

CHAPTER 1: PURPOSE AND NEED

INTRODUCTION

The National Park Service (NPS) Chesapeake and Ohio Canal National Historical Park (C&O Canal NHP) is evaluating the proposed modification of an existing water line and construction of an additional water line from the Potomac River to the Summit Hall Turf Farm, Inc. (formerly Potomac Valley Turf Farm, Inc.) crossing the C&O Canal NHP, between canal Mile¹ 28.46 and canal Mile 29.35 of the park. The proposed project has been requested by Summit Hall Turf Farm, Inc., located at 21300 River Road, Poolesville, Maryland. Summit Hall's Warranty Deed (Deed; see Appendix B) information allows it to install up to three raw water intakes across NPS property for agricultural purposes. Two intake lines have been installed (Lines # 1 and #2), and the farm is requesting to modify Line #2 and install the final third line (Line #3). The project area is shown in figure 1.

This environmental assessment (EA) analyzes the proposed action and any alternatives as well as the no action alternative and their impacts on the environment. The EA has been prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, as amended, and implementing regulations, 40 Code of Federal Regulations (CFR) Parts 1500-1508, NPS Director's Order 12 and the handbook, *Conservation Planning, Environmental Impact Analysis, and Decision-making* (DO-12). Compliance with Section 106 of the National Historic Preservation Act of 1966 (NHPA) has occurred in conjunction with the NEPA process.

The scope of analysis for the EA only evaluates resource impacts on federal lands (C&O Canal NHP land). Impacts to resources on private lands (Summit Hall) are not evaluated in this EA. The project area/area of potential effect (APE) is therefore defined as the area of the C&O Canal NHP that would be affected by the proposed modification of an existing water line and construction of an additional water line.

PURPOSE OF AND NEED FOR THE ACTION

The purpose of the project is to address a request from Summit Hall to modify Line #2 and complete the farm's irrigation system by installing Line #3, as outlined in the Deed established in 1975. Under the terms of the Deed, Summit Hall must complete the modification of Line #2 and installation of Line #3 under the supervision of a representative of the superintendent of the C&O Canal NHP and ensure full compliance with agreed-upon terms of installation, which will be identified in a Special Use Permit for construction and which will include the mitigation measures from this EA.

The action is needed because the farm has had difficulty maintaining a suitable water intake situation for Line #2, and because of additional irrigation needs due to the expansion of farm operations over the years. Line #2 was established in 1975 via the Deed and is located through the historic culvert #39, at canal Mile 28.46. Due to changes along the Potomac River shoreline, the intake for Line #2 is impacted frequently from siltation, reducing its capability to draw water. Summit Hall holds a permit from the state of Maryland's Department of the Environment to withdraw water from the Potomac River for agricultural purposes.

¹ The use of mile as a locational convenience along the C&O Canal follows historical convention. The zero milestone or beginning of the canal is located in Georgetown, where the canal empties into Rock Creek. Canal mile markers (MM) are widely used in guidebooks (e.g., Hahn 1997), and many are still extant along the canal today.

Figure 1. Summit Hall Water Access Project Area



PROJECT BACKGROUND

PROJECT HISTORY

In 1975, a Deed was issued by the NPS to the Potomac Valley Turf Farm, Inc. (Summit Hall Turf Farm, Inc.). As condition of the Deed, the Potomac Valley Turf Farm was granted the right to establish three raw water intake lines for agricultural purposes through NPS property from the Potomac River. Water line #1 (Line #1) was in operation at the time of the 1975 Deed and currently does not require any work. The farm is now requesting to modify the existing water line #2 (Line #2), which was installed in 1975 via the Deed, and install water line #3 (Line #3) to complete the farm's irrigation system.

PURPOSE AND SIGNIFICANCE OF THE PARK

The C&O Canal is one of the most intact and impressive survivals of the American canal-building era, and its historical significance is the basis for creation of the C&O Canal NHP, which is managed by the NPS. The C&O Canal is historically significant, primarily because it embodies 19th century engineering and architectural technology. The canal operated from the 1820s to the 1920s as a route for transporting coal, lumber, and agricultural products such as grain, from western Maryland to the port of Georgetown and to the navigable lower reaches of the Potomac River. During this time, the C&O Canal provided jobs and opportunities for people throughout the Potomac River Valley. Today the canal's remaining historical structures provide a place to recreate and enjoy nature, and they tell the story of the canal's important role in many aspects of American history, including transportation, engineering achievement, and commerce.

The entire length of the canal is listed on the National Register of Historic Places (NRHP or National Register), having historical significance merits under architecture, engineering, commerce, transportation, military history, and conservation. The magnitude of the engineering achievement is exemplified by the 184.5-mile length of the canal, which includes 74 lift locks that cumulatively rise 605 feet. Eleven stone aqueducts were built to carry the canal prism over large Potomac River tributaries, and 241 historic culverts were built to carry smaller streams and roads under the canal. Seven supporting dams were also constructed (Romigh and Mackintosh 1979).

Throughout most of its length, the C&O Canal was an artificial waterway that was built parallel with the Potomac River, Maryland. Throughout its length, the channel of the canal, or prism, was a series of relatively flat stretches where canal boats could easily travel without fighting against strong currents. Changes in elevation were achieved by the use of locks that raised and lowered the water levels to connect two adjacent levels. Because there was virtually no current within the canal, boats were pulled by mules that walked on a towpath, an unpaved surface located alongside the canal prism.

As a modern-day transportation resource, the canal's towpath still provides a nearly level, continuous trail through the spectacular scenery of the Potomac River Valley. Millions of visitors annually hike or bike the C&O Canal towpath and enjoy the natural, cultural, and recreational opportunities it provides (NPS 2008a).

ESTABLISHMENT OF THE PARK

Irretrievably bankrupt, the C&O Canal ceased operations in 1924. The federal government acquired the canal as a public works project in 1938. Twenty-three (23) years later, President Dwight D. Eisenhower designated that portion of the canal between Seneca and Cumberland as a national monument, thereby formally making that portion part of the National Park System. In 1971, President Richard M. Nixon signed into law a bill creating the C&O Canal NHP, incorporating both the upper national monument and the lower portion of the canal down to Georgetown (Mackintosh 1991).

In order to recognize the potential of the park resources, the purpose of the C&O Canal NHP is to provide, in perpetuity, the opportunity for mankind:

- to understand the canal's reason for being; its construction; its role in transportation, economic development, and westward expansion; the way of life which evolved upon it; the history of the region through which it passes; and to gain an insight into the era of canal building in the country;
- to appreciate the setting in which it lies and the natural and human history that can be studied along its way; and
- to enjoy the recreational use of the canal, the park lands, and the adjacent Potomac River (NPS 1976).

RELATIONSHIP TO LAWS, EXECUTIVE ORDERS, POLICIES, AND OTHER PLANS

The NPS is governed by laws, regulations, and management plans before, during, and following any management action considered under any NEPA analysis. The following are those that are applicable to the proposed action.

APPLICABLE STATE AND FEDERAL LAWS

National Environmental Policy Act, 1969, as Amended

NEPA was passed by Congress in 1969 and took effect on January 1, 1970. This legislation established this country's environmental policies, including the goal of achieving productive harmony between human beings and the physical environment for present and future generations. It provided the tools to implement these goals by requiring that every federal agency prepare an in-depth study of the impacts of "major federal actions having a significant effect on the environment" and alternatives to those actions, and it required that each agency make that information an integral part of its decisions. NEPA also requires that agencies make a diligent effort to involve the interested members of the public before they make decisions that affect the environment.

NEPA is implemented through Council for Environmental Quality (CEQ) regulations (40 CFR 1500–1508; CEQ 1978). The NPS has in turn adopted procedures to comply with the act and the CEQ regulations, as found in DO-12 (NPS 2001), and its accompanying handbook.

National Historic Preservation Act of 1966, as Amended through 2000 (16 United States Code [USC] 470)

The NHPA protects buildings, sites, districts, structures, and objects that have significant scientific, historic, or cultural value. The act established affirmative responsibilities of federal agencies to preserve historic and prehistoric resources. Effects on properties that are listed in or which are eligible for the National Register must be taken into account in planning and operations. Any property that may qualify for listing in the NRHP must not be inadvertently transferred, sold, demolished, substantially altered, or allowed to deteriorate.

Section 106 requires of the NHPA requires federal agencies to take into account the effects of their undertakings on historic properties and afford the Advisory Council on Historic Preservation (ACHP) a reasonable opportunity to comment. The historic preservation review process mandated by Section 106 is outlined in regulations issued by ACHP. Revised regulations (Protection of Historic Properties [36 CFR 800]) became effective January 11, 2001.

Archaeological Resources Protection Act of 1979

The Archaeological Resources Protection Act (ARPA) was enacted in 1979. The act prohibits unauthorized excavation on federal and Indian lands, establishes standards for permissible excavation, prescribes civil and criminal penalties, requires agencies to identify archeological sites, and encourages cooperation between federal agencies and private individuals.

National Park Service Organic Act of 1916

By enacting the NPS Organic Act of 1916, Congress directed the U.S. Department of the Interior and the NPS to manage units “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 a means as will leave them unimpaired for the enjoyment of future generations” (16 USC 1). Despite this mandate, the Organic Act and its amendments afford the NPS latitude when making resource decisions that balance resource preservation and visitor recreation.

National Pollutant Discharge Elimination System

An erosion and sediment control plan would be prepared and implemented in accordance with Maryland Erosion and Sediment Control Guidelines for State and Federal Projects (MDE 2004). The plan would include resource protection measures that conform to Maryland Standards and Specifications for Erosion and Sediment Control (MDE 1994) and would be submitted to the Maryland Department of the Environment (MDE), Water Management Administration, for approval. Coverage under Maryland's General Permit for Construction Activity would be obtained by submitting a Notice of Intent to the MDE.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act of 1918 implemented the 1916 convention between the United States and Great Britain for the protection of birds migrating between the U.S. and Canada. The act made it illegal for people to “take” migratory birds, their eggs, feathers, or nests. “Take” is defined in the act to include by any means or in any manner, any attempt at hunting, pursuing, wounding, killing, possessing, or transporting any migratory bird, nest, egg, or part thereof. A migratory bird is any species or family of birds that live, reproduce, or migrate within or across international borders at some point during their annual life cycle.

EXECUTIVE ORDERS AND DIRECTOR’S ORDERS

Director’s Order 12: Conservation Planning, Environmental Impact Analysis, and Decision Making and Handbook

NPS DO-12 and its accompanying handbook (NPS 2001) lay the groundwork for how the NPS complies with NEPA. DO-12 and the handbook set forth a planning process for incorporating scientific and technical information and establishing a solid administrative record for NPS projects.

NPS DO-12 requires that impacts on park resources be analyzed in terms of their context, duration, and intensity. It is crucial for the public and decision makers to understand the implications of those impacts in the short and long term, cumulatively, and within context, based on understanding and interpretation by resource professionals and specialists. DO-12 also requires that an analysis of impairment to park resources and values be made as part of the NEPA document.

Director’s Order 28: Cultural Resource Management

DO-28 (NPS 1998b) calls for the NPS to protect and manage cultural resources in its custody through effective research, planning, and stewardship and in accordance with the policies and principles contained in the *NPS Management Policies 2006* (NPS 2006a). This order also directs the NPS to comply with the substantive and procedural requirements described in the *Secretary of the Interior’s Standards and Guidelines for Archeology and Historic Preservation* (NPS 1983), the *Secretary of the Interior’s Standards for the Treatment of Historic Properties with Guidelines for Treatment of Cultural Landscapes* (NPS 1996), and the *Secretary of the Interior’s Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring and Reconstructing Historic Buildings* (Weeks and Grinner 1995). Additionally, the NPS would comply with the 2008 NPS Programmatic Agreement with the ACHP and the National Conference of State Historic Preservation Officers (NPS 2008b). The

accompanying handbook to this order addresses standards and requirements for research, planning, and stewardship of cultural resources as well as the management of archeological resources, cultural landscapes, historic and prehistoric structures, museum objects, and ethnographic resources.

Executive Order 11988: Floodplain Management

Executive Order (EO) 11988 requires federal agencies to avoid to the extent possible all adverse impacts associated with the occupancy and modification of floodplains and to avoid direct and indirect support of floodplain development when a practicable alternative exists.

Executive Order 11990: Protection of Wetlands, 1977

EO 11990 seeks to “minimize the destruction, loss or degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands.” Federal agencies are required to consider alternatives to wetland sites and to limit adverse impacts to wetlands if no other viable alternatives are available.

SCOPING PROCESS AND PUBLIC PARTICIPATION

NEPA regulations require an “early and open process for determining the scope of issues to be addressed and for identifying the significant issues related to a proposed action.” To determine the scope of issues to be analyzed in depth in this plan, meetings were conducted with park staff and the public.

On July 21, 2010, the park held a public scoping meeting to initiate public involvement and obtain community feedback on the proposed action to modify and install water lines at Summit Hall. The meeting was held from 7:00 p.m. to 9:00 p.m. at the John H. Poole Middle School, 17014 Tom Fox Ave Poolesville, Maryland, 20837. Three people signed in at the meeting.

The public scoping meeting provided an opportunity for the community to comment. Comment forms were provided to be completed and returned during the meeting. If attendees chose not to complete a comment form at the meeting, they were encouraged to mail back the comment form to the park before the close of the public scoping comment period. Those attending the meeting were also informed they could comment on the project electronically through the NPS’s Planning, Environment and Public Comment (PEPC) website. The meeting marked the beginning of a 30-day public scoping comment period, which started on July 19 and ended August 20, 2010.

ISSUES AND IMPACT TOPICS

Issues describe problems or concerns associated with current impacts from environmental conditions or current operations as well as problems that may arise from the implementation of any of the alternatives. Park staff identified potential issues associated with installation of the proposed water lines during internal scoping. During the public scoping comment period, NPS received one comment from the public via the PEPC website, <http://parkplanning.nps.gov/choh>, regarding the proposed action. The commenter expressed concern regarding the permanent disruption of the towpath. This concern has been addressed in the Purpose of and Need for the Action (shown earlier in this chapter), which does not indicate a need for a permanent disruption of the towpath, and in the Environmental Consequences discussions, which analyze impacts of the temporary disruption of the towpath for construction of the project (Chapter 4).

IMPACT TOPICS ANALYZED IN THIS ENVIRONMENTAL ASSESSMENT

SOILS

Modification of an existing water line and construction of an additional water line would result in disturbance and compaction of soils in the area of construction on park lands and along the Potomac River. As a result of the impacts on soils in the project area resulting from the proposed action, this topic is addressed as an impact topic in this EA.

VEGETATION

Construction associated with the proposed modification and addition of water lines would result in impacts on vegetation on park land because trees, shrubs, and grasses would potentially be removed during this construction period. The number of trees removed would be kept to a minimum and the area would be revegetated to NPS standards after construction is completed, but some impacts would still occur. As a result of the impact on vegetation that would occur from the proposed actions, this topic is addressed as an impact topic in this EA.

TERRESTRIAL WILDLIFE AND WILDLIFE HABITAT

Activities associated with the proposed installation of new water lines would potentially result in the clearing of mixed deciduous trees, which could disturb or displace terrestrial wildlife using the area. Construction equipment would also produce periodic noise during the construction period, resulting in potential short-term impacts on wildlife in the area. The construction staging areas, however, would be located in open field areas of Summit Hall, resulting in no impacts on wildlife or wildlife habitat from staging. As a result of the potential impacts on terrestrial wildlife and wildlife habitat from clearing of mixed deciduous trees and noise from construction, this topic is addressed as an impact topic in this EA.

VISITOR USE AND EXPERIENCE

During construction of the water lines, impacts on visitor use could result from noise, disruption, and change in access. To minimize impacts during construction, a temporary bypass would be created for safe visitor travel. In addition, when the pumps are in operation, there could be some noise intrusion for visitors using the C&O Canal NHP and towpath in the area of Summit Hall. As a result of potential impacts on visitor use and experience, this topic is addressed as an impact topic in this EA.

PARK MANAGEMENT AND OPERATIONS

Modification of an existing water line would reduce the need for Summit Hall to periodically remove silt from the intake to keep the line operational, which has been the situation in past years. In order to remove silt from the intake, Summit Hall must obtain an access permit to cross park property with equipment needed to undertake silt removal. The proposed action would reduce the need for Summit Hall Turf Farm to gain access across park lands and in turn reduce the NPS administrative costs and time associated with issuing the required permits. As a result of potential impacts on park operations and management, this topic is addressed as an impact topic in this EA.

CULTURAL RESOURCES

The NHPA (16 USC 470 et seq.), NEPA, Organic Act, NPS *Management Policies 2006* (NPS 2006a), DO-12, and DO-28 require the consideration of impacts on any cultural resources on park lands 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.

The Area of Potential Effect (APE) considered for this study includes the entire section of the C&O Canal NHP (between canal Mile 28.46 and canal Mile 29.35 of the park) that would be affected from the implementation of the new water lines.

Archeological Resources

Several potentially important archeological sites and areas, which may contain artifacts, exist in the study area and could be affected by construction; therefore, the potential effects on these resources are included in the analysis. Archeological sites on park lands within the project area may be present on the ground surface or buried deeply. Few of the known sites have been formally evaluated for NRHP eligibility;

therefore, it is difficult to conduct an accurate analysis of potential project impacts. Upon completion of the final engineering, the alignments will be evaluated by a professionally qualified archeologist, and monitoring of construction or other appropriate measures will be completed to insure that impacts to archaeological resources are avoided or that appropriate archeological documentation is completed.

Historic Districts and Structures

The C&O Canal is listed on the NRHP as a historic district. As a historic district, the C&O Canal contains numerous individual structures that contribute to its historical significance. In addition to the towpath and canal prism, other structures include locks, bridges, culverts, tunnels, aqueducts, associated industrial structures, lock keeper's houses, ruins, etc. Potential impacts of the new water lines on these contributing structures on park lands are analyzed in this EA.

IMPACT TOPICS DISMISSED FROM FURTHER ANALYSIS

The following impact topics were eliminated from further analysis in this EA. A brief rationale for dismissal is provided for each topic. Potential impacts on these resources would be none or negligible, localized, and most likely immeasurable.

GEOLOGY, TOPOGRAPHY, AND GEOLOGIC HAZARDS

There would be no alteration to geology or topography as a result of the proposed actions; therefore, these resource areas were dismissed from further analysis in this EA. Geologic hazards that might affect a project include avalanche zones, slide areas, and earthquake zones. There are no known geohazards within the project area; therefore, this topic was dismissed from further analysis in this EA.

HYDROLOGY

The proposed project would not result in any measurable alterations to the streamflow characteristics of the Potomac River or its tributaries. Extensions to the intake would be attached and placed in the Potomac River as needed and removed when not in use; therefore, this resource area was dismissed from further analysis in this EA.

WATER QUALITY/WATER QUANTITY

The 1972 Federal Water Pollution Control Act, as amended by the Clean Water Act of 1977, is a national policy to restore and maintain the chemical, physical, and biological integrity of the nation's waters, enhance the quality of water resources, and to prevent, control, and abate water pollution. The NPS *Management Policies 2006* provides direction for the preservation, use, and quality of water originating, flowing through, or adjacent to park boundaries. The NPS seeks to restore, maintain, and enhance the water quality within the parks consistent with the 1972 Federal Water Pollution Control Act, as amended, and other applicable federal, state, and local laws and regulations.

The proposed installation of water lines would involve construction activities that would cause ground disturbance to the river bank. However, the project will meet Maryland standards for soil and erosion control during construction. Furthermore, Summit Hall holds a permit from MDE, Water Management Division, to withdraw water from the Potomac River for agricultural purposes. The proposed actions would not result in more than negligible impacts on water quantity or quality; including beneficial impacts as a result of cleaning out Culvert 39 and removing the intake pipe from the culvert. Therefore, this topic was dismissed from further analysis in this EA.

WETLANDS

Wetlands include areas inundated or saturated by surface water or groundwater for a sufficient length of time during the growing season to develop and support characteristic soils and vegetation. Requirements for addressing wetlands are contained in Executive Order 11990 (Protection of Wetlands) and in NPS DO-77-1: Wetland Protection (NPS 2002). The NPS classifies wetlands based on the U.S. Fish and

Wildlife Service (USFWS) *Classification of Wetlands and Deepwater Habitats of the United States*, also known as the Cowardin classification system (Cowardin et al. 1979). Based on this classification system, a wetland must have one or more of the following attributes:

- The habitat at least periodically supports predominately hydrophytic vegetation (wetland vegetation);
- The substrate is predominately undrained hydric soil; or
- The substrate is non-soil and saturated with water, or covered by shallow water at some time during the growing season.

Construction activities would not impact wetlands as there are no known wetland areas within the project area; therefore, this topic was dismissed from further analysis in this EA.

FLOODPLAINS

Executive Order 11988 (Floodplain Management) requires an examination of impacts on floodplains and the potential risk involved in placing facilities within floodplains. The NPS *Management Policies 2006*, Section 4.6.4, Floodplains, and NPS DO-77-2: Floodplain Management (NPS 2003) provide guidelines on developments proposed in floodplains. Although the portions of the project area are within the 100-year floodplain, the proposed action would not result in any alterations of the floodplain because the project would not alter the configuration of the floodplain. In addition, extensions to the intake would be attached and placed in the Potomac River as needed and removed when not in use. As a result of the proposed actions, only a small area of the floodplain would be temporarily disturbed and restored upon completion of the project; therefore, this resource area was dismissed from further analysis in this EA.

RARE, THREATENED, AND ENDANGERED SPECIES

Federally Listed Species – The Endangered Species Act (ESA) of 1973, as amended, requires an examination of impacts on all federally listed threatened or endangered (T&E) species. NPS policy also requires examination of the impacts on federal candidate species, as well as state-listed threatened, endangered candidate, rare, declining, and sensitive species. In accordance with Section 7 of the ESA, a letter was sent by NPS in the fall of 2010 to solicit comments from USFWS regarding the existence of T&E species within the project area. The USFWS responded in a letter dated October 16, 2010, that with the exception for occasional transient individuals, no federally proposed or listed endangered or threatened species are known to exist within the project area (see Appendix C).

State Listed Species – The NPS sent a letter to the Maryland Department of Natural Resources (MDNR) Wildlife and Heritage Resources Program describing the proposed action at Summit Hall and requesting information regarding the known locations of special status species within the project area. In response, the MDNR stated that there are no state or federal records for rare, threatened, or endangered species within the boundaries of the project site. However, the response stated that the Potomac River is known to support species of rare, threatened, and endangered freshwater mussels, but that best management practices for sediment and erosion control and the utilization of appropriate-sized screening over the intake to avoid entrainment of fish or mussel larvae would be sufficient protection for these species (see Appendix C). It will be incumbent on the project applicant to ensure that all design and review by the appropriate agencies are in place prior to construction.

VISUAL RESOURCES

The NPS *Management Policies 2006* states that scenic views and visual resources are considered highly valued characteristics and requires them to be protected. The proposed actions would not impact any scenic views or vistas in the project area because the new water lines would be buried underground. Although the new pump would be placed above ground, it would be located off park land on Summit Hall property. The new pump would be identical in size and scale to the current pumps and placed in a pit to

be less visible from the C&O Canal towpath. During construction, construction activities and equipment would be visible; however, these impacts would be short-term and negligible. Also, visual impacts are taken into account in the analysis of impacts on visitor experience. Therefore, this topic was dismissed from further analysis in this EA.

CULTURAL RESOURCES

Cultural resources as defined by NPS include archeological resources, museum objects, ethnographic resources, historic districts and structures, and cultural landscapes; the APE considered for this study includes the entire section of the C&O Canal NHP (between canal Mile 28.46 and canal Mile 29.35 of the park) that would be affected from the implementation of the new water lines. The following cultural resources were dismissed from detailed analysis.

Museum Objects

Implementation of any alternative would have no impacts upon museum objects (historic artifacts, natural specimens, and archival and manuscript material); therefore, museum objects was dismissed as an impact topic.

Ethnographic Resources

Ethnographic resources are defined by the NPS as any “site, structure, object, landscape, or natural resource feature assigned traditional legendary, religious, subsistence, or other significance in the cultural system of a group traditionally associated with it” (DO-28: Cultural Resources Management Guideline, 181). In this analysis, the NPS’ term “ethnographic resource” is equivalent to the term “Traditional Cultural Property,” which is more widely used in the cultural resource management industry. Guidance for the identification of ethnographic resources is found in National Register Bulletin 38, Guidelines for Evaluating and Documenting Traditional Cultural Properties (Parker and King 1998). The key considerations in identifying Traditional Cultural Properties are their association with cultural practices or beliefs of a living community that are (1) rooted in the community’s history and (2) are important in maintaining the continuing cultural identity of the community (Parker and King 1998). There are no properties that meet the definition of a Traditional Cultural Property within the APE; therefore, ethnographic resources was dismissed as an impact topic.

Cultural Landscapes

According to DO-28: Cultural Resources Management Guideline, a cultural landscape is:

“...a reflection of human adaptation and use of natural resources and is often expressed in the way land is organized and divided, patterns of settlement, land use, systems of circulation, and the types of structures that are built. The character of a cultural landscape is defined both by physical materials, such as roads, buildings, walls, and vegetation, and by use reflecting cultural values and traditions.”

Currently, 15 component cultural landscapes have been identified that are associated with the C&O Canal, which itself is considered a parent cultural landscape (NPS 2006d); however, the study area for this EA does not include any of the currently identified component cultural landscapes. All potential impacts on historic structures, views, circulation systems, and water features are addressed under the historic structures and districts topic; therefore, cultural landscapes was dismissed as a separate impact topic. After installation of the water line is completed, the canal would be returned to its previous condition in accordance with the Secretary of the Interior’s Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes (NPS 1996).

Indian Trust Resources and Sacred Sites

Secretarial Order 3175 requires that any anticipated impacts on Indian Trust Resources from a proposed project or action by U.S. Department of the Interior agencies be explicitly addressed in environmental documents. The federal Indian Trust responsibility is a legally enforceable obligation on the part of the United States to protect tribal lands, assets, resources, and treaty rights, and it represents a duty to carry out the mandates of federal laws with respect to Native American tribes. There are no known Indian Trust resources in the project area, and the lands comprising the park are not held in trust by the secretary of the interior for the benefit of Indians due to their status as Indians; therefore, this topic was dismissed from further analysis in this EA.

AIR QUALITY

The 1963 Clean Air Act, as amended (42 USC 7401 et seq.), requires federal land managers to protect air quality in national parks. The proposed action would result in short-term and localized air pollutant emissions (e.g., emissions from construction equipment and fugitive dust from ground disturbance). Impacts to air quality would be negligible because emissions would be low and resource protection measures would be implemented; therefore, this topic was dismissed from further analysis in this EA.

PUBLIC HEALTH AND SAFETY

Installation of the new water lines would have negligible impacts on public health and safety. Construction activities would be scheduled for a time when weather, soil, and river conditions are expected to be optimum. During construction, signage would be erected to notify pedestrians of safe crossings and construction areas. As a result, human health and safety was not addressed as an impact topic in this EA.

SOCIOECONOMICS

NEPA requires an analysis of impacts on the human environment, which includes economic, social, and demographic elements in the affected area. The proposed project is a request by a private commercial applicant (Summit Hall). If the proposed project is not implemented, the continuation of the Summit Hall operations may be impacted. The continuation of the farm operation has a direct impact on the economics of the general area, but impacts would be minimal. The proposed action would not appreciably affect the surrounding community's overall population, income, and employment base or local businesses or other agencies; therefore, this topic was dismissed from further analysis in this EA.

ENVIRONMENTAL JUSTICE

On February 11, 1994, President Clinton issued Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations. This order directs agencies to address environmental and human health conditions in minority and low-income communities to avoid the disproportionate placement of any adverse effects from federal policies and actions on these populations. Local residents may include low-income populations, but these populations would not be particularly or disproportionately affected by activities associated with the implementation of water access at Summit Hall; therefore, this topic was dismissed from further analysis in this EA.

IMPAIRMENT

According to *NPS Management Policies 2006*, an action constitutes an impairment when an impact “would harm the integrity of park resources or values, including the opportunities that otherwise would be present for the enjoyment of those resources or values” (NPS 2006a; sec. 1.4.5). Whether an impact meets this definition depends on the particular resources and values that would be affected; the severity, duration, and timing of the impact; the direct and indirect effects of the impact; and the cumulative effects of the impact in question and other impacts. An impact on any park resource or value may constitute an impairment, but an impact would be more likely to constitute an impairment to the extent that it affects a resource or value whose conservation is:

- necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park;
- key to the natural or cultural integrity of the park or to the opportunity for enjoyment of the park; or
- identified as a goal in the park's general management plan or other relevant NPS planning documents.

Impairment findings are not necessary for visitor use and experience or for park management and operations because impairment findings relate to park resources and values, and these impact areas are not generally considered to be park resources or values according to the Organic Act, and cannot be impaired the same way that an action can impair park resources and values. A draft impairment determination for the NPS preferred alternative is provided in Appendix A of this document. Park resources considered in this determination include soils, vegetation, terrestrial wildlife and wildlife habitat, and cultural resources. A final impairment determination would be provided in the decision document developed on the findings of this EA.