MD 355 Bridge Over CSX; (Bridge No. 1008400) State Highway Frederick County, Maryland **ENVIRONMENTAL ASSESSMENT/ DRAFT SECTION 4(F) EVALUATION March 2016** appresantere later







FEDERAL HIGHWAY ADMINISTRATION MARYLAND DIVISION

MD 355 BRIDGE OVER CSX BRIDGE NO. 1008400 BRIDGE REPLACEMENT PROJECT

Frederick County, Maryland

ADMINISTRATIVE ACTION

ENVIRONMENTAL ASSESSMENT/DRAFT SECTION 4(F) EVALUATION

U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION And U.S. DEPARTMENT OF INTERIOR NATIONAL PARK SERVICE And MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION

Submitted Pursuant to: 42 U.S.C. 4332(2)(c); 49 U.S.C. 303 23 U.S.C. 128(a) and 138; CEQ Regulations (40 CFR 1500 et seq) and 23 CFR 774

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PROJECT SUMMARY

S.1 INTRODUCTION

Pursuant to Section 101(2)(c) of the National Environmental Policy Act (NEPA) of 1969, as amended, the Maryland State Highway Administration (SHA), in cooperation with the Federal Highway Administration (FHWA) and the National Park Service (NPS), proposes to replace Bridge No. 1008400 on MD 355 (Urbana Pike) over CSX railroad in Frederick County, Maryland. MD 355 is bordered by the Monocacy National Battlefield on both sides within the study area. The Monocacy National Battlefield is a unit of the NPS, is listed on the National Register of Historic Places, and is designated as a National Historic Landmark (NHL). The proposed action includes full replacement of the existing bridge structure, raising the profile of the bridge to provide adequate clearance over the CSX tracks, minor widening of the roadway, providing pedestrian and bicycle facilities along MD 355 within the project area, providing improved pedestrian access and connectivity to the Monocacy National Battlefield, constructing stormwater management facilities, and relocating utilities.

S.2 PURPOSE AND NEED FOR THE ACTION

The purpose of the MD 355 Bridge over CSX project is to enhance the safety of the traveling public (vehicular and pedestrian) by replacing the structurally deficient bridge while minimizing impacts to the Monocacy National Battlefield. The proposed action would result in improved safe travel for vehicles and pedestrians across CSX tracks and improved visitor experience, access, and connectivity to the Monocacy National Battlefield. The NPS purpose of the proposed action is to respond to SHA's request to obtain a permit for use of NPS land needed to replace the bridge. NPS will need to approve a Special Use Permit for the temporary use and grant a Highway Easement Deed for the permanent use of NPS land.

The need for the proposed action is due to the bridge being rated as structurally deficient. The existing bridge was constructed in 1931 and is showing signs of advanced deterioration. The most recent bridge inspection, conducted in September 2013, indicated that the existing bridge is suffering material fatigue, is functionally obsolete and requires complete replacement.

S.3. OVERVIEW OF THE ALTERNATIVES

This Environmental Assessment analyzes the environmental impacts associated with the No Action Alternative along with four Action Alternatives for the replacement of Bridge No. 1008400 on MD 355 over CSX. The proposed action includes full replacement of the existing bridge structure, raising the profile of the bridge to provide adequate clearance over the CSX railroad, resurfacing of the travel lanes, providing pedestrian and bicycle facilities along MD 355 within the project area, providing improved pedestrian access and connectivity to the Monocacy National Battlefield, providing the necessary stormwater management and relocating utilities.

Under the No Action Alternative, SHA would continue to maintain the current bridge and no new construction would occur. Under Alternative 1, a new bridge would be constructed to the west of the existing bridge and the roadway approaches would be shifted to accommodate the new alignment. The replacement structure would be approximately 150 feet long. The existing bridge would be used to maintain two lanes of traffic during construction of the new bridge. Upon completion of the new bridge, the existing bridge and its approaches would be removed. Under Alternative 2, a new bridge would be constructed east of the existing bridge and the roadway approaches would be shifted to accommodate the new alignment. The replacement structure would be approximately 160 feet long. The existing bridge would be used to maintain two lanes of traffic during construction of the new bridge. Upon completion of the new bridge, the existing bridge and its approaches would be removed. Under Alternative 3, a temporary bridge would be constructed to the west of the existing bridge to accommodate traffic while the existing bridge is being replaced. The replacement bridge would be approximately 150 feet long, and follow the same alignment of the existing bridge. Once the new bridge is opened, the temporary bridge and roadway approaches would be removed and the area would be reseeded/ replanted. Under Alternative 4, the existing bridge would remain in service and would be reconstructed in phases. This would allow for the replacement of half the bridge while maintaining one lane of traffic on the other half, using a signal to control the traffic. Temporary traffic signals would be provided at each end of the construction zone to alternate the traffic during construction. Once the first half of the bridge was replaced, the one traffic lane would be shifted onto the new section of bridge while the other half was replaced. The replacement structure would be approximately 150 feet long.

For all the action alternatives, the access road to the 14th New Jersey Monument would be permanently closed to address existing safety issue caused by the minimal sight distance. The entrance to the Monocacy National Battlefield east parking lot would change from a full access point to a right-in/right-out to address existing safety issue. Pedestrians and bicyclists would be accommodated by an added 8-foot wide sidewalk on the east side of the bridge and two 6-foot wide shoulders within the limits of the project area. In addition, construction of stormwater management facilities and relocation of utilities are included in the design for each action alternative.

The Preferred Alternative is Alternative 3, replacement of the existing bridge while providing a temporary bridge to the west for maintenance of traffic. Implementation of the Preferred Alternative would result in short and long term minor adverse impacts to soils, floodplain, wildlife and wildlife habitat, and vegetation. There would be short-term and long-term moderate adverse impacts to historic structures and districts and cultural landscapes under the Preferred Alternative, due to direct and visual impacts to the Monocacy National Battlefield. The Preferred Alternative would have long-term moderate adverse impacts to archeological resources. Long-term beneficial impacts to visitor use and experience would occur as a result of Alternative 3 due to the construction of a safer bridge, addition of pedestrian and bicycle facilities, and improved sight distance.

S.4 DRAFT SECTION 4(F) EVALUATION

Section 4(f) of the U.S. Department of Transportation Act of 1966 (49 USC 303(c)) permits the use of land from a publicly-owned public park, recreation area, wildlife or waterfowl refuge, or land of a historic site of national, state or local significance (as determined by federal, state and local officials having jurisdiction over such resources) for a federally funded or approved transportation project, only:

- If there is no prudent or feasible alternative to the use of such land and;
- If the action includes all possible measures to minimize harm in accordance with the 23 CFR 774.3(b).

A Draft Section 4(f) Evaluation has been prepared to assess the likely effects of the proposed action upon Section 4(f) resources and evaluate alternatives to avoid or minimize impacts caused by the proposed action (replacement of the MD 355 Bridge over CSX) to those resources. A final determination will be made on whether feasible and prudent alternatives to the use of the resource exist, and whether all possible planning to minimize harm to the resources has been performed after full consideration of comments on this Draft Section 4(f) Evaluation.

S.4 NOTE TO REVIEWERS AND RESPONDENTS

We value and welcome your input on this project. The public comment period closes on May 6, 2016. You can submit your comments electronically through the NPS Planning, Environment and Public Comment (PEPC) website (National Park Service-PEPC-Replace MD 355 Bridge over CSXT Railroad), where the EA/Draft Section 4(f) Evaluation is publicly posted on the internet. The PEPC database is a tool used by the NPS to manage official correspondence and analyze public comment in the planning process. In the left menu of the webpage, click "Open for Comment", then "MD 355 over CSX Environmental Assessment/Draft Section 4(f) Evaluation, and comment on the document. Comments can also be sent via SHA's website at **MDSHA: PLC-FR559-21-MD0355 URBANA PIKE OVER CSX-Project Information**.

You can mail comments to:

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Mr. Rick Slade National Park Service Monocacy National Battlefield 4632 Araby Church Road Frederick, MD 21704 ATTN: MD 355 Bridge over CSX EA/Draft Section 4(f) Evaluation

It is NPS practice to make comments, including names and home addresses of respondents, available for public review. Please be aware that your comments and personal identifying information may be made publicly available at any time. While you may request the NPS to withhold your personal information, we cannot guarantee that we will be able to do so. If you include personal information (including email), we may use it to provide further project updates during the planning process. Thank you for your interest in the MD 355 Bridge over CSX Replacement Project, and your input on this project.

CHAPTER 1: PURPOSE AND NEED

1.1 INTRODUCTION

The Maryland State Highway Administration (SHA), in cooperation with the Federal Highway Administration (FHWA) and the National Park Service (NPS), has prepared this Environmental Assessment (EA) and Draft Section 4(f) Evaluation to assess the potential effects of various alternatives for the replacement of Bridge No. 1008400 located on MD 355 (Urbana Pike) over CSX railroad in Frederick County, Maryland. MD 355 is bordered by the Monocacy National Battlefield on both sides within the study area. The Monocacy National Battlefield is a unit of the NPS, is listed on the National Register of Historic Places, and is designated as a National Historic Landmark (NHL). Implementation of the proposed action would be administered by SHA and funded by FHWA.

The proposed action includes the replacement of Bridge No. 1008400 located on MD 355 over CSX railroad in Frederick County, Maryland. The proposed action includes full replacement of the existing bridge structure, raising the profile of the bridge to provide adequate clearance over the CSX tracks, resurfacing of the travel lanes, providing pedestrian and bicycle facilities along MD 355 within the project area, providing improved pedestrian access and connectivity to the Monocacy National Battlefield, providing the necessary stormwater management, and relocating utilities. The proposed action will take place within land owned by SHA, CSX, and NPS.

This EA evaluates the potential environmental impacts of the No Action Alternative and four Action Alternatives, in accordance with the National Environmental Policy Act (NEPA) of 1969, the regulations of the Council on Environmental Quality for implementing NEPA (40 Code of Federal Regulations (CFR) 1500-1508), FHWA's Environmental Impact and Related Procedures (23 CFR 771), FHWA *Technical Advisory* (T6640.8A), and NPS Director's Order #12: *Conservation Planning, Environmental Impact Analysis, and Decision-making* (NPS 2001), and other applicable laws, regulations, and policies.

Section 106 of the National Historic Preservation Act (NHPA) of 1966 requires federal agencies to take into account the effects of their undertakings on historic properties. In accordance with the regulations implementing Section 106, coordination has been initiated with the Maryland

Historical Trust (MHT) and Advisory Council on Historic Preservation (ACHP). In addition, Section 4(f) of the U.S. Department of Transportation Act of 1966 stipulates that FHWA cannot approve the use of land from a significant publicly owned public park, recreation area, wildlife or waterfowl refuge or any significant historic site unless there are no prudent and feasible alternatives to the use of the land and the action includes all possible planning to minimize harm resulting from the use of the land. The Draft Section 4(f) Evaluation has been prepared to document the evaluation of the proposed use of Section 4(f) properties in the project area by the proposed alternatives.

1.2 PURPOSE AND NEED FOR ACTION

SHA and FHWA are responsible for ensuring the safety of the traveling public on highways, roads, and bridges. The NPS is charged with preserving the natural and cultural resources of the Monocacy National Battlefield while providing a high quality visitor experience. The purpose of the MD 355 Bridge over CSX project is to enhance the safety of the traveling public (vehicular and pedestrian) by replacing the structurally deficient bridge while minimizing impacts to the Monocacy National Battlefield. The NPS purpose of the proposed action is to respond to SHA's request to obtain a permit for use of NPS land needed to replace the bridge. NPS will need to approve a Special Use Permit for the temporary use and grant a Highway Easement Deed for the permanent use of NPS land. The proposed action would result in improved safe travel for vehicles and pedestrians across CSX tracks and improved visitor experience, access, and connectivity to the Monocacy National Battlefield.

The need for the proposed action is due to the bridge being rated as structurally deficient. The existing bridge was constructed in 1931 and is showing signs of advanced deterioration. The most recent bridge inspection, conducted in September 2013, indicated that the existing bridge is suffering material fatigue, is functionally obsolete, and requires complete replacement. The following

is a list of advance deterioration signs and breach of current standards for the MD 355 Bridge over CSX:



Deterioration of concrete piers on the MD 355

Bridge over CSX

- The existing bridge width is 27 feet (two 12-foot travel lanes and minimal shoulders) and needs to be increased to meet American Association of State Highway Transportation Officials (AASHTO), FHWA, and SHA design standards (two 12-foot travel lanes with 6-foot shoulders).
- The existing bridge vertical clearance from the railroad tracks to the bottom of the bridge is 22 feet and needs to be increased to meet CSX requirements of 23 feet.
- The existing concrete bridge deck is rated a '4' (out of 9), which indicates a bridge deck that is structurally deficient. The bridge deck has numerous cracks and spalls and is in need of complete replacement.
- The concrete encasing the steel girders has numerous cracks and spalls, and the exposed steel girders are showing rust damage. Loose concrete has been removed from the steel over the CSX tracks.
- The pier columns and pier caps also have cracks and spalls which have exposed the reinforcement in some locations.



Deterioration of concrete encased steel girders and railings of the MD 355 Bridge over CSX



Deterioration of concrete encased steel girders and railings of the MD 355 Bridge over CSX

• The existing concrete parapet traffic barrier is not crash tested. In addition, the concrete on the bridge railing is deteriorating, and there are missing elements including portions of the top rail. A steel traffic barrier has been attached to the existing concrete railing to improve safety until full replacement can be achieved.

1.3 DESIGN CONSIDERATIONS

Design considerations are factors that should be considered through the design process to achieve and enhance the desired outcome of a project. The following design considerations were identified by the planning and design team for this project:

- maintain safe travel on MD 355 across the CSX railroad through adherence to current AASHTO, FHWA, and SHA standards;
- minimize impacts to parkland and historic resources through context sensitive planning and design of the bridge and associated features;
- provide adequate clearances over the CSX railroad and minimize disturbance to CSX operations during construction;
- minimize disruption to the traveling public;
- improve the visitor experience at the Monocacy National Battlefield and the 14th New Jersey Monument by providing safe vehicular, pedestrian, and bicycle access and connectivity within the project area;
- increase opportunities for the public to enjoy the Battlefield's historic, cultural, and natural resources; and
- consider design that is sensitive to the cultural landscape of the Monocacy National Battlefield by maintaining the cultural landscape to the greatest extent possible and protecting contributing elements in conformity with the Secretary of the Interior's Standards for the Treatment of Historic Properties (36 CFR Part 68).

1.4 PROJECT AREA

The project area extends along MD 355 from the Monocacy River on the south end to approximately 150 feet north of the Best Farm entrance (**Figure 1-1**). The bridge is located approximately 800 feet north of the Monocacy River over the CSX railroad. The MD 355 Bridge is a 146 foot long four-span bridge. The superstructure consists of eight concrete encased steel girders and a concrete bridge deck that has been overlaid by asphalt. The bridge is 27 feet wide and carries two 12-foot travel lanes with 1 foot, 6-inch wide shoulders and concrete parapets on both sides of the roadway. The concrete parapets have been reinforced with the addition of steel w-beam. The substructure consists of five reinforced concrete piers (two serve as abutments). Within the project area, MD 355 is a two lane urban minor arterial roadway, serves as a major local commuter route, and is one of the most heavily traveled roads in the Frederick region. MD 355 also serves as the primary access route to the Monocacy National Battlefield and is used by park visitors to access the 14th New Jersey Monument and other areas of the Battlefield. There are no dedicated lanes for pedestrians or bicyclists within the project area. Overhead utility lines are located adjacent to MD 355 on both sides of the roadway throughout the project area.

With the exception of the narrow right of way maintained by SHA (along MD 355) and CSX (along the tracks), the area adjacent to the bridge is entirely within the boundary of the Monocacy National Battlefield (**Figure 1-2**). The Monocacy National Battlefield is operated as a unit of the NPS and includes numerous historic sites including: the Frederick Junction, the Best Farm (*L'Hermitage*), the Monocacy River Bridge, the 14th New Jersey Monument, and known archeological sites. Historical periods represented by these sites include Native American settlement, 18th century agriculture, the emergence of African slave communities, and the American Civil War. The Battlefield is listed on the National Register of Historic Places and is designated as a NHL. The Battlefield was open to the public in 1991 and is largely comprised of agricultural fields, woodlands, the Monocacy River, historic sites, and a visitor center.

In the portion of the Battlefield that falls within the project area, there are three primary activity areas: the Best Farm, the 14th New Jersey Monument, and the Frederick Junction. The Best Farm is one of the six historic farmsteads which collectively comprise the Battlefield. The access driveway to the Best Farm's historic structures and visitor area is located at the northern end of the project area, approximately 1,200 feet north of the Bridge. The historic boundary of the Best Farm spans both sides of MD 355. The 14th New Jersey Monument is dedicated in memory of the 14th Regiment of the New Jersey Voluntary Infantry. The Regiment was stationed in the area throughout the American Civil War and participated in the Battle of Monocacy in July 1864. The Monument, its access road, and gravel parking area are located directly south of the MD 355 Bridge, on the west side. Another access road and gravel parking area connects to MD 355 directly across from the 14th New Jersey Monument access road, on the east side. The area is occasionally used by CSX maintenance crews and provides additional parking for the Battlefield's visitors and staff. Vehicles and pedestrians using these access roads have limited sight distance to the north due to the steep grade of MD 355.

At the southern extent of the project area, a trestle bridge carries MD 355 over the Monocacy River. The bridge is referred as the Monocacy River Bridge and is individually eligible for listing on the National Register of Historic Places but does not contribute to the historic character of the Monocacy National Battlefield. Following the adoption of the Maryland Scenic and Wild Rivers Act of 1968, the Monocacy River was identified as a significant state resource and was designated as a State Scenic River. The Scenic River designation refers to free-flowing rivers "whose shoreline and related land are predominantly forested, agricultural, grassland, marshland, or swampland with a minimum of development for at least two miles of the river length" (DNR 2014).

Figure 1-1: Study Area Map



1.5 PROJECT BACKGROUND

The MD 355 Bridge over CSX was built in 1931 and has exceeded its design lifespan. Based on annual inspections, SHA first identified the MD 355 over CSX Bridge as structurally deficient in 1997, although the bridge's rating has fluctuated between '4' and '5' since 1984. Minor repairs have taken place since then to maintain safe passage for vehicles over the bridge. The most recent bridge inspection, conducted in September 2013, indicated that the existing bridge is suffering material fatigue and is functionally obsolete.

The purpose and need for the project was identified by SHA, FHWA, and NPS in 2011 and agency coordination began at that time. In early 2013, a determination to prepare an Environmental Assessment (EA)/Draft Section 4(f) Evaluation was made. Public scoping for the proposed action was initiated in late 2013, at which time a public meeting was held to solicit feedback regarding the replacement of the bridge. During this time an agency and public scoping period was held to gather input on the scope of the EA and the proposed action.

In late summer 2014, a value analysis workshop was held with staff from SHA, FHWA, and NPS. The purpose of this workshop was to quantify the relative importance of non-monetary advantages or benefits for each alternative while allowing subsequent benefit and cost considerations to factor into the decision making process. During the process, the No-Action Alternative, the four Action Alternatives, along with other identified solutions, were reviewed and ranked based on their total advantages.

1.5.1 SIGNIFICANCE OF THE MONOCACY NATIONAL BATTLEFIELD

The Monocacy National Battlefield is a NHL and is listed on the National Register of Historic Places (NRHP). In the Battlefield's nomination, three elements were identified as contributing to its historic character: the 14th New Jersey Monument; the Best Farm (*L'Hermitage*); and the Frederick Junction (**Figure 1-2**). Attractions of the Monocacy National Battlefield include a visitor center, numerous walking trails, and a self-guided auto tour that provides directions to five monuments and/or interpretive areas. Maps, displays, and historical artifacts at the visitor center and throughout the Battlefield area provide visitors with opportunities to interpret the history of the landscape. The 150th anniversary of the Battle of Monocacy was commemorated at the Battlefield in the summer of 2014.





The significance of the Monocacy National Battlefield is reflected in historical uses of the land that range from pre-contact times to the mid-19th century. Projectile points and other artifacts found on the edges of the Monocacy River indicate that Native Americans inhabited the region as early as the Paleo-Indian period (12,000 to 8,000 B.C.E.) Human activities in the area during the close of the Ice Age were likely centered on hunting and gathering and a nomadic lifestyle.

Native Americans continued to inhabit Monocacy lands into the Archaic period (8,000 to 1,200 B.C.E). As climatic conditions stabilized, territoriality was increasingly established among the Native Americans and broad use of many ecological zones occurred. With the invention of ceramics at the start of Woodland period (1,200 B.C. to A.D. 1600), and increasing reliance on horticulture through time, populations in the region increased considerably and became more sedentary. Woodland period archeological sites indicate sociopolitical complexity, development of widespread trade networks, diverse toolkits, and broad use of many resource types. A total of twelve prehistoric sites have been recorded at the Monocacy National Battlefield.

Permanent European settlers migrated to the Monocacy region in the early to mid 18th century. German settlers from Philadelphia and southeastern Pennsylvania migrated southward through the Great Valley to western Maryland. English settlers were also drawn to western Maryland from southern Maryland and the Eastern shore. Many brought enslaved laborers with them to the Monocacy region. Two agricultural systems developed in the area. British settlers sought to establish tobacco farms, whereas German settlers farmed corn, wheat, and other grains on smaller tracts of land. By the end of the century, Frederick had grown into a bustling community and was a top agricultural producer in the country. Industrial production also took place in the area that included saw, grist, and paper and flour mills. Much of the present-day Monocacy National Battlefield was owned by James Marshall. Marshall operated a sawmill, tavern, and



The Best Farm (L'Hermitage) located on the west side of MD 355

ferry to carry travelers across the Monocacy River on the Georgetown Pike. He was also the owner of 16 African American slaves.

Enslaved African-Americans were instrumental in the creation and maintenance of Euroamerican settlements in the Monocacy crossing area. State documentation of enslaved laborers indicates that one of the largest slaveholders in Frederick County was located in the area.

Victoire Vincendiere was a migrant of the Caribbean and was the landowner of the *L'Hermitage* plantation (the present-day Best Farm). In 1800, Vincendiere owned 90 enslaved African Americans. The slave system at *L'Hermitage* was particularly harsh which is reflected in several court cases against Vincendiere involving severe physical abuse and denial of sufficient food and shelter. The number of enslaved laborers on the property and on surrounding farms decreased in the latter half of the 19th century.

The Monocacy River Valley gained significance as a battlefield during the Civil War in mid-June of 1864. Under the direction of Confederate Lt. General Jubal A. Early, an army of roughly 15,000 men were staged outside of Frederick with the goal of advancing to Washington, DC. Union supporters learned of the Confederate movement and approximately 6,550 men under Union Maj. General Lew Wallace were hastily assembled to delay the advance to Washington. On July 9, 1864, Confederate and Union forces engaged at Monocacy Junction, utilizing the Georgetown Pike (ancestral MD 355), the B&O Railroad cut and bridge



14th New Jersey Monument located to the southwest of the MD 355 Bridge over CSX

across the Monocacy River, and surrounding terrain. Although the Union army was defeated, it was able to stall the Confederate army's movement. The delay provided Union forces with additional time to send reinforcements to Washington, which was a critical development in the War. Because the Confederate forces were stalled, the Battle of Monocacy became known as "The Battle that Saved Washington, DC."

The Battle of Monocacy, coupled with a subsequent confrontation just inside Washington's city limits before Fort Stevens on July 11 and 12, 1864, comprised an important moment in time. The Confederates would be denied nearly all of their strategic goals although the true meaning of the two pivotal engagements remained unclear for months (CWT 2014). Following the Civil War, agricultural and urban growth took place surrounding the Monocacy River Valley. A movement to commemorate the area as a National Battlefield was led by Frederick County citizens in 1928, and in 1934, Congress created the Monocacy National Military Park. In 1973, the battlefield was designated as a National Historic Landmark. Shortly thereafter, in 1975, the Monocacy National Battlefield was officially listed in the National Register of Historic Places. Since then, battlefield lands have been acquired and protected by the NPS through fee simple acquisitions and easements. To this day the NPS continues to manage activities at the battlefield with attention to how resources are interpreted, how the landscape and historic structures are preserved, and how facilities are maintained. Currently, Monocacy National Battlefield encompasses 1,647 acres, and consists of most of the lands upon which the Battle of Monocacy was fought. Six properties or farmsteads that existed during the battle are still extant within the National Battlefield and retain essentially their Civil War era landscape, with few changes to field configurations and fence rows.

1.6 APPLICABLE FEDERAL LAWS AND POLICIES

1.6.1 NATIONAL ENVIRONMENTAL POLICY ACT OF 1969, AS AMENDED

The National Environmental Policy Act (NEPA) was passed by Congress in 1969 and took effect on January 1, 1970. This legislation established the country's environmental policies, including the goal of achieving productive harmony between human beings and the physical environment for present and future generations. The law provides 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. NEPA requires 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 affecting the environment.

NEPA is implemented through regulations of the Council on Environmental Quality (CEQ) [40 CFR 1500-1508]. The NPS has in turn adopted procedures to comply with the Act and the CEQ regulations, as found in DO-12: Conservation Planning, Environmental Impact Analysis, and Decision-making (NPS 2001), and its accompanying handbook. This EA was prepared in accordance with these regulations.

1.6.2 NATIONAL HISTORIC PRESERVATION ACT OF 1966, AS AMENDED/SECTION 106

The National Historic Preservation Act of 1966, as amended, protects buildings, sites, districts, structures, and objects significant in American history, architecture, archeology, engineering, and culture (NHPA 2006). Section 106 of the National Historic Preservation Act (NHPA) requires federal agencies to consider the effects of their undertakings on properties listed, or potentially eligible for listing, on the NRHP. The goal of the Section 106 review process is to seek ways to avoid, minimize, or mitigate any adverse effects to historic properties (ACHP 2009). All actions affecting the park's cultural resources must comply with this law, which is implemented through 36 CFR 800.

1.6.3 NATIONAL HISTORIC LANDMARKS PROGRAM

NHLs are federally-designated historic buildings, sites, structures, objects, or districts that represent outstanding aspects of American history and culture. Designated sites are places that are relatively unchanged since the period when the historic event associated with the site occurred. NHLs are owned by private individuals, corporations, tribal entities, non-profit groups, and government agencies. The NPS is tasked with reporting on the condition of NHLs through periodic status updates provided by owners (NPS 2014).

1.6.4 ORGANIC ACT OF 1916 (NPS)

By enacting the Organic Act, 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 wild life 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 these congressional mandates, the Organic Act and its amendments afford the NPS latitude when making resource decisions. Because conservation remains predominant, the NPS seeks to avoid or to minimize adverse impacts on park resources and values. However, the Organic Act does give the Secretary of the Interior discretion to provide "for the destruction of such animal and of such plant life as may be detrimental to the use of any of said parks, monuments, or reservations" (16 USC § 3).

1.6.5 REDWOOD NATIONAL PARK EXPANSION ACT OF 1978, AS AMENDED

All NPS units are to be managed and protected as parks, whether established as a recreation area, historic site, or any other designation. This Act states that the NPS must conduct its actions in a manner that will ensure no "derogation of the values and purposes for which these various areas have been established, except as may have been or shall be directly and specifically provided by Congress" (P.L. 95-250, USC § 1a-1).

1.6.6 NATIONAL PARKS OMNIBUS MANAGEMENT ACT OF 1998

National Parks Omnibus Management Act of 1998 (16 USC 5901 et seq.) directs the NPS to obtain scientific and technical information for analysis. Section 4.4 of the NPS handbook for Director's Order 12 (DO-12) states that if, "such information cannot be obtained due to excessive cost or technical impossibility, the proposed alternative for decision will be modified to eliminate the action causing the unknown or uncertain impact or other alternatives will be selected."

1.6.7 AMERICANS WITH DISABILITIES AND ARCHITECTURAL BARRIERS ACT GUIDELINES

Pursuant to the Americans with Disabilities Act (ADA) of 1990 and the Architectural Barriers Act of 1968, all public buildings, structures, and facilities must comply with specific requirements related to architectural standards, policies, practices, and procedures that accommodate people with hearing, vision, or other disabilities, and other access requirements. Public facilities and places must remove barriers in buildings and landscapes, as necessary and where appropriate. On September 15, 2010, the Department of Justice published revised regulations for Titles II and III of the ADA in the *Federal Register*. These regulations adopted revised, enforceable accessibility standards called the 2010 ADA Standards for Accessible Design. The NPS and FHWA must comply with the Architectural Barriers Act Accessibility Standard as well as 2010 Americans with Disabilities Act standards for this project.

1.6.8 HISTORIC SITES ACT OF 1935

The Historic Sites Act establishes "national policy to preserve for public use historic sites, buildings and objects of national significance." It gives the Secretary of the Interior broad powers to protect these properties, including the authority to establish and acquire nationally significant historic sites.

1.6.9 THE CLEAN WATER ACT (1972, AS AMENDED IN 1977 AND 1987)

The Clean Water Act (CWA) was enacted to provide the basic structure for regulating pollutant discharges and ensuring that surface waters meet standards that allow for recreational and sporting activities. As authorized by the CWA, the National Pollutant Discharge Elimination System (NPDES) permit program is organized within the Environmental Protection Agency (EPA) and controls water pollution by regulating point sources that discharge pollutants into waters of the United States. Any federal, industrial, or municipal facilities must obtain NPDES permits if their discharges go directly to surface waters (EPA 2009).

1.6.10 SECTION 4(F) OF THE U.S. DEPARTMENT OF TRANSPORTATION ACT OF 1966

Section 4(f) of the US Department of Transportation Act of 1966 permits the use of land from a publicly- owned park, recreation area, wildlife or waterfowl refuge, or land of a historic site of national, state or local significance (as determined by federal, state and local officials having jurisdiction over such resources), only if there is no prudent or feasible alternative to the use of such land and if the action includes all possible measures to minimize harm in accordance with the FHWA Section 4(f) regulations, 23 CFR 774, as well as FHWA's Section 4(f) Policy Paper (March, 2005), and is consistent with the criteria for a Section 4(f) Evaluation (discussed therein) (FHWA 2012).

1.6.11 ENERGY INDEPENDENCE SECURITY ACT (EISA) 2007

The Energy Independence Security Act (EISA), Section 438, requirements apply to Federal projects that construct facilities with a footprint greater than 5,000 gross square feet, or expand the footprint of existing facilities by more than 5,000 gross square feet. The objective of Section 438 of the EISA is to maintain or restore predevelopment hydrology and prevent any net increase in storm water runoff (EPA 2009).

1.7 EXECUTIVE ORDERS AND DIRECTOR'S ORDERS

1.7.1 EXECUTIVE ORDER 11593: PROTECTION AND ENHANCEMENT OF THE CULTURAL ENVIRONMENT

Executive Order (EO) 11593 directs the NPS to support the preservation of cultural properties, to identify and nominate cultural properties within the park to the National Register of Historic Places, and to "exercise caution ... to assure that any NPS owned property that might qualify for nomination is not inadvertently transferred, sold, demolished, or substantially altered."

1.7.2 EXECUTIVE ORDER 11988: FLOODPLAIN MANAGEMENT

EO 11988 requires federal agencies to avoid direct or indirect support of development within the 100-year floodplain whenever there is a practicable alternative. A floodplain is defined as the lowland and relatively flat areas adjoining inland and coastal waters, including flood-prone areas of offshore islands, and including, at a minimum, that area subject to a one percent or greater chance of flooding in any given year (EPA 2011).

1.7.3 EXECUTIVE ORDER 13690: ESTABLISHING A FEDERAL FLOOD RISK MANAGEMENT STANDARD AND A PROCESS FOR FUTHER SOLICITING AND CONSIDERING STAKEHOLDER INPUT

EO 13690 amended EO 11988 and directs federal agencies to take the appropriate actions to reduce risk to federal investments by developing new approaches to establishing the flood elevation and hazard area (FEMA 2015).

1.7.4 DIRECTOR'S ORDER 12: CONSERVATION PLANNING, ENVIRONMENTAL IMPACT ANALYSIS, AND DECISION-MAKING

Director's Order (DO) 12 directs the way that the NPS complies with NEPA, including all aspects of environmental analysis, public involvement and resource-based decisions. The NPS must follow all sources of NEPA guidance, including but not limited to, 40 CFR 1500-1508 and 516 Department Manual. DO-12 and its technical manual outlines the responsibilities of the parties accountable for ensuring compliance with NEPA, from the director to project managers and contracting officers (NPS 2011).

1.7.5 DIRECTOR'S ORDER 28: CULTURAL RESOURCE MANGEMENT

DO-28 (NPS 1998) directs the NPS to protect and manage cultural resources in its custody through effective research, planning, and stewardship in accordance with the policies and principals contained in the original NPS *Management Policies 2006*. DO-28 is carried out through NPS *Cultural Resource Management Guidelines*, which provides the fundamental concepts of cultural resource management for the NPS. The cultural resource management guidelines address cultural landscapes stating "preservation practices [should be implemented] to enable long-term preservation of a resource's historic features, qualities, and materials [of a cultural landscape]" (NPS 2006).

1.7.6 DIRECTOR'S ORDER 28A: ARCHEOLOGY

DO-28A supplements DO-28: Cultural Resources Management Guidelines, providing guidance to park managers and staff regarding archeological programs. This order also details archeological program requirements within NPS units and all applicable standards and guidelines (NPS 1998).

1.7.7 DIRECTOR'S ORDER 77-2: FLOODPLAIN MANAGEMENT

DO-77-2 was issued in response to Executive Order 11988: Floodplain Management (NPS 2004). The Executive Order directs the NPS to avoid, to the extent possible, the long- and short-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct or indirect support of floodplain development wherever there is a practicable alternative. The NPS complies with this Executive Order through the guidance outlined in DO-77-2, which applies to all proposed NPS actions that could adversely affect the natural resources and

functions of floodplains or increase flood risks. This includes those proposed actions that are functionally dependent upon locations in proximity to the water and for which non-floodplain sites are not practicable alternatives.

1.8 NPS MANAGEMENT POLICIES AND PLANS

The NPS *Management Policies 2006* (NPS 2006) is the basic NPS-wide policy document, adherence to which is mandatory unless specifically waived or modified by the NPS director or certain departmental officials, including the U.S. Secretary of Interior. Actions under this EA are in part guided by these management policies. In addition, the NPS has developed plans to guide the maintenance and future development of the Monocacy National Battlefield.

1.8.1 MONOCACY NATIONAL BATTLEFIELD LONG-RANGE INTERPRETIVE PLAN

The Battlefield's Long-Range Interpretive Plan, published in 2009, outlines recommended actions that are proposed to take place within 7-10 years to encourage visitor use and enhance visitor experience. Actions under this EA will take into considerations potential opportunities to enhance visitor experience.

1.8.2 MONOCACY NATIONAL BATTLEFIELD GENERAL MANAGEMENT PLAN

The approved MNB General Management Plan/Final Environmental Impact Statement was finalized in 2009 and established a direction to guide the management of the Battlefield's cultural resources and visitor experience for the next 15 to 20 years.

1.8.3 MONOCACY NATIONAL BATTLEFIELD RESOURCE STEWARDSHIP STRATEGY

The 2010 *Resource Stewardship Strategy* is a planning document for the purpose of developing a comprehensive approach to management cultural and natural environmental resources within the boundary of the Monocacy National Battlefield.

1.9 APPLICABLE STATE LAWS AND REGULATIONS

1.9.1 THE STORMWATER MANAGEMENT ACT OF 2007

The Stormwater Management Act of 2007 is a State of Maryland law that requires state funded projects use environmental site design (ESD) to the maximum extent practicable to address stormwater runoff. The SWM Act of 2007 defines ESD as "using small scale stormwater management practices, nonstructural techniques, and better site planning to mimic natural hydrologic runoff characteristics and minimize the impact of land development on water resources." ESD also promotes conserving natural features, drainage patterns, and vegetation, minimizing impervious surfaces, slowing down runoff, and increasing infiltration.

1.10 SCOPING 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 (40 CFR 1501.7)." In order to help determine the scope of issues to be addressed in this Environmental Assessment, public scoping and agency consultation was completed. Public scoping included a 30-day public comment period (December 5, 2013 through January 5, 2014) and a public scoping meeting held at the Monocacy National Battlefield Visitor Center on December 5, 2013. Agency consultation for the proposed project began in 2011. Letters were sent out to various regulatory agencies including the Maryland Historical Trust (MHT), the US Fish and Wildlife Service (USFWS), the Maryland Department of Natural Resources (DNR) Wildlife and Heritage Service, and the Maryland DNR Environmental Review Unit to inform them of the proposed action and initiate coordination. Responses from the agencies, if applicable, can be found in Appendix A. The public scoping process and agency consultation and coordination efforts are detailed in "Chapter 5: Consultation and Coordination."

1.11 ISSUES AND IMPACT TOPICS ANALYZED IN THIS EA

1.11.1 PLANNING ISSUES AND CONCERNS

Planning issues and concerns are aspects of the proposed action that are broad in scope, are often related to multiple project phases, and therefore should be identified as early as possible. The public scoping process and agency consultation identified four planning issues that should be used, in combination with proposed action's purpose and need, to aid in the development of alternatives and the assessment of impact topics. These planning issues are: effects to the Monocacy National Battlefield; safety of park visitors and motorists; traffic congestion during construction; and the design standards for the MD 355 Bridge over CSX.

Effects to the Monocacy National Battlefield

A primary issue associated with the proposed action is that the bridge replacement could result in direct and visual impacts to the Monocacy National Battlefield. In 2001, the MD 355 Bridge over CSX was determined not eligible for listing in the National Register of Historic Places by the MHT. However, replacement of the bridge could have direct and indirect impacts to the surrounding Monocacy National Battlefield, and its contributing resources.

Safety of park visitors and motorists

Visitor experience is a primary concern for the NPS. Access roads and visitor parking areas for the 14th New Jersey Monument and Battlefield are located immediately south of the MD 355 Bridge over CSX. The existing access roads provide minimum sight distance to traffic on MD 355 from the north, resulting in a potentially dangerous situation for motorists. In addition, the bridge itself



Limited sight distance from access road to 14th New Jersey Monument toward the MD 355 Bridge

provides no pedestrian amenities. Visitors who park at the 14th New Jersey Monument have no space on the roadway to walk to the Battlefield Visitor's Center, the Best Farm, and other areas north of the railroad tracks.

Traffic congestion during construction

A primary concern associated with the proposed action is that partial lane closures and/or temporary closure of the bridge would increase vehicle congestion in the area. Impacts to traffic on MD 355 could be severe, particularly during peak travel periods for commuters. Detours could be necessary and alternative routes in the area would become more congested. MD 355 is an emergency route for I-270 traffic, therefore construction activities at the bridge could have unanticipated impacts in the event of a traffic incident on I-270.

MD 355 Bridge over CSX does not meet SHA design standards

Current design standards for shoulder widths adhered to by SHA require a 6 to 8 foot shoulder on each side of the MD 355. As described in *A Policy on Geometric Design of Highways and Streets*, wider shoulders are desirable for roadway safety (AASHTO 2011). Extra roadway shoulder width contributes to reducing crash frequencies, improved roadway drainage, and providing storage space for plowed snow.

1.11.2 IMPACT TOPICS

Impact topics are resources of concern that would be affected, either beneficially or adversely, by the range of alternatives presented in this EA. Impact topics evaluated in this EA were identified based on the issues raised during the scoping process and review of federal laws, regulations, Executive Orders, NPS Management Policies 2006 (NPS 2006), Director's Orders, and from NPS knowledge of park resources. The impact topics analyzed in this EA are listed below along with the reasons why they were retained for analysis. Existing conditions associated with each impact topic analyzed are described in detail in "Chapter 3: Affected Environment." An analysis of the impacts of the alternatives by impact topic is provided in "Chapter 4: Environmental Consequences."

Topography and Soils

According to the NPS Management Policies, the NPS "will actively seek to understand and preserve soil resources of parks, and to prevent, to the extent possible, the unnatural erosion, physical removal or contamination of the soil or its contamination of other resources" (NPS

2006). Replacement of the MD 355 Bridge over CSX would require soil disturbance and would involve construction of new approach roadways. The new approaches would require soil and fill material to be placed. Road grades established under the proposed action would be developed in consideration of pedestrian and vehicle sight lines. There would be a negligible change in local topography. Based on these considerations, topography and soils impacts are analyzed in detail in this EA.

Floodplains

DO-77-2: *Floodplain Management* applies to all proposed NPS actions that could increase flood risks, or adversely affect the natural function and values of floodplains. This includes actions that are functionally dependent upon water, where non-floodplain sites are not a practicable alternative (NPS 2003). Federal Emergency Management Agency (FEMA) Flood Insurance Rate Panel (FIRM) 24021C0435D shows that the MD 355 Bridge over CSX is outside of the 100-year regulated floodplain of the Monocacy River (FEMA 2007). However, the floodplain of the Monocacy River at the southern extent of the project area could be affected by improvements to the approach roadway to the bridge. Based on these considerations, floodplain impacts are analyzed in detail in this EA.

Under DO-77-2, the NPS requires the preparation and approval of a Statement of Findings (SOF) for any proposed action that is located within a defined regulatory floodplain "when it is not practicable to locate or relocate development or inappropriate human activities to a site outside and not affecting the floodplain (NPS 2003)." Even though the proposed action will likely result in minimal disturbances within the 100-year regulatory floodplain of the Monocacy River, no new structures would be constructed that would affect the floodplains functions and values; therefore, a Floodplain SOF has not been prepared for the project. Consultation with NPS Water Resource Division, confirmed that no SOF is required.

Wildlife and Wildlife Habitat

The project area contains a mix of riparian forest, agricultural fields, and the Monocacy River. Although the roadway and railroad provide unsuitable habitat for wildlife, the areas outside of the SHA right-of-way provide vegetated habitats that may be suitable for many species. Any impact to vegetation during construction may affect wildlife and wildlife habitat. Shifting of the bridge and roadway, stormwater management facilities, and relocation of utilities could have long-term affects to wildlife and wildlife habitat. Based on these considerations, wildlife and wildlife habitat impacts are analyzed in detail in this EA.

Vegetation

Vegetation in the project area is characterized by the forested lands bordering the Monocacy River, trees and brush along the CSX railroad corridor, and croplands abutting MD 355. Although the proposed action would avoid unnecessary impacts to vegetation in these areas, tree pruning and/or removal would be required to facilitate construction activities. Once construction was complete, disturbed areas would be reseeded or replanted with suitable species. Based on these considerations, vegetation impacts are analyzed in detail in this EA.

Cultural Resources

The National Historic Preservation Act, NEPA, NPS Organic Act, NPS Management Policies (NPS 2006), DO-12: *Conservation Planning, Environmental Impact Analysis and Decision-making*, and Director's Order 28: *Cultural Resources Management Guideline* require the consideration of effects on any cultural resources that might be affected. The National Historic Preservation Act specifically requires the consideration of effects on cultural resources either listed on, or eligible to be listed on, the National Register of Historic Places. Cultural resources include historic structures and districts, cultural landscapes, archeological resources, ethnographic resources, and museum collections (prehistoric and historic objects, artifacts, works of art, archival documents, and natural history specimens). Based on these considerations, impacts to historic structures and districts, cultural landscapes, and archeological resources are analyzed in detail in this EA.

Historic Structures and Districts

The MD 355 Bridge over CSX is located within the Monocacy National Battlefield, which was formally listed as a National Historic Landmark on November 8, 1973 and included on the National Register of Historic Places on November 12, 1973. Within the project vicinity, the Best Farm, the 14th New Jersey Monument, the Monocacy River Bridge (Bridge No. 1008500), and the B&O railroad Frederick Junction are eligible for the National Register of Historic Places

and/or are contributing resources to the Monocacy National Battlefield. On August 24, 2014 the MHT concurred with SHA's findings that the MD 355 Bridge over CSX and the alignment of MD 355 from the bridge to the northern boundary of the Monocacy National Battlefield to be a non-contributing resource to the Battlefield. On November 4, 2015 MHT concurred that the Action Alternatives would have an adverse effect on historic resources within the project area. Based on these considerations, impacts to historic structures and districts are analyzed in detail in this EA.

Cultural Landscapes

Monocacy National Battlefield forms an overall cultural landscape which represents most of the area where the July 9, 1864 Civil War battle took place. The MD 355 Bridge over CSX is within the *L' Hermitage* Landscape (Best Farm), which is one of four component landscapes that make up the overall cultural landscape (NPS 2000) of the Battlefield. Based on these considerations, impacts to cultural landscapes are analyzed in detail in this EA.

Archeology

There have been numerous archeological surveys conducted in and around the project location, and two recorded archeological sites exist within the project area. Prehistoric occupations of Monocacy National Battlefield, 18th century historic occupations, and archeological evidence of short-term campsites have been documented on the Best Farm property. Subsurface remains of the battle itself have been documented in the project vicinity. Based on these considerations, impacts to archeological resources are analyzed in detail in this EA.

Visitor Use and Experience

Visitors to the Monocacy National Battlefield cross the MD 355 Bridge over CSX primarily to access the Battlefield's points of interest. The proposed action would provide pedestrian and bicycle lanes that would enhance access throughout the park. During construction, temporary impacts associated with road closures and construction staging could affect visitors. In the short-term, maintenance of traffic (MOT) would be necessary, and would be conducted in a manner that would be safe for park visitors. In the long-term, improved sight lines incorporated into the new bridge design would enhance safety at the crossing of MD 355 over the CSX railroad.

Based on these considerations, impacts to visitor use and experience are analyzed in detail in this EA.

MD 355 (Urbana Pike) is a two-lane urban minor arterial roadway, and is one of the most heavily traveled roads in the Frederick region. According to 2006 traffic counts, approximately 12,000 vehicles per day are estimated to drive over the bridge. By 2030, traffic volumes on the bridge are projected to reach 19,500 vehicles per day. MD 355 parallels I-270 and serves as an alternate north-south commuter route, as a local connector between Frederick and Urbana, and as an emergency route for I-270. MD 355 also serves as the primary access route to the Monocacy National Battlefield and is used by park visitors to access the 14th New Jersey Monument and other areas of the Battlefield. Temporary bridge closures and detours may be required during the replacement of the bridge that could be disruptive to local and regional traffic. Consequently, traffic volumes and delay times, particularly during peak travel periods on MD 355, are projected to increase. Based on these considerations, impacts to local and regional roadways and on pedestrians and bicyclists are analyzed under the impact topic of *Visitor Use and Experience* in this EA.

1.11.3 IMPACT TOPICS DISMISSED FROM FURTHER ANALYSIS

The impact topics listed below were initially considered, but were dismissed from detailed analysis. These impact topics were dismissed from detailed analysis because it was determined that the either the resources in question were not present in the project area or that potential impacts would be minimal. The rationale for the dismissal of these impact topics are briefly described below.

Geology and Geologic Hazards

NPS policy is to "protect geologic features from the unacceptable impacts of human activity while allowing natural processes to continue (NPS 2006)." Under the proposed alternatives, no impacts to geologic resources are anticipated. The proposed action would involve movement of fill materials put in place during construction of the existing MD 355 Bridge over CSX. Since there would be no deep excavation necessary, geologic layers underlying the project area would be unaffected. Based on these considerations, geology and geologic hazards has been dismissed as an impact topic in this EA.
Wetlands

Director' s Order 77-1: *Wetland Protection* directs the NPS to avoid, to the extent possible, longterm and short-term adverse impacts to wetlands, and to avoid construction activities in wetlands if a practicable alternative exists (*NPS 2002*). A review of the USFWS National Wetland Inventory (USFWS 2014) provides that wetlands are absent from the MD 355 Bridge over CSX project area. However, forested wetlands are mapped in the riparian zone alongside the Monocacy River. A field review was conducted by SHA on January 9, 2014, to inspect the entire project area for wetlands. The Monocacy River was identified as a resource that meets the Cowardin definition of a wetland; however, no other wetland areas were identified. Under the proposed action, there would be no work, grading, or construction activities within the Monocacy River. Therefore, wetlands will not be impacted by the proposed action. Based on these considerations, impacts to wetlands were dismissed as an impact topic in this EA.

Water Quality

According to NPS Management Policies, the NPS is required to, "avoid, whenever possible, the pollution of park waters by human activities occurring within and outside the parks" (NPS 2006). The NPS follows the standards established by the Clean Water Act, as well as applicable federal, state, and local regulations, to best maintain the quality of surface water and groundwater. The Monocacy River is located down-slope from the MD 355 Bridge over CSX and is a state designated Scenic and Wild River. Under the proposed action, surface disturbances would be required to replace the existing bridge and approach roadways. To prevent soil runoff to the Monocacy River, erosion and sediment control measures would be required. SHA must also adhere to The Stormwater Management Act of 2007 which mandates the construction of stormwater management practices and techniques to avoid and minimize the impact of land development on water resources. Stormwater management facilities will be included in the design of the action alternatives. Based on the requirement to include sediment and erosion controls and stormwater management facilities in the design of the action alternatives, impacts to water quality were dismissed as an impact topic in this EA.

Rare, Threatened and Endangered Species

Wildlife in the project area consists of terrestrial and avian species commonly found at the edges of agricultural and riverine environments. Based on project reviews completed by the U.S. Fish and Wildlife Service (USFWS) and the Maryland Department of Natural Resources (DNR) there are no federal or state listed rare, threatened, or endangered species known to inhabit the project area. Field reviews were conducted by SHA in October 2013 and January 2014 to identify rare or unique habitats. Riparian forest exists along the Monocacy River, but no specialized habitats or rare species were observed. Coordination with the Monocacy National Battlefield staff indicated that a survey was completed in 2005 which identified the presence of the Northern Long-Eared Bat, a federally listed threatened species, just over one mile from the project area. However, further coordination with the USFWS in 2015 concluded that because the removal of trees will occur within 100 feet of existing pavement along a linear corridor with low quality habitat and that no recent records of the species have been found, the project is not likely to adversely affect the species (Appendix A). Based on these considerations, impacts to rare, threatened, or endangered species were dismissed from further analysis in this EA.

Air Quality

The 1963 Clean Air Act (CAA), as amended, requires federal land managers to protect air quality. Moreover, NPS 2006 Management Policies establish the need to analyze air quality during park planning (NPS 2006). During the replacement of the MD 355 Bridge over CSX, construction activities would generate emissions of volatile organic compounds and nitrogen oxides from the burning of fuel associated with the operation of vehicles and construction equipment. Construction activities would also result in emissions of particulate matter (dust) and the construction of paved roads and parking lots would emit fumes during the application of hot mix asphalt surfaces. Overall impacts to air quality would be minimal and would be limited to the construction period. Emissions from construction activities would not significantly impact air quality on a local or regional level.

SHA evaluated Transportation Conformity, Particulate Matter 2.5 (PM 2.5) and Mobile Source Air Toxics (MSAT) Analyses for the MD 355 Bridge over CSX project. The proposed project is considered an Exempt Project for Clean Air Act conformity determination per Table 2 of 40 CFR 93.126 as the project is a safety project. The project involves several exempt safety actions including; Railroad/highway crossing (MD 355 over CSX railroad tracks), Projects that correct, improve, or eliminate a hazardous location or feature (replacement of the structurally obsolete MD 355 bridge), Shoulder improvements (widening of MD 355 shoulders), Widening narrow pavements or reconstructing bridges with no additional travel lanes (reconstructing the MD 355 bridge over CSX while maintaining current number of lanes).

Based on the type of improvements involved with the project and project purpose, the proposed project actions were determined to be exempt from the requirements set forth in 40 CFR 93.109 for conformity. Conformity means that the transportation activity will not cause new air quality violations, worsen existing violations, or delay timely attainment of the relevant National Ambient Air Quality Standards (NAAQS). The project is not expected to cause or contribute to a new violation of the PM2.5 NAAQS, or increase the frequency or severity of a violation of the PM2.5 NAAQS.

FHWA Interim Guidance on Air Toxic Analysis in NEPA Documents, dated February 3, 2006 requires analysis of Mobile Source Air Toxics (MSAT) under specific conditions (FHWA 2012). This guidance was updated on September 30, 2009 and again on December 6, 2012, by FHWA's "Interim Guidance Update on Air Toxic Analysis in NEPA Documents." The purpose of FHWA's guidance is to advise on when and how to analyze MSATs in the NEPA process. The FHWA developed a tiered approach with three categories for MSAT analyses:

- 1. no analysis for projects with no potential for meaningful MSAT effects;
- 2. qualitative analysis for projects with low potential MSAT effects; and
- quantitative analysis to differentiate alternatives for projects with higher potential MSAT effects.

The purpose of this project is to enhance the safety of the traveling public (vehicular and pedestrian) by replacing the structurally deficient bridge while minimizing impacts to the Monocacy National Battlefield by constructing the full replacement of Bridge No. 1008400 located on MD 355 (Urbana Pike) over CSX railroad in Frederick County, Maryland, raising the profile of the bridge to provide adequate clearance over the CSX tracks, resurfacing of the travel lanes, providing pedestrian and bicycle facilities along MD 355 within the project area, providing improved pedestrian access and connectivity to the Monocacy National Battlefield,

providing the necessary stormwater management and relocating utilities. This project has been determined to generate minimal air quality impacts for Clean Air Act Amendment (CAAA) criteria pollutants and has not been linked with any special MSAT concerns. As such, this project will not result in changes in traffic volumes, vehicle mix, basic project location, or any other factor that would cause an increase in MSAT impacts of the project from that of the no-build alternative.

Moreover, EPA regulations for vehicle engines and fuels will cause overall MSAT emissions to decline significantly over the next several decades. Based on regulations now in effect, an analysis of national trends with EPA's MOVES model forecasts a combined reduction of over 80 percent in the total annual emission rate for the priority MSAT from 2010 to 2050 while vehicle-miles of travel are projected to increase by over 100 percent. This will both reduce the background level of MSAT as well as the possibility of even minor MSAT emissions from this project. Based on these considerations, air quality was dismissed from further analysis in this EA.

Climate Change

Maryland's Greenhouse Gas Emission Reduction Act of 2009 (GGRA) seeks a reduction in greenhouse gas (GHG) emissions of 25 percent from the 2006 baseline by 2020. The Greenhouse Gas Reduction Plan was published October 2013 and puts the State on track to achieve the 25 percent GHG reduction required by the law. The Maryland Climate Change Commission (MCCC) was signed into law by Governor Hogan in 2015. The MCCC is charged with assessing future year goals for GHG emissions in Maryland.

Currently there are no Federal requirements for consideration of GHG impacts in transportation planning, however the Maryland Department of Transportation (MDOT), recognizes that highway transportation accounts for approximately 28 percent of the GHGs in Maryland. In response to the GGRA, MDOT is exploring and implementing transportation and land use strategies to reduce GHG emissions programmatically as described in the Plan. The general GHG reduction strategies presented for the transportation sector in the Plan include: Transportation Technologies such as vehicle emission and fuel standards, on-road technologies and low emission vehicle initiatives; Public Transportation Initiatives; Pricing Initiatives; GHG Emission Impact evaluation of Major New Transportation Projects; and Bike and Pedestrian Initiatives. Initiatives outlined in the Plan also will help with restoration of the Chesapeake Bay, improving air quality and improving water quality throughout the State.

Much like environmental habitats, Maryland's transportation system is a network of interdependent elements and the interactions and synergy between each part impact the transportation system as a whole. GHG emissions from major transportation projects need to be considered as part of the planning process and recognition needs to be made that all projects may not reduce GHG emissions but as a whole the network needs to focus on reductions. Consequently project-level emissions analyses are less informative than analysis conducted at the regional, state, and national scale. EPA has not identified National Ambient Air Quality Standards for GHGs, but has finalized standards and adopted regulations to enable the production of a new generation of clean vehicles along with implementing cleaner fuel standard regulations to achieve significant reductions of GHG emissions.

The SHA continues to strive for improved operations and system efficiency through improved operations which typically goes hand in hand with GHG reductions. System operations improvements such as improved signal timing, roundabouts, reduced vehicle idling, congestion pricing and reduction, smoothing traffic flow, eliminating bottlenecks and encouraging ecodriving are incorporated into many SHA projects. Environmental benefits and consequences are considered on all projects prior to implementation. Based on these considerations, climate change was dismissed from further analysis in this EA.

Noise

An analysis of noise is not required since the proposed project is less than one mile in length (bridge replacement and resurfacing total approximately 1,800 linear feet) and the proposed project, which involves bridge reconstruction, is a Type III project as defined by 23 CFR 771.117 (d)(3). Type III projects do not require noise analysis. Based on these considerations, highway noise impacts were dismissed from further analysis in this EA.

Museum Collections

According to DO- 24: *NPS Museum Collections Management* the NPS requires the consideration of impacts on museum collections (historic artifacts, natural specimens, and archival and manuscript material), and provides further policy guidance, standards, and requirements for preserving, protecting, documenting, and providing access to, and use of, NPS museum collections (NPS 2008). None of the proposed work would have an effect on recognized museum collections (historic artifacts, natural specimens, and archival and manuscript material). Based on these considerations, impacts to museum collection were dismissed from detailed analysis in this EA.

Ethnographic Resources

Ethnographic resources are defined in DO- 28: *Cultural Resources Management* 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" (NPS 1998). There are no known ethnographic resources within the project study area. Based on these considerations, impacts to ethnographic resources were dismissed from further analysis in this EA.

Indian Trust Resources

The U.S. Department of Interior *Responsibility for Indian Trust Resources*-Secretarial Order 3175 requires that any anticipated impacts to Indian Trust resources from a proposed action by Department of 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 law with respect to American Indian and Alaskan native tribes. Based on consultation with the NPS Cultural Resources Manager, who is knowledgeable of the Monocacy National Battlefield and surrounding areas, there are no known Indian trust resources in the project area. Land at the intersection of MD 355 and the CSX railroad is not held in trust by the Secretary of the Interior for the benefit of Indians due to their status as Indians. Based on these considerations, impacts to Indian Trust Resources were dismissed from further analysis in this EA.

Land Use

No changes to land use would result from implementation of the proposed actions. The project is intended to replace the existing MD 355 Bridge over CSX. During construction, lands adjacent to the bridge would be used for construction staging. At the completion of the proposed project, lands surrounding the bridge would be returned to preconstruction conditions. Based on the considerations, land use impacts were dismissed from further analysis is this EA.

Socioeconomics

An analysis of impacts to the human environment, including economic, social, and demographic elements in the area of the proposed action is required by NEPA. In general, the socioeconomic environment of the project area and surrounding land is characterized by parkland, agricultural fields, and railroad right-of- ways. Rural residential, suburban and commercial developments are located several miles to the north and south of the MD 355 Bridge over CSX.

The proposed bridge replacement would require workers, but the number of workers would be minimal and would not affect the population, income, or employment base of surrounding communities. The need for workers would provide an increase in employment opportunities and revenues for local businesses, but the increase would be small based on the size of the bridge replacement project relative to the size of the regional economy. In the long-term, the socioeconomic effects of the bridge replacement are expected to be below the level of detection. With construction of a new bridge, the NPS would continue to maintain the Battlefield, and CSX would continue its railroad operations. Based on these considerations, socioeconomic impacts were dismissed from further analysis in this EA.

Environmental Justice

Presidential Executive Order 12898, *General Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, requires all federal agencies to incorporate Environmental Justice into their programs and policies. The Order requires agencies to identify and address disproportionately high and adverse human health or environmental effects on minorities and low-income populations and communities. Based on a review of U.S. Census block groups surrounding the project area, minority community members make up from 0 to 20 percent of the population. According to the Census, the percent population below the poverty line in these areas is 20 percent or less (EPA 2014). Although the Census data indicates that minority and low-income populations are present surrounding the proposed project area, no racial, ethnic, or socioeconomic group would bear a disproportionate share of the effects resulting from the bridge replacement. All construction is proposed in park and roadway settings and no private property impacts or displacements would occur. As a result, all impacts, whether beneficial or adverse, would affect all populations equally. Based on these considerations, environmental justice impacts were dismissed from further analysis in this EA.

Energy Conservation Potential and Sustainability

The NPS strives to incorporate the principles of sustainable design and development into all facilities and park operations. Sustainability can be described as the result achieved by doing things in ways that do not compromise the environment or its capacity to provide for present and future generations. Sustainable practices minimize the short and long-term environmental impacts of developments and other activities through resource conservation, recycling, waste minimization, and the use of energy-efficient and ecologically responsible materials and techniques.

The replacement of the MD 355 Bridge over CSX would not result in any long-term adverse impacts relating to energy use, availability, or conservation. Once the bridge replacement is complete, bridge maintenance and inspection activities would require energy from the use of vehicles and equipment. However, energy needed to maintain the bridge would be limited to very minor maintenance items such as asphalt patching and concrete crack sealing in most years, which would not result in significant energy consumption. Therefore, the energy requirements of the proposed replacement of the MD 355 Bridge over CSX are limited to maintenance activities following construction. Based on these considerations, impacts to energy conservation and sustainability were dismissed from further analysis in this EA.

Park Operations and Management

SHA would oversee the design and construction of the replacement bridge. During design, should an action alternative be selected, the NPS would review and comment on plans to ensure that the design is taking park resource impacts and future management of park resources into account. During construction, the NPS would monitor construction activities in order to help

ensure that natural and cultural resources are being protected. An archeological monitor would also be present during construction to ensure that archeological resources are protected. SHA would maintain all stormwater management facilities. NPS would continue to manage the Monocacy National Battlefield as presently done. Based on these considerations, impacts to park operations and management were dismissed from further analysis in this EA.

CHAPTER 2: ALTERNATIVES

2.1 INTRODUCTION

NEPA requires federal agencies to explore a range of reasonable alternatives. The alternatives under consideration must include the "no-action" alternative as prescribed by CEQ regulations (40 CFR 1502.14). Any alternative analyzed must meet the purpose of and need for the project. Project alternatives may originate from the sponsoring agency, local government officials, or members of the public. Alternatives may also be developed during the early stages of project development at public meetings or in response to agency comments. The components of the action alternatives analyzed in this document represent the outcome of extensive collaboration between the SHA, NPS, FHWA, and the project consultant team, as well as public and agency input.

The SHA explored and evaluated a range of alternatives. After collaboration with the NPS and the FHWA, five alternatives (the No-Action alternative and four Action Alternatives) were carried forward for further analysis. The elements of these alternatives are described in detail in this chapter. Impacts associated with the actions proposed under each alternative are outlined in "*Chapter 4: Environmental Consequences.*" In addition, several alternatives and/ or alternative elements were dismissed from further consideration. Alternatives dismissed from further consideration are described in this chapter under "*Alternatives Considered but Dismissed.*"

2.2 NO ACTION ALTERNATIVE

Under the No-Action Alternative, all corrective actions would be limited to routine maintenance and spot improvements. In the case of the MD 355 Bridge over CSX, the maintenance activities would likely include: replacing the bridge deck and approaches; removing loose or missing sections of the concrete superstructure and replacing them using cast in place methods; replacing joint seals and gutters; and reinforcing the existing guardrail. Although these actions would slow the structure's deterioration, they would not address the underlying causes of the deficiencies. Beyond the bridge itself, routine maintenance activities would likely include: roadway resurfacing, sign replacement, drainage facility maintenance. Since these actions preserve the design and profile of the existing roadway and bridge, they would not address the safety issues associated with vehicles turning in and out of the 14th New Jersey Monument area and the parking lot adjacent to it. Visitors parked at either parking area to the south of the MD 355 Bridge would continue to have to walk across the bridge, which currently provides no sidewalks or sufficient shoulder width to allow space for pedestrians and separation between pedestrians and vehicle traffic. Similarly, visitors hoping to access the 14th New Jersey Monument from the parking area on the opposite side of MD 355 would continue to have to contend with the minimal sight distance on MD 355 from the north.

In addition, the MD 355 Bridge over CSX would continue to be in violation of several current minimum design standards adopted by AASHTO and SHA and minimum clearance requirements set by CSX. As a result, the No Action Alternative cannot satisfy the purpose and need for the proposed action. However, it does provide a basis for comparing the management direction and environmental consequences of the action alternatives.

2.3 ACTION ALTERNATIVES

This EA analyzes the No Action Alternative along with four Action Alternatives for the MD 355 Bridge over CSX Replacement Project. In addition to the proposed improvements as described under each action alternatives, there are several "*elements common to all alternatives*" that are included with the analysis.

2.3.1 ALTERNATIVE 1: REPLACE BRIDGE WEST OF EXISTING BRIDGE

Under Alternative 1, a new bridge would be constructed to the west of the existing bridge. The approaches leading to the bridge would need to be shifted west to accommodate the new alignment (**Figure 2-1**). The replacement structure would be approximately 150 feet long. The existing bridge would be used to maintain two lanes of traffic during construction of the new bridge. Upon completion of the new bridge, the existing bridge and its approaches would be removed. The limits of the work would extend from the Monocacy River Bridge to approximately 150 feet north of the Best Farm driveway. The total construction duration under Alternative 1 would be approximately 18 to 20 months. Impervious surface within the project area would increase from 1.74 acres to approximately 2.17 acres under Alternative 1. Alternative 1 would require approximately 2.3 acres of permanent use of NPS land for the expanded MD 355 right-of-way and for construction activities.

Figure 2-1: Alternative 1: Replace Bridge West of Existing Alignment



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2.3.2 ALTERNATIVE 2: REPLACE BRIDGE EAST OF THE EXISTING BRIDGE

Under Alternative 2, a new bridge would be constructed to the east of the existing bridge. The approaches leading to the bridge would need to be shifted east to accommodate the new alignment (**Figure 2-2**). The replacement structure would be approximately 160 feet long. The existing bridge would be used to maintain two lanes of traffic during construction of the new bridge. Upon completion of the new bridge, the existing bridge and its approaches would be removed. The limits of the work would extend from the Monocacy River Bridge to approximately 150 feet north of the Best Farm driveway. The total construction duration under Alternative 2 would be approximately 18 to 20 months. Impervious surface within the project area would increase from 1.74 acres to approximately 2.17 acres under Alternative 2. Alternative 2 would require approximately 3.2 acres of permanent use of NPS land for the expanded MD 355 right-of-way and for construction activities.

2.3.3 *PREFERRED ALTERNATIVE*; ALTERNATIVE 3: REPLACE BRIDGE ON EXISTING ALIGNMENT; PROVIDE TEMPORARY BRIDGE FOR MAINTENANCE OF TRAFFIC

Under Alternative 3, a temporary bridge would be constructed to the west of the existing bridge to carry traffic while the existing bridge is being replaced (**Figure 2-3**). The temporary bridge would provide two 11-foot travel lanes with minimal (2-foot) shoulders. The replacement bridge would be approximately 150 feet long, and follow the same alignment of the existing MD 355 Bridge over CSX. Once the replacement bridge is opened, the temporary bridge and roadway approaches would be removed and the area would be reseeded/replanted. The limits of the work would extend from the Monocacy River Bridge to approximately 150 feet north of the Best Farm driveway. The total construction duration under Alternative 3 would be approximately 24 to 28 months. Impervious surface within the project area would increase from 1.74 acres to approximately 2.12 acres under Alternative 3. In addition, a temporary bridge and roadway approaches but would be removed and reseeded after completion. Alternative 3 would require approximately 2.4 acres of permanent and 0.25 acre of temporary use of NPS land for the expanded MD 355 right-of-way and for construction activities.

Figure 2-2: Alternative 2: Replace Bridge East of Existing Alignment



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Figure 2-3: Alternative 3 (Preferred Alternative)-Temporary Bridge West of Existing Alignment



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2.3.4 ALTERNATIVE 4: REPLACE BRIDGE ON EXISTING ALIGNMENT WITH PHASED CONSTRUCTION

Under Alternative 4, the existing bridge would remain in service while it is being demolished and reconstructed (Figure 2-4). This would be achieved by reducing traffic on MD 355 to a single reversible lane moderated by a signal. The reversible lane would follow the alignment of one of the existing lanes and would, therefore, allow the construction team to demolish the other half of the bridge. Once that half was replaced, the reversible lane would be shifted onto the new section of bridge. The construction crew would then demolish the remaining portions of the original MD 355 Bridge over CSX and construct the second half of the replacement structure. The replacement structure would be approximately 150 feet long. The new bridge would be constructed in phases under this alternative. This would allow for the replacement of half of the bridge while maintaining one lane of traffic on the other half of the bridge during construction. Temporary traffic signals would be provided at each end of the construction zone to alternate the traffic during construction. The total construction duration for Alternative 4 is approximately 26 to 30 months. Impervious surface within the project area would increase from 1.74 acres to approximately 2.12 acres under Alternative 4. Alternative 4 would require approximately 2.4 acres of permanent use of NPS land for the expanded MD 355 right-of-way and for construction activities.

2.3.5 ELEMENTS COMMON TO THE ACTION ALTERNATIVES

The following section provides descriptions of elements that would be included with the implementation of any Action Alternative (Alternatives 1-4). These elements have been included to address specific elements of the purpose and need and design considerations as developed during the scoping process. Their intent is to improve the safety of the traveling public and Battlefield visitors, address the structural deficiencies and substandard bridge and roadway conditions, enhance visitor use and experience within the Battlefield, and address stormwater management requirements.

It is important to note that the delineated project area for each Action Alternative is commensurate with the preliminary limit of disturbance within which the bridge would be replaced, a temporary bridge would be constructed (only applicable to Alternative 3), stormwater management features would be constructed, utilities would be relocated, and general construction activities would take place. Because of these elements common to all Action Alternatives,

Figure 2-4: Alternative 4-Replace Bridge on Existing Alignment



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the limit of disturbance is the same for each. Therefore, the impacts associated with each Action Alternative are generally the same. SHA would need to pursue the permanent transfer of land from NPS in order to maintain slopes and stormwater management facilities once the bridge is replaced, should an Action Alternative be selected.

Replacement of the MD 355 Bridge over CSX

Each action alternative includes the replacement of the MD 355 Bridge over CSX with a new single span structure. The replacement superstructure is likely to consist of steel girders and the substructure (e.g. bridge abutments) of reinforced concrete. The length and width of the bridge varies minimally under the action alternative. The typical section of the roadway under each action alternative would consist of two 11-foot wide travel lanes and two 6-foot wide shoulders. An 8-foot wide sidewalk would be placed on the east side of the bridge. The replacement structure would provide 23 feet of vertical clearance from the CSX tracks to the bottom of the bridge structure to meet CSX requirements. The proposed roadway surface just north of the bridge would be approximately 4 feet higher than the existing to accommodate the required clearance over the CSX tracks (due to a deeper bridge superstructure) and the vertical curve geometrics required by AASHTO. The bridge will contain concrete parapets (bridge railings) that would be 42 inches in height. The parapets would be crash tested and would meet AASHTO, FHWA, and SHA design safety standards. Fencing would be installed onto the parapets, as required by CSX, to prevent large objects from falling or being thrown onto the railroad tracks from on top of the bridge. The fencing would extend approximately 5 feet above the bridge parapet.

Widening of Roadway Approaches

The existing MD 355 roadway section between the Monocacy River Crossing and just south of the Best Farm entrance is 27 feet wide, consisting of two 12-foot wide travel lanes and 18-inch shoulders. The existing shoulders expand to about 10 feet just south of the Best Farm Entrance to the Monocacy National Battlefield visitor center entrance. In order to accommodate a wider bridge over the CSX railroad to provide for adequate shoulders, sidewalk, and bicycle lanes through the project area, the roadway approaches on MD 355 would also be widened. Widening the roadway approaches to approximately 34 feet under the action alternatives would

accommodate two 11-foot wide travel and two 6-foot wide shoulders. The proposed 6-foot shoulders would be wide enough to accommodate bicycle users and would tie into the wider shoulders north of the Best Farm Entrance.





Entrance to the 14th New Jersey Monument, just south of the MD 355

Each action alternative includes closing the existing entrance to the 14th New Jersey Monument located on the west side of MD 355 to eliminate sight distance issues for vehicles entering and exiting the site. Access to the 14th New Jersey Monument would be redirected to an entrance on the east side of MD 355 with pedestrian access under the bridge.

Improved Access to the Battlefield Parking Area

Each action alternative includes improvements to the access road to the Battlefield parking area southeast of the bridge, opposite of the 14th New Jersey Monument entrance. The existing access road entrance would be graded and resurfaced and the entrance would be striped as a right-in/right-out to further enhance safety.



NPS parking lot located on the east side of MD 355, adjacent to the 14th New Jersey

Pedestrian Connectivity

NPS has requested that pedestrian connectivity between various points of interest in the Monocacy National Battlefield be included in this project. The various points of interest include the visitor center located in the northeast quadrant of the project, the Best Farm in the northwest quadrant of the project, the 14th New Jersey Monument located in the southwest quadrant of the project, and the Frederick Junction site to the east of the bridge. Although future trails are planned, only one trail currently exists which runs from the visitor center to a location

north of CSX at a point that overlooks the Frederick Junction. The proposed action would include the construction of pedestrian paths to tie into this existing trail to allow access to all points of interest noted above.

From the terminus of the existing trail on the side of the visitor center, a path would be constructed under the proposed bridge (on the north side) that would provide access to the Best Farm site (**Figure 2-5**). This trail would be constructed to the limits of the project and NPS would be responsible for any trail connection beyond this point. A separate trail would be constructed from this point directing pedestrians to an 8-foot wide sidewalk that would run along the east side of MD 355 over the bridge to the Battlefield parking area southeast of the bridge. From this parking area, a trail would be constructed under the proposed bridge (on the south side) that would provide access to the 14th New Jersey monument. The construction of all the trails in the project would be done within the proposed project limits and any connection to existing trails beyond this point would be the responsibility of the NPS.



Installing Stormwater Management

To comply with current stormwater management regulations as noted in Section 1.9.1, the new and redeveloped pavement would require water quality treatment. The stormwater management for the proposed action has been evaluated in accordance with the *Maryland Stormwater Design Manual Volumes I and II and the Sediment and Stormwater Guidelines and Procedures*,

Maryland SHA, February 2015. The

proposed action is categorized as



Example of a grassed bioswales stormwater management facility

redevelopment; therefore, the amount of impervious surface required for water quality treatment is based on the following formula: 100% new impervious + 50% reconstructed impervious surface - 50% removed. With regard to water quantity management, both the channel protection volume and the ten year peak are being managed with the proposed stormwater management facilities.

Each action alternative includes the implementation of water quality treatment using environmental site design which includes the construction of linear bioswales and rain gardens. The bioswales would be constructed at the proposed toe of the roadway slope. These facilities will manage both water quality and quantity components. Bioswales are a form of "green infrastructure" that can absorb low flows or convey stormwater runoff from heavy rains to storm sewer inlets or directly to surface waters. Bioswales can improve water quality by infiltrating the first flush of stormwater runoff and by filtering large storm flows (NRCS 2005). Larger facilities such as rain gardens may be required south of the existing bridge.

Replacement of Water Line

Each action alternative includes the replacement of the existing water line currently attached to the existing bridge. Alternatives 1 and 2 include placing the new waterline onto the new structure while the existing line remains in service. Alternatives 3 and 4 will require construction of a temporary waterline during construction.

Relocating Overhead Utility Lines

Each action alternative includes the relocation of utilities to accommodate a wider bridge and shifts in the roadway alignment. Utilities to be relocated are overhead power lines on poles running adjacent to MD 355 northbound and southbound.



2.4 CONSTRUCTION AND STAGING

Existing Overhead Utility Lines on MD 355

Although the construction staging would be developed in more detail later in design, it is currently anticipated that the majority of staging would occur on the existing MD 355 roadbed (for Alternatives 1, 2, and 3) and at the east side parking area (for all Action Alternatives). The area needed for staging is included under the current limit of disturbance. Construction activities and proposed staging areas would be selected so as to minimize disruptions to visitors and vehicular traffic and avoid and minimize impacts to historic and park resources, while meeting the needs of the contractor. All areas needed for staging and construction have been assumed in the direct impacts and in the right-of-way totals.

2.5 MITIGATION MEASURES OF THE ACTION ALTERNATIVES Topography and Soils

During the design phase of the project, erosion and sediment control plans would be prepared in accordance with the Maryland Department of the Environment's current Standards and Specifications for Soil Erosion and Sediment Control. These plans would include specific measures and best management practices (BMP's) to avoid and/or minimize soil erosion and transport due to ground disturbing activities. These measures may include, but would not be limited to: stabilized construction entrances, silt fences, temporary sediment traps and filtering devices, and earthen dikes. Once approved, these plans would be implemented during construction.

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Water Quality

Implementation of erosion and sediment control practices, such as installation of silt fence, sediment trapping or filtering, and other BMPs, would also help to avoid temporary impacts to water quality during construction. Stormwater management plans would be prepared and implemented onsite to address long-term stormwater management needs.

Floodplains

The southern extent of the study area lies within a portion of the 100 year floodplain of the Monocacy River. To minimize impacts during construction, materials and equipment would be staged outside of the floodplain. Disturbance in the riparian areas of the floodplain would be avoided to the extent possible.

Wildlife and Wildlife Habitat

Best management practices would be utilized to minimize impacts to terrestrial and aquatic habitats. Detailed tree save plans would be developed and implemented during construction to protect surrounding trees that form forest habitat for park wildlife. Erosion and sediment control plans would also be prepared and implemented to avoid and minimize potential impacts to aquatic habitat within the Monocacy River that could be caused by soil erosion and sediment transport.

Vegetation

Protection measures and BMPs would be implemented to avoid impacts to all types of park vegetation to the extent possible. Vegetation protection measures would be detailed in the design phase of the project and may include, but would not be limited to: evaluation of large trees and development of a tree save plan by an arborist or licensed tree expert; installation of tree protection fencing; root pruning for trees whose critical root zones lie within proposed construction area; and staging construction equipment to avoid damage to park vegetation. All replacement landscaping would fulfill NPS functional and aesthetic requirements. Landscape plans would be developed in coordination with the NPS and the Maryland Department of Natural Resources. Areas replanted following construction would be monitored to ensure successful establishment.

Cultural Resources

Because the main impacted resource is the Monocacy National Battlefield which consists of individually eligible resources, contributing resources, and significant archeological resources, the mitigation and minimization strategies would be developed in a comprehensive manner. Through coordination with the SHPO, NPS, and consulting parties, a draft set of mitigation strategies has been developed and will be finalized in a Memorandum of Agreement (MOA). The draft list of mitigation measures includes land transfer from SHA to NPS, restoring the 1864 Georgetown Pike alignment within the project area, completing the Gambrill's Tract Cultural Landscape Report, designing the bridge aesthetics, roadway features, and sidewalk to minimize visual impacts (i.e. staining concrete, colored guardrail, textured surfaces), removing roadside trees and vegetation to restore the Civil War era viewshed, improving the east side parking area, and providing pedestrian connectivity to areas of interest within the project area.

Visitor Use and Experience

To notify park visitors and commuters of temporary closures or changes in traffic patterns, public notifications may include electronic notification and detour signage, postings to the Monocacy National Battlefield website, and email notices for stakeholders and interested parties. Additionally, plans for construction equipment and materials staging areas would be developed to cause the least practicable disruption to park visitors.

Plans to maintain traffic during construction would be developed to minimize impacts to park visitors, commuters, and NPS staff. Advance notifications of temporary closures or changes in traffic patterns would be implemented and may include electronic notification and detour signage, postings to the Monocacy National Battlefield website, and email notices for stakeholders and interested parties. At some locations, work would be scheduled to avoid times of peak traffic volumes.

2.6 ALTERNATIVES CONSIDERED BUT DISMISSED

2.6.1 ALTERNATIVE 5: REPLACE BRIDGE WITH SHIFT WEST AND A TEMPORARY SIGNAL

Alternative 5 is a hybrid of Alternative 4 and Alternative 1. Like Alternative 4, Alternative 5 would maintain traffic on the existing bridge during construction by completing the replacement

process in two phases. Alternative 4 maintains only a single lane of traffic; however, Alternative 5 maintains two lanes of traffic. This is accomplished by narrowing the two travel lanes as much as possible, shifting the lanes to the eastern side of the bridge, and then demolishing the remaining area. Rather than replacing just that area, however, the construction team would expand the replacement bridge to the west enough that the new area could carry two lanes of traffic. As soon as the transfer was in place, the construction team would then remove the remaining section of the existing bridge and construct a slightly narrower portion in its place. Once the second stage of construction was completed, both travels lanes would be reopened at their appropriate widths. Under Alternative 5, the final bridge alignment would be west of its current location.

Alternative 5 was dismissed because it had the negative attributes of Alternatives 1 and 4, and did not present any unique advantages. Like Alternative 1, Alternative 5 shifted the alignment of MD 355 and the bridge away from its current location and therefore increased disturbance within the Monocacy National Battlefield. Unlike Alternative 1, however, Alternative 5 would require cutting the existing structure in two pieces. As is this case for Alternative 4, demolishing the existing bridge in this manner generates a number of safety concerns. Given the bridge's advanced level of deterioration, a cut down the long axis of the bridge could undermine the structure's stability. In addition, maintaining traffic on the bridge during construction increases the likelihood of a construction-related collision occurring.

2.6.2 ALTERNATIVE 6: REPLACE BRIDGE WITH ROLL IN CONSTRUCTION

Under Alternative 6, a replacement bridge would be built on site next to the existing structure. Once completed, the existing bridge would be rapidly deconstructed and the replacement section would be rolled into place using Self Propelled Modular Transporters. Alternative 6 was dismissed because the process of removing the existing bridge and rolling the replacement section into place would require a complete closure MD 355 for 4 to 8 months, and a total construction period of 26 to 30 months. Due to the classification of MD 355 as an emergency route for I-270, a closure of this length was determined to be unreasonable. In addition, the process of rolling the replacement section in place would generate significant safety concerns and require a complete closure of the CSX rail lines and the Frederick Junction.

2.7 ENVIRONMENTALLY PREFERABLE ALTERNATIVE

The NPS and FHWA are required to identify the environmentally preferable alternative in its NEPA document for public review and comment. The NPS, in accordance with the Department of the Interior policies contained in the Departmental Manual (516 DM4.10) and the Council on Environmental Quality's (CEQ) *NEPA 's Forty Most Asked Questions*, defines the environmentally preferable alternative as the one that "causes the least damage to biological and physical environment." It is the alternative "which best protects, preserves, and enhances historic, cultural and natural resources" (Q6a).

The No Action Alternative is the environmentally preferable alternative, as it would have minimal environmental impacts and there would be no impacts to soils, trees, vegetation, or wildlife and wildlife habitat. However, this alternative would not address the current deteriorated condition of the bridge and would not improve vehicular and pedestrian safety along MD 355. The No Action Alternative would contribute to the eventual closure of the bridge. Implementation of any action alternative would improve safety of the traveling public in the project area; however the impacts to soils, vegetation, and cultural resources within in the project area would exceed those impacts that would occur under no action.

2.8 PREFERRED ALTERNATIVE

Through extensive collaboration and coordination, SHA, FHWA, and NPS developed a preferred alternative based on an analysis of environmental impacts and how well the alternative met the purpose and need of the project. In addition to meeting the purpose and need, the overall benefits and advantages of each alternative were weighted during a value analysis process. This process as described in "Chapter 1: Purpose and Need", included an analysis of relative importance of advantages or benefits for each alternative. The following is a list of the advantages that were considered to have the highest total importance to the overall project and each alternative was weighed against these advantages:

- Minimizing impacts to the traveling public;
- Minimizing impacts to cultural resources;
- Minimizing loss of NPS land;
- Maximizing safety during construction; and

• Minimizing overall risk (safety, cost, duration of construction).

Taking into account all of the above considerations, *Alternative 3: Replace Bridge on the Existing Alignment; Provide Temporary Bridge for Maintenance of Traffic* is the preferred alternative. Alternative 3 adequately meets the purpose and need of the project by addressing the structural deficiencies and substandard conditions of the existing bridge by providing a full replacement and by raising the profile of the bridge to meet CSX requirements. A major advantage of Alternative 3 is the ability to maintain traffic safely on MD 355 during construction so that vehicular traffic, including a heavy daily volume of commuters, will not experience severe delays during an extended construction period. Alternative 3 replaces the bridge on the existing alignment, similar to Alternative 4; however, the high safety risk associated with Alternative 4 is removed because the deficient bridge can be safely demolished without having vehicular use during deconstruction. Alternative 3 includes all the elements common to the other action alternatives including closure of the 14th New Jersey Monument access road, added pedestrian connectivity, construction of stormwater management facilities, and relocation of utilities. Because of this, the environmental impacts associated with Alternative 3 are similar to the other action alternatives.

2.9 SUMMARY OF IMPACTS

A summary of the environmental consequences of each alternative is presented in Table 2-1. See "Chapter 4: Environmental Consequences" for detailed explanations of the impacts presented.

Impacted Resource		No Action Alternative	Alternative 1: Replace Bridge West of Existing Bridge	Alternative 2: Replace Bridge East of Existing Bridge	Preferred Alternative Alternative 3: Replace Bridge on Existing Alignment, Provide Temporary Bridge to the West for Maintenance of Traffic	Alternative 4: Replace Bridge on Existing Alignment with Phased Construction
Topography and Soils	Short-term Impact	No impact	<i>Minor adverse</i> ; approximately 2.3 acres of total soil disturbance	<i>Minor adverse</i> ; approximately 3.2 acres of total soil disturbance	<i>Minor adverse</i> ; approximately 2.65 acres of total soil disturbance	<i>Minor adverse</i> ; approximately 2.4 acres of total soil disturbance
	Long-Term Impact	No impact	<i>Minor adverse</i> ; 0.43 acre change in permanently covered soil	<i>Minor adverse</i> ; 0.43 acre change in permanently covered soil	<i>Minor adverse</i> ; 0.38 acre of change in permanently covered soil	<i>Minor adverse</i> ; 0.38 acre change in permanently covered soil
	Cumulative Impact	No impact	No impact	No impact	No impact	No impact
Floodplain	Short-Term Impact	No impact	Negligible	Negligible	Negligible	Negligible
	Long-Term Impact	No Impact	<i>Minor adverse</i> ; 0.13 acre of disturbance	<i>Minor adverse</i> ; 0.13 acre of disturbance	<i>Minor adverse</i> ; 0.13 acre of disturbance	<i>Minor adverse;</i> 0.13 acre of disturbance
	Cumulative Impact	No impact	No impact	No impact	No impact	No impact
Wildlife and Wildlife Habitat	Short-term Impact	No impact	<i>Minor Adverse</i> ; 0.8 acre of forested wildlife habitat removed	<i>Minor adverse</i> ; 0.8 acre of forested wildlife habitat removed	<i>Minor adverse</i> ; 0.8 acre of forested wildlife habitat removed	<i>Minor adverse</i> ; 0.8 acre of forested wildlife habitat removed
	Long-term Impact	No Impact	<i>Minor adverse;</i> 1:1 acre tree replacement of replanting of native vegetation	<i>Minor adverse;</i> 1:1 acre tree replacement and replanting of native vegetation	<i>Minor adverse;</i> 1:1 acre tree replacement and replanting of native vegetation	<i>Minor adverse;</i> 1:1 acre tree replacement and replanting of native vegetation
	Cumulative Impact	No Impact	No impact	No impact	No impact	No impact

Impacted Resource		No Action Alternative	Alternative 1: Replace Bridge West of Existing Bridge	Alternative 2: Replace Bridge East of Existing Bridge	Preferred Alternative Alternative 3: Replace Bridge on Existing Alignment, Provide Temporary Bridge to the West for Maintenance of Traffic	Alternative 4: Replace Bridge on Existing Alignment with Phased Construction
Vegetation	Short-term Impact	No impact	<i>Minor adverse</i> ; 0.8 acre of forested area disturbed or removed	<i>Minor adverse</i> ; 0.8 acre of forested area disturbed or removed	<i>Minor adverse</i> ; 0.8 acre of forested area disturbed or removed	<i>Minor adverse</i> ; 0.8 acre of forested area disturbed or removed
	Long-term Impact	No impact	<i>Minor adverse</i> ; 10 large trees removed; 1:1 acre tree replacement and replanting of native vegetation	<i>Minor adverse</i> ; 10 large trees removed; 1:1 acre tree replacement and replanting of native vegetation	<i>Minor adverse</i> ; 10 large trees removed; 1:1 acre tree replacement and replanting of native vegetation	<i>Minor adverse</i> ; 10 large trees removed; 1:1 acre tree replacement and replanting of native vegetation
	Cumulative Impact	No impact	No impact	No impact	No Impact	No Impact
Historic Structures and Districts	Short-term Impact	Moderate adverse	Moderate Adverse	Moderate adverse	Moderate adverse; approximately 0.25 acre temporary easement from MNB	Moderate adverse
	Long-term Impact	Moderate adverse	<i>Moderate Adverse;</i> 2.3 permanent acres of land from MNB	Moderate adverse; 3.2 permanent acres of land from MNB	Moderate adverse; 2.4 permanent acres of land from MNB	<i>Moderate adverse;</i> 2.4 permanent acres of land from MNB
	Cumulative Impact	Minor adverse	Minor adverse	Minor adverse	Minor adverse	Minor adverse
Cultural Landscapes	Short-term Impact	No impact	Moderate adverse; temporary visual impacts from construction related activities	<i>Moderate adverse;</i> temporary visual impacts from construction related activities	<i>Moderate adverse;</i> temporary visual impacts from construction related activities	<i>Moderate adverse;</i> temporary visual impacts from construction related activities
	Long-term Impact	<i>Minor adverse;</i> due to posted signing and restrictive fencing.	<i>Moderate adverse;</i> visual impacts from a higher bridge and roadway as well as other design elements	<i>Moderate adverse;</i> visual impacts from a higher bridge and roadway as well as other design elements	<i>Moderate adverse;</i> visual impacts from a higher bridge and roadway as well as other design elements	<i>Moderate adverse;</i> visual impacts from a higher bridge and roadway as well as other design elements

Impacted Resource		No Action Alternative	Alternative 1: Replace Bridge West of Existing Bridge	Alternative 2: Replace Bridge East of Existing Bridge	Preferred Alternative Alternative 3: Replace Bridge on Existing Alignment, Provide Temporary Bridge to the West for Maintenance of Traffic	Alternative 4: Replace Bridge on Existing Alignment with Phased Construction
	Cumulative Impact	Minor adverse	Minor adverse	Minor adverse	Minor adverse	Minor adverse
Archeology	Long-term Impact	No impact	Moderate adverse	Moderate adverse	Moderate adverse	Moderate adverse
	Cumulative Impact	No impact	No Impact	No Impact	No Impact	No Impact
Visitor Use and Experience	Short-Term Impact	<i>Moderate adverse;</i> Construction noise, visual impacts, increased traffic during construction	<i>Moderate adverse;</i> Construction noise, visual impacts, increased traffic during construction	<i>Moderate adverse;</i> Construction noise, visual impacts, increased traffic during construction	<i>Moderate adverse;</i> Construction noise, visual impacts, increased traffic during construction	Major adverse; Significant traffic delays associated with one lane roadway with signal; closure of the 14 th New Jersey Monument and CSX parking area during construction
	Long-term Impact	<i>Moderate adverse;</i> Unsafe bridge, limited pedestrian movement; Continued sight distance issues	Beneficial; Safer bridge, improved sight distance, improved pedestrian and bicyclists facilities	Beneficial; Safer bridge, improved sight distance, improved pedestrian and bicyclists facilities	Beneficial; Safer bridge, improved sight distance, improved pedestrian and bicyclists facilities	Beneficial; Safer bridge, improved sight distance, improved pedestrian and bicyclists facilities
	Cumulative Impact	No impact	Beneficial impact	Beneficial impact	Beneficial impact	Beneficial impact

CHAPTER 3: AFFECTED ENVIRONMENT

This chapter discusses the environmental resources present within the MD 355 Bridge over CSX study area. The discussion on each resource focuses on existing conditions, and therefore establishes a baseline for project-related impacts presented in *Chapter 4: Environmental Consequences*.

3.1 TOPOGRAPHY AND SOILS

The project area is located in the Frederick Valley region of the Piedmont Plateau Province. In the Frederick Valley of the Piedmont, underlying rock is characterized by Cambrian and Ordovician limestone and dolomite (MGS 2014). The Frederick Valley region is also one of several areas in Maryland featuring karst topography. Karst topography refers to landform features that are developed by the chemical weathering of carbonate rocks such as limestone. The weathering process leads to the formation of caves, springs, and sinkholes (ESI 2014). Karst landforms are not known to occur on Monocacy National Battlefield (NPS 2008b).

Topography of the Piedmont Plateau is characterized by gently rolling hills and a number of deeply cut valleys. In the project area, the natural topographic setting has been modified for



Retaining wall along west side slope

agricultural and transportation purposes. Broad agricultural lands of the Battlefield slope slightly towards the Monocacy River. MD 355 is built on steep fill slopes constructed to meet the elevation of the MD 355 Bridge over CSX. Retaining walls are used to support the MD 355 roadway embankments

along the CSX right-of-way and at the approach to the Monocacy River Bridge.

Project area soils are mapped and described by the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service in the *Soil Survey of Frederick County, Maryland*. According to the Soil Survey, five soils are mapped within the project area (**Figure 3-1**) (USDA 2002). Soils include Adamstown-Funkstown complex (AfB), Bermudian silt loam (BfA), Buckeystown loam (BtB), Duffield and Ryder channery silt loam (DuB), and Lindside silt loam (LsA). Each of the five soils is classified as a prime farmland soil. The USDA describes prime farmland soils as having "the best combination of physical and chemical characteristics for producing food, feed, forage, fiber and oilseed crops and is also available for these uses" (USDA 2014). **Table 3-1** and provides a brief review of the formation and drainage characteristics of the soils within the project area.

Soil Series	Map Unit	Drainage class	Formation
Adamstown- Funkstown complex	AfB	Very deep and moderately well drained with moderately slow to slow permeability	Formed in unconsolidated sediments over limestone residuum
Bermudian silt loam	BfA	Very deep and well drained with moderate permeability	Formed in deposits of alluvium weathered from red and brown shale, sandstone and
Buckeystown loam	BtB	Very deep and well drained with moderate permeability	Formed from sandy limestone residuum.
Duffield and Ryder channery silt loam	DuB	Very deep to moderately deep and well drained with moderate permeability	Formed in limestone residuum.
Lindside silt loam	LsA	Very deep and moderately well drained soils with moderate permeability	Formed in alluvium eroded from limestone uplands

Table 3-1 Study	area soil	characteristics
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Figure 3-1: Soil boundaries



3.2 FLOODPLAIN

Floodplains provide a wide range of benefits to both human and natural systems. According to the Federal Emergency Management Agency (FEMA), the natural and beneficial resources and functions of floodplains can be categorized into three types: water resources, biological resources, and societal resources (FEMA 2015). Water resources are functions that provide services such as natural flood storage, erosion control, surface water quality maintenance, and

groundwater recharge. Biological resources are functions that provide services such as the creation of fish and wildlife habitats, as well as a general support of biological productivity.





Societal resources are floodplain functions that benefit human society with harvestable products, recreational opportunities, and educational values (FEMA 2015).

The primary agency responsible for floodplain mapping in the United States is FEMA. Floodplains are mapped by FEMA in order to assess flood risks, develop resiliency measures, and guide mitigation actions. The most common type of floodplain mapped by FEMA is the 100-year floodplain. The 100 year floodplain is the area that would be inundated during a 100 year flood event. A 100 year flood event is a flood that has a 1% chance of occurring in any given year.

The floodplains within MD 355 Bridge over CSX study area are delineated on FEMA Flood Insurance Rate Map Panel 24021C0435D (FEMA 2007), and shown in **Figure 3-2**. Although the MD 355 Bridge over CSX itself falls outside of any documented floodplains, the southern portion of the project area extends into the Monocacy River's 100 year floodplain. In this area, the floodplain is composed of riparian woodlands and agricultural fields.

3.3 WILDLIFE AND WILDLIFE HABITAT

The agricultural and forest areas present within the Monocacy National Battlefield provide habitat for numerous wildlife species. Mammals commonly seen in the Battlefield include the white-tailed deer (Odocoileus virginianus), gray squirrel (Sciurus carolinensis), red fox (Vulpes vulpes), and groundhog (Marmota monax). Based on an inventory of avian species within the Monocacy National Battlefield conducted by Frostburg State University in 2000, the area provides excellent habitat for birds. The inventory resulted in the identification of 80 different bird species during the breeding season of 2000. Species diversity and richness are highest in the area's riparian forests, followed by fencerow habitats and forest interiors (NPS 2014). Common bird species include the red-tailed hawk (Buteo jamaicensis), northern cardinal (Cardinalis cardinalis), bluebird (Sialis sialis), wild turkey (Meleagris gallopavo), great blue heron (Ardea herodias), and red-winged blackbird (Agelaius phoniceus) (NPS 2008). Bald eagles (Haliaeetus *leucocephalus*) are known to nest in the *vicinity* of the Monocacy National Battlefield but no bald eagles are known to nest within the boundaries of the Monocacy National Battlefield (Personal communication with Andrew Banasik, January, 17, 2014). Coordination with the Monocacy National Battlefield staff indicated that a survey was completed in 2005 which identified the presence of the northern long-eared bat (Myotis septentrionalis), a federally listed threatened species, just over one mile from the project area. However, further coordination with the USFWS in 2015 concluded that because the removal of trees will occur within 100 feet of pavement along a linear corridor with low quality habitat and that no recent records of the species have been found, the project is not likely to have an adverse effect on the species.

Within the extents of the project area, the land occupied by the road, railroad, and bridge over CSX provide little to no habitat that is suitable for wildlife. The agricultural fields adjacent to MD 355 and the forested riparian area along the Monocacy River, however, provide habitat for a wide range of wildlife, as noted above.

3.4 VEGETATION

The plant communities primarily found within the Monocacy National Battlefield include: active and fallow agricultural fields; fence and roadside tree rows; mixed deciduous forests; and riparian forests. Roughly 40% of the Monocacy National Battlefield is forested, and the rest is comprised primarily of agricultural land. Trees in the area range from species well-suited to dry uplands such as oaks (*Quercus spp.*), to species commonly found on floodplains such as maples (*Acer spp.*) and sycamores (*Plataus occidentalis*). Vegetative studies within the Battlefield have identified over 375 different plant species. Many of the forested lands of the Battlefield are invaded by exotic plant species including multiflora rose (*Rosa multiflora*), tree of heaven (*Ailanthus altissima*), Japanese honeysuckle (*Lonicera japonica*), garlic mustard (*Allaria petiolata*), and japanese stiltgrass (*Microstegium vimineum*) (NPS 2008).

A vegetative survey was conducted in January 2014 to characterize the vegetation in the project area. The following provides a general description of findings:

- Croplands adjacent to the project area were cultivated within the past year.
- A row of trees exists along the northbound side of MD 355, north of the bridge. Red maple (*Acer rubrum*) and hackberry (*Celtis occidentalis*) are the most common species in this area.
- South of the bridge there are rows of trees on both sides of MD 355 that extend to the riparian forest along the Monocacy River. Along southbound MD 355, common species include hackberry, boxelder (*Acer negundo*), and black locust (*Robinia psuedoacacia*). A small grove of trees is also located near the access road to the 14th New Jersey Monument. Trees in the grove ranged in size between four inches and 12 inches diameter at breast height (DBH) and were spaced roughly five to 10 feet apart. Along northbound MD 355, trees grow on the steep slopes along the roadway embankment. Red maple and sycamore were observed in dense clusters and were measured between 8 inches and 15 inches DBH.
- Invasive species such as tree of heaven and Japanese honeysuckle were commonly found at the southern extent of the project area within the floodplain of the Monocacy River.
- A total of 13 large trees (i.e. trees greater than 22 inches DBH) were observed and identified to the species level in the project area. Large trees were measured using a tree diameter tape and their locations were recorded using GPS. Large trees were observed in the riparian area of the Monocacy River in the southern extents of the project area. Large trees were also observed along MD 355 northbound to the north of the bridge. Large trees provide environmental benefits such as stormwater reduction, shade, wildlife habitat, and aesthetics. Table 3-2 provides a list of the large trees recorded and Figure 3-3 provides the location of each tree within the project area.

Tree No.	DBH (inches)	Common Name	Latin name	Condition
1	29.5	Hackberry	Celtis occidentalis	Good
2	27.6	Hackberry	Celtis occidentalis	Good
3	30.1	Yellow Birch	Betula alleghaniensis	Good
4	24.5	Yellow Birch	Betula alleghaniensis	Good
5	37.5	Sycamore	Platanus occidentalis	Poor
6	64.3	Sycamore	Platanus occidentalis	Good
7	42.2	Black Oak	Quercus velutina	Good
8	26.5	Red Maple	Acer rubrum	Good
9	26.5	Silver Maple	Acer saccharinum	Good
10	22.1	Silver Maple	Acer saccharinum	Good
11	30.5	Sycamore	Platanus occidentalis	Good
12	66.3	Silver Maple	Acer saccharinum	Good
13	47.3	Sycamore	Platanus occidentalis	Good

Table	3-2:	Large	trees	within	study	area



Figure 3-3: Location of large trees in project area



3.5 CULTURAL RESOURCES

3.5.1 GUIDING REGULATION AND POLICIES

The National Historic Preservation Act of 1966 governs federal agencies in their handling of historic properties. Section 106 of the Act requires that Federal agencies take into account the effects of their actions on cultural resources. Under this provision, the NPS and FHWA must evaluate impacts to any district, site, building, structure, or object listed in or eligible for listing in the National Register of Historic Places. Cultural resources are characterized as archeological resources, historic properties, and cultural landscapes. Historic properties, as defined by the implementing regulations of the National Historic Preservation Act (36 CFR 800), are any prehistoric or historic districts, sites, buildings, structures, or objects included in, or eligible for inclusion in, the National Register of Historic Places (NRHP). This term includes artifacts, records, and remains that are related to and located within such properties, as well as traditional and culturally significant Native American sites and historic landscapes.

Eligibility for the NRHP is determined by a property's ability to meet at least one of the four official Criteria of Evaluation issued by the Department of the Interior. The criteria are as follows:

- Criterion A: Properties associated with events that have made a significant contribution to the broad patterns of our history;
- Criterion B: Properties associated with the lives of persons significant in our past;
- Criterion C: Properties that embody the distinctive characteristics of a type, period, or method of construction or represent the work of a master, or possess high artistic values, or represent a significant and distinguishable entity whose components lack individual distinction; and
- Criterion D: Properties that have yielded, or are likely to yield, information important in prehistory or history. The historic properties may meet these criteria at the national, state, or local levels. Additionally, in order for a property to be listed in the National Register of Historic Places, it must possess integrity of those features necessary to convey its significance (location, design, setting, workmanship, materials, feeling, and association).

Section 106 of the National Historic Preservation Act also requires federal agencies to afford the Advisory Council on Historic Preservation a reasonable opportunity to comment if an undertaking will have an adverse impact on a cultural resource. The agencies must also consult with Maryland State Historic Preservation Officer (MD SHPO), and other interested parties to avoid, minimize, or mitigate the adverse impacts.

3.5.2 AREA OF POTENTIAL EFFECT

The Area of Potential Effects (APE), as defined in 36 CFR Part 800.16, is the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties. The APE for the MD 355 Bridge over CSX project was identified by the SHA and NPS, in consultation with the MD SHPO. The APE includes the historic resources that could be impacted as a result of the undertaking, as well as the area from which the project site is readily visible. The APE boundary for the project is the boundary of the Monocacy National Battlefield in its entirety. The archeology survey area within the APE includes the worst case limits of disturbance (LOD) and the boundaries of the adjoining Best Farm fields. The historic properties within the APE that are closest to the MD 355 Bridge over CSX include the Monocacy National Battlefield, the 14th New Jersey Monument, the Best Farm complex, and the Frederick Junction (**Figure 3-4**).





3.6 HISTORIC STRUCTURES AND DISTRICTS

The Monocacy National Battlefield contains numerous structures, buildings, and other features that reflect the historical significance of the area. Standing historic properties include farmhouses, barns, monuments, fences, earthworks, bridges and traces of roads. Although some changes have been made, many of the elements were present during the Battle of Monocacy. These elements contribute to the Battlefield's designation as a National Historic Landmark (NHL) and a listed site in the NRHP.

Several areas near the MD 355 Bridge over CSX were focal points during the 1864 Battle of Monocacy. To the east of the bridge, Union forces were engaged in protecting the Monocacy Junction and a wooden trestle bridge across the Monocacy River. To the south, the Georgetown Pike Bridge was burned by Union forces to prevent Confederate troops from crossing the river. In the project area, Union skirmishers held off Confederate forces attempting to advance from the north. Currently, interpretive signs are posted in the Battlefield to describe these events.

The MD 355 Bridge over CSX was constructed 67 years after the battle. In 2001, a determination was made by SHA that the bridge was not eligible for listing in the National Register of Historic Places, and MD SHPO concurred. SHA coordinated with MD SHPO again in 2014, and MD SHPO concurred on August 27, 2014 that Bridge No. 1008400 (MD 355 over CSX) is not eligible for the NRHP and is not a contributing resource to the Monocacy National Battlefield. MD SHPO also concurred that the alignment of MD 355 from the bridge over CSX to the northern boundary of the Monocacy National Battlefield is not a contributing resource to the Battlefield. The Monocacy River Bridge is individually eligible for listing in the NRHP as an example of a 1930 steel truss bridge under Criterion C. The Frederick Junction and railroad cut within the project's APE are eligible for inclusion in the NRHP, as a contributing resource to the Battlefield. Additional contributing elements are located in the vicinity of the project area and surrounding lands.

3.6.1 INDIVIDUALLY LISTED HISTORIC SITES AND CONTRIBUTING RESOURCES

14th New Jersey Monument

Just southwest of the MD 355 Bridge over CSX, a 24-foot tall monument commemorates the



14th New Jersey Monument located to the southwest of the MD 355 Bridge over CSX

services of the 14th Regiment of the New Jersey Voluntary Infantry. The Monument stands in memory of the service provided by the 14th Regiment throughout the Civil War. The Regiment's activity in the area began in the winter of 1862, during which an encampment known as Camp Hooker was built to protect the Frederick Junction. Camp Hooker housed between 800 and 1,000 soldiers and included a hospital, bakery, commissary, as well as various defensive structures and earthworks. In July 1863,

members of the 14th Regiment returned to the site as part of the Gettysburg Campaign to construct two blockhouses (two-story guardhouses, approximately 30-feet in depth and width). The remains of the blockhouses have not yet been found, but it is believed that one was located on the south side of the Frederick Junction close to the Monocacy River Bridge, and the other was located on the north side of the rail line just east of the Monocacy River. The 14th Regiment was present during the Battle of Monocacy and suffered heavy losses. In 1907, the State of New Jersey dedicated the monument to the memory of those who served in what came to be known as the "Monocacy Regiment".

Both the Monument and its access point to MD 355 fall within the project area established for the project. Currently, the Monument serves as the second stop on the Monocacy National Battlefield driving tour. Visitors access the site by turning off MD 355 just south of the MD 355 Bridge over CSX. The access drive to the Monument is short, constructed of gravel, and permits parking on its shoulders. The grounds directly adjacent to the Monument are mowed turf with a wooden rail fence, and small row of trees. The agricultural fields of the Best Farm abut the Monument to the west and the Monocacy River's floodplain forms its southern border. The site's northern and eastern boundaries are formed by the CSX rail line and MD 355, respectively.

Best Farm (L'Hermitage)

The Best Farm is unique among the farmsteads which comprise the Monocacy National

Battlefield. Rather than being operated by the English and German settlers who dominated the area, the Best Farm is the final remnant of a French plantation known as *L'Hermitage*. The land for *L'Hermitage* was purchased largely from John Marshall by Victoire Pauline Marie Gabrielle de la Vincendière in

1798. The Vincendière family immigrated to Maryland from the French colony of Saint-



Structure on Best Farm Property

Domingue, most likely as a result of the colony's abolition of slavery in 1793.

Under the Vincendière family's tenure, *L'Hermitage* was managed more like a Caribbean slave plantation than a mid-Atlantic tobacco farm or homestead. As a result, the layout of the plantation, the design of its structures, and the lives of it's over 90 African slaves created a historical setting that is rare in the region. In 1827, the Vincendières sold the plantation and initiated a period of short term ownership. Ownership of the plantation became stable in 1852, when the tract was purchased by Charles E. Trail. Unlike the Vincendières which resided on the property, however, the Trails operated the plantation as a tenant farm. The primary tenant of the plantation was the Best Family, which occupied the southern 370 acre portion of the plantation as early as 1830.

A portion of the Best Farm falls within the project area of the MD 355 Bridge over CSX. The historic boundary of the Best Farm extend on both sides of MD 355 within the project area. Currently the Best Farm serves as the first stop on the Monocacy National Battlefield driving tour. Visitors access the Best Farm through an access road 1,200 feet north of the MD 355 CSX Bridge. The access roads lead back to the main house and a set of interpretive panels. With the exception of a small mowed yard, the Best House is surrounded by active agricultural fields. Split-rail wooden fences and tree rows serve as barriers between portions of the Best Farm and MD 355.

Frederick Junction

The Frederick Junction is a railroad wye built in 1830. A wye is a triangular railroad intersection that allows trains from an adjoining line to transfer onto a mainline going either direction. In addition, a wye allows trains on either line to turn around. In the case of Frederick Junction, both of the lines were built as part of the Baltimore & Ohio Railroad Company. The lesser of the two lines provides service into Frederick while the primary line connects Baltimore with Pittsburg and most of the Midwest. In addition to any notoriety it gained as a result of its geographic position, Frederick Junction was also famous for being the first wye to be built in the United States.



Frederick Junction-wye in railroad tracks

During the American Civil War, Frederick Junction became the focus of repeated military activity. In the winter of 1862, the Union elected to protect the Junction by building Camp Hooker and stationing up to 1,000 soldiers on the premises. In 1863, two blockhouses were constructed around the Junction to provide further support. During the Battle of Monocacy, the Junction and its Blockhouses were the first targets attached by the Confederate troops.

A portion of Frederick Junction lies within the project area of the MD 355 Bridge over CSX study area. Although the Junction is not currently formally curated by the National Park Service, the Frederick Junction remains an important piece of the area's rail infrastructure. As a result of the train traffic, however, safety considerations prohibit visitors from walking along the Junction directly. Visitors hoping to see the Junction on foot may use a footpath that originates at the Visitor's Center. Those preferring to travel by car can get a view from the parking lot just opposite the 14th New Jersey Monument.

Monocacy River Bridge

The Monocacy River Bridge (MD 355 over the Monocacy River, SHA Bridge No. 1008500) is an example of a 1930 2-span '*Parker Through Truss*' Bridge. The bridge stands on 19th century stone abutments and a stone center pier. On either side of the interior of the trusses, there is a



Bridge No. 10085 over Monocacy River

metal railing and jersey barrier. According to the State Roads Commission's Biennial Report for 1930, it was constructed in three months in 1930 following collapse of a 19th century truss bridge on June 10, 1930. Prior to the metal truss bridges, covered wooden bridges carried the Georgetown Pike over the river starting in 1828. In 1862, Confederate troops set the bridge on fire, and it was rebuilt, only to be burned again on July 9, 1864 during the Monocacy Battle (Battle that Saved Washington). Metal truss bridges became popular in the late 19th century for their strength and ease of construction, being primarily used by the railroads.

3.7 CULTURAL LANDSCAPES

Cultural landscapes, as defined in the NPS Preservation Brief 36: *Protecting Cultural Landscapes: Planning, Treatment, and Management of Historic Landscapes* (NPS 1994), consist of "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." In addition, NPS-28: *Cultural Resource Management Guideline* defines a cultural landscape as "...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" (NPS 1994).

Monocacy National Battlefield

The Monocacy National Battlefield forms an overall cultural landscape that generally represents the area where the Civil War "Battle that Saved Washington" took place on July 9, 1864. The cultural landscape of the Monocacy National Battlefield has been primarily agricultural since the mid-eighteenth century. Today, the Monocacy National Battlefield landscape is approximately 1,650 acres and contains historic structures, interpretive/recreational trails, and a Visitor Center (NPS 2000). Furthermore, MD 355, I-270, the CSX Railroad, the Monocacy River, and many other modern and historic features are located within the limits of the cultural landscape of the Monocacy National Battlefield.

In 2000, the NPS prepared a Cultural Landscapes Inventory for the Battlefield. The Inventory divided the overall cultural landscape of Monocacy National Battlefield into four component landscapes including *L'Hermitage* (Best Farm), Clifton (Worthington Farm), Baker Farm, and the Araby Community (including Lewis Hill Farm, Araby Mill, Araby railside community, and Thomas Farm). Each component landscape is defined by individual histories, characteristics, and conditions that contribute to the significance and integrity of the park as a whole (NPS 2000). The limits of the Monocacy National Battlefield cultural landscape is defined primarily by the historic boundaries of these farm and mill properties, which were in existence during the battle, as well as by the extent of the battle itself (NPS 2000).

The MD 355 Bridge over CSX is located within the *L'Hermitage* (Best Farm) component of the overall cultural landscape of Monocacy National Battlefield. In 2005, NPS prepared a Cultural Landscape Report for the Best Farm component landscape. The Vincendiere family purchased 457 acres of land in 1795 and added an additional 291 acres of adjoining land in 1798 to form

L'Hermitage. The Monocacy River formed the southern and eastern boundaries of the farm, and the road that would become the Georgetown Pike traversed the farm. The majority of the land and all of the farm buildings were located to the west of the Georgetown Pike. Presently, three buildings remain on the property from the period of Vincendiere ownership - the main house, secondary dwelling, and stone barn (NPS 2000).

During the late 1820's, development on the property resulted in significant changes to the landscape features. The B&O rail line and the Monocacy Junction was constructed in the late 1820's and early 1830's and became operational in 1831. The rail line crossed the property on a terraced embankment south of the secondary dwelling which likely caused some disruption in farming. The continuous earthen embankment, the rail junction with station house and outbuildings, the bridge carrying the turnpike over the railroad, and the railroad bridge over the Monocacy River transformed the circulation patterns of the farm. The western abutment of the railroad bridge added a large stone structure to the landscape, the junction bisected and restricted access to fields, and the deep cuts, berm and bridge to pass the turnpike over the tracks collectively transformed this part of the farm (NPS 2000).

In 1852, the property was divided into North and South Hermitage. The Best family became tenants of South Hermitage in 1860, and remained so throughout the nineteenth century (NPS 2000). In 1907 the 14th New Jersey Monument was dedicated. The Monument was located adjacent to the railroad tracks, on the west side of the Georgetown Pike near the railroad overpass. In the late 1920's and early 1930's, the segment of the Georgetown Pike located between the farm entry and the overpass was realigned to the northeast, and the bridge over the railroad tracks was moved to the east. The steep embankment created by this road shift and new overpass led to the isolation of the monument (NPS 2000).

3.8 ARCHEOLOGY

Archeological resources are defined by the NPS as "any material remains of human life or activities which are at least 100 years of age, and which are of archeological interest" (NPS 1997). Guidance for the identification and evaluation of archeological resources is found in National Register Bulletin 36: *Guidelines for Evaluating and Registering Archeological Properties* (NPS 2000).

Four archeological sites are known to occur within the APE, which is defined for archeological studies as the worst-case limit of disturbance for the project. These include the overall Monocacy Battlefield archaeological site (18FR30), the Best Farm site (18FR795), the Wiles I site (18FR21), and the Tenant site (18FR1025). Site 18FR30 is considered coeval with the listed Monocacy Battlefield National Historic Landmark, and site 18FR795 was previously listed in the National Register of Historic Places. SHA conducted a Phase I archeological survey in 2014, and while portions of all four sites were examined; further work was recommended only on 18FR21 and 18FR1025. Phase II archeological evaluation was conducted on portions of 18FR21and 18FR1025 within the limit of disturbance in 2015 (Kenline 2015). Based on the results of these investigations, the SHA has determined that, within the project limits of disturbance, neither 18FR21 nor 18FR1025 contain archeological deposits that meet the NRHP criteria of significance. MHT concurred on November 14, 2015 that 18FR1025 does not meet the criteria for eligibility and that 18FR21 extends beyond the limits of the area of potential effect and is beyond the scope of the current undertaking so eligibility as a whole remains undetermined. It is anticipated that Special Provisions will be included in the construction contract to cover the possibility that remnants of 14th New Jersey blockhouse could be encountered under the existing MD 355 roadbed during construction. This stipulation will be included in the MOA.

3.9 VISITOR USE AND EXPERIENCE

Visitors to the Monocacy National Battlefield can experience a number of outdoor recreational activities. A majority of the landscape of the Battlefield has changed little since the 19th century, which provides unique opportunities for visitors to interpret the area's history. The Battlefield's Visitor Center was constructed in 2007 and is located off of MD 355, near the northern boundary of the Battlefield. Electronic maps, historical artifacts, and displays are available, and brochures are provided for various tours of the landscape.



Monocacy National Battlefield Visitor Center located on the east side of MD 355, north of the MD 355 Bridge over CSX

A self-guided auto tour of the Battlefield gives an overview of the key developments during the battle. There are five stops on the tour (the Best Farm, the 14th New Jersey Monument, the Worthington Farm, the Thomas Farm, and Gambrill Mill), which are accessible by way of public roads. Walking trails are also maintained throughout the battlefield to provide views of natural and historical scenery. The Gambrill Mill trail and the Thomas Farm trails are located south of the Monocacy River, and the Worthington Farm trails are located east of I-270. Interpretive signs are posted throughout the areas and portions of the trails are wheelchair accessible.

Within the MD 355 over CSX project area, visitors travelling from the north must make a sharp



NPS east parking area access road and 14th New Jersey Monument access road

right hand turn off of MD 355 to access the 14th New Jersey Monument. The 14th New Jersey Monument is one of five monuments in the Battlefield commemorating the Battle of Monocacy and its constituents (See Historic Structures Section for details). A small parking area is provided to allow visitors to stop and observe the monument and surrounding environment. Visitation to the site is most easily accomplished by

car. The 14th New Jersey Monument is difficult to access from the Battlefield's walking trails because pedestrian facilities are not provided on the MD 355 Bridge over CSX, and the bridge

provides only a 1.5 foot shoulder for people wishing to cross the bridge on foot. An informal walking trail is currently provided under the bridge for visitors to access the 14th New Jersey Monument from the parking area to the east of the bridge.

Visitor safety is a primary concern of the NPS. In accordance with the NPS Organic Act of 1916, the NPS strives to protect human life and provide injury-free visits over all other management activities. The NPS is responsible for maintaining safe conditions for the health and protection of park visitors and its employees. This not only applies to providing safe facilities, utilities, and grounds within parks, but also includes park programs and project operations. It is the policy of the NPS to provide environmental protection, healthful conditions, a safe work place, and hazard free visitor areas.

Safety is also a top priority of SHA. Through a number of programs, SHA promotes safety for motorists, pedestrians, and bicyclists on roadways. According to the *Maryland Strategic Highway Safety Plan*, the goal of SHA is to reduce highway fatalities and serious injuries on all public streets and highways. Strategic highway safety planning between the years 2005 and 2009 resulted in a 10.4 percent decrease in fatalities, a 14.4 percent decrease in overall injuries and a 39.9 percent decrease in serious injuries (SHA 2011).

Additional SHA actions to promote safety include extensive inspections of roadways and bridges in order to prioritize maintenance, rehabilitation, and replacement actions. Based on SHA's annual report to the FHWA, three percent of the state's bridges, including Bridge No. 1008400, are classified as structurally deficient. The structurally deficient rating does not indicate that a bridge is unsafe; rather it is an early warning sign for engineers and planners to initiate the repair or replacement process (SHA 2013). Because the MD 355 Bridge over CSX is listed as structurally deficient, it is inspected annually by SHA. Numerous repairs have been made in the recent past, including deck patching, a deck overlay in 2002, and installation of guardrail on the parapets and repairs to the curb in 1996.

'Traffic and transportation' is considered an impact topic under "Visitor Use and Experience" because it largely impacts the ability of visitors to access and enjoy the Battlefield. MD 355 provides a north-south corridor from Frederick, MD to Washington, DC. MD 355, also known as Urbana Pike within Frederick County, is a major thoroughfare through Frederick and

Montgomery counties, passing through Bethesda, Rockville, Gaithersburg, Germantown, Clarksburg, Hyattstown, Urbana, and Frederick, roughly parallel to I-270. The southern portion of the route from Washington, DC to Germantown is a suburban four- to six-lane divided highway. North of Germantown, the route is predominantly a two lane rural road until it reaches the City of Frederick, where it widens in the commercial areas in the southern part of the city. Within the project area, MD 355 is classified as a two- lane rural major collector road.

Based on 2006 traffic data, MD 355 experiences an Average Daily Traffic (ADT) of 12,000 vehicles, making it one of the most heavily travelled roads in the region. SHA has also designated MD 355 as an alternate route to I-270 during incidents or unusually high traffic volumes. MD 355 gives access to a number of major Battlefield features including the Visitor Center; Best Farm; Gambrill Mill; Monocacy River; Araby Church Road; and the14th New Jersey, United Daughters of the Confederacy, and Maryland monuments (NPS 2008). Few access roads are available in the Battlefield, and most of the principal access ways are from MD 355. For instance, the Worthington, Thomas, Lewis, and Baker farms are accessed from Baker Valley Road which can be accessed from Araby Church Road off of MD 355 or from MD 80 on the western side of I-270. The Best Farm, Gambrill Mill, and the Visitor Center are accessed directly from MD 355. As such, MD 355 plays an important role in providing visitor access to many destinations within the Monocacy National Battlefield.

The CSX railroad is operated and maintained by CSX Transportation Inc. At Frederick Junction, single tracks extend to the north towards Frederick, to the east towards Baltimore, and to the west towards western Maryland and Northern Virginia (CSX 2014). CSX management of the railroad corridor involves maintenance of the tracks and signal systems. A small shed is located in the railroad corridor to the west of the MD 355 Bridge over CSX that provides housing for signal controls and monitoring devices.

CHAPTER 4: ENVIRONMENTAL CONSEQUENCES

This "Environmental Consequences" chapter analyzes both beneficial and adverse impacts that would result from implementing the alternatives analyzed in this Environmental Assessment. This chapter also includes definitions of impact thresholds (e.g., negligible, minor, moderate, and major), methods used to analyze impacts, and methods used for determining cumulative impacts. As required by the CEQ regulations on implementing NEPA, a summary of the environmental consequences for each alternative is provided in **Table 2-1**, which can be found in "*Chapter 2: Alternatives*." The resource topics presented in this chapter and the organization of the topics correspond to the resource discussions contained in "*Chapter 3: Affected Environment.*"

4.1 GENERAL ANALYSIS METHODOLOGY FOR ESTABLISHING IMPACT THRESHOLD AND MEASURING EFFECTS BY RESOURCE

The analysis of impacts follows CEQ guidelines and DO-12 procedures (NPS 2011) and is based on the underlying goal of providing for long-term protection, conservation, and restoration of native species and cultural landscapes. This analysis incorporates the best available scientific literature applicable to the region and setting as well as the species and resources being evaluated. For each resource topic addressed in this chapter, the applicable analysis methods are discussed, including assumptions and impact intensity thresholds. The Action Alternatives consist of elements common to all alternatives including construction of a new bridge, widening the typical section and raising the bridge profile, adding pedestrian connectivity, closing the 14th New Jersey Monument access road, constructing stormwater management facilities, and relocating utilities. For this reason, the study area and limits of disturbance are the same for each alternative and the impact to the Monocacy National Battlefield and other resources are generally the same for each Action Alternative.

Study Area Delineation

In general, the study area is the limit of disturbance needed for the replacement of the MD 355 Bridge over CSX and includes the area needed for construction, utility relocations, and stormwater management facilities (**Figure 1-1**). During the assessment of individual impact topics, however, the characteristics of the affected resources and the nature of the impact itself may require expanding the spatial extent of the analysis. A brief review of the study area is provided under each impact topic to explain if and why any changes to the study area were made.

It is important to note that the delineated study area for each Action Alternative is commensurate with the preliminary limit of disturbance within which the bridge would be replaced, a temporary bridge would be constructed (only applicable to Alternative 3), stormwater management features would be constructed, utilities would be relocated, and general construction activities would take place. Because of these elements common to all Action Alternatives, the limit of disturbance is the same for each. Therefore, the impacts associated with each Action Alternative are generally the same. SHA would need to pursue the permanent transfer of land from NPS in order to maintain slopes and stormwater management facilities once the bridge is replaced, should an action alternative be selected.

Impact Thresholds

Determining impact thresholds is a key component in applying NPS *Management Policies* and DO-12. These thresholds provide the reader with an idea of the intensity of a given impact on a specific topic. The impact threshold is determined primarily by comparing the effect to a relevant standard based on applicable or relevant/appropriate regulations or guidance, scientific literature and research, or best professional judgment. Because definitions of intensity vary by impact topic, intensity definitions are provided separately for each impact topic analyzed in this EA. Intensity definitions are provided throughout the analysis for negligible, minor, moderate, and major impacts. In all cases, the impact thresholds are defined for adverse impacts. Beneficial impacts are addressed qualitatively.

Potential impacts of all alternatives are described in terms of type (beneficial or adverse); context; duration (short- or long-term); and intensity (negligible, minor, moderate, major). Definitions of these descriptors include:

Adverse: A negative change in the condition or appearance of a resource

Beneficial: A positive change in the condition or appearance of a resource

Context: The area that would be affected by the proposed impact.

Duration: The period of time during which the effects of a proposed impact are evident.

Intensity: The severity of the change generated by the proposed impact.

Because definitions of impact intensity (negligible, minor, moderate, and major) vary by impact topic, intensity definitions are provided separately for each impact topic analyzed.

4.2 CUMULATIVE IMPACTS ANALYSIS METHOD

The CEQ regulations to implement NEPA require the assessment of cumulative impacts in the decision-making process for federal projects. Cumulative impacts are defined as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or nonfederal) or person undertakes such other actions" (40 CFR 1508.7). As stated in the CEQ handbook, "Considering Cumulative Effects" (CEQ 1997), cumulative impacts need to be analyzed in terms of the specific resource, ecosystem, and human community being affected and should focus on effects that are truly meaningful. Cumulative impacts are considered for all alternatives, including the No Action Alternative.

To determine the potential for cumulative impacts, current and anticipated future projects within the study area and the Monocacy National Battlefield were reviewed. These projects identified as cumulative actions are provided in **Table 4-1**. Many of the projects included in the cumulative impact analysis deal with management of resources within the Battlefield, therefore these impacts have a beneficial impact on the Battlefield. The NPS General Management Plan Environmental Impact Statement (EIS) was evaluated, but all projects that were outlined within the Plan are anticipated to be completed beyond the next 3-5 years and would be beneficial to the Battlefield. Therefore, the projects listed as part of the Selected Alternative in the NPS General Master Plan EIS were not included in the assessment of cumulative impacts.

The analysis of cumulative impacts was accomplished using four steps:

Step 1: Identify Resources Affected- Fully identify resources affected by any of the alternatives. These include the resources addressed as impact topics in Chapters 3 and 4 of the document.

Step 2: Set Boundaries- Identify an appropriate geographic boundary for each resource. The geographic boundary for each resource topic is listed under topic.

Step 3: Identify Cumulative Action Scenario- Determine which past, present, and reasonably foreseeable future actions to include with each resource. Reasonably foreseeable projects are generally those anticipated to be implemented within a 3 to 5 year period. These are listed in **Table 4-1** and described below.

Step 4: Cumulative Impact Analysis- Add the impacts generated by other actions to those impacts likely to be caused by the proposed action to generate a total cumulative impact. This analysis is included for each resource in Chapter 4. **Table 4-1** provides brief descriptions of the cumulative impacts projects in the areas surrounding the MD 355 Bridge over CSX.

Type of Action	Cumulative	Description	Status
	Impact I Toject		
National Park Service Projects	Monocacy National Battlefield Public Access Plan	Public access plan to address visitor access, infrastructure, trails, etc. Affected Resource Areas: Visitor Use and Experience	Planning phase
National Park Service Projects	Solar Panels	Solar panels will be installed on the roofs of the Park's Maintenance Shop (Gambrill Mill Area) and Visitor Center Affected Resource Areas: Historic Structures and Districts, Cultural Landscapes, Visitor Use and Experience (Traffic and Transportation)	Planning phase
National Park Service Projects	Monocacy National Battlefield Wildland Fire Management Plan	Update of the park's Fire Management Plan in consideration of cultural and natural resource management objectives (NPS 2011a). Affected Resource Areas: Historic Structures and Districts	Planning Phase
National Park Service Projects	Resource Stewardship Strategy (RSS): Monocacy National Battlefield	Provides guidance for natural and cultural resource management at the Battlefield (NPS 2010) Affected Resource Areas: Soils, Floodplains, Vegetation, Historic Structures and Districts, Visitor Use and Experience	Ongoing

Table 4-1: Cumulative Impacts Projects

Type of Action	Cumulative Impact Project	Description	Status
National Park Service Projects	General Management Plan (GMP) EIS: Monocacy National Battlefield	Provides guidance on the management of the Battlefield's cultural resources and the visitor experience (NPS 2008). Affected Resource Areas: Cultural Landscapes, Visitor Use and Experience	Ongoing

4.3 TOPOGRAPHY AND SOILS

Methodology and Assumptions

Natural Resources Conservation Service (NRCS) Soil Survey maps and topographic maps were reviewed in order to analyze potential impacts to soils under the proposed action. Impacts to soils and topography were qualitatively assessed using professional judgment based on the soil characteristics and current conditions of the project area in comparison with site conditions to be expected following construction.

Study Area

The study area for topography and soil impacts is the limit of disturbance required for the proposed action. For cumulative impacts, the study area is the Monocacy National Battlefield.

Impact Thresholds

Negligible: The effects to soils and topography would be at or below the lower levels of detection.

Minor: The effects to soils and topography would be detectable but relatively small in their spatial footprint. Mitigation may be needed to offset any adverse effects and would be relatively simple to implement and likely be successful.

Moderate: The effects on soils and topography would be readily apparent and would result in a change to the characteristics over a relatively large area. Mitigation measures would be necessary to offset adverse effects and would likely be successful.

Major: The effects on soil and topography would be readily apparent and cover a large area in and out of the park. Mitigation measures to offset adverse impacts would be needed, extensive, and their success could not be guaranteed.

Duration: For soils, short-term impacts refer to impacts during the construction period, and long-term impacts refer to impacts lasting past the construction period. For topography, all impacts are considered long-term impacts.

4.3.1 IMPACTS OF THE NO ACTION ALTERNATIVE

The No Action Alternative represents a continuation of existing conditions in the vicinity of the MD 355 Bridge over CSX project area. Under the No Action Alternative, continued maintenance on the existing bridge would occur; however, no construction-related activities would occur that would disturb soils or result in changes to local topography; therefore there would be no impacts.

Cumulative Impacts

Under the No Action Alternative there would be no impacts to topography and soils. Consequently, there would be no cumulative impacts.

Conclusion

Benefits to topography and soils will result from the development of an Agricultural Management Plan, which provides guidance and strategies on nutrient management, crop management, livestock management, and sediment runoff; an Integrated Pest Management Plan; and ongoing assessment, development and implementation of park-wide agricultural best management practices (BMPs) (NPS 2010). Implementation of the No Action Alternative would have no impacts on topography and soils in the proposed project area. There would be no cumulative impacts to topography and soils.

4.3.2 IMPACTS OF THE ACTION ALTERNATIVES

4.3.2.1 ALTERNATIVE 1: REPLACE BRIDGE WEST OF THE EXISTING BRIDGE

Soil fill materials would be placed to the west of the existing bridge for the new MD 355 approach roadbed to meet the elevation of the new bridge. This fill material would be placed from the point of the northern tie-in south of the Best Farm entrance to a point just north of the

Monocacy River Bridge. Fill materials used to construct the original bridge approaches would be reused on site as practicable and excess material would be removed and disposed of in accordance with state regulations. Minor excavation could be required to construct stormwater management BMPs on either side of the new roadway approaches. The anticipated area of soil disturbance would be approximately 2.3 acres. The proposed action would primarily impact previously disturbed soils associated with the existing MD 355 roadbed and slopes as well as the NPS parking areas on the east and west sides of the existing bridge. The change in permanently covered soils under Alternative 1 as compared to the existing condition is 0.43 acre.

Although the proposed bridge and northern approach roadway profile will be higher under Alternative 1 and each action alternative, this change would not be considered a natural topography change as the existing roadway and bridge are currently built on steep fill. The existing topography which consists of agricultural fields and rolling hills would remain the same under all of the Action Alternatives. The proposed site layout under each of the Action Alternatives would be established in a manner similar to the existing MD 355 alignment in the project area with a bridge, two lane roadway, steep slopes, and utility lines. The only change would be the addition of stormwater management features at the toe of slope which would have a negligible impact on the natural topography.

During the construction period, erosion and sediment control measures and other BMPs would be implemented to minimize soil erosion and prevent soils from leaving the project area. Construction access and staging would be designed to avoid impacts outside of the limits of disturbance, and minimize impacts to undisturbed soils. Methods to prevent soil migration would include silt fencing and temporary stabilization matting. Seeding of the disturbed soils would take place immediately following construction to re-establish vegetation and stabilize soils. Based on these practices to minimize disturbance to soils in the project area, use of areas previously disturbed, and the negligible change in natural topography, there would be short-term and long-term minor adverse impacts to soils and topography.

Cumulative Impacts

Benefits to topography and soils will result from the development of an Agricultural Management Plan, which provides guidance and strategies on nutrient management, crop management, livestock management, and sediment runoff; an Integrated Pest Management Plan; and ongoing assessment, development and implementation of park-wide agricultural best management practices (NPS 2010). In general, these activities represent a continuance of the Battlefield's existing soil uses. Because there are no cumulative impact projects that would result in impacts to the Battlefield's soils or topography, there would be no cumulative impacts under Alternative 1.

Conclusion

Alternative 1 would have short-term and long-term minor adverse impacts to soils and topography. There would be no cumulative impacts.

4.3.2.2 ALTERNATIVE 2: REPLACE BRIDGE EAST OF THE EXISTING BRIDGE

Soil fill materials would be placed to the east of the existing bridge for the new MD 355 approach roadbed to meet the elevation of the new bridge. This fill material would be placed from the point of the northern tie-in south of the Best Farm entrance to a point just north of the Monocacy River Bridge. Fill materials used to construct the original bridge approaches would be reused on site as practicable and excess material would be removed and disposed of in accordance with state regulations. Minor excavation could be required to construct stormwater management BMPs on either side of the new roadway approaches. The anticipated area of soil disturbance would be approximately 3.2 acres.

The proposed action would primarily impact previously disturbed soils associated with the existing MD 355 roadbed and slopes as well as the NPS parking areas on the east and west sides of the existing bridge. The change in permanently covered soils under Alternative 2 as compared to the existing condition is 0.43 acre.

Although the proposed bridge and northern approach roadway profile will be higher under Alternative 2 and each action alternative, this change would not be considered a natural topography change as the existing roadway and bridge are currently built on steep fill. The existing topography which consists of agricultural fields and rolling hills would remain the same under all of the action alternatives. The proposed site layout under each of the action alternatives would be established in a manner similar to the existing MD 355 alignment in the project area with a bridge, two lane roadway, steep slopes, and utility lines. The only change would be the addition of stormwater management features at the toe of slope which would have a negligible impact on the natural topography.

Erosion and sediment control measures and other BMPs as stated under Alternative 1 would be implemented for all Action Alternatives to minimize soil erosion and prevent soils from leaving the project area. Based on these practices to minimize disturbance to soils in the project area, use of areas previously disturbed, and the negligible change in natural topography, there would be short-term and long-term minor adverse impacts to soils and topography.

Cumulative Impacts

Benefits to topography and soils will result from the development of an Agricultural Management Plan, which provides guidance and strategies on nutrient management, crop management, livestock management, and sediment runoff; an Integrated Pest Management Plan; and ongoing assessment, development and implementation of park-wide agricultural best management practices (NPS 2010). In general, these activities represent a continuance of the park's existing soil uses. Because there are no cumulative impacts projects that would result in impacts to the Battlefield's soils or topography, there would be no cumulative impacts under Alternative 2.

Conclusion

Alternative 2 would have short-term and long-term minor adverse impacts to soils and topography. There would be no cumulative impacts.

4.3.2.3 ALTERNATIVE 3 – REPLACE BRIDGE ON EXISTING ALIGNMENT, PROVIDE TEMPORARY BRIDGE TO THE WEST FOR MAINTENANCE OF TRAFFIC

As with the other Action Alternatives, soil fill materials would be placed to raise the approach roadway elevation to meet the proposed bridge elevation. The temporary bridge and roadway proposed under Alternative 3 would also be built on fill materials. Minor excavation would be required to construct stormwater management BMPs on either side of the new roadway slopes. The anticipated area of soil disturbance would be approximately 2.65 acres. The proposed actions would primarily impact previously disturbed soils associated with the MD 355 roadway and NPS parking areas to the east and west.

The proposed action would primarily impact previously disturbed soils associated with the existing MD 355 roadbed and slopes as well as the NPS parking areas on the east and west sides of the existing bridge. The change in permanently covered soils under Alternative 3 as compared to the existing condition is 0.39 acre.

Similar to Alternatives 1 and 2, there would not be a change in natural topography as the existing roadway and bridge are currently built on steep fill. The existing topography which consists of agricultural fields and rolling hills would remain the same under all of the action alternatives. The proposed site layout under each of the action Alternatives would be established in a manner similar to the existing MD 355 alignment in the project area with a bridge, two lane roadway, steep slopes, and utility lines. The only change would be addition of stormwater management features at the toe of slope which would have a negligible impact on the natural topography.

Erosion and sediment control measures and other BMPs as stated under Alternative 1 would be implemented for all Action Alternatives to minimize soil erosion and prevent soils from leaving the project area. Based on these practices to minimize disturbance to soils in the project area, use of areas previously disturbed, and the negligible change in natural topography, there would be short-term and long-term minor adverse impacts to soils and topography.

Cumulative Impacts

Benefits to topography and soils will result from the development of an Agricultural Management Plan, which provides guidance and strategies on nutrient management, crop management, livestock management, and sediment runoff; an Integrated Pest Management Plan; and ongoing assessment, development and implementation of park-wide agricultural best management practices (NPS 2010). In general, these activities represent a continuance of the park's existing soil uses. Because there are no cumulative impacts projects that would result in impacts to the Battlefield's soils or topography, there would be no cumulative impacts under Alternative 3.

Conclusion

Alternative 3 would have short-term and long-term minor adverse impacts to soils and topography. There would be no cumulative impacts.

4.3.2.4 ALTERNATIVE 4- REPLACE BRIDGE ON EXISTING ALIGNMENT WITH PHASED CONSTRUCTION

Alternative 4 would be on existing alignment but soil fill materials would be added to raise the roadway elevation to meet the proposed higher bridge elevation. Raising the profile of the new bridge and approach roadways would require steeper side slopes. Minor excavation would be required to construct stormwater management BMPs on either side of the new roadway slopes. Alternative 4 would primarily impact previously disturbed soils associated with the existing roadway and NPS parking area. The anticipated area of soil disturbance would be approximately 2.4 acres. The change in permanently covered soils under Alternative 4 as compared to the existing condition is 0.39 acre.

While the proposed bridge and approach roadways would be higher, the existing bridge and roadway were constructed on fill material and would remain on the existing fill under Alternative 4. Therefore, there would be no change in natural topography associated with Alternative 4. The existing topography which consists of agricultural fields and rolling hills would remain the same under all of the Action Alternatives. The proposed site layout under each of the

Action Alternatives would be established in a manner similar to the existing MD 355 alignment in the project area with a bridge, two lane roadway, steep slopes, and utility lines. The only change would be addition of stormwater management features at the toe of slope which would have a negligible impact on the natural topography.

Erosion and sediment control measures and other BMPs as stated under Alternative 1 would be implemented for all Action Alternatives to minimize soil erosion and prevent soils from leaving the project area. Based on these practices to minimize disturbance to soils in the project area, use of areas previously disturbed, and the negligible change in natural topography, there would be short-term and long-term minor adverse impacts to soils and topography.

Cumulative Impacts

Benefits to topography and soils will result from the development of an Agricultural Management Plan, which provides guidance and strategies on nutrient management, crop management, livestock management, and sediment runoff; an Integrated Pest Management Plan; and ongoing assessment, development and implementation of park-wide agricultural best management practices (NPS 2010). In general, these activities represent a continuance of the park's existing soil uses. Because there are no cumulative impacts projects that would result in impacts to the Battlefield's soils or topography, there would be no cumulative impacts under Alternative 4.

Conclusion

Alternative 4 would have short-term and long-term minor adverse impacts to soils and topography. There would be no cumulative impacts.

4.4 FLOODPLAINS

Methodology and Assumptions

In order to evaluate potential impacts to floodplains, the location of the 100-year floodplain in the vicinity of the MD 355 Bridge over CSX was analyzed using FEMA flood insurance rate mapping. The scope of the proposed action within the floodplain was considered, and the area of proposed ground disturbance in the floodplain was determined. Analysis of short-term and long-term impacts was based on an assessment of floodplain functions and values, professional judgment, and similar projects. It should be noted that for each action alternative, the approach roadway profile ties back into the existing roadway within the floodplain; therefore, the floodplain disturbance is the same for each action alternative.

Study Area

The study area for floodplains resources is the 100- year floodplain within the limits of disturbance, as delineated by FEMA flood insurance rate maps. For cumulative impacts, the study area includes floodplains of the Monocacy River within the boundary of the Monocacy National Battlefield.

Impact Thresholds

Negligible: There would be no measurable change in the ability of a floodplain to convey floodwaters, or its values and functions. The project would not contribute to flooding.

Minor: Changes in the ability of a floodplain to convey floodwaters, or its values and functions, would be detectable and local, although the changes may not be measurable. The project would not contribute to flooding and no mitigation would be needed.

Moderate: Changes in the ability of a floodplain to convey floodwaters, or its values and functions, would be measurable and local. Project could contribute to flooding. The impact could be mitigated by modification of proposed facilities in floodplains.

Major: Changes in the ability of a floodplain to convey floodwaters, or its values and functions, would be measurable and widespread. The project would contribute to flooding and the impact could not be mitigated by modification of proposed facilities in floodplains.

Duration: Short-term - Usually less than one year. Impacts would be measurable only during the life of construction; Long-term - Usually more than one year. Impacts would be measurable during and after project construction.

4.4.1 IMPACTS OF THE NO ACTION ALTERNATIVE

The No Action Alternative represents a continuation of existing conditions in the vicinity of the MD 355 Bridge over CSX project area. Under the No Action Alternative, conditions in the Monocacy River floodplain would generally remain the same; therefore there would be no impacts.

Cumulative Impacts

Benefits to floodplains will result from ongoing riparian area restoration (NPS 2010). Under the No Action Alternative there would be no impacts to floodplains. Consequently, there would be no cumulative impacts.

Conclusion

Implementation of the No Action Alternative would have no impacts on floodplains in the proposed project area. There would be no cumulative impacts.

4.4.2 IMPACTS OF THE ACTION ATLERNATIVES

4.4.2.1 ALTERNATIVE 1-REPLACE BRIDGE WEST OF EXISTING BRIDGE

Long-term effects of Alternative 1 on the Monocacy River floodplain would be negligible to minor. The total floodplain area within the limits of disturbance for all the action alternatives is 0.47 acre, of which 0.13 acre would be impacted due to new full depth pavement, roadway resurfacing, minor grading, and adding rip rap for drainage. Although Alternative 1 shifts the

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bridge and roadway to the west, the new approach would tie back into the existing roadway prior to the floodplain boundary.

The total floodplain area in the Monocacy National Battlefield is estimated at 310 acres. Because there are broad floodplains to the east and west of the project area, effects of the proposed actions on floodplain functions and values are expected to be negligible. The changes in the ability of the floodplain to convey floodwaters would be detectable but not measurable. Based on these considerations, there would be long-term negligible to minor adverse impacts to floodplains under Alternative 1.

Disturbance during construction in the floodplain area outside of the existing right-of-way would be avoided to the extent possible. Staging would occur outside of the floodplain limits. Based on these considerations, there would be short-term negligible adverse impacts during construction.

Cumulative Impacts

Benefits to floodplains will result from ongoing riparian areas restoration (NPS 2010). Because there are no cumulative impact projects that would result in impacts to the Battlefield's floodplains, there would be no cumulative impacts under Alternative 1.

Conclusion

Alternative 1 would result in short-term negligible and long-term negligible to minor adverse impacts to floodplains. There are no cumulative impacts.

4.4.2.2 ALTERNATIVE 2-REPLACE BRIDGE EAST OF EXISTING BRIDGE

Long-term effects of Alternative 2 on the Monocacy River floodplain would be the same as Alternative 1 and would be negligible to minor. The total floodplain area within the limits of disturbance for all the action alternatives is 0.47 acre, of which 0.13 acre would be impacted due to new full depth pavement, roadway resurfacing, minor grading, and adding rip rap for drainage. Although Alternative 2 shifts the bridge and roadway to the east, the new approach ties back into the existing roadway prior to the floodplain boundary.

The total floodplain area in the Monocacy National Battlefield is estimated at 310 acres. Because there are broad floodplains to the east and west of the project area, effects of the proposed actions on floodplain functions and values are expected to be negligible. The changes in the ability of the floodplain to convey floodwaters would be detectable but not measurable. Based on these considerations, there would be long-term negligible to minor adverse impacts to floodplains under Alternative 2.

Disturbance during construction in the floodplain area outside of the existing right-of-way would be avoided to the extent possible. Staging would occur outside of the floodplain limits. Based on these considerations, there would be short-term negligible adverse impacts during construction.

Cumulative Impacts

Benefits to floodplains will result from ongoing riparian areas restoration (NPS 2010). Because there are no cumulative impact projects that would result in impacts to the Battlefield's floodplains, there would be no cumulative impacts under Alternative 2.

Conclusion

Alternative 2 would result in short-term negligible and long-term negligible to minor adverse impacts to floodplains. There are no cumulative impacts.

4.4.2.3 ALTERNATIVE 3– REPLACE BRIDGE ON EXISTING ALIGNMENT, PROVIDE TEMPORARY BRIDGE TO THE WEST FOR MAINTENANCE OF TRAFFIC

Long-term effects of Alternative 3 on the Monocacy River floodplain would be negligible to minor. The total floodplain area within the limits of disturbance for all the action alternatives is 0.47 acre, of which 0.13 acre would be impacted due to new full depth pavement, roadway

resurfacing, minor grading, and adding rip rap for drainage. Alternative 3 includes a temporary structure and approach roadways to the west of the existing structure; however, the shifted roadway ties into the existing roadway prior to the floodplain boundary. The total floodplain area in the Monocacy National Battlefield is estimated at 310 acres. Because there are broad floodplains to the east and west of the project area, effects of the proposed actions on floodplain functions and values are expected to be negligible. The changes in the ability of the floodplain to convey floodwaters would be detectable but not measurable. Based on these considerations, there would be long-term negligible to minor adverse impacts to floodplains under Alternative 3.

Disturbance during construction in the floodplain area outside of the existing right-of-way would be avoided to the extent possible. Staging would occur outside of the floodplain limits. Based on these considerations, there would be short-term negligible adverse impacts during construction.

Cumulative Impacts

Benefits to floodplains will result from ongoing riparian areas restoration (NPS 2010). Because there are no cumulative impact projects that would result in impacts to the Battlefield's floodplains, there would be no cumulative impacts under Alternative 3.

Conclusion

Alternative 3 would result in short-term negligible and long-term negligible to minor adverse impacts to floodplains. There are no cumulative impacts.

4.4.2.4 ALTERNATIVE 4 – REPLACE BRIDGE ON EXISTING ALIGNMENT WITH PHASED CONSTRUCTION

Long-term effects of Alternative 4 on the Monocacy River floodplain would be would be negligible to minor. Alternative 4 uses the existing alignment; however, due to the need to grade, resurface, widen the existing pavement, and add rip rap, the impacts would be the same as the other action alternatives. The total floodplain area within the limits of disturbance for all the

action alternatives is 0.47 acre, of which 0.13 acre would be impacted due to new full depth pavement, roadway resurfacing, minor grading, and adding rip rap for drainage.

The total floodplain area in the Monocacy National Battlefield is estimated at 310 acres. Because there are broad floodplains to the east and west of the project area, effects of the proposed actions on floodplain functions and values are expected to be negligible. The changes in the ability of the floodplain to convey floodwaters would be detectable but not measurable. Based on these considerations, there would be long-term negligible to minor adverse impacts to floodplains under Alternative 4.

Disturbance during construction in the floodplain area outside of the existing right-of-way would be avoided to the extent possible. Staging would occur outside of the floodplain limits. Based on these considerations, there would be short-term negligible adverse impacts during construction.

Cumulative Impacts

Benefits to floodplains will result from ongoing riparian areas restoration (NPS 2010). Because there are no cumulative impact projects that would result in impacts to the Battlefield's floodplains, there would be no cumulative impacts under Alternative 4.

Conclusion

Alternative 4 would result in short-term negligible and long-term negligible to minor adverse impacts to floodplains. There are no cumulative impacts.

4.5 WILDLIFE AND WILDLIFE HABITAT

Methodology and Assumptions

In order to evaluate potential impacts to wildlife and wildlife habitat, species likely to occur within the Monocacy National Battlefield were considered. Potential impacts to habitats outside of the MD 355 and CSX railroad corridors were examined. Information pertaining to wildlife
and wildlife habitat was obtained from Monocacy National Battlefield documents, park natural resource management staff, the U.S. Fish and Wildlife Service, and the Maryland Department of Natural Resources. According to the U.S. Fish and Wildlife Service and the Maryland Department of Natural Resources, no state or federally listed rare, threatened, or endangered species are known to occur within the project area (see Chapter 6 "*Consultation and Coordination*")

Study Area

The study area for impacts to wildlife includes the limit of disturbance required for the proposed project, and land immediately adjacent to the limit of disturbance. Wildlife habitat areas consist of riparian forests and agricultural fields. For cumulative impacts, the study area consists of the Monocacy National Battlefield.

Impact Thresholds

Negligible: There would be no observable or measurable impacts to native species, their habitats, or the natural processes sustaining them. Impacts would be well within natural fluctuations.

Minor: Impacts would be detectable, but they would not be expected to be outside the natural range of variability of native species' populations, their habitats, or the natural processes sustaining them. Mitigation measures, if needed to offset adverse effects, would be simple and successful.

Moderate: Breeding animals of concern are present; animals are present during particularly vulnerable life-stages, such as migration or nesting/juvenile stages; mortality or interference with activities necessary for survival can be expected on an occasional basis, but is not expected to threaten the continued existence of the species in the park unit. Impacts to native species, their habitats, or the natural processes sustaining them would be detectable, and they could be outside the natural range of variability. Mitigation measures, if needed to offset adverse effects, would be extensive and likely successful.

Major: Impacts on native species, their habitats, or the natural processes sustaining them would be detectable, and they would be expected to be outside the natural range of variability. Loss of habitat might affect the viability of at least some native species. Extensive mitigation measures would be needed to offset any adverse effects and their success would not be guaranteed.

Duration: Short term impacts last for the duration of construction related activities, while long term impacts last beyond the proposed construction activities.

4.5.1 IMPACTS OF THE NO ACTION ALTERNATIVE

The No Action Alternative represents a continuation of existing conditions in the vicinity of the MD 355 Bridge over CSX project area. Under the No Action Alternative, wildlife and wildlife habitat would generally remain the same; as a result, there would be no impacts.

Cumulative Impacts

Under the No Action Alternative there would be no impacts to wildlife and wildlife habitat. There would be no cumulative impacts.

Conclusion

Implementation of the No Action Alternative would have no impacts on wildlife and wildlife habitat in the project area and surrounding land. There would be no cumulative impacts to wildlife and wildlife habitat.

4.5.2 IMPACTS OF THE ACTION ALTERNATIVES

4.5.2.1 ALTERNATIVE 1 – REPLACE BRIDGE WEST OF EXISTING BRIDGE

Construction activities proposed under Alternative 1 and all Action Alternatives that would disturb wildlife and wildlife habitat include removal of vegetation and noise from construction equipment and activity. During construction, terrestrial and avian species would be expected to avoid areas under construction and move to more habitable areas in the Monocacy National Battlefield. To relocate the bridge west, accommodate the new roadway approaches and raised roadway profile, relocate utilities, and construct stormwater management facilities, trees along Page | 99

both sides of MD 355 would be removed and agricultural fields would be disturbed and permanently converted to roadway. Consequently there would be an approximate decrease of 0.8 acre in forested wildlife habitat available to birds and small mammals in the project area.

The loss of habitat would be noticeable; however, lands adjacent to MD 355 and the CSX railroad represent relatively low quality habitat areas. Once construction is complete, disturbed areas would be restored with native vegetation. Because the habitat areas to be removed are relatively small and of low quality, and temporarily disturbed areas would be re-vegetated after construction, the long-term effects of the proposed actions are expected to be comparable to current conditions once the vegetation matures. Therefore, there would be short-term and long-term minor adverse impacts to wildlife and wildlife habitat under Alternative 1.

Cumulative Impacts

Because there are no other reasonably foreseeable projects within the study area that would contribute to the loss of wildlife habitat, there would be no cumulative impacts under Alternative 1.

Conclusion

There would be short-term and long-term minor adverse impacts to wildlife and wildlife habitat under Alternative 1, and there would be no cumulative impacts.

4.5.2.2 ALTERNATIVE 2- REPLACE BRIDGE EAST OF EXISTING BRIDGE

The construction activities previously described under Alternative 1 that would result in wildlife and wildlife habitat impacts are the same for Alternative 2 and the other Action Alternatives. Forest habitats within the project construction area would be cleared as necessary to replace and relocate the bridge to the east, accommodate the wider roadway shoulders and raised roadway profile, relocate utilities, and construct stormwater management facilities. A total of 0.8 acre of forested wildlife habitat would be cleared. Once the existing roadway was removed and the new construction was complete, disturbed areas would be reseeded with native grasses. In addition, trees would be planted along the new roadway alignment, if desirable. Because the habitat areas to be removed are relatively small and of low quality, and the temporarily disturbed areas would be re-vegetated after construction, there would be short-term and long-term minor adverse impacts to wildlife and wildlife habitat under Alternative 2.

Cumulative Impacts

Because there are no other reasonably foreseeable projects within the study area that would contribute to the loss of wildlife habitat, there would be no cumulative impacts under Alternative 2.

Conclusion

There would be short-term and long-term minor adverse impacts to wildlife and wildlife habitat under Alternative 2, and there would be no cumulative impacts.

4.5.2.3 ALTERNATIVE 3– REPLACE BRIDGE ON EXISTING ALIGNMENT, PROVIDE TEMPORARY BRIDGE TO THE WEST FOR MAINTENANCE OF TRAFFIC

Construction activities associated with Alternative 3 would result in wildlife and wildlife habitat impacts similar to those described under Alternatives 1 and 2. Forest habitats within the project construction area would be cleared as necessary to replace the bridge, construct the temporary structure, accommodate the wider roadway shoulders and raised roadway profile, relocate utilities, and construct stormwater management facilities. A total of 0.8 acre of forested wildlife habitat would be cleared or disturbed. Disturbed areas would be reseeded with native vegetation at the end of the construction period and trees would be planted where appropriate. Because the habitat areas that would be disturbed are relatively small and of low quality, and the temporarily disturbed areas would be re-vegetated after construction, there would be short-term and long-term minor adverse impacts to wildlife and wildlife habitat under Alternative 3.

Cumulative Impacts

Because there are no other reasonably foreseeable projects within the study area that would contribute to the loss of wildlife habitat, there would be no cumulative impacts under Alternative 3.

Conclusion

There would be short-term and long-term minor adverse impacts to wildlife and wildlife habitat under Alternative 3, and there would be no cumulative impacts.

4.5.2.4 ALTERNATIVE 4- REPLACE BRIDGE ON EXISTING ALIGNMENT WITH PHASED CONSTRUCTION

Construction activities proposed under Alternative 4 would result in wildlife impacts similar to those described under Alternative 1. Trees and vegetation within the project construction area would be cleared as necessary to replace the bridge, accommodate the wider roadway shoulders and the raised roadway profile, relocate utilities, and construct stormwater management facilities. A total of 0.8 acre of forested wildlife habitat would be cleared or disturbed under Alternative 4. Disturbed areas would be reseeded with native vegetation at the end of the construction period, and trees would be planted as appropriate. Because the habitat areas that would be disturbed exist along the existing roadway, are relatively small and of low quality, and the temporarily disturbed areas would be re-vegetated after construction, there would be short-term and long-term minor adverse impacts to wildlife and wildlife habitat under Alternative 4.

Cumulative Impacts

Because there are no other reasonably foreseeable projects within the study area that would contribute to the loss of wildlife habitat, there would be no cumulative impacts under Alternative 4.

Conclusion

There would be short-term and long-term minor adverse impacts to wildlife and wildlife habitat under Alternative 4, and there would be no cumulative impacts.

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4.6 VEGETATION

Methodology and Assumptions

In order to evaluate potential impacts to vegetation, information on vegetation and vegetative communities in the project area was compiled. An on-site survey was conducted to identify large trees potentially impacted by the proposed actions. Analysis of the short- and long-term impacts to vegetation was based on the anticipated extent of vegetation removal for roadway and bridge construction, impacts to trees and forested areas, and the extent of vegetation conversion.

Study Area

The study area for vegetation includes the limits of disturbance required for the proposed project. For cumulative impacts, the study area consists of the Monocacy National Battlefield.

Impact Thresholds

Negligible: No native vegetation would be affected or some individual native plants could be affected as a result of the alternative, but there would be no effect on native species populations.

Minor: The alternative would affect some individual native plants and would also affect a relatively minor portion of that species' population. Mitigation to offset adverse effects, including special measures to avoid affecting species of special concern, could be required and would be effective.

Moderate: The alternative would affect some individual native plants and would also affect a sizeable segment of the species' population over a relatively large area. Mitigation to offset adverse effects could be extensive, but would likely be successful.

Major: The alternative would have a considerable effect on native plant populations, and affect a relatively large area in and out of the park. Key ecosystem processes might be disrupted. Extensive mitigation measures would be needed to offset any adverse effects and their success would not be guaranteed.

Duration: Short-term impacts would result in recovery in less than 3 years; Long-term impacts would take more than 3 years to recover.

4.6.1 IMPACTS OF THE NO ACTION ALTERNATIVE

The No Action Alternative represents a continuation of existing conditions in the vicinity of the MD 355 Bridge over CSX project area. Under the No Action Alternative, vegetation in the vicinity of the MD 355 Bridge over CSX would remain the same; therefore there would be no impacts.

Cumulative Impacts

Benefits to vegetation include ongoing Forest Pest monitoring; an Exotic Plant Management Plan; and ongoing management and mitigation for native/exotic plant species (NPS 2010). In general, these activities represent maintenance of the park's existing vegetative character. Under the No Action Alternative there would be no impacts to vegetation. Consequently, there would be no cumulative impacts.

Conclusion

Implementation of the No Action Alternative would have no impacts on vegetation in the proposed project area. There would be no cumulative impacts.

4.6.2 IMPACTS OF THE ACTION ALTERNATIVES

4.6.2.1 ALTERNATIVE 1 – REPLACE BRIDGE WEST OF EXISTING BRIDGE

In order to construct the improvements associated with Alternative 1, clearing of vegetation and removal of trees would be necessary. Vegetation would be cleared adjacent to the southbound lane of MD 355 and along the railroad alignment on the west side of MD 355 within the project limits. The total area of vegetation to be cleared would be approximately 0.8 acre and would include 10 large trees. After the construction period, the existing roadway alignment and bridge

abutment areas would be seeded with native grasses and trees would be planted in consultation with the NPS.

Under Alternative 1, impacts to existing vegetation within the limits of disturbance would be minimized to the extent possible. Equipment and material staging areas would be located to avoid impacts to vegetation, and tree protection fencing would be installed to prevent unintended impacts. Additional measures would be employed to protect critical root zones of adjacent trees. Protective measures could include root pruning and temporary mulch mats to limit soil compaction. Construction supervision by a certified arborist would be employed to assess the individual trees and forest areas that are to be retained. Efforts to retain project area vegetation are expected to be successful, and restoration of the area after the construction period would help to re-establish disturbed areas. However, clearing of the project area would have noticeable effects on the project area environment. The loss of vegetation and trees required by the construction would be noticeable to the traveling public and Battlefield visitors. Overall, the clearing would affect a relatively minor portion of the tree cover within the Monocacy National Battlefield. Total forest coverage within the Battlefield is estimated at 545 acres. As a result, there would be short-term and long-term minor adverse impacts under Alternative 1.

Cumulative Impacts

Benefits to vegetation include ongoing Forest Pest monitoring; an Exotic Plant Management Plan; and ongoing management and mitigation for native/exotic plant species. In general, these activities represent maintenance of the park's existing vegetative character. Because there are no cumulative impact projects that would result in impacts to the Battlefield's vegetation, there would be no cumulative impacts under Alternative 1.

Conclusion

Alternative 1 would result in short-term and long-term minor adverse impacts to vegetation. There are no cumulative impacts.

4.6.2.2 ALTERNATIVE 2- REPLACE BRIDGE EAST OF EXISTING BRIDGE

Under Alternative 2, vegetation would be cleared adjacent to the northbound lane of MD 355 and along the railroad alignment to the east of MD 355. Some vegetation would also be cleared in the area of the CSX maintenance parking area. The total area of vegetation to be cleared would be approximately 0.8 acre and would include 10 large trees. After the construction period the former roadway alignment and bridge abutment areas would be seeded with native grasses and trees would be planted in consultation with the NPS.

Avoidance and minimization measures under Alternative 2 would be similar to those described under Alternative 1. Construction staging areas would be located outside of forested areas and protective measures, such as tree protection fencing and critical root zone protection would be developed to avoid unintended impacts to vegetation. A certified arborist would be employed to assess individual trees and forest areas for retention. Practices to avoid and minimize impacts to vegetation are expected to be successful, and would help to limit impacts to the project area during the construction period. Overall, clearing would affect a relatively minor portion of the tree cover within the Monocacy National Battlefield. Total forest coverage within the Battlefield is estimated at 545 acres. However, the loss of vegetation and trees required by the construction would be noticeable to the traveling public and Battlefield visitors. Based on these considerations Alternative 2 would result in short-term and long-term minor adverse impacts to vegetation.

Cumulative Impacts

Benefits to vegetation include ongoing Forest Pest monitoring; an Exotic Plant Management Plan; and ongoing management and mitigation for native/exotic plant species (NPS 2010). In general, these activities represent maintenance of the park's existing vegetative character. Because there are no cumulative impact projects that would result in impacts to the Battlefield's vegetation, there would be no cumulative impacts under Alternative 2.

Conclusion

Alternative 2 would result in short-term and long-term minor adverse impacts to vegetation. There are no cumulative impacts.

4.6.2.3 ALTERNATIVE 3– REPLACE BRIDGE ON EXISTING ALIGNMENT, PROVIDE TEMPORARY BRIDGE TO THE WEST FOR MAINTENANCE OF TRAFFIC

Under Alternative 3, construction of a temporary bridge and approach roadways, stormwater management facilities, and the relocation of utilities would necessitate vegetation clearing. The total area of vegetation to be cleared would be approximately 0.8 acre and would include 10 large trees. After the construction period disturbed areas would be seeded with native grasses and trees would be planted in consultation with the NPS.

Avoidance and minimization measures under Alternative 3 would be similar to those described under Alternatives 1 and 2. Construction staging areas would be located outside of forested areas and protective measures, such as tree protection fencing and critical root zone protection would be developed to avoid unintended impacts to vegetation. A certified arborist would be employed to assess individual trees and forest areas for retention. Practices to avoid and minimize impacts to vegetation are expected to be successful, and would help to limit impacts to the project area during the construction period. Overall, clearing would affect a relatively minor portion of the tree cover within the Monocacy National Battlefield. Total forest coverage within the Battlefield is estimated at 545 acres. However, the loss of vegetation and trees required by the construction would be noticeable to the traveling public and Battlefield visitors. Based on these considerations, Alternative 3 would result in short-term and long-term minor adverse impacts to vegetation.

Cumulative Impacts

Benefits to vegetation include ongoing Forest Pest monitoring; an Exotic Plant Management Plan; and ongoing management and mitigation for native/exotic plant species (NPS 2010). In general, these activities represent maintenance of the park's existing vegetative character. Because there are no cumulative impact projects that would result in impacts to the Battlefield's vegetation, there would be no cumulative impacts under Alternative 3.

Conclusion

Alternative 3 would result in short-term and long-term minor adverse impacts to vegetation. There would be no cumulative impacts.

4.6.2.4 ALTERNATIVE 4- REPLACE BRIDGE ON EXISTING ALIGNMENT WITH PHASED CONSTRUCTION

Although Alternative 4 includes replacing the bridge on the existing alignment, the need to widen the roadway which creates steeper slopes, construct stormwater management facilities, and relocate utilities, creates impacts to vegetation that is similar to the previously described under the other action alternatives. The proposed improvements under Alternative 4 would result in approximately 0.8 acre of vegetation removal and the removal of 10 large trees along MD 355. After the construction period disturbed areas would be seeded with native grasses and trees would be planted in consultation with the NPS.

Avoidance and minimization measures under Alternative 4 would be similar to those described under the other action alternatives. Construction staging areas would be located outside of forested areas and protective measures, such as tree protection fencing and critical root zone protection would be developed to avoid unintended impacts to vegetation. A certified arborist would be employed to assess individual trees and forest areas for retention. Practices to avoid and minimize impacts to vegetation are expected to be successful, and would help to limit impacts to the project area during the construction period. Overall, clearing would affect a relatively minor portion of the tree cover within the Monocacy National Battlefield. Total forest coverage within the Battlefield is estimated at 545 acres. However, the loss of vegetation and trees required by the construction would be noticeable to the traveling public and Battlefield visitors. Based on these considerations, Alternative 4 would result in short-term and long-term minor adverse impacts to vegetation.

Cumulative Impacts

Benefits to vegetation include ongoing Forest Pest monitoring; an Exotic Plant Management Plan; and ongoing management and mitigation for native/exotic plant species (NPS 2010). In general, these activities represent maintenance of the park's existing vegetative character. Because there are no cumulative impact projects that would result in impacts to the Battlefield's vegetation, there would be no cumulative impacts under Alternative 4.

Conclusion

Alternative 4 would result in short-term and long-term minor adverse impacts to vegetation. There are no cumulative impacts.

4.7 CULTURAL RESOURCES

General Methodology and Assumptions

The National Park Service categorizes their cultural resources as archeological resources, cultural landscapes, historic structures and districts, museum objects, and ethnographic resources. Potential impacts on historic structures and districts, cultural landscapes, and archeological resources are of concern for this project. There would be no impacts to museum collections or ethnographic resources.

The analyses of impacts on cultural resources that are presented in this section respond to the requirements of both NEPA and Section 106 of the NHPA. Under NEPA, the analysis of impacts considers context and intensity of an action, whereas, under Section 106, a determination of effect is made based on whether the action will alter characteristics which qualify the historic resource for inclusion in the National Register of Historic Places.

In accordance with the Advisory Council on Historic Preservation (ACHP) Section 106 implementing regulations (36 CFR Part 800), impacts on cultural resources were identified and evaluated by (1) determining the APE; (2) identifying cultural resources present in the APE that are listed in or eligible to be listed in the National Register of Historic Places (NRHP); (3)

applying the criteria of adverse effect to affected historic properties; and (4) considering ways to avoid, minimize, and mitigate adverse effects. An *adverse effect* occurs whenever an action directly or indirectly alters any characteristic that qualifies the cultural resource for inclusion in the NRHP. On November 4, 2015, MHT concurred with SHA and NPS' determination that the Action Alternatives proposed for the MD 355 Bridge over CSX would have an adverse effect on historic properties (see Chapter 6 *Consultation and Coordination*).

NPS Director's Order-12 and CEQ regulations call for a discussion of the appropriateness of mitigation, as well as an analysis of how effective the mitigation would be in reducing the intensity of a potential impact. Under NEPA, any resultant reduction in intensity of impact to renewable resources due to mitigation is an estimate of the effectiveness of the mitigation. However, cultural resources are nonrenewable resources and adverse impacts generally diminish or destroy the original historic material or form, resulting in a loss in the integrity of the resource that can never be recovered. Therefore, although actions determined to have an adverse effect under Section 106 may be mitigated, the effect remains adverse.

Possible measures to mitigate the impacts of the Action Alternatives on the Monocacy National Battlefield include the following:

- Land transfer from SHA to NPS in an amount greater than impacted;
- Designing pedestrian connectivity to Battlefield areas of interest within the project limits and improving the east side parking area;
- Designing the bridge and roadway aesthetics to minimize visual impacts, including staining concrete, colored guardrail, and textured sidewalk surfaces;
- Restoring and interpreting the 1864 Georgetown Pike road prism;
- Completing the Gambrills Tract Cultural Landscape Report;
- Removing trees and vegetation along MD 355within the project limits to restore the Civil War era viewshed.

Detailed accounts of the Section 106 consultations that have occurred for this project are provided in *Chapter 6: Consultation and Coordination*.

Study Area

The overall study area for cultural resources is the Area of Potential Effects (APE) as defined in accordance with Section 106 regulations (see the "Cultural Resources" section in "*Chapter 3: Affected Environment*"). The Area of Potential Effects includes the full boundary of the Monocacy National Battlefield. For cumulative impacts, the Monocacy National Battlefield was used as the boundary.

4.8 HISTORIC STRUCTURES AND DISTRICTS

Methodology and Assumptions

DO-12 (NPS 2011) requires that assessment be scientific, accurate and quantified to the extent possible. For historic structures and districts, it is rarely possible to measure impacts in quantifiable terms; therefore, impact thresholds must rely on the professional judgment of resource experts. The impact analysis for historic structures and districts is an assessment of the effect of the proposed action or undertaking (No Action and Action Alternatives) on National Register eligible and/or listed historic properties only, based upon the Advisory Council's criteria of adverse effect. As such, a separate Assessment of Effect was submitted to the State Historic Preservation Officer (SHPO) on October 1, 2015 to comply with Section 106 of the NHPA. The SHPO concurred on November 4, 2015 with the determination that the four Action Alternatives would have an *adverse effect* on historic properties.

Study Area

The study area for historic structures and districts is the Area of Potential Effects (APE) as defined in accordance with Section 106 regulations (see the "Cultural Resources" section in "Chapter 3: Affected Environment"). For cumulative impacts, the Monocacy National Battlefield was used as the boundary.

Impact Thresholds

For a historic structure or district to be listed in the National Register it must possess significance, and the features which convey its significance must have integrity. For purposes of analyzing potential impacts on historic districts and structures, the definitions of impact thresholds used in this analysis are:

Negligible: The impact is at the lowest level of detection with neither adverse nor beneficial consequences. For the purposes of Section 106, the determination of effect would be *no historic properties affected*.

Minor: Alteration of the patterns or features of a historic structure or district would not diminish the integrity of the character-defining features or the overall integrity of the historic property. For the purposes of Section 106, the determination would be *no adverse effect*.

Moderate: The impact would alter the character-defining features of the historic structure or district and diminish the overall integrity of the features of the historic property. For the purposes of Section 106, the determination of effect would be *adverse effect*, but the adverse effect could be easily avoided, minimized, or mitigated through an Agreement Document.

Major: The impact would alter the character-defining features of the historic structure or district and severely diminish the integrity of the features and the overall integrity of the historic property. For the purposes of Section 106, the determination of effect would be *adverse effect*, and the adverse effect would be difficult to avoid, minimize, or mitigate through an Agreement Document.

Duration: Short term impacts last for the duration of construction related activities, while long term impacts last beyond the duration of construction related activities.

4.8.1 IMPACTS OF THE NO ACTION ALTERNATIVE

Under the No Action Alternative, the MD 355 Bridge over CSX would continue to deteriorate. At some point the bridge would become unsafe for vehicular travel and would be restricted to traffic. Under this alternative, many of the contributing elements of the Monocacy National Battlefield would be unaffected. Battlefield structures away from the MD 355 Bridge over CSX would be maintained by the NPS and would retain their Civil War era appearance. However, deterioration and closure of the bridge, which could involve restrictive fencing, barriers, and signage, could detract from the historic structures in the vicinity of the bridge such as the 14th New Jersey Monument and the Frederick Junction. As a result, there would be short-term and long-term moderate adverse impacts to historic structures and districts under the No Action Alternative.

Cumulative Impacts

Benefits to historic structures and districts would result from updating the Battlefield's Fire Management Plan (NPS 2011a) and stabilizing the Gambrill Dam ruins (NPS 2010). The No Action Alternative would have direct short-term and long-term moderate adverse impacts to historic structures and districts. These impacts in combination with the solar panels that will be installed on the roofs of the Park's Maintenance Shop (Gambrill Mill Area) and the Visitor Center will result in minor cumulative impacts in context of the study area. Therefore, the No Action Alternative would have long-term minor adverse cumulative impacts on historic structures and districts.

Conclusion

The No Action Alternative would result in short-term and long-term moderate adverse impacts to historic structures and districts. Long-term minor adverse cumulative impacts would occur.

4.8.2 IMPACTS OF THE ACTION ALTERNATIVES

4.8.2.1 ALTERNATIVE 1-REPLACE BRIDGE WEST OF EXISTING BRIDGE

Alternative 1 would require the permanent use of 2.3 acres of land from the Battlefield including 2.05 acres from the Best Farm and 0.25 acre from the Frederick Junction, both contributing resources. Although Alternative 1 does not encroach on the boundary of the 14th New Jersey Monument, the new bridge would be shifted closer to the Monument thus altering the visual setting. The existing driveway and parking area adjacent to the 14th New Jersey Monument would be closed to improve visitor safety. These modifications would be barely noticeable because the existing driveway and parking area are only gravel and compacted soil.

While the bridge would use land from the Best Farm, the standing structures associated with the Best Farm are well removed from the project area. The direct impacts to the Best Farm would be to the farm fields that run adjacent to MD 355. Due to the raising of the bridge profile and approach roadways, the new bridge would have a noticeable visual impact on the Best Farm property. Although the bridge would be shifted away from the Frederick Junction, right-of-way would be required from within the boundary of this resource due to slopes and construction of pedestrian trails under the new bridge.

Temporary construction staging may be required in the Battlefield. Materials and equipment would generally be confined to the existing MD 355 roadbed and previously disturbed areas such as the NPS east side parking area. To a degree, character defining features of the Battlefield would be temporarily diminished by the visual intrusion of the construction activities. The construction related activities associated with Alternative 1 would have short-term moderate adverse impacts to the Monocacy National Battlefield.

Under Alternative 1, the increase in size and height of the bridge and approach roadways between the Monocacy River Bridge and the Best Farm entrance would introduce new visual and physical elements out of character with the Battlefield. Although the current roadway is raised several feet above the grade of the Best Farm fields near the bridge, Alternative 1 calls for a higher grade for a greater distance, west of the existing alignment. Other design aspects that would introduce new visual elements include sidewalk, trail connections, wider shoulders, and stormwater management facilities. Although the proposed actions under Alternative 1 would alter the appearance of the Battlefield, it would not diminish the overall integrity of the resource. Alternative 1 would permanently use approximately 2.3 acres of land from within the Monocacy National Battlefield. Therefore, there would be long-term moderate adverse impacts associated with the replacement bridge.

Design plans would be developed and reviewed by the SHPO and NPS to ensure consistency with the Civil War era appearance of the Battlefield, and to avoid encumbrance on the park's contributing elements to the extent possible. Mitigation strategies, such as those listed under Section 4.8, would be considered to offset the total impact to the Battlefield. Based on these considerations, there would be short-term and long-term moderate adverse impacts to Monocacy National Battlefield.

Cumulative Impacts

Benefits to historic structures and districts would result from updating the Battlefield's Fire Management Plan and stabilizing the Gambrill Dam ruins (NPS 2010). Direct short-term and long-term moderate adverse impacts would occur from Alternative 1. These impacts in combination with the solar panels that will be installed on the roofs of the Park's Maintenance Shop (Gambrill Mill Area) and the Visitor Center will result in minor cumulative impacts to historic structures and districts in context of the study area. Therefore, Alternative 1 would have long-term minor adverse cumulative impacts on historic structures and districts.

Conclusion

Alternative 1 would result in short-term and long-term moderate adverse impacts to Monocacy National Battlefield. Long-term minor adverse cumulative impacts would occur.

4.8.2.2 ALTERNATIVE 2- REPLACE BRIDGE EAST OF EXISTING BRIDE

Under Alternative 2, the new bridge would be shifted east of its existing location, closer to the Frederick Junction and would require a longer bridge span. The new bridge would directly impact approximately 0.35 acre of land from within the historic boundary of the Frederick Junction. In addition, the visual setting would be altered as the bridge and approach roadways would be shifted closer. The existing access road to the NPS east side

parking area which leads to the Frederick Junction would be improved to enhance visitor safety.

Similar to Alternative 1, the existing driveway and parking area adjacent to the 14th New Jersey Monument would be closed to improve visitor safety. These modifications would barely noticeable because the existing driveway and parking area are only gravel and compacted soil. In addition, the new bridge would be moved farther away from the Monument. Therefore, the resulting effects on the 14th New Jersey Monument would be negligible.

Temporary construction staging may be required in the Battlefield. Materials and equipment would generally be confined to the existing MD 355 roadbed and previously disturbed areas such as the NPS east side parking area. To a degree, character defining features of the Battlefield would be temporarily diminished by the visual intrusion of the construction activities. The construction related activities associated with Alternative 2 would have short-term moderate adverse impacts to the Monocacy National Battlefield.

Under Alternative 2, the increase in size and height of the bridge and approach roadways between the Monocacy River Bridge and the Best Farm entrance would introduce new visual and physical elements out of character with the Battlefield. Although the current roadway is raised several feet above the grade of the Best Farm fields near the bridge, Alternative 2 calls for a higher grade for a greater distance, east of the existing alignment. Because the historic boundary of the Best Farm encompasses land on both sides of MD 355 and due to the longer bridge proposed under this alternative, Alternative 2 would impact approximately 2.85 acres of the Best Farm. The direct impacts to the Best Farm would be to farm fields that run adjacent to both sides of MD 355. Other design aspects that would introduce new visual elements include sidewalk, trail connections, wider shoulders, and stormwater management facilities. Although the proposed actions under Alternative 2 would alter the appearance of the Battlefield, it would not diminish the overall integrity of the resource. Alternative 2 would use approximately 3.2 acres of land from within the Monocacy National Battlefield (inclusive of the direct impacts to the Best Farm and Frederick Junction). Therefore, there would be long-term moderate adverse impacts associated with the replacement bridge.

Design plans would be developed and reviewed by the SHPO and NPS to ensure consistency with the Civil War era appearance of the Battlefield, and to avoid encumbrance on the park's contributing elements to the extent possible. Mitigation strategies, such as those listed under Section 4.8, would be considered to offset the total impact to the Battlefield. Based on these considerations, there would be short-term and long-term moderate adverse impacts to Monocacy National Battlefield.

Cumulative Impacts

Benefits to historic structures and districts would result from updating the Battlefield's Fire Management Plan and stabilizing the Gambrill Dam ruins (NPS 2010). Direct short-term and long-term moderate adverse impacts would occur from Alternative 2. These impacts in combination with the solar panels that will be installed on the roofs of the Park's Maintenance Shop (Gambrill Mill Area) and the Visitor Center will result in minor cumulative impacts to historic structures and districts in context of the study area. Therefore, Alternative 2 would have long-term minor adverse cumulative impacts on historic structures and districts.

Conclusion

Alternative 2 would result in short-term and long-term moderate adverse impacts to Monocacy National Battlefield. Long-term minor adverse cumulative impacts would occur.

4.8.2.3 ALTERNATIVE 3- REPLACE BRIDGE ON EXISTING ALIGNMENT, PROVIDE TEMPORARY BRIDGE FOR MAINTENANCE OF TRAFFIC

Under Alternative 3, the new bridge would be built on the existing alignment while a temporary bridge would be constructed to the west for maintenance of traffic during construction. Although Alternative 3 uses the existing alignment, this alternative includes design elements common to all including raising the bridge and roadway profile, widening for sidewalk and bicycle lanes, constructing stormwater management facilities, and relocating utilities. Because of these common elements, the actual impacts associated with Alternative 3 are comparable to Alternatives 1 and 2. However, the new bridge would remain on the existing alignment and would not be moved closer to contributing resources such as the 14th New Jersey Monument or the Frederick Junction.

The visual setting of 14th New Jersey Monument would be temporarily altered for the duration of construction due to the temporary bridge. Once the new permanent bridge has been constructed, the temporary structure would be removed and the area would be reseeded/replanted with vegetation. The existing driveway and parking area adjacent to the 14th New Jersey Monument would be closed to improve visitor safety. These modifications would be barely noticeable because the existing driveway and parking area are only gravel and compacted soil.

Temporary construction staging may be required in the Battlefield. Materials and equipment would generally be confined to the existing MD 355 Bridge roadbed and previously disturbed areas such as the NPS east side parking area. Once the temporary structure is built, construction staging and activities can occur on the existing MD 355 alignment. To a degree, character defining features of the Battlefield would be temporarily diminished by the visual intrusion of the construction activities. The construction related activities associated with Alternative 3 would have short-term moderate adverse impacts to the Monocacy National Battlefield.

Under Alternative 3, the increase in size and height of the bridge and approach roadways between the Monocacy River Bridge and the Best Farm entrance would introduce new visual and physical elements out of character with the Battlefield. Although the current roadway is raised several feet above the grade of the Best Farm fields near the bridge, Alternative 3 calls for a higher grade for a greater distance. Alternative 3 would permanently impact 2.15 acres from the Best Farm and 0.25 acre from the Frederick Junction. Due to the temporary structure, Alternative 3 would temporarily impact approximately 0.25 acre from the Best Farm. The direct impacts to the Best Farm would be to the farm fields that run adjacent to MD 355. Other design aspects that would introduce new visual elements include sidewalk, trail connections, wider shoulders, and stormwater management facilities. Although the proposed actions under Alternative 3 would alter the appearance of the Battlefield, it would not diminish the overall integrity of the resource. Alternative 3 would use approximately 2.65 acres of land from within the Monocacy National Battlefield (inclusive of the permanent and temporary impacts to Best Farm and permanent impacts to the Frederick Junction). Therefore, there would be long-term moderate adverse impacts associated with the replacement bridge.

Design plans would be developed and reviewed by the SHPO and NPS to ensure consistency with the Civil War era appearance of the Battlefield, and to avoid encumbrance on the park's contributing elements to the extent possible. Mitigation strategies, such as those listed under Section 4.8, would be considered to offset the total impact to the Battlefield. Based on these considerations, there would be short-term and long-term moderate adverse impacts to Monocacy National Battlefield.

Cumulative Impacts

Benefits to historic structures and districts would result from updating the Battlefield's Fire Management Plan and stabilizing the Gambrill Dam ruins (NPS 2010). Direct short-term and long-term moderate adverse impacts would occur from Alternative 3. These impacts in combination with the solar panels that will be installed on the roofs of the Park's Maintenance Shop (Gambrill Mill Area) and the Visitor Center will result in minor cumulative impacts to historic structures and districts in context of the study area. Therefore, Alternative 3 would have long-term minor adverse cumulative impacts on historic structures and districts.

Conclusion

Alternative 3 would result in short-term and long-term moderate adverse impacts to Monocacy National Battlefield. Long-term minor adverse cumulative impacts would occur.

4.8.2.4 ALTERNATIVE 4- REPLACE BRIDGE ON EXISTING ALIGNMENT WITH PHASED CONSTRUCTION

For Alternative 4, impacts to the Monocacy National Battlefield would be comparable to Alternative 3 since both alternatives replace the bridge on existing alignment. Although Alternative 4 uses the existing alignment, this alternative includes design elements common to all including raising the bridge and roadway profile, closing the 14th New Jersey Monument access road, widening for sidewalk and bicycle lanes, constructing stormwater management facilities, and relocating utilities. Because of these common elements, impacts to the Monocacy National Battlefield are not avoided under Alternative 4.

Temporary construction staging may be required in the Battlefield. Materials and equipment would generally be confined to the existing MD 355 roadbed and previously disturbed areas such as the NPS east side parking area. To a degree, character defining features of the Battlefield would be temporarily diminished by the visual intrusion of the construction

activities. The construction related activities associated with Alternative 4 would have short-term moderate adverse impacts to the Monocacy National Battlefield.

Under Alternative 4, the increase in size and height of the bridge and approach roadways between the Monocacy River Bridge and the Best Farm entrance would introduce new visual and physical elements out of character with the Battlefield. Although the current roadway is raised several feet above the grade of the Best Farm fields near the bridge, Alternative 4 calls for a higher grade for a greater distance. Alternative 4 would permanently impact 2.15 acres from the Best Farm and 0.25 acre from the Frederick Junction. The direct impacts to the Best Farm would be to the farm fields that run adjacent to MD 355. Other design aspects that would introduce new visual elements include sidewalk, trail connections, wider shoulders, and stormwater management facilities. Although the proposed actions under Alternative 4 would alter the appearance of the Battlefield, it would not diminish the overall integrity of the resource. Alternative 4 would use approximately 2.4 acres of land from within the Monocacy National Battlefield including the permanent impacts to the Best Farm and Frederick Junction. Therefore, there would be long-term moderate adverse impacts to the Monocacy National Battlefield associated with the bridge replacement project.

Design plans would be developed and reviewed by the SHPO to ensure consistency with the Civil War era appearance of the Battlefield, and to avoid encumbrance on the park s contributing elements to the extent possible. Mitigation strategies, such as those listed under Section 4.8, would be considered to offset the total impact to the Battlefield. Based on these considerations, there would be short-term and long-term moderate adverse impacts to Monocacy National Battlefield.

Cumulative Impacts

Benefits to historic structures and districts would result from updating the Battlefield's Fire Management Plan and stabilizing the Gambrill Dam ruins (NPS 2010). Direct short-term and long-term moderate adverse impacts would occur from Alternative 4. These impacts in combination with the solar panels that will be installed on the roofs of the Park's Maintenance Shop (Gambrill Mill Area) and the Visitor Center will result in minor cumulative impacts to historic structures and districts in context of the study area. Therefore, Alternative 4 would have long-term minor adverse cumulative impacts on historic structures and districts.

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Conclusion

Alternative 4 would result in short-term and long-term moderate adverse impacts to Monocacy National Battlefield. Long-term minor adverse cumulative impacts would occur.

4.9 CULTURAL LANDSCAPES

Study Area

Cultural landscapes, as defined by *The Secretary of the Interior's Standards for the Treatment of Historic Properties: Guidelines for the Treatment of Cultural Landscape* (NPS 1992), consists of "a geographic area (including both cultural and natural resources and the wildlife or domestic animals therein) associated with a historic event, activities, or person exhibiting other cultural or aesthetic values."

Monocacy National Battlefield contains 1,647 acres of farmland and woods straddling the Monocacy River and MD 355, just southeast of Frederick in Frederick County, Maryland. Flat river bottomland and steep bluffs dominate the landscape, along with old fencerows and road networks, some of which date back to the mid 18th century. The Battlefield is made up of four component landscapes including Hermitage (Best Farm), Clifton (Worthington Farm), Baker Farm, and Araby Community (including Gambrill Tract and Thomas Farm). Much of the land is farmed, used primarily for hay and grain production, and for pasture, and some buildings are used by the NPS for offices, while others have been stabilized, but are not in use. As a result of the continued farming, the Battlefield landscape is largely pastoral. There are some noncontributing elements, mostly houses dating from the mid-to-late 20th century along Baker Valley Road and Araby Church Road that are not owned by the National Park Service. MD 355 (locally called Urbana Pike) has long been part of the Monocacy landscape, first as the Georgetown Road and later the Washington or Georgetown Pike, and in the 1930s called US 240. The route's presence and development is an integral part of the area's history. I-270, added to the landscape in 1950 as a dualized replacement for US 240, abruptly bisects the battlefield, running southeast to northwest, forming both a visual and physical barrier to the continuity of the landscape. There are five monuments placed as memorials to participants from units representing Maryland, New Jersey, Pennsylvania, and Vermont as well as one dedicated by the United Daughters of the Confederacy in the Battle of Monocacy. These are construed as contributing elements to the nominated area.

Impact Thresholds

For a cultural landscape to be listed in the National Register, it must possess significance (the meaning or value ascribed to the landscape), and the features that convey its significance must have integrity (see National Register Bulletins, *How to Apply the National Register Criteria for Evaluation, How to Evaluate and Nominate Designed Historic Landscapes, and Guidelines for Evaluating and Documenting Rural Historic Landscapes*). For purposes of evaluating potential impacts on cultural landscapes, the definitions of impact thresholds used in this analysis are:

Negligible: The impacts are at the lowest level of detection with neither adverse nor beneficial consequences.

Minor: Alteration of the patterns or features of a cultural landscape would not diminish the integrity of the character-defining features or the overall integrity of the historic property.

Moderate: The project would alter the character-defining features of the cultural landscape and diminish the integrity of the features of the historic property.

Major: The project would alter the character-defining features of the cultural landscape and severely diminish the integrity of the features and the overall integrity of the historic property.

Beneficial – No levels of intensity for beneficial impacts are defined. Beneficial impacts can occur under the following scenarios: when character-defining features of the cultural landscape feature would be stabilized/preserved in accordance with the Secretary of the Interior's *Guidelines for the Treatment of Cultural Landscapes* (NPS 1992) to maintain its existing integrity; when the cultural landscape feature would be rehabilitated in accordance with the

Secretary of the Interior's *Guidelines for the Treatment of Cultural Landscapes* to make possible a compatible use of the property while preserving its character-defining features; or when the cultural landscape feature would be rehabilitated in accordance with the Secretary of the Interior's *Guidelines for the Treatment of Cultural Landscapes* to accurately depict its form, features, and character as it appeared during its period of significance.

Duration: Short term impacts last for the duration of construction related activities, while long term impacts last beyond the proposed construction activities.

4.9.1 IMPACTS OF THE NO ACTION ALTERNATIVE

Under the No Action Alternative, the MD 355 Bridge over CSX would continue to deteriorate. At some point the bridge would become unsafe for vehicular travel and traffic would be restricted. Under this alternative, many of the contributing elements of the Monocacy National Battlefield would be unaffected. Battlefield structures away from the MD 355 Bridge over CSX would be maintained by the NPS and would retain their Civil War era appearance. However, deterioration and closure of the bridge, which could involve restrictive fencing, barriers, and signage, would have a visual impact on the landscape and historic structures in the vicinity of the bridge such as the 14th New Jersey Monument and the Frederick Junction. As a result, there would be long-term minor adverse impacts to the cultural landscape under the No Action Alternative.

Cumulative Impacts

The long-term direct impacts associated with the restrictive fencing, barriers, and signage combined with the installation of solar panels on the roofs of the Park's Maintenance Shop (Gambrill Mill Area) and the Visitor Center will result in long-term minor adverse cumulative impacts to cultural landscapes in context to the study area.

Conclusion

The No Action Alternative would result in no short-term impacts but would have long-term minor adverse impacts to the cultural landscape. The No Action Alternative would contribute to long-term minor adverse cumulative impacts.

4.9.2 IMPACTS OF THE ACTION ALTERNATIVES

4.9.2.1 ALTERNATIVE 1- REPLACE BRIDGE WEST OF EXISTING BRIDGE

Alternative 1 would require the permanent use of 2.3 acres of land from the Battlefield including 2.05 acres from the Best Farm and 0.25 acre from the Frederick Junction, both contributing resources. Although Alternative 1 does not encroach on the boundary of the 14th New Jersey Monument, the new bridge would be shifted closer to the Monument thus altering the visual setting. The existing driveway and parking area adjacent to the 14th New Jersey Monument would be closed to improve visitor safety. These modifications would be barely noticeable because the existing driveway and parking area are only gravel and compacted soil.

While Alternative 1 would permanently use approximately 2.05 acres of land from the Best Farm, the standing structures associated with the Best Farm are well removed from the project area. The direct impacts to the Best Farm would be to the farm fields that run adjacent to MD 355. Due to the raising of the bridge profile and approach roadways, the new bridge would have a noticeable visual impact on and from the Best Farm property.

Temporary construction staging may be required in the Battlefield. Materials and equipment would generally be confined to areas on the existing MD 355 roadbed and previously disturbed areas such as the CSX maintenance parking area. Character defining features of the cultural landscape including unobstructed views of rolling agricultural lands would be temporarily diminished by the visual intrusion of the construction activities. The construction related activities associated with Alternative 1 would have short-term moderate adverse impacts to the cultural landscape of the Monocacy National Battlefield.

Under Alternative 1, the increase in size and height of the bridge and approach roadways between the Monocacy River Bridge and the Best Farm entrance would introduce new visual and physical elements out of character with the Battlefield and its associated cultural landscape. Although the current roadway is raised several feet above the grade of the Best Farm fields near the bridge, Alternative 1 calls for a higher grade for a greater distance, west of the existing alignment. Because the new bridge would be shifted west in closer proximity to the Best Farm standing structures and visitor area, it would have a greater visual impact on the cultural landscape associated with *L' Hermitage* (Best Farm) than Alternatives 2 and 4. Other design aspects that would introduce new permanent visual elements incldue sidewalk trail connections, wider shoulders, and stormwater management facilities. Although the proposed actions under Alternative 1 would alter the appearance of the Battlefield, it would not diminish the overall integrity of the resource or the cultural landscape. Therefore, there would be long-term moderate adverse impacts to the cultural landscape associated with the replacement bridge.

Design plans would be developed and reviewed by the SHPO and NPS to ensure consistency with the Civil War era appearance of the Battlefield, and to avoid encumbrance on the park's contributing elements and cultural landscape to the extent possible. Mitigation strategies, such as those listed under Section 4.8, would be considered to offset the total impact to the Battlefield. Based on these considerations, there would be short-term and long-term moderate adverse impacts to the cultural landscape associated with the Monocacy National Battlefield.

Cumulative Impacts

Although there will be benefits to cultural landscapes from implementation of NPS preservation and restoration projects as outlined in the cumulative impact projects including removing the non-historic cinderblock house on Araby Church Road and rehabilitating the site for future monuments (NPS 2008), long-term minor adverse cumulative impacts would occur from the combination of Alternative 1 and the solar panel installation on the roofs of the Park's Maintenance Shop (Gambrill Mill Area) and the Visitor Center.

Conclusion

Alternative 1 would result in short-term minor and long-term moderate adverse impacts to the cultural landscape associated with the Monocacy National Battlefield. There will be long-term minor adverse cumulative impacts under Alternative 1.

4.9.2.2 ALTERNATIVE 2- REPLACE BRIDGE EAST OF EXISTING BRIDGE

Under Alternative 2, the new bridge would be shifted east of its existing location, closer to the Frederick Junction and would require a longer bridge span. The new bridge would permanetly impact 0.35 acres of land from within the historic boundary of the Frederick Junction. The visual setting would also be altered as the bridge and approach roadways would be shifted closer. The existing access road to the NPS east side parking area which leads to the Frederick Junction would be improved to enhance visitor safety. Similar to Alternative 1, the existing driveway and parking area adjacent to the 14th New Jersey Monument would be closed to improve visitor safety. These modifications would barely noticeable because the existing driveway and parking area are only gravel and compacted soil. In addition, the new bridge would be moved farther away from the Monument.

Temporary construction staging may be required in the Battlefield. Materials and equipment would generally be confined to areas on the existing MD 355 roadbed and previously disturbed areas such as the NPS east side parking area. Character defining features of the cultural landscape including unobstructed views of rolling agricultural lands would be temporarily diminished by the visual intrusion of the construction activities. The construction related activities associated with Alternative 2 would have short-term moderate adverse impacts to the cultural landscape of the Monocacy National Battlefield.

Under Alternative 2, the increase in size and height of the bridge and approach roadways between the Monocacy River Bridge and the Best Farm entrance would introduce new visual and physical elements out of character with the Battlefield. Although the current roadway is raised several feet above the grade of the Best Farm fields near the bridge, Alternative 2 calls for a higher grade for a greater distance, east of the existing alignment. Due to the boundary of the Best Farm encompassing both sides of MD 355 and because the bridge under this alternative is longer, Alternative 2 would impact 2.85 acres. The direct impacts to the Best Farm would be to the farm fields that run adjacent to MD 355. Other design aspects that would introduce new permanent visual elements include sidewalk, trail connections, wider shoulders, and stormwater management facilities. Although the proposed actions under Alternative 2 would alter the appearance of the Battlefield, it would not diminish the overall integrity of the resource or cultural landscape. Therefore, there would be long-term moderate adverse impacts to the cultural landscape associated with the replacement bridge.

Design plans would be developed and reviewed by the SHPO and NPS to ensure consistency with the Civil War era appearance of the Battlefield, and to avoid encumbrance on the park's contributing elements to the extent possible. Mitigation strategies, such as those listed under Section 4.8, would be considered to offset the total impact to the cultural landscape. Based on these considerations, there would be short-term and long-term moderate adverse impacts to Monocacy National Battlefield cultural landscape.

Cumulative Impacts

Although there will be benefits to cultural landscapes from implementation of NPS preservation and restoration projects as outlined in the cumulative impact projects including removing the non-historic cinderblock house on Araby Church Road and rehabilitating the site for future monuments (NPS 2008), long-term minor adverse cumulative impacts would occur from the combination of Alternative 2 and the solar panel installation on the roofs of the Park's Maintenance Shop (Gambrill Mill Area) and the Visitor Center.

Conclusion

Alternative 2 would result in short-term and long-term moderate adverse impacts to the cultural landscape associated with the Monocacy National Battlefield. There would be long-term minor adverse cumulative impacts under Alternative 2.

4.9.2.3 ALTERNATIVE 3- REPLACE BRIDGE ON EXISTING ALIGNMENT, PROVIDE TEMPORARY BRIDGE FOR MAINTENANCE OF TRAFFIC

Under Alternative 3, the new bridge would be built on the existing alignment while a temporary bridge would be constructed to the west for maintenance of traffic during construction. Although Alternative 3 uses the existing alignment, the Action Alternatives include design elements common to all including raising the bridge and roadway profile, widening for sidewalk and bicycle lanes, constructing stormwater management facilities, and relocating utilities. Because of these common elements, the impact to the cultural landscape associated with Alternative 3 is comparable to Alternatives 1 and 2. However, the new bridge would remain on the existing alignment and would not be moved closer to contributing resources such as the 14th New Jersey Monument or the Frederick Junction.

The visual setting of 14th New Jersey Monument and the Best Farm would be altered to a greater extent than Alternatives 2 and 4 due to the construction of the temporary bridge. Due to the temporary bridge, an additional 0.25 acre of temporary use of land would be needed from the Best Farm. Once the new permanent bridge has been constructed, the temporary bridge would be removed and the area would be reseeded/replanted with vegetation. The existing driveway and parking area adjacent to the 14th New Jersey Monument would be closed to improve visitor safety. These modifications would be barely noticeable because the existing driveway and parking area are only gravel and compacted soil.

Temporary construction staging may be required in the Battlefield. Materials and equipment would generally be confined to areas on the existing MD 355 roadbed and previously disturbed areas such as the NPS east side parking area. Once the temporary structure is built, construction staging and activities can occur on the existing MD 355 alignment. Character defining features of the cultural landscape including unobstructed views of rolling agricultural lands would be temporarily diminished by the visual intrusion of the construction activities. The construction related activities associated with Alternative 3 would have short-term moderate adverse impacts to the Monocacy National Battlefield cultural landscape.

Under Alternative 3, the increase in size and height of the bridge and approach roadways between the Monocacy River Bridge and the Best Farm entrance would introduce new visual and physical elements out of character with the Battlefield and the cultural landscape. Although the current roadway is raised several feet above the grade of the Best Farm fields near the bridge, Alternative 3 calls for a higher grade for a greater distance. Alternative 3 would permanently impact 2.15 acres of land from the Best Farm and 0.25 acre from the Frederick Junction. Other design aspects that would introduce new permanent visual elements include sidewalk, trail connections, wider shoulders, and stormwater management facilities. Although the proposed actions under Alternative 3 would alter the appearance of the Battlefield, it would not diminish the overall integrity of the resource and the cultural landscape. Therefore, there would be longterm moderate adverse impacts associated with the replacement bridge.

Design plans would be developed and reviewed by the SHPO to ensure consistency with the Civil War era appearance of the Battlefield, and to avoid encumbrance on the park's contributing elements to the extent possible. Mitigation strategies, such as those listed under Section 4.8, would be considered to offset the total impact to the Battlefield. Based on these considerations, there would be short-term and long-term moderate adverse impacts to Monocacy National Battlefield.

Cumulative Impacts

Although there will be benefits to cultural landscapes from implementation of NPS preservation and restoration projects as outlined in the cumulative impact projects including removing the non-historic cinderblock house on Araby Church Road and rehabilitating the site for future monuments (NPS 2008), long-term minor adverse cumulative impacts would occur from the combination of Alternative 3 and the solar panel installation on the roofs of the Park's Maintenance Shop (Gambrill Mill Area) and the Visitor Center.

Conclusion

Alternative 3 would result in short-term and long-term moderate adverse impacts to Monocacy National Battlefield cultural landscape. There would be long-term minor cumulative impacts under Alternative 3.

4.9.2.4 ALTERNATIVE 4- REPLACE BRIDGE ON EXISTING ALIGNMENT WITH PHASED CONSTRUCTION

For Alternative 4, long term impacts to the Monocacy National Battlefield cultural landscape would be comparable to Alternative 3 since both alternatives replace the bridge on existing alignment. Although Alternative 4 uses the existing alignment, this alternative includes

design elements common to all including raising the bridge and roadway profile, closing the 14th New Jersey Monument access road, widening for sidewalk and bicycle lanes, constructing stormwater management facilities, and relocating utilities. Because of these common elements, impacts to the cultural landscape are not avoided under Alternative 4.

Temporary construction staging may be required in the Battlefield. Materials and equipment would generally be confined to areas on the existing MD 355 roadbed and previously disturbed areas such as the NPS east side parking area. Character defining features of the cultural landscape including unobstructed views of rolling agricultural lands would be temporarily diminished by the visual intrusion of the construction activities. The construction related activities associated with Alternative 4 would have short-term moderate adverse impacts to the cultural landscape.

Under Alternative 4, the increase in size and height of the bridge and approach roadways between the Monocacy River Bridge and the Best Farm entrance would introduce new visual and physical elements out of character with the Battlefield and its associated cultural resource. Although the current roadway is raised several feet above the grade of the Best Farm fields near the bridge, Alternative 4 calls for a higher grade for a greater distance. Alternative 4 would require 2.15 acres of permanent impact to the Best Farm and 0.25 acre from the Frederick Junction. The direct impacts to the Best Farm would be to the farm fields that run adjacent to MD 355. Other design aspects that would introduce new permanent visual elements include sidewalk, trail connections, wider shoulders, and stormwater management facilities. Although the proposed actions under Alternative 4 would alter the appearance of the Battlefield and the cultural landscape, it would not diminish the overall integrity of the resource and its landscape. Therefore, there would be long-term moderate adverse impacts to the Monocacy National Battlefield cultural landscape associated with the replacement bridge.

Design plans would be developed and reviewed by the SHPO to ensure consistency with the Civil War era appearance of the Battlefield, and to avoid encumbrance on the park's contributing elements to the extent possible. Mitigation strategies, such as those listed under Section 4.8, would be considered to offset the total impact to the Battlefield. Based on these considerations, there would be short-term and long-term moderate adverse impacts to the cultural landscape.

Cumulative Impacts

Although there will be benefits to cultural landscapes from implementation of NPS preservation and restoration projects as outlined in the cumulative impact projects including removing the non-historic cinderblock house on Araby Church Road and rehabilitating the site for future monuments (NPS 2008), long-term minor adverse cumulative impacts would occur from the combination of Alternative 4 and the solar panel installation on the roofs of the Park's Maintenance Shop (Gambrill Mill Area) and the Visitor Center.

Conclusion

Alternative 4 would result in short-term and long-term moderate adverse impacts to the Monocacy National Battlefield cultural landscape. There would be long-term minor cumulative impacts under Alternative 4.

4.10 ARCHEOLOGICAL RESOURCES

Methodology and Assumptions

Given the history of the Monocacy National Battlefield, archeological resources are known to occur throughout the Battlefield. Potential impacts to archeological resources are assessed according to the extent of ground-disturbing activities anticipated by the proposed alternatives including excavation, grading, and vegetation removal. Analysis of possible impacts to archeological resources was based on the results of the archeological testing, review of known archeological sites, and consideration of the ground disturbing activities associated with the action alternatives.

SHA assessed the archaeological potential of the survey area as being high for prehistoric and historic period archaeological resources, with expectations of impacts to the Wiles I multicomponent prehistoric site (18FR21), the Monocacy Battlefield archaeological site (18FR30), and the Best Farm archaeological site (18FR792). Phase I archaeological investigations identified a fourth site 18FR1025, which straddles MD 355, and contains deposits from earlier tenants associated with the Best Farm and/or the railroad

at Frederick Junction. 18FR1025 also had potential to contain remains of the 14th New Jersey Blockhouse, burned during the July 9, 1864 Battle of Monocacy. Phase II investigations at 18FR21 found additional intact soils, but an exceedingly low density of prehistoric artifacts, severely limiting the potential of this portion of the site to yield important information. No significant archaeological remains were encountered and no further archaeological work is recommended on the portion of the site within the LOD. Although the 14th New Jersey Blockhouse were not identified during the Phase 2 investigation, the possibility remains that portions of this feature survived under the current MD 355 roadbed which was constructed east of the original Georgetown Pike. SHA will ensure that this area is monitored by an archaeologist during appropriate points during construction when the underlying roadbed is being exposed or otherwise disturbed. If blockhouse remains are encountered, these would be considered to be eligible as a contributing resource to the NRHP listed Monocacy National Battlefield. Construction would cease in the this area until a treatment plan is developed by MD SHA, in consultation with the NPS and MD SHPO, and and the treatment plan implemented. The MOA would include the specific process to handle resources encountered during construction.

Study Area

The Area of Potential Effects (APE) for archeological resources is defined as the area within the Limit of Disturbance for the MD 355 Bridge over CSX project. This area extends along MD 355 from the Monocacy River Bridge to just north of the Best Farm entrance and areas east of west of the bridge that would potentially be physically impacted construction activities.

Impact Thresholds

Effects on archeological sites occur when proposed alternatives result in complete or partial destruction of the resource, and are equivalent to a loss of integrity as defined in Section 106 of NHPA. In determining the appropriate impact threshold, both the extent to which the proposed alternative results in a loss of integrity and the degree to which losses can be compensated by mitigating activities, including preservation or data recovery, are considered. Only those resources considered significant for listing in the National Register are protected by federal regulations. Resources are eligible for listing in the National Register if they meet one or more eligibility criteria (for archeological sites, generally Criterion D, having the potential to provide information important to history or prehistory) and if they possess integrity.

For the analysis of impacts on archeological resources, the determination of the intensity of impacts is based on the foreseeable loss of integrity to known or potential resources. The analysis considers only the direct impacts of construction-related activities as the facility should have no ground-disturbing activities and no additional impacts upon archeological resources under any of the alternatives under consideration upon completion of construction. However, all impacts are considered long term, in that the effect to an archeological resource would last past the period of construction. The definitions of impact thresholds used in this analysis are:

Negligible: The lowest level of detection that would have neither adverse nor beneficial impacts.

Minor: Disturbance of archeological resources would result in little, if any, loss of site integrity.

Moderate: Site disturbance would result in a loss of integrity and a partial loss of the characterdefining features and information potential that form the basis of the site's National Register eligibility. Mitigation is accomplished by a combination of archeological data recovery and inplace preservation.

Major: The disturbances result in a loss of site integrity to the extent that the resource is no longer eligible for listing in the National Register. The site's character-defining features and information potential are lost to the extent that archeological data recovery is the primary form of mitigation.

Beneficial: Beneficial impacts can occur when an archeological site is stabilized in its current condition to maintain its existing level of integrity or when an archeological site is preserved in accordance with the *Secretary of Interior's Standards for the Treatment of Historic Properties* (NPS 1992).

Duration: All impacts to archeological sites are considered long-term impacts.
4.10. 1 IMPACTS OF THE NO ACTION ALTERNATIVE

Under the No Action Alternative, SHA would continue to maintain the MD 355 Bridge and roadway as needed. Under this alternative, there would be no impacts to archeological resources as maintenance and repairs would largely be confined to the existing roadway and bridge surfaces.

Cumulative Impacts

Because there is no impact to archeological resources as a result of the No Action Alternative, it would not contribute to the overall cumulative impact on archeological resources.

Conclusion

As no ground disturbing actions are anticipated under the No Action Alternative, selection of this alternative would have no effect on archeological resources.

4.10.2 IMPACTS OF THE ACTON ALTERNATIVES

4.10.2.1 ALTERNATIVE 1- REPLACE BRIDGE WEST OF EXISTING BRIDGE

Although ground disturbance would be required under Alternative 1 for the construction of the new bridge, including driving pilings into the ground, the majority of the new bridge and roadway would be placed on fill material. The access road and parking area adjacent to the 14th New Jersey Monument would be permanently closed to improve visitor safety. These modifications would not require ground disturbance as the access road and parking area would simply be closed to visitors but the dirt/gravel would remain in place.

Additional design elements that have to potential to cause impact to known archeological resources include removing vegetation, raising the bridge and roadway profile, widening for sidewalk and bicycle lanes, constructing stormwater management facilities, and relocating utilities. Alternative 1 has the potential to cause further impacts to identified archeological resources and would have a long-term moderate adverse effect on archeological resources.

Among the cumulative impacts projects within the Monocacy National Battlefield, no impacts to archeological resources were identified. Consequently, there would be no cumulative impacts under Alternative 1.

Conclusion

Alternative 1 would result in long-term moderate adverse impacts to archeological resources. There is a potential for long-term major adverse impact to 18FR30 (Monocacy Battlefield) should remains of the blockhouse be discovered during construction. In order to avoid unknown impacts to archeological resources, special provisions will be added to the contract document to include an archeological monitor throughout the duration of construction. No cumulative impacts would occur.

4.10.2.2 ALTERNATIVE 2- REPLACE BRIDGE EAST OF EXISTING BRIDGE

Under Alternative 2, impacts to archeological resources would be comparable to the impacts described under Alternative 1. Although ground disturbance would be required under Alternative 2 for the construction of the new bridge, including driving pilings into the ground, the majority of the new bridge and roadway would be placed on fill material. The existing driveway and parking area adjacent to the 14th New Jersey Monument would be permanently closed to improve visitor safety. These modifications would not require ground disturbance as the access road and parking area would simply be closed to visitors but the dirt/gravel would remain.

Further actions proposed under Alternative 2 involve clearing vegetation adjacent to existing MD 355, adjustment of the road profile, widening of the roadway, construction of stormwater management features, and adding trail connections to the new bridge. All of these ancillary actions have the potential to cause further impacts to identified archeological resources and would have a long-term moderate adverse effect on archeological resources.

Among the cumulative impacts projects within the Monocacy National Battlefield, no impacts to archeological resources were identified. Consequently, there would be no cumulative impacts under Alternative 2.

Conclusion

Alternative 2 would result in long-term minor adverse impacts to archeological resources. There is a potential for long-term major adverse impact to 18FR30 (Monocacy Battlefield) should remains of the blockhouse be discovered during construction. In order to avoid unknown impacts to archeological resources, special provisions will be added to the contract document to include an archeological monitor throughout the duration of construction. No cumulative impacts would occur.

4.10.2.3 ALTERNATIVE 3- REPLACE BRIDGE ON EXISTING ALIGNMENT, PROVIDE TEMPORARY BRIDGE FOR MOT

Impacts to archeological resources under Alternative 3 would be comparable to the impacts described under Alternatives 1 and 2. Although ground disturbance would be required under Alternative 3 for the construction of the temporary bridge, including driving pilings into the ground, the majority of the temporary bridge would be placed on fill material. The existing driveway and parking area adjacent to the 14th New Jersey Monument would be permanently closed to improve visitor safety. These modifications would not require ground disturbance as the access road and parking area would simply be closed to visitors but the dirt/gravel would remain.

Further actions proposed under Alternative 3 involve clearing vegetation adjacent to existing MD 355, adjustment of the road profile, widening of the roadway, construction of linear stormwater management features, and adding trail connections to the new bridge. All of these ancillary actions have the potential to cause further impacts to identified archeological resources and would have a long-term moderate adverse effect on archeological resources.

Among the cumulative impacts projects within the Monocacy National Battlefield, no impacts to archeological resources were identified. Consequently, there would be no cumulative impacts under Alternative 3.

Conclusion

Alternative 3 would result in long-term moderate adverse impacts to archeological resources. There is a potential for long-term major adverse impact to 18FR30 (Monocacy Battlefield) should remains of the blockhouse be discovered during construction. In order to avoid unknown impacts to archeological resources, special provisions will be added to the contract document to include an archeological monitor throughout the duration of construction. No cumulative impacts would occur.

4.10.2.4 ALTERNATIVE 4- REPLACE BRIDGE ON EXISTING ALIGNMENT WITH PHASED CONSTRUCTION

Although the new bridge would be constructed on the existing alignment under Alternative 4, impacts to archeological resources would be comparable to the impacts described under Alternative 1, 2 and 3 due to the raising of the bridge and roadway profile, minor widening of the bridge and approach roadways, removal of vegetation, relocation of utilities, and construction of stormwater management facilities.

The existing driveway and parking area adjacent to the 14th New Jersey Monument would be permanently closed to improve visitor safety. These modifications would not require ground disturbance as the access road and parking area would simply be closed to visitors but the dirt/gravel would remain. The proposed actions under Alternative 4 would have a long-term moderate adverse impact on archeological resources.

Among the cumulative impacts projects within the Monocacy National Battlefield, no impacts to archeological resources were identified. Consequently, there would be no cumulative impacts under Alternative 4

Conclusion

Alternative 4 would result in long-term moderate adverse impacts to archeological resources. There is a potential for long-term major adverse impact to 18FR30 (Monocacy Battlefield) should remains of the blockhouse be discovered during construction. In order to avoid unknown impacts to archeological resources, special provisions will be added to the contract document to include an archeological monitor throughout the duration of construction. No cumulative impacts would occur.

4.11 VISITOR USE AND EXPERIENCE

Methodology and Assumptions

The purpose of this impact analysis is to assess the impacts of the proposed bridge replacement on visitor use and experience, including impacts to traffic and transportation, of the Monocacy National Battlefield. To determine impacts, the reasons for visiting the Battlefield and the potential effects of bridge construction were considered. Analysis of the proposed project on visitor use and experience also includes human health and safety and transportation concerns. Impacts to human health and safety under the proposed project include risks associated with construction and use of the MD 355 Bridge over CSX. Transportation-related impacts include the temporary effects of construction on traffic conditions and a comparison of current conditions on MD 355 with proposed conditions.

Analyses of the potential intensity of impacts on visitor use and experience were derived from the professional judgment of the park staff and their understanding of visitation patterns, combined with the assessment of what activities are currently available to visitors. The potential change in visitor use and experience proposed by the alternatives was evaluated by identifying projected increases or decreases in recreational uses, access to the site, and whether or how these projected changes would affect the desired visitor experience, to what degree, and for how long.

Study Area

The study area for visitor use and experience is the MD 355 Bridge over CSX and park areas surrounding the bridge. For cumulative impacts, the study area consists of the Monocacy National Battlefield and land immediately adjacent to the Battlefield.

Impact Thresholds

Negligible: Changes in visitor use and/or experience would be below or at the level of detection. The visitor would not likely be aware of the effects associated with the alternative.

Minor: Changes in visitor use and/or experience would be detectable, although the changes would be slight. The visitor would be aware of the impacts associated with the alternative, but the effects would be minimal.

Moderate: Changes in visitor use and/or experience would be readily apparent. The visitor would be aware of the impacts associated with the alternative and would likely be able to express an opinion about the changes.

Major: Changes in visitor use and/or experience would be readily apparent. The visitor would be aware of the impacts associated with the alternative and would likely express a strong opinion about the changes.

Duration: Short-term – occurs only during the treatment or construction action; Long-term – occurs after the treatment or construction action.

4.11.1 IMPACT OF THE NO ACTION ALTERNATIVE

The No Action Alternative represents a continuation of the current bridge, roadway, and access roads conditions. Visitors would continue to use the MD 355 Bridge over CSX to travel between Battlefield areas. Visitors would continue to use the existing access roads to the 14th New Jersey Monument and adjacent parking areas. Pedestrian access across the MD 355 Bridge over CSX would continue to be limited to the one foot wide shoulders, which is less than AASHTO and SHA standard design widths.

In the short-term, there would be moderate adverse impact on visitor use and experience as maintenance activities and weight restriction signing would have visual and traffic impacts. In the long-term, deterioration of the structure would continue and pedestrian access would remain limited and unsafe. Pedestrian access on the bridge would remain a concern due to the one foot wide shoulders. Under the bridge, visitors would continue to use the existing dirt path which poses a safety threat as loose concrete would continue to fall from the bridge superstructure. The issue of limited sight distance for those traveling southbound over the bridge would also remain a safety concern. The bridge would eventually become weight restricted for vehicular use. Therefore, there would be long-term moderate adverse impacts to visitor use and experience.

Cumulative Impacts

Although there would be long-term beneficial impacts to visitor use and experience from the identified reasonably foreseeable projects within the Monocacy National Battlefield, the No Action Alternative would have direct short-term and long-term moderate adverse impacts to visitor use and experience. Therefore, there are no cumulative impacts from the No Action Alternative when combined with the beneficial impacts associated with the reasonably foreseeable projects on visitor use and experience.

Conclusion

The No Action Alternative would result in short-term and long-term moderate adverse impacts on visitor use and experience due to continued safety concerns and further deterioration of the MD 355 Bridge over CSX. The No Action Alternative would not contribute to cumulative impacts to visitor use and experience when combined with the beneficial impacts of the identified reasonably foreseeable projects.

4.11.2 IMPACT OF THE ACTION ALTERANTIVES

4.11.2.1 ALTERNATIVE 1- REPLACE BRIDGE WEST OF EXISTING BRIDGE

During construction of Alternative 1, visitor access to the 14th New Jersey Monument and to the parking area would be disrupted. SHA would seek ways to minimize the disruptions during construction, but access to the 14th New Jersey Monument and the parking lot would be closed at least part of the time. Construction activities would also produce construction noise and visual impacts in the immediate vicinity. During construction of the replacement bridge, traffic on MD 355 would continue to use both lanes of the existing bridge but traffic delays would be likely due to construction activities. Based on these considerations, there would be short-term moderate adverse impacts under Alternative 1 because park visitors would notice and would be likely to be able to express opinions about the equipment and materials on site during the construction period and the periodic closure of the 14th New Jersey Monument.

Raising the bridge and roadway profile, removal of vegetation and trees, construction of stormwater management facilities, and moving the bridge closer to the 14th New Jersey Monument under Alternative 1 would introduce visual impacts. However, once constructed, the new bridge would enhance the safety of the traveling public and Battlefield visitors by providing a structurally improved bridge with wider shoulders for bike lanes and sidewalk for pedestrians to safely access the Battlefield features and existing trails. Replanting of vegetation and trees would occur to offset the visual impact.

Safety of the traveling public, especially Battlefield visitors, would be improved and the sight distance issue would be corrected by closing the access road to the 14th New Jersey Monument and relocating the parking to the existing NPS east side parking area on MD 355. The entrance to the parking area would be striped as a right-in/right-out which would further enhance the safety of Battlefield visitors. The wider bridge would provide a safer crossing for pedestrians and bicyclists by allowing more of a separation between users and vehicles. The new single span bridge would also provide a wider opening over the CSX railroad, which would accommodate pedestrian trails between the east side parking area and the 14th New Jersey Monument under the bridge. The area under the new bridge on the north side would also be benched to allow visitors to access the existing trail in the northeast quadrant and the Best Farm in the northwest quadrant. Based on these considerations, there would be short-term moderate adverse impacts and long-term beneficial impacts to visitor use and experience

Cumulative Impacts

Alternative 1 would have long-term beneficial cumulative impacts on visitor use and experience when combined with the reasonably foreseeable projects within the Monocacy National Battlefield which are aimed at preserving historic and natural resources, extending the Gambrill Mill trail, providing better visitor connectivity, and enhancing visitor safety.

Conclusion

Although Alternative 1 would have short-term moderate adverse impact on visitor use and experience especially for those Battlefield users visiting the 14th New Jersey Monument, overall, the construction of a safer bridge, addition of pedestrian and bicycle facilities, and improved sight distance would have long-term beneficial impacts. Alternative 1 would have long-term beneficial cumulative impacts on visitor use and experience.

4.11.2.2 ALTERNATIVE 2- REPLACE BRIDGE EAST OF EXISTING BRIDGE

During construction of Alternative 2, construction activities would produce noise and visual impacts in the immediate vicinity of the existing structures. Visitor access to the 14th New Jersey Monument and to the parking area would be disrupted. SHA would seek ways to minimize the

disruptions during construction, but access to the 14th New Jersey Monument and the parking lot would be closed at least part of the time. During construction of the replacement bridge, traffic on MD 355 would continue to use both lanes of the existing bridge but traffic delays would be likely due to construction activities. Based on these considerations, there would be short-term moderate adverse impacts under Alternative 2 because park visitors would notice and would likely to be able to express opinions about the equipment and materials on site, traffic delays, visual impact of vegetation removal, the periodic closure of the 14th New Jersey Monument during construction.

Raising the bridge and roadway profile, removal of vegetation and trees, construction of stormwater management facilities, and moving the bridge closer to the Frederick Junction under Alternative 2 would introduce permanent visual impacts. However, once constructed, the new bridge would enhance the safety of the traveling public and Battlefield visitors by providing a structurally improved bridge with wider shoulders for bike lanes and sidewalk for pedestrians to safely access the Battlefield features and existing trails. Replanting of vegetation and trees would occur to offset the visual impact.

Safety of the traveling public, especially Battlefield visitors, would be improved and the sight distance issue would be corrected by closing the access road to the 14th New Jersey Monument and relocating the parking to the NPS east side parking area on MD 355. The entrance to the parking area would be striped as a right-in/right-out which would further enhance the safety of Battlefield visitors. The wider bridge would provide a safer crossing for pedestrians and bicyclists by allowing more of a separation between users and vehicles. The new single span bridge would also provide a wider opening over the CSX railroad, which would accommodate pedestrian trails between the east side parking area and the 14th New Jersey Monument under the bridge. The area under the new bridge on the north side would also be benched to allow visitors to access the existing trail in the northeast quadrant and the Best Farm in the northwest quadrant. Based on these considerations, there would be short-term moderate impacts and long-term beneficial impacts to visitor use and experience

Alternative 2 would have long-term beneficial cumulative impacts on visitor use and experience when combined with the reasonably foreseeable projects within the Monocacy National Battlefield which are aimed at preserving historic and natural resources, extending the Gambrill Mill trail, providing better visitor connectivity, and enhancing visitor safety.

Conclusion

Although Alternative 2 would have short-term moderate adverse impact on visitor use and experience during construction, overall, the construction of a safer bridge, addition of pedestrian and bicycle facilities, and improved sight distance would have long-term beneficial impacts. Alternative 2 would have long-term beneficial cumulative impacts on visitor use and experience.

4.11.2.3 ALTERNATIVE 3- REPLACE BRIDGE ON EXISTING ALIGNMENT, PROVIDE TEMPORARY BRIDGE FOR MAINTENANCE OF TRAFFIC

Similar to Alternatives 1 and 2, construction activities associated with Alternative 3 would produce noise and visual impacts in the immediate vicinity of the existing structure. Visitor access to the 14th New Jersey Monument and to the parking area would be disrupted. SHA would seek ways to minimize the disruptions during construction, but access to the Monument and the parking lot would be closed at least part of the time. During construction of the replacement bridge, traffic on MD 355 would be shifted onto a temporary structure to the west of the existing structure likely causing some traffic delay. Park visitors would notice and would likely to be able to express opinions about the equipment and materials on site, traffic delays, visual impact of vegetation removal, the periodic closure of the 14th New Jersey Monument access road and the visual impact of moving the temporary structure closer to the Monument during construction. Based on these considerations, there would be short-term moderate adverse impacts under Alternative 3.

Raising the bridge and roadway profile, removal of vegetation and trees, and construction of stormwater management facilities under Alternative 3 would introduce permanent visual impacts. However, once constructed, the new bridge would enhance the safety of the traveling

public and Battlefield visitors by providing a structurally improved bridge with wider shoulders for bike lanes and sidewalk for pedestrians to safely access the Battlefield features and existing trails. Replanting of vegetation and trees would occur to offset the visual impact.

Safety of the traveling public, especially Battlefield visitors, would be improved and the sight distance issue would be corrected by closing the access road to the 14th New Jersey Monument and relocating the parking to the existing NPS east side parking area on MD 355. The entrance to the parking area would be striped as a right-in/right-out which would further enhance the safety of Battlefield visitors. The wider bridge would provide a safer crossing for pedestrians and bicyclists by allowing more of a separation between users and vehicles. The new single span bridge would also provide a wider opening over the CSX railroad, which would accommodate pedestrian trails between the east side parking area and the 14th New Jersey Monument under the bridge. The area under the new bridge on the north side would also be benched to allow visitors to access the existing trail in the northeast quadrant and the Best Farm in the northwest quadrant. Based on these considerations, there would be short-term moderate impacts and long-term beneficial impacts to visitor use and experience

Cumulative Impacts

Alternative 3 would have long-term beneficial cumulative impacts on visitor use and experience when combined with the reasonably foreseeable projects within the Monocacy National Battlefield which are aimed at preserving historic and natural resources, extending the Gambrill Mill trail, providing better visitor connectivity, and enhancing visitor safety.

Conclusion

Although Alternative 3 would have short-term moderate adverse impact on visitor use and experience, overall, the construction of a safer bridge, addition of pedestrian and bicycle facilities, and improved sight distance would have long-term beneficial impacts. Alternative 3 would have long-term beneficial cumulative impacts on visitor use and experience.

4.11.2.4 ALTERANTIVE 4- REPLACE BRIDGE ON EXISTING ALIGNMENT WITH PHASED CONSTRUCTION

Construction activities under Alternative 4 would have similar impacts as discussed under Alternatives 1, 2 and 3. During construction, visitor access to the 14th New Jersey Monument and to the eastern parking area would be disrupted. In order to maintain one lane of traffic during construction, traffic signals would be installed at both ends of the project area to alternate the one lane of traffic. Maintaining access to the 14th New Jersey Monument and the existing NPS east side parking area would be difficult during construction due to the alternating traffic pattern. If access to these parking areas were to remain open, traffic signals would also be required at the access entrances to avoid conflicts with traffic and the direction of travel. Maintaining one lane of traffic on the heavily traveled MD 355 would worsen existing congestion, especially during peak periods, which would have an adverse impact on visitors to the Battlefield using MD 355. SHA traffic projections indicate that travel would be impeded for several miles north and south of the project site, which would adversely impact visitors to the Battlefield, well beyond the project limits. The duration of disruption to visitors would be extensive as vehicular traffic would be maintained on the existing bridge and reduced to one lane for the full length of construction which is estimated at over two years. Therefore, Alternative 4 would have major short-term adverse impacts to visitor use and experience.

Raising the bridge and roadway profile, removal of vegetation and trees, and construction of stormwater management facilities under Alternative 4 would introduce permanent visual impacts. However, once constructed, the new bridge would enhance the safety of the traveling public and Battlefield visitors by providing a structurally improved bridge with wider shoulders for bike lanes and sidewalk for pedestrians to safely access the Battlefield features and existing trails. Replanting of vegetation and trees would occur to offset the visual impact.

Safety of the traveling public, especially Battlefield visitors, would be improved and the sight distance issue would be corrected by closing the access road to the 14th New Jersey Monument and relocating the parking to the existing NPS east side parking area on MD 355. The entrance to the parking area would be striped as a right-in/right-out which would further enhance the

safety of Battlefield visitors. The wider bridge would provide a safer crossing for pedestrians and bicyclists by allowing more of a separation between users and vehicles. The new single span bridge would also provide a wider opening over the CSX railroad, which would accommodate pedestrian trails between the east side parking area and the 14th New Jersey Monument under the bridge. The area under the new bridge on the north side would also be benched to allow visitors to access the existing trail in the northeast quadrant and the Best Farm in the northwest quadrant. Based on these considerations, there would be short-term major impacts and long-term beneficial impacts to visitor use and experience

Cumulative Impacts

Alternative 4 would have long-term beneficial cumulative impacts on visitor use and experience when combined with the reasonably foreseeable projects within the Monocacy National Battlefield which are aimed at preserving historic and natural resources, extending the Gambrill Mill trail, providing better visitor connectivity, and enhancing visitor safety.

Conclusion

Alternative 4 would have short-term major adverse impact on visitor use and experience that may be experienced for over two years during the full duration of construction. With the construction of a safer bridge, addition of pedestrian and bicycle facilities, and improved sight distance Alternative 4 would have long-term beneficial impacts on visitor use and experience. Alternative 4 would have long-term beneficial cumulative impacts on visitor use and experience.

Chapter **5**: Draft Section 4(f) Evaluation

5.1 INTRODUCTION

Section 4(f) of the U.S. Department of Transportation Act of 1966 (49 USC 303(c)) permits the use of land from a publicly-owned public park, recreation area, wildlife or waterfowl refuge, or land from an historic site of national, state, or local significance (as determined by federal, state, and local officials having jurisdiction over such resource) for a federally funded or approved transportation project, only

- If there is no prudent or feasible alternative to the use of such land and;
- If the action includes all possible measures to minimize harm in accordance with the 23 CFR 774.3(b).

This Draft Section 4(f) Evaluation has been prepared to assess the likely effects of the proposed action upon Section 4(f) resources and evaluate alternatives to avoid or minimize impacts caused by the proposed action (replacement of the MD 355 Bridge over CSX) to those resources. A final determination will be made on whether feasible and prudent alternatives to the use of the resource exist, and whether all possible planning to minimize harm to the resources has been performed after full consideration of comments on this Draft Section 4(f) Evaluation.

5.2 DESCRIPTION OF PROPOSED ACTION

5.2.1 PURPOSE AND NEED

The purpose of the proposed project is to replace the MD 355 Bridge over CSX to enhance the safety of the travelling public. The project is needed because the bridge is rated as structurally deficient. The existing bridge was constructed in 1931 and has been showing signs of advanced deterioration since 1997. The most recent bridge inspection, conducted in September 2013, indicated that the existing bridge is suffering material fatigue, is functionally obsolete, and requires complete replacement. The replacement of the bridge has been designated as a high priority project by the Maryland State Highway Administration (SHA) due to safety concerns.

5.2.2 PROPOSED ACTION

The alternatives retained for study include the No Action Alternative and four Action

Alternatives. The alternatives included in this evaluation are:

- No Action Alternative;
- Alternative 1- Replace the Bridge West of Existing Bridge;
- Alternative 2- Replace the Bridge East of Existing Bridge
- Alternative 3 (*Preferred Alternative*): Replace the Bridge on Existing Alignment, Provide Temporary Bridge for Maintenance of Traffic (MOT);
- Alternative 4: Replace the Bridge on Existing Alignment with Phased Construction.

Each Action Alternative includes design elements common to all, including:

• Replacement of the MD 355 Bridge over CSX- Each Action Alternative includes the replacement of the MD 355 Bridge over CSX with a new single span structure (Figure 5-1). The replacement superstructure is likely to consist of steel girders and the substructure (e.g. bridge abutments) of reinforced concrete. The length and width of the bridge varies minimally under the Action Alternative. The typical section of the roadway under each Action Alternative would consist of two 11-foot wide travel lanes and two 6-foot wide shoulders. An 8-foot wide sidewalk would be placed on the east side of the bridge. The replacement structure would provide 23 feet of vertical clearance from the CSX tracks to the bottom of the bridge structure to meet CSX requirements. The proposed roadway surface just north of the bridge would be approximately 4 feet higher than the existing to accommodate the required clearance over the CSX tracks (due to a deeper bridge superstructure) and the vertical curve geometrics required by the American Association of State Highway Transportation Officials (AASHTO). The bridge will contain concrete parapets (bridge railings) that would be 42 inches in height. The parapets would be crash tested and would meet AASHTO, FHWA, and SHA design safety standards. Fencing would be installed onto the parapets, as required by CSX, to prevent large objects from falling or being thrown onto the railroad tracks from on top of the bridge. The fencing would extend approximately 5 feet above the bridge parapet.

Figure 5-1: Rendering of Replacement Bridge



• Pedestrian Connectivity- The National Park Service (NPS) has requested that pedestrian connectivity between various points of interest in the Monocacy National Battlefield be included in this project. The various points of interest include the Monocacy National Battlefield visitor center located in the northeast quadrant of the project, the Best Farm located in the northwest quadrant of the project, the 14th New Jersey Monument located in the southwest quadrant of the project and the Frederick Junction site to the east of the bridge. Although future trails are planned, only one trail currently exists which runs from the visitor center to a location north of CSX at a point that overlooks the Frederick Junction. As requested by NPS, the proposed action would include the construction of pedestrian paths to tie into this existing trail to allow access to all points of interest noted above. An 8-foot wide sidewalk on the east side of the bridge is also included in the design of each Action Alternative. The benefits of adding pedestrian connectivity include providing full access to areas of interest, providing the ability for cyclists to access the park, and increasing the safety of pedestrians and cyclists visiting the Battlefield.

From the terminus of the existing trail, a path will be constructed under the proposed bridge (on the north side of the tracks) that will provide access to the Best Farm site (**Figure 5-2**). This trail would be constructed to a point directing pedestrians to an 8-foot sidewalk that would run along the west side of MD 355 over the bridge to the NPS east side parking area southeast of the bridge. From this parking area, a trail would be constructed under the proposed bridge (on the south side of the tracks) that would provide access to the 14th New Jersey Monument. The construction of all the trails in the project would be done within the proposed project limits and any connection to existing trails beyond this point would be the responsibility of NPS.

NORTH





Widening of Roadway Approaches- In order to accommodate a wider bridge over the CSX railroad to provide for adequate shoulders, sidewalk, and bicycle lanes, the roadway approaches on MD 355 would also be widened. The existing roadway approaches between the Monocacy River crossing and the driveway to Best Farm are approximately 27 feet, which includes two 12-foot wide travel lanes and 18-inch wide shoulders. The existing shoulders expand to about 10 feet just south of the Best Farm Entrance to the Monocacy National Battlefield visitor center entrance. Widening the roadway approaches to approximately 34 feet under the action alternatives would accommodate two 11-foot wide travel lanes two 6-foot wide shoulders. The proposed 6-foot shoulders would be wide enough to accommodate bicycle users. Roadway widening would be tapered both north and south of the project area to tie into the existing roadway.

- Closing of the 14th New Jersey Monument Entrance (West of MD 355)- Each Action Alternative includes closing the existing entrance to the 14th New Jersey Monument located on the west side of MD 355 to eliminate sight distance issues for vehicles entering and exiting the site. Access to the 14th New Jersey Monument will be redirected to an existing entrance on the east side of MD 355 with pedestrian access under the bridge.
- Improved Access to the NPS East Side Parking Area- Each Action Alternative includes improvements to the existing NPS east side parking area access road southeast of the bridge, opposite of the 14th New Jersey Monument entrance. The existing access road entrance would be graded, resurfaced, and striped as a right-in/right-out to further enhance safety.

- Installing Stormwater Management- To comply with current stormwater management regulations, the new and redeveloped pavement would require water quality treatment. Each Action Alternative includes the implementation of water quality treatment using linear bioswales. The bioswