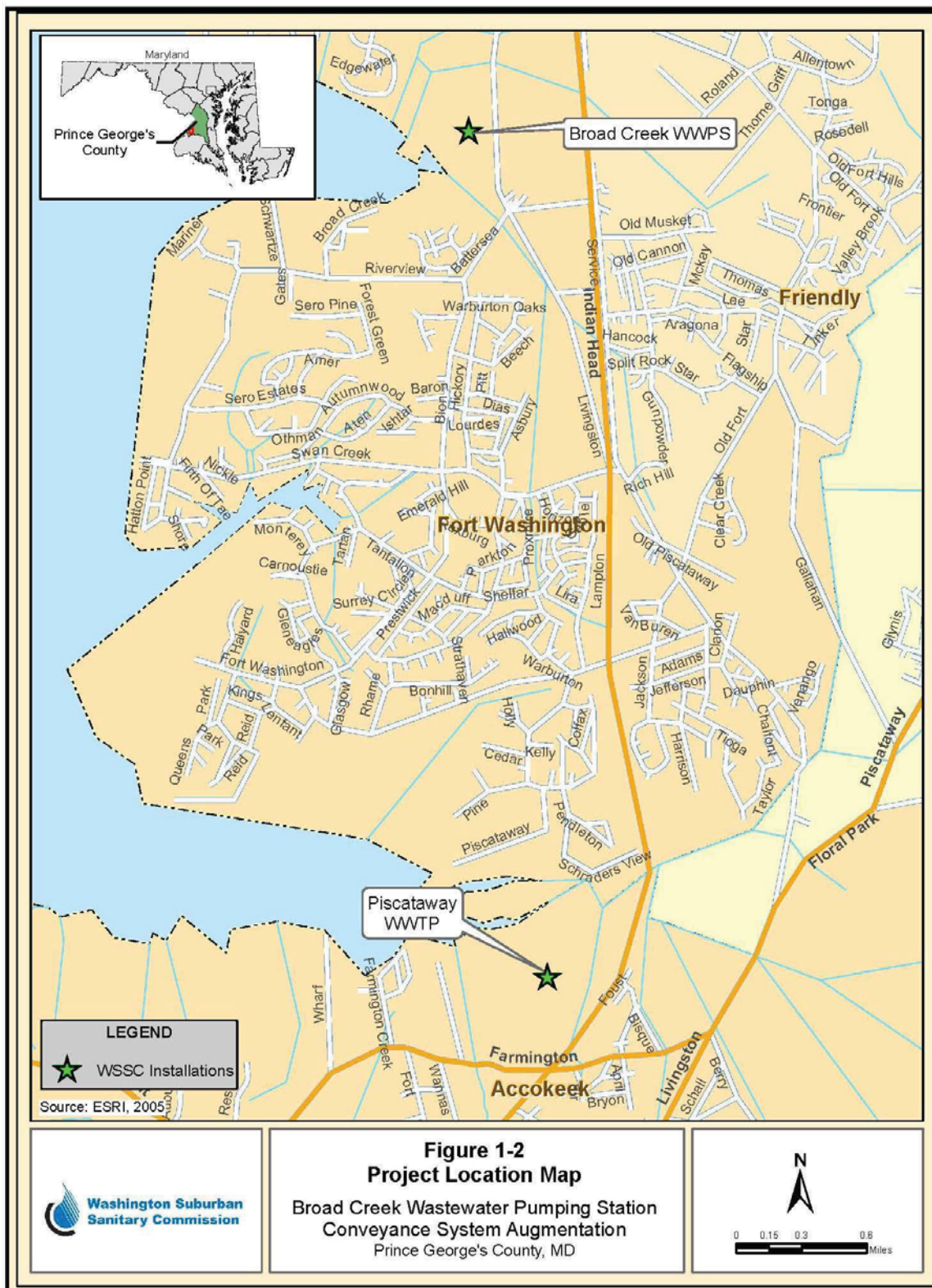
The Broad Creek WWPS has a history of frequent sanitary sewer overflows (SSOs) during extreme rain events. These SSOs cause untreated sanitary wastewater to be released into Broad Creek at its confluence with the Potomac River. SSOs occur due to inadequate pumping station and conveyance system capacity. Between 2003 and 2012, a total of 15 SSO events in excess of 10,000 gallons have occurred (1.5 events per year). Several of the events were caused by power failures (at the time, there were no reliable emergency generators), but other events directly relate to substandard capacity of the pumping system and conveyance system during wet weather conditions. In 2011, the Broad Creek WWPS had three SSOs with a combined total of at least 5.2 million gallons (Gazette, December 2011). As a result, Broad Creek, in the area downstream of WSSC’s Broad Creek WWPS, has some of the highest fecal bacteria counts in the Potomac River watershed. In addition, the current Broad Creek WWPS conveyance system has no redundancy, so it cannot be shut down for inspection or any other purpose.

WSSC operates the Broad Creek WWPS, which is located at 10315 Livingston Road in Silesia, Fort Washington, Maryland. Fort Washington is an unincorporated community in Prince George’s County, south of Washington, D.C., and is bounded to the west by the Potomac River (see Figure 1-2, Project Location Map). The Broad Creek WWPS, located west of Livingston Road, between the Old Fort Road/Oxon Hill Road and Fort Washington Road intersections, pumps sanitary wastewater flows for the 315 miles of collection system sewers (serving 31.0 square miles or 19,900 acres) in the Broad Creek sewer basin (see Figure 1-3, Broad Creek Sewer Basin). Part of the existing conveyance pipeline runs through the NPS Harmony Hall property, and a portion (about 1,500 feet) of the force main addition would be located on that property (see Appendix A).

The Commission proposes to construct an additional conveyance pipeline that would increase the capacity of the Broad Creek WWPS and eliminate SSOs into Broad Creek during wet weather events. For the proposed Broad Creek WWPS Conveyance System Augmentation project, WSSC proposes to add a second force main to increase the capacity of the conveyance system for the entire distance (approximately four miles) between the Broad Creek WWPS and the Piscataway Creek Wastewater Treatment Plant (WWTP).

This is part of a larger improvement of collection system repairs/upgrades, conveyance system capability enhancements, and other infrastructure improvements, which WSSC is conducting throughout its service area in both Prince George’s and Montgomery Counties. The proposed Broad Creek Conveyance System Augmentation project would support WSSC’s compliance with the December 2005 consent decree between WSSC, the U.S. Environmental Protection Agency (EPA), the U.S. Department of Justice, the Maryland Department of the Environment (MDE), and other parties (see Appendix B).





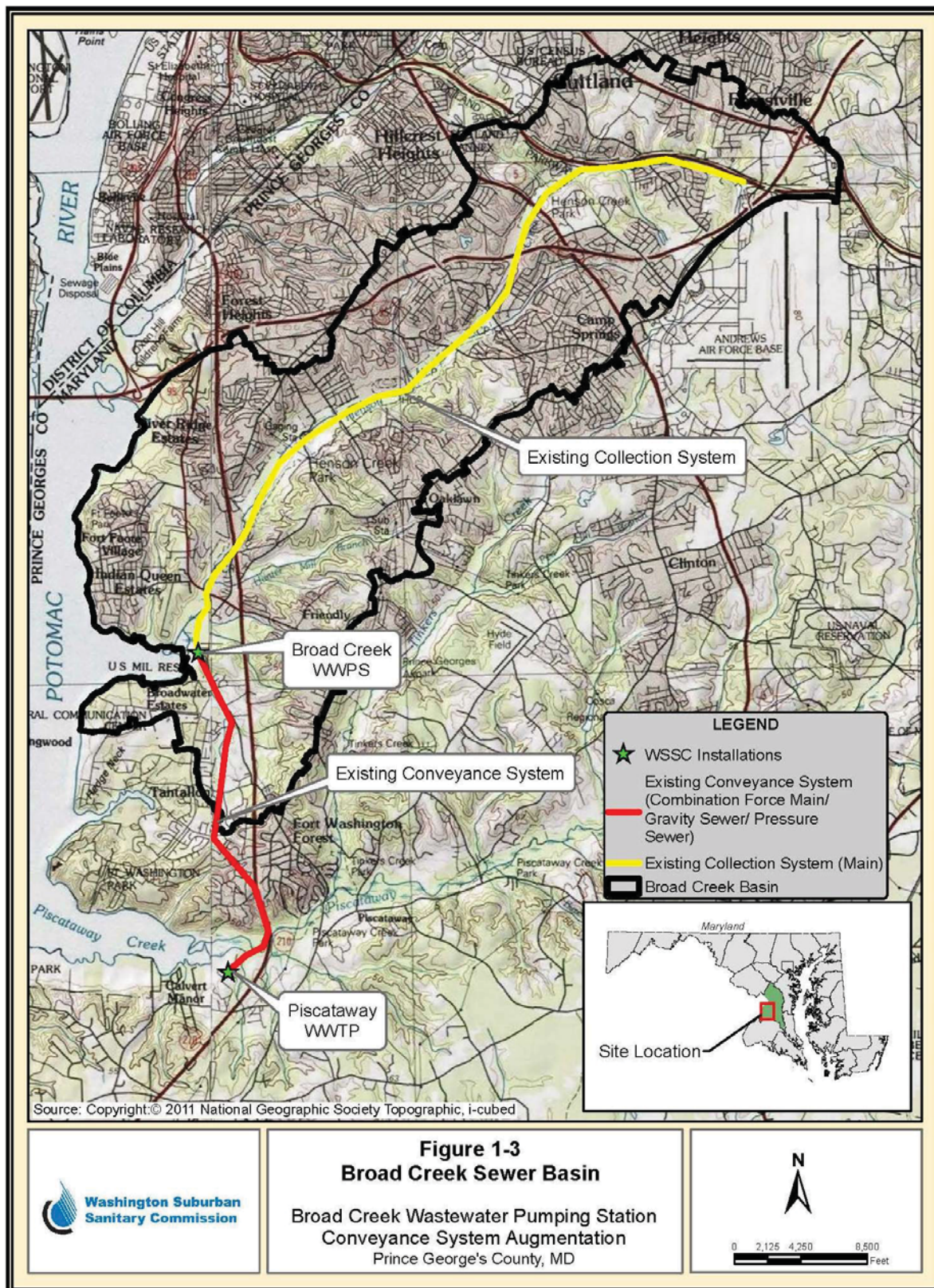


Figure 1-3
Broad Creek Sewer Basin

Broad Creek Wastewater Pumping Station
Conveyance System Augmentation
Prince George's County, MD



In separate but related actions, WSSC also plans to make improvements to the Broad Creek WWPS itself and the Piscataway Creek WWTP, which are not on the Harmony Hall property. Separate actions to improve the integrity of the Broad Creek WWPS have already been undertaken, including the installation of an emergency generator building. Another separate action to repair manholes and reduce inflow and infiltration upgradient from the Broad Creek WWPS is currently underway for the area, but cannot be completed within the time frame of the consent decree. Other conveyance system improvements (in other basins) mentioned in the consent decree are also planned; however, these separate actions are not the subject of this EA.

WSSC is responsible for the design and construction of the Broad Creek WWPS Conveyance System Augmentation project. Although the overall project would include upgrades to the Broad Creek WWPS, Piscataway Creek WWTP, and the entire length of the new conveyance system, this EA documents only the environmental effects of the portion of the proposed Broad Creek WWPS Conveyance System Augmentation project that would occur on the NPS Harmony Hall property (proposed project), and not for the entire conveyance system between the Broad Creek WWPS and the Piscataway Creek WWTP. As such, the NPS is the lead agency in the development of this EA.

NPS and WSSC prepared this EA in compliance with the National Environmental Policy Act of 1969 (Pub. Law 91-190, 42 USC 4321-4347, January 1, 1970, as amended by Pub. Law 94-52, July 3, 1975, Pub. Law 94-83, August 9, 1975, and Pub. Law 97-258, § 4(b), Sept. 13, 1982) as well as other environmental laws, regulations, and executive orders. The proposed action is being undertaken pursuant to a 2005 consent decree (see excerpts in Appendix B), which cites Sections 309 and 504 of the Clean Water Act (CWA), 33 USC §§ 1319 and 1364 and 28 USC §§ 1331, 1345, 1355 and 1367; Section 301 of the CWA, 33 USC § 1311; and Title 9, Subtitle 3 of the Environment Article, Annotated Code of Maryland (“Maryland’s Environment Article Title 9, Subtitle 3”, 9-339 and 9-342). This EA is prepared in accordance with the Council on Environmental Quality (CEQ) requirements of the *National Environmental Policy Act* (NEPA), and the U.S. Department of the Interior, NPS Standards [Director’s Order #12 (DO #12)].

1.2 Harmony Hall—Introduction, Legislative Purposes, and Relationship to Broad Creek Wastewater Pumping Station

Harmony Hall, which is part of NACE, was acquired by the NPS under the authority of the *Capper-Cramton Act* [Act of May 29, 1930 (46 Stat. 482), as amended by the Act of August 8, 1946 (60 Stat. 960), Section 3 of the Act of July 19, 1952 (66 Stat. 781, 791), and the Act of August 21, 1958 (72 Stat. 705)]. The *Capper-Cramton Act* was intended for the following:

- acquisition, establishment, and development of the George Washington Memorial Parkway (GWMP) along the Potomac River from Mount Vernon to the Great Falls of the Potomac;
- acquisition, establishment, and development of an NPS parkway along the Potomac River from Fort Washington to the Great Falls (which has never come to fruition);
- the protection and preservation of the natural scenery of the Gorge and the Great Falls;
- free bridge across the Potomac at or near the Great Falls and necessary approaches to such bridge;
- the preservation of the historic “Patowmack” (Potomac) Canal;

- the acquisition of that portion of the Chesapeake and Ohio Canal below Point of Rocks; and
- the acquisition of lands in the District of Columbia, the State of Maryland, and Commonwealth of Virginia requisite to the comprehensive monument, reservation, park, parkway, and playground system of the National Capital.

Additional information about the *Capper-Cramton Act* is included in Appendix A of this EA.

As one of the sites that make up the NPS property U.S. Reservation 404M, Section 4, Harmony Hall was intended to be part of the Maryland side of the GWMP. The NPS acquired Harmony Hall, under the legislative authority of the *Capper-Cramton Act of 1930*, as part of an intended playground, park, and parkway system for the National Capital. Unlike the GWMP on the west side of the Potomac River, the parkway system on the east side of the Potomac River was never built. But Harmony Hall remains an important independent historic property owned by the NPS as part of its system of parks, monuments, and reservations. It is part of the NPS's mission to conserve the scenery; and the natural and historic objects and wildlife therein; and to provide for the enjoyment of the same, in such a manner and by such means as will leave them unimpaired, for the enjoyment of future generations.

The Broad Creek WWPS is bordered on three of its four sides by the northern central portion of NACE's Harmony Hall historic property, and has been at this location since 1968. It is not a contributing element to the surrounding Broad Creek Historic District. Despite its age and importance to the development of the area in the latter half of the 1900s, the Broad Creek WWPS does not fit the context of the Broad Creek Historic District and its period of significance, which generally pertains to the establishment of settlement of the area during the 1700s. The current conveyance system, a force main, is situated beneath a central section of the Harmony Hall property and is ultimately conveyed (via gravity and pressure sewers) beyond the project area to the Piscataway Creek WWTP.

1.3 Purpose and Need for Action

The Broad Creek WWPS is susceptible to SSOs during wet weather events, which have caused untreated sanitary wastewater to be released into Broad Creek at its confluence with the Potomac River. The proposed project is needed because:

- SSOs occur at the Broad Creek WWPS and in its vicinity, causing degradation of water quality in Broad Creek and in downstream areas of the Potomac River;
- a consent decree (see Appendix B) entered into by WSSC with the EPA, the U.S. Department of Justice, the MDE, and others to address SSOs mandates environmental improvements and investment; and
- the current Broad Creek WWPS conveyance system to the Piscataway Creek WWTP has no redundancy, meaning that the system operates continuously and cannot be shut down at any time for inspections or maintenance.

The purpose of the proposed Broad Creek WWPS Conveyance System Augmentation project is to provide adequate conveyance system capacity to convey peak flows from the Broad Creek WWPS to the Piscataway Creek WWTP and therefore eliminate SSOs at the Broad Creek WWPS. The

improvements to the pumping station as well as the conveyance system connecting the pumping station to the Piscataway Creek WWTP are intended to fulfill the requirements of the WSSC consent decree. Installing an additional, parallel force main would fulfill the purpose of providing redundancy (during dry conditions) and would also allow for wet weather design volumes to be accommodated.

1.4 Project Background

The Broad Creek sewer basin drains domestic wastewater from an estimated 5,860 housing units, with a population of over 17,000, to the Broad Creek WWPS. The Broad Creek WWPS is used to deliver wastewater to the Piscataway Creek WWTP, about four miles to the south in Fort Washington/Accokey. The Broad Creek sewer basin (see Figure 1-3, p. 4) is within the Maryland-National Capital Park and Planning Commission's (M-NCPPC's) Subregion VII, Planning Areas 76A, 76B, and 80 (Henson Creek and South Potomac). The Broad Creek sewer basin is bounded by the Oxon Hill basin to the north, and the Piscataway Creek basin to the south. The Broad Creek sewer basin drains 19,900 acres (31.0 square miles). The land use of the basin is principally medium- to high-density residential, interspersed with some low-density residential and open space. The sewer basin's undeveloped areas mostly contain forested land and open parkland. The M-NCPPC predicts approximately 7,800 housing units in the sewer basin, with a population of about 21,500, by the year 2020, about 25 percent greater than in the year 2000. The primary concentrations of planned development and redevelopment in the basin include the National Harbor area and managed growth areas near the Capital Beltway (I-95).

The Broad Creek WWPS is surrounded by property owned and maintained by the NPS. This property, which is part of the Broad Creek Historic District, contains Harmony Hall and the ruins of Want Water. Harmony Hall, Want Water, and the nearby Piscataway House are part of Silesia—one of the earliest European settlements in this part of Maryland. Harmony Hall, Want Water, and Silesia are local historic landmarks that contribute to the Broad Creek Historic District's eligibility for listing in the National Register of Historic Places (NRHP). Currently, the park is public property, but the Harmony Hall manor is undergoing renovation and is not open to the public.

The Broad Creek WWPS is located at Silesia near the mouth of Broad Creek, in a rectangular plot of land, bordered on three sides by the Harmony Hall property, which is owned and maintained by the NPS. The existing force main exits the Broad Creek WWPS to the south, through the Harmony Hall property along low-lying terrain (an unnamed stream valley). WSSC has access easements from the NPS to maintain the existing force main pressure line, if needed. However, because the existing conveyance system lacks redundancy (it consists of only one line from the WWPS), the line cannot be shut down for maintenance, so the only access currently would be for emergency repairs.

The Broad Creek WWPS contains three constant-speed pumps and three variable-speed pumps, with its peak capacity based on five pumps operating (assuming that one pump is kept in reserve and/or taken out of commission for various reasons). Wastewater travels from the Broad Creek WWPS to the Piscataway Creek WWTP via the existing conveyance system. The Piscataway Creek WWTP discharges treated wastewater to the Potomac River. The conveyance line consists of a 36-inch force main; a 42-inch force main, after the connection with the Swan Creek WWPS force main; and a 54-inch gravity sewer/36-inch pressure sewer.

The Broad Creek WWPS was originally built in 1968; it was expanded in 1993 and improved (with the addition of a generator building) in 2009. Three buildings make up the station: a 3,600-square-foot screening building, an 11,200-square-foot pumping station building, and a generator building.

Improvements to the Broad Creek WWPS are being undertaken to increase pump capacity volume to 55.0 million gallons per day.

The Broad Creek WWPS and its single force main/gravity/pressure sewer line to the Piscataway Creek WWTP currently have the capacity to handle 38.3 million gallons per day, but that capacity is not sufficient to preclude SSOs under wet weather conditions. The consent decree mandates a minimum design capacity of 55.0 million gallons per day for the upgraded pump and conveyance system to preclude SSO occurrences.

SSOs currently occur at the Broad Creek WWPS during wet weather conditions when rainfall-dependent infiltration and inflow (RDII) occurs. Because the existing capacity of the Broad Creek WWPS and its existing force main are inadequate to keep up with wastewater volumes during wet weather events, SSOs have occurred one or more times per year on average, according to WSSC records that date back to 2003. During any event when SSOs exceed 10,000 gallons, the Prince George's County Health Department and the Maryland Department of Health issue an order to ban water contact recreation in the vicinity downstream of the Broad Creek WWPS to prevent threats to public health.

The effectiveness of the separate but related actions—the Broad Creek WWPS station and pump improvements and the independent electrical generator installation within the Broad Creek WWPS compound—is fully dependent on the completion of the proposed Broad Creek WWPS Conveyance System Augmentation project. Neither the proposed project nor the separate actions have independent utility; all of the actions are necessary for the successful elimination of the potential for SSOs. However, the separate actions would not impact NPS property; therefore, these related actions are assessed in this EA as part of the cumulative effects analysis.

1.5 Relevant Laws, Executive Orders, Policies, and Other Plans

The NPS is governed by laws, regulations, executive orders (EOs), and affiliated agency policies, and management plans before, during, and after any management action related to activities on NPS property. The following are the laws, EOs, policies, and plans that are applicable to the proposed Broad Creek WWPS Conveyance System Augmentation project. Laws are found at the *U.S. Code* (USC) and state law libraries, and regulations are found at the *Code of Federal Regulations* (CFR) and Maryland state regulations [*Code of Maryland Regulations* (COMAR)].

1.5.1 Applicable Laws and Regulations

NEPA (42 USC 4321 and 4331–4335): Requires federal agencies to integrate environmental values into their decision-making processes by considering the environmental impacts of their proposed actions and reasonable alternatives to those actions.

CEQ Regulations (40 CFR Parts 1500–1508): Governs the implementation of NEPA and the development and issuance of environmental policy and procedure for federal actions by public agencies. The CEQ regulations contain definitions, spell out applicability and responsibilities, and mandate certain processes and procedures for state agencies with programs that utilize federal aid funds.

National Historic Preservation Act of 1966 (NHPA), as amended through 2006 (16 USC 470): Established federal policy to foster productive harmony between modern society and historic resources; provide preservation leadership; administer historic resources in a spirit of

stewardship; and assist preservation efforts of state and local governments, tribes, Native Hawaiian organizations, and the private sector. The NHPA also establishes federal agency accountability for the effects of federal undertakings on historic properties and for the creation of comprehensive federal agency historic preservation programs. Section 106 of the NHPA requires federal agencies to identify historic resources that are potentially eligible for the NRHP and consider the effects of all of federally funded or licensed undertakings on known historic properties that are listed in, or determined eligible for, the NRHP.

Archeological Resources Protection Act of 1979 (16 USC 470): Prohibits unauthorized excavation on federal or American Indian lands, establishes standards for permissible excavation on these lands, prescribes civil and criminal penalties, requires agencies to identify archeological sites, and encourages cooperation between federal agencies and private individuals.

NPS Organic Act of 1916 (16 USC 1): States that the NPS “shall promote and regulate the use of the Federal areas known as national parks, monuments, and reservations hereinafter specified ... by such means and measures as conform to the fundamental purpose of the said parks, monuments, and reservations, which purpose is to conserve the scenery and the natural and historic objects and the wildlife therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.”

National Parks Omnibus Management Act of 1998 (16 USC 79, §5951): States that “it is the policy of the Congress that the development of public accommodations, facilities, and services in units of the National Park System shall be limited to those accommodations, facilities, and services that (1) are necessary and appropriate for public use and enjoyment of the unit of the National Park System in which they are located; and (2) are consistent to the highest practicable degree with the preservation and conservation of the resources and values of the unit.”

Clean Water Act of 1972 (CWA) (33 USC 1251): Forms the foundation for the federal government’s authority to regulate the use of water resources through multiple permitting programs administered by EPA and the U.S. Army Corps of Engineers (USACE).

Endangered Species Act of 1973 (ESA): Requires each federal agency to ensure that “any action authorized, funded, or carried out by such agency is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species which is determined by the Secretary, after consultation as appropriate with the affected States, to be critical, unless such agency has been granted an exemption for such action by the [Endangered Species] Committee.” Generally, the U.S. Fish and Wildlife Service (USFWS) manages land and freshwater species, while the National Marine Fisheries Service (NMFS) (which is a division of the National Oceanic and Atmospheric Administration, [NOAA]) manages marine and anadromous species. NMFS has jurisdiction over 68 listed species. The ESA requires NMFS to designate critical habitat and to develop and implement recovery plans for threatened and endangered species. If listed species or their habitat may be impacted, formal consultation must be undertaken with the USFWS or NMFS, as appropriate. If the consultation reveals that the activity may jeopardize a listed species or habitat, mitigation measures should be considered.

Bald and Golden Eagle Protection Act of 1940 (BGPA, or Eagle Act) (16 USC 668–668c), as amended: Prohibits anyone, without a permit issued by the Secretary of the Interior, from “taking” bald eagles, including their parts, nests, or eggs. The BGPA provides criminal penalties for persons who “take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or

import, at any time or any manner, any bald eagle . . . [or any golden eagle], alive or dead, or any part, nest, or egg thereof." The BGPA defines "take" as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb."

The Migratory Bird Treaty Act of 1918 (MBTA), codified at 16 U.S.C. §§ 703–712: Makes it unlawful to pursue, hunt, take, capture, kill or sell birds listed therein ("migratory birds"). The MBTA is a United States federal law, at first enacted in 1916 in order to implement the convention for the protection of migratory birds between the United States and Great Britain (acting on behalf of Canada). The statute does not discriminate between live or dead birds and also grants full protection to any bird parts including feathers, eggs and nests. The US Fish and Wildlife Service proposed adding 152 species, removing 12 species, and correcting/updating the common or scientific names of numerous others on August 24, 2006. Over 800 species are currently on the list. Since 1918, similar conventions between the United States and four other nations have been made and incorporated into the MBTA: Mexico (1936), Japan (1972) and the Soviet Union (1976, now its successor state Russia). Some of these conventions stipulate protections not only for the birds themselves, but also for habitats and environs necessary for the birds' survival.

Flood Hazard Area Rules (Title 26 COMAR): Requires that all new or replacement water and sanitary facilities and systems be located, designed, and constructed to minimize or eliminate flood damage and the infiltration of flow waters; that sanitary sewer facilities and systems be designed to prevent the discharge of untreated sewage into flood water; and that no part of any on-site sewage system be located within any special flood hazard area except in strict compliance with all locations for such systems. Any sewage system permitted must be located so as to avoid impairment to, or contamination from, the system during a flood.

The Coastal Zone Management Act (CZMA): Provides for management of the nation's coastal resources, including the Great Lakes, and balances economic development with environmental conservation. The CZMA outlines two national programs, the National Coastal Zone Management Program and the National Estuarine Research Reserve System. The coastal programs aim to balance competing land and water issues in the coastal zone, while estuarine reserves serve as field laboratories to provide a greater understanding of estuaries and how humans impact them. The overall program objectives of CZMA are to "preserve, protect, develop, and – where possible – to restore or enhance the resources of the nation's coastal zone."

Energy Independence and Security Act of 2007 (EISA) (Public Law 110-140): Mandates, under Section 438, that federal agencies establish new requirements to reduce stormwater runoff from federal development and redevelopment projects to protect water resources. Federal agencies can comply using a variety of stormwater management practices often referred to as "green infrastructure" or "low-impact development" practices, including, for example, reducing impervious surfaces or using vegetative practices, porous pavements, cisterns, and green roofs.

Maryland's Stormwater Management Act of 2007 (Environment Article 4, §201.1 and §203): Requires that environmental site design, through the use of nonstructural best management practices (BMPs) and other better site design techniques, be implemented to the maximum extent practicable.

Prince George's County Sediment and Erosion Control Plan Requirements (Bulletin 2004-5): Requires review of plans as part of the National Pollutant Discharge Elimination System process for commercial development. Note that in Prince George's County, WSSC reviews E&SC plans for utilities under a Memorandum of Agreement with the MDE.

1.5.2 Executive Orders

EO 13508 of May 12, 2009, Chesapeake Bay Protection and Restoration: Calls on the federal government to lead a renewed effort to restore and protect the Chesapeake Bay and its watershed. Part 3 of the EO requires the restoration of Chesapeake Bay water quality. Part 5 requires the reduction of water pollution from federal lands and facilities. Part 7 requires that agencies provide public access to the Chesapeake Bay, and that they conserve landscapes and ecosystems.

EO 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations: Requires federal agencies, to the greatest extent practicable and permitted by law, to make the achievement of environmental justice part of their missions by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects on minority and low-income populations. EPA defines environmental justice as the “fair treatment for people of all races, cultures, and incomes, regarding the development of environmental laws, regulations, and policies.”

EO 11988, Floodplain Management: Requires federal agencies to evaluate the potential effects of actions they take in a floodplain to avoid, to the extent possible, adverse effects associated with the direct and indirect development of a floodplain. EPA’s Statement of Procedures on Floodplain Management and Wetlands Protection requires EPA programs to determine whether an action would be located in, or would otherwise affect, a floodplain. If so, the responsible official must prepare floodplain/wetlands assessments and include them with any NEPA document. The project shall either avoid adverse impacts or minimize them if no practicable alternative exists.

EO 11990, Protection of Wetlands: Requires federal agencies conducting certain activities to avoid, to the extent possible, the adverse impacts associated with the destruction or loss of wetlands and to avoid support of new construction in wetlands if a practicable alternative exists. EPA’s Statement of Procedures on Floodplain Management and Wetlands Protection requires EPA programs to determine if proposed actions would be in, or would otherwise affect, wetlands and to prepare floodplains/wetlands assessments, which would be part of any NEPA document.

EO 13112, Invasive Species: Requires each Federal agency whose actions may affect the status of invasive species shall, to the extent practicable and permitted by law, (1) identify such actions; (2) use relevant programs and authorities to: (i) prevent the introduction of invasive species; (ii) detect and respond rapidly to and control populations of such species in a cost-effective and environmentally sound manner; (iii) monitor invasive species populations accurately and reliably; (iv) provide for restoration of native species and habitat conditions in ecosystems that have been invaded; (v) conduct research on invasive species and develop technologies to prevent introduction and provide for environmentally sound control of invasive species; and (vi) promote public education on invasive species and the means to address them; and (3) not authorize, fund, or carry out actions that it believes are likely to cause or promote the introduction or spread of invasive species in the United States or elsewhere unless, pursuant to guidelines that it has prescribed, the agency has determined and made public its determination that the benefits of such actions clearly outweigh the potential harm caused by invasive species; and that all feasible and prudent measures to minimize risk of harm will be taken in conjunction with the actions.

1.5.3 NPS Policies and Director’s Orders

NPS DO #12, Conservation Planning, Environmental Impact Analysis, and Decision-making: Sets forth the policy and procedures by which the NPS carries out its responsibilities under NEPA.

NPS DO #28, Cultural Resource Management: Elaborates on the NPS basic principles governing the management of cultural resources in the National Park System.

NPS DO #77-1, Wetland Protection: Defines NPS responsibilities under EO 11990, Protection of Wetlands, to protect wetlands and details procedures by which the NPS would implement wetland protection.

NPS DO #77-2, Floodplain Management: Establishes NPS procedures for implementing floodplain protection and management actions in units of the National Park System as required by EO 11988, Floodplain Management.

NPS Management Policies 2006: Sets the framework and provides direction for the management of the National Park System

1.6 Public Participation and Scoping Process

A Policy Review Group (PRG) was formed for the overall project; this group included representatives from the following groups and agencies (and was led by the NPS and WSSC):

- Broad Creek Historic District
- MDE
- Maryland Department of Natural Resources (MDNR)
- M-NCPPC
- The NPS
- PGC DPW&T
- PGC DER
- Maryland State Highway Administration (SHA)
- WSSC

WSSC provided a briefing to the PRG on March 2, 2010, to provide an update on project activities and to discuss a preferred alignment. The principal concern of the PRG was the alignment following the Broad Creek WWPS entrance road and Livingston Road (Alignments A1/C1; see Section 2.3 below, Summary of Preliminary Alternatives Dismissed from Consideration for a more detailed description). Alignment A1/C1 would require extensive tree clearing in the historic district for a 30-foot permanent easement and a 20-foot temporary construction strip. The PRG determined that if this option were chosen, approval would be needed from the Broad Creek Historic District commission. The group also noted that if the Livingston Road alignment were chosen, some groups in the county would request that WSSC provide a bike/horse trail along Livingston Road.

The NPS and WSSC organized a Citizen's Advisory Committee, composed of representatives from neighborhood associations along the entirety of the proposed Broad Creek WWPS Conveyance System Augmentation project area. The NPS and WSSC periodically briefed the Citizen's Advisory Committee on the project's progress. The Citizen's Advisory Committee was asked to communicate issues and concerns to the greater community in the project area and to comment on the proposed alignments.

In addition to the Citizen's Advisory Committee meetings, general public meetings were, are, and would continue to be, an integral part of the NPS's and WSSC's public outreach. At past meetings, the NPS and WSSC have presented project information and obtained input from the community at

key project milestones. WSSC used input (from the Citizen's Advisory Committee and agencies) to modify the conveyance system alignments to minimize or avoid impacts to environmental resources. As discussed in Chapter 2, the NPS and WSSC devised the Preferred Alternative after examining the conceptual alignment impacts to natural and cultural features. A community meeting was held on May 11, 2010, to receive additional comments on the Preferred Alternative.

Since the project's inception, the NPS and WSSC have coordinated with the M-NCPPC to minimize potential impacts to historic properties and to unidentified archeological resources. WSSC has engaged in additional outreach to MDNR, regarding natural resources, and to PGC DPW&T, regarding construction options. During an agency review meeting on November 9, 2009, the NPS and other agencies expressed concerns about Alignment A1/C1, which follows the access road to Broad Creek WWPS and Livingston Road. The concerns centered on the need for tree removal for trench construction along both the access road and Livingston Road, impacts to the Broad Creek Historic District due to alterations along Livingston Road, and the potential disturbance of archeological resources as a result of the trenching activities. A follow-up meeting on February 23, 2010 was held to discuss the concept of a diagonal tunnel alignment from Broad Creek WWPS to Prince George's County/M-NCPPC's Harmony Hall Regional Center, an office complex and community recreational facility. Following the diagonal alignment would limit impacts to the NPS Harmony Hall historic property in the area adjacent to the Broad Creek WWPS (for the tunnel retrieval shaft). Following the diagonal alignment would avoid disruption of the scenic perspective on the historic portion of Livingston Road, and specifically to the NPS Harmony Hall historic site.

The NPS advertised the opportunity for public comments on its Planning, Environment and Public Comment (PEPC) website in September 2011, and provided an opportunity for comment on the alternatives during a 30-day scoping period. No comments were received from the public or outside agencies.

WSSC held an informational meeting for the Citizen's Advisory Committee during the week of January 30, 2012. The purpose of the meeting was to update local community representatives on the status of the project. WSSC and its consultants presented a summary of the design status of the three major project components—the Broad Creek WWPS, the Piscataway WWTP, and the conveyance system. The presentation included a review of the updated project schedule, an overview of the current permitting status, and a summary of issues affecting the project's progress. Attendees discussed the permitting issues and had questions regarding the status of the collection system rehabilitation projects. WSSC staff provided a brief overview of the progress and status of the collection system projects.

Overall, the NPS and WSSC outreach efforts to date have ensured that interested parties have been able to comment on the alignments and refinements. As part of the NEPA public involvement process, the design team would continue to work with the PRG and the Citizen's Advisory Committee, as well as with the community as a whole, during the design and construction of the proposed new conveyance system.

1.7 Environmental Issues and Impact Topics Analyzed in this Environmental Assessment

Based on scoping activities conducted by WSSC and the NPS, the following environmental issues and impact topics were studied in detail and are documented in Chapters 3 and 4 of this EA. The selection of these issue areas was generally based on the presence of the resource in the study area,

which for purposes of this EA include the Harmony Hall NPS property, and the possibility of impacts on the resource.

1.7.1 Soils

Disturbance of soils can cause impacts to other resources due to erosion and sedimentation. Steep slopes and the proximity of surface water increase the potential for impacts. The Broad Creek WWPS is situated in the Atlantic Coastal Plain, and within a gently sloping area of sandy and sandy loam soils, which can be susceptible to erosion, especially during construction. Depending on the size of earth disturbance required, the Prince George's County Conservation District could require plan reviews and permits. Soils are discussed in Section 3.1 and potential soil impacts are assessed in Section 4.2 of this EA.

1.7.2 Water Quality

SSOs from the Broad Creek WWPS adversely affect the water quality of Broad Creek and the Potomac River. Broad Creek offers recreational opportunities (mostly boating and "primary contact recreation" such as, in this case, fishing/shellfish collection and limited swimming). These recreational opportunities can, at times, be restricted during SSO events. Improvements to the Broad Creek WWPS would preclude or prevent SSOs to Broad Creek and would result in a beneficial impact on water quality. Therefore, water quality is discussed in Sections 3.2 and 4.3 of this EA.

1.7.3 Hydrology

The Broad Creek WWPS is located roughly 1/8 mile from the nearest named water body, the embayment of Broad Creek. To the northwest of the WWPS is an overflow channel where SSOs are discharged when the station capacity is currently exceeded, located at the northern edge of the Harmony Hall NPS property. To the south of the WWPS, there is an ephemeral stream channel, which could be in close proximity to construction activities associated with proposed improvements. Because SSOs contain debris, which is currently released into the overflow channel and in turn Broad Creek, there could be beneficial effects from improvements to surface water hydrology. Surface water hydrology is discussed in Sections 3.3 and 4.4 of this EA.

During construction activities, localized dewatering of the underground area might be required, but the area is served entirely by public drinking water, so domestic water supply wells would not be affected. Therefore, groundwater hydrology is not a factor, and would not be discussed in detail in this EA.

1.7.4 Wetlands

The Broad Creek WWPS is situated in lowlands near the Potomac River. Wetlands, identified by background information prepared by the USFWS and the State of Maryland, exist in relatively close proximity to the project area. In addition, WSSC's consultants identified wetlands during field investigations in the study area (Appendix C). Surface waters exist in relatively close proximity to the project area, including an unnamed tributary to Broad Creek, also known as Henson Creek, which is a tributary of the Potomac River. Wetlands, including waterways, are discussed in Section 3.4 and impacts are assessed in Section 4.5 of this EA.

A Wetlands Statement of Findings (SOF) is included in Appendix D, because this project would not be exempted (from the requirement to prepare a SOF, pursuant to DO 77-1) as maintenance, and the potential exists for wetland impacts to exceed 0.1 acre.

1.7.5 Floodplains and Coastal Zone

Construction activities, if undertaken, could have either short-term or long-term effects on the floodplain. The backwaters of the Broad Creek embayment are situated in close proximity to the Broad Creek WWPS. Floodplains are discussed in Sections 3.5 and 4.6 of this EA. A Floodplains Statement of Findings is included in Appendix D, because minor/negligible short-term and negligible long-term floodplain occupancy could occur.

Prince George's County is in the Maryland Coastal Zone, adjacent to tidal waters of the Potomac River, and receives additional protection under Maryland coastal laws because it is within the Chesapeake Bay Critical Area Buffer. Consultation with the Critical Area Commission for the Chesapeake and Atlantic Coastal Bays (CAC) is required, and informal coordination was initiated. In a letter dated November 29, 2011, the CAC determined that the project qualifies under state general programs regulations and also concluded that a Memorandum of Understanding dated June 9, 2003 applies, meaning no further consultation is needed. Coastal zone management coordination has been completed unless there are design changes as discussed in Chapter 5 of this EA.

1.7.6 Wildlife and Wildlife Habitat

The Broad Creek WWPS is surrounded by terrestrial habitat, including forest and some grassland transitional areas, as well as aquatic habitat, including streams and tidal marsh land. Activity outside of the immediate confines of the Broad Creek WWPS compound would have the potential to impact park trees and other habitat, and the associated wildlife of the study area. The terrestrial and aquatic environment is discussed in Sections 3.6 and 4.7 of this EA.

1.7.7 Vegetation

An area of forest surrounds the Broad Creek WWPS; therefore, forest could be impacted by various alternatives on the NPS property. The project area contains invasive species, which are a concern whenever land is disturbed. Therefore, forest land and invasive species are discussed in this EA in Sections 3.7 and 4.8.

1.7.8 Protected Species and Habitat

The USFWS does not identify federally listed species under the ESA in the area surrounding the Broad Creek WWPS. In a letter from the USFWS dated May 20, 2010, the USFWS indicates that, except for occasional transient individuals, no federally proposed or listed endangered or threatened species are known to exist within the project impact area (see Appendix F). Although the Potomac River supports fish migration, the Broad Creek WWPS is located inland and would not affect populations of anadromous fish (e.g., endangered Atlantic sturgeon and shortnose sturgeon). Besides the federally listed species, the State of Maryland catalogues a number of state-listed rare, threatened, and endangered (RTE) species in Prince George's County (MDNR, 2010), but site surveys were conducted and the species and their habitat were not observed, so state-listed species are not addressed in Chapters 3 or 4. Because the project site is within the Mid-Atlantic Flyway for migratory bird species (USFWS, 2011), and is in proximity to bald eagle nests (MDNR, 2011C, RTE species are discussed in Sections 3.8 of this EA. Although protected migratory birds and bald eagles

nest in the area, they would not be affected adversely by construction activity (with time of year restrictions in place) or by underground facilities. Although protected migratory fish travel the Potomac River, the Broad Creek WWPS is located inland, and the only surface waters near the WWPS do not support migratory fish passage. Both direct and cumulative effects of activity at the site would be negligible with regard to past, present, and future impacts to protected, species and habitat. Therefore, this issue is not discussed in Chapter 4 of this EA.

1.7.9 Cultural Resources

The NHPA (16 USC 470 et seq.), NEPA, *NPS Organic Act*, *NPS Management Policies 2006* (NPS August 2006), DO #12, and DO #28 require the consideration of impacts on any cultural resources on parklands that might be affected. NHPA, in particular, addresses impacts on cultural resources either listed in, or eligible to be listed in, the NRHP. As defined by NPS, cultural resources include archeological resources, museum objects, ethnographic resources, historic districts and structures, and cultural landscapes. For this study, efforts to identify cultural resources included a review of information provided by the park, supplemented by interviews with park staff and other published and unpublished sources, including the listings of the NRHP.

Historic structures and districts are present; surrounding the area of the proposed action. The Broad Creek WWPS is within the Broad Creek Historic District, which includes the Harmony Hall historic site.

A cultural landscape is defined as "a geographic area including both cultural and natural resources and the wildlife or domestic animals therein, associated with a historic event, activity, or person or exhibiting other cultural or aesthetic values." There are four general types of cultural landscapes, not mutually exclusive: (1) historic sites, (2) historic designed landscapes, (3) historic vernacular landscapes, and (4) ethnographic landscapes. The rural Broad Creek community, on the eastern shore of the Potomac River valley is considered a historic vernacular landscape - a landscape that evolved through use by the people whose activities and occupancy shaped it, Harmony Hall is also considered a historic site - a landscape significant for its association with 18th century colonial settlement and its Georgian architecture which is characteristic of early Potomac River plantation houses. Archeological resources may be present in the area surrounding the Broad Creek WWPS and the entire Harmony Hall site has both aboriginal and European historic archeological potential. See subsection 1.8.3 in regards to museum collections and ethnographic resources (such as American Indian Traditional Cultural Properties). Cultural resources, including architectural and archeological resources, are discussed in the following Sections:

- 3.9.1 - Archeology
- 3.9.2 - Historic Structures and Districts
- 3.9.3 - Cultural Landscapes

These categories of resource impacts are assessed in subsections 4.10.3 (for the no action alternative) and 4.10.4 (for the Preferred Alternative).

1.7.10 Visitor Use and Experience

The Harmony Hall historic site, which surrounds the Broad Creek WWPS, is owned and maintained by the NPS, NACE. Silesia, which includes the ruins of Want Water and the standing structure, Harmony Hall, is one of the oldest European settlements in this part of Maryland. Visitor use and experience are discussed in Section 3.10 and impacts are assessed in Section 4.11 of this EA.

1.7.11 Human Health and Safety

SSOs are a public health and safety concern. WSSC conducted a Phase 1 environmental site assessment during design studies for the proposed project. The abatement of SSOs and the results of the Phase 1 assessment are discussed in Section 3.11 and impacts are assessed in Section 4.12.

1.8 Environmental Issues and Impact Topics Dismissed from Further Analysis

Based on scoping activities, WSSC and the NPS dismissed the following issues from detailed analysis in this EA. The selection of these issue areas for dismissal was generally based on the absence of the resource in the study area or the understanding that there would be no possible impacts on the resource.

1.8.1 Physiographic Resources

Topography

Within the study area, the prevailing grades are fairly flat. The proposed project would have no long-term impact on topography. However, topography would be altered by excavation and grading that would be required for project construction. These impacts are expected to be short-term and local, and are not anticipated to cause substantive changes in topography. The earthwork on the NPS site would consist of excavation to install the receiving shaft, site piping, and the vault and piping work, based on the pump station plans. Local topography would be generally restored after installation of the tunnel receiving shaft and permanent access shaft. Additionally, to reduce erosion, standard WSSC sediment and erosion control practices would be used for this project (WSSC, August 2010A). Therefore, impacts to topography are not further evaluated in this EA.

Geology

During construction, geologic material (mostly unconsolidated sands and gravels) would be altered by excavation and tunneling. These impacts are expected to be local and are not anticipated to cause substantive changes associated with geology or the groundwater aquifer. WSSC (March 2011) conducted a preliminary geotechnical study to characterize the physical and engineering properties of the study area's soils. WSSC (August 2010A) completed preliminary geotechnical investigations within the study area, and the soils testing results do not indicate any problems with employing microtunneling in the area. Therefore, impacts to geology were not further evaluated in this EA.

1.8.2 Air Quality

In accordance with guidelines set forth by the CAA (NPS, November 2006), and NEPA, WSSC and the NPS analyzed potential impacts to air quality as a result of the proposed Broad Creek WWPS Conveyance System Augmentation project. Under the authority of the CAA, the EPA has developed National Ambient Air Quality Standards (NAAQS) for certain air pollutants (criteria pollutants) deemed harmful to public health and the environment. These criteria pollutants include: nitrogen dioxide, sulfur dioxide, carbon monoxide (CO), ozone (O₃), particulate matter less than 2.5 micrometers in diameter (PM_{2.5}), particulate matter less than 10 micrometers in diameter (PM₁₀), and lead. The CAA designates areas in which ambient concentrations are below the NAAQS as being in "attainment;" it designates areas in which a criteria pollutant level exceeds the NAAQS as being in "nonattainment."

The Broad Creek WWPS is located in the Metropolitan Washington Region, which is in nonattainment for two criteria pollutants—PM_{2.5} and eight-hour O₃. The Metropolitan Washington Council of Governments, which includes representation from Washington D.C., Maryland, and Virginia local and state governments, has produced a state implementation plan to guide efforts to reduce emissions of these pollutants.

Because the proposed project would not permanently change traffic patterns, there would be no potential for long-term increases in localized CO, PM_{2.5}, O₃, or PM₁₀ emissions. Also, the proposed Broad Creek WWPS Conveyance System Augmentation project would be associated with an existing facility and would not change or introduce any new emission sources. Therefore, no long-term impact on air quality in the study area is expected.

Short-term air quality impacts would be associated with mobile-source emissions and fugitive dust during construction. Emissions would occur during construction due to the use of heavy machinery, such as excavating equipment for digging and dump trucks to remove displaced soil. Fugitive dust would be generated during site grading and construction, from wind erosion, and from vehicular activities. Fugitive dust would be mitigated by following construction BMPs, such as watering construction areas during dry periods to prevent fugitive dust from entering the air. Because impacts on air quality would be short-term and negligible, the issue was not further evaluated in this EA.

1.8.3 Cultural Resources—Museum Collections, and Ethnography and American Indian Traditional Cultural Properties

Note that there are separate cultural resources topics (archeology, and historic sites, districts, and landscapes) which are analyzed in this EA. However, as discussed below, other cultural resources topics (museum collections and ethnographic resources) are not evaluated in detail because it is clear that the resources would not be impacted, either by no action or by action.

Museum collections can include the following types of objects and information, preserved for posterity: Archeology, Ethnography, History, Archival and Manuscript Collections, Biology, Geology, and Paleontology. Museum collections associated with Harmony Hall such as historic furnishings and objects associated with the home are stored offsite and beyond the project area at the NPS Museum Resource Center in Landover, Maryland. Therefore, the proposed project would have no direct or indirect adverse effects on any museum collections.

Ethnographic resources are the cultural and natural features of a park that are of time-honored significance to traditionally associated peoples. Preservation of ethnographic resources is part of the NPS mission instilled by the *NPS Organic Act*. American Indian traditional cultural properties are properties associated with cultural practices, beliefs, the sense of purpose, or existence of a living community that is rooted in that community's history or is important in maintaining its cultural identity and development as ethnically distinctive people.

Tribes of the Piscataway Indians are not currently federally recognized; they are recognized by the state and are seeking federal recognition. Piscataway Indians practice religious ceremonies at Piscataway Park, which is near the study area but not adjacent to the Broad Creek WWPS or within the NPS Harmony Hall property.

Although generally known as the Fort Washington area, the area immediately surrounding the Broad Creek WWPS is also home to an unincorporated community known as Silesia. Silesia was

founded by the original German inhabitants of Harmony Hall. Ancestors of the original German settlers of this area currently reside in Silesia, and some were born in Harmony Hall. These people represent a distinct ethnic group and have a traditional association with this particular park property.

The proposed project vicinity may contain both American Indian and founding German populations. However, ethnography and traditional Native American cultures are not further analyzed in this EA because construction or implementation of the proposed project would not result in any identifiable, long-term, adverse effects to visitors of the Harmony Hall manor property or the peoples of the surrounding area. Therefore, the proposed project would have no direct or indirect adverse effects on any distinct American Indian or ancestral German population groups in the surrounding areas.

1.8.4 Park Operations and Management

The NPS must consider the potential impacts of proposed actions within parklands on the operation and management of the park, including the NPS's ability to ensure the continued health and integrity of the park environment and preserve the values of the park resource. The proposed project would not require modifications to existing park operations and would not contribute to the impairment or degradation of the park environment. Therefore, impacts to park operations and management are not further evaluated in this EA.

1.8.5 Environmental Justice

EO 12898, General Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, requires federal agencies to identify and address the potential for impacts of disproportionately high and/or adverse human health or environmental effects of the agencies' programs and policies on minorities and low-income populations and communities. According to EPA (March 2011), environmental justice is the "fair treatment and meaningful involvement of all people, regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations and policies. Fair treatment means that no group of people, including a racial, ethnic, or socioeconomic group, should bear a disproportionate share of the adverse environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local, and tribal programs and policies." The goal of "fair treatment" is not to shift risks among populations, but to identify potentially disproportionately high and adverse effects and then identify alternatives that may mitigate these impacts.

The proposed Broad Creek WWPS Conveyance System Augmentation project vicinity may contain both minority and low-income populations; however, environmental justice is not further evaluated as an impact topic. Construction or implementation of the proposed Broad Creek WWPS Conveyance System Augmentation project would not result in any identifiable, long-term adverse human health effects; therefore, the project would have no direct or indirect adverse effects on any minority or low-income population groups. Furthermore, any impacts associated with the construction or implementation of the Preferred Alternative would not disproportionately impact any minority or low-income population or community. The impacts of the proposed Preferred Alternative would be limited to the area immediately adjacent to the project's activity.

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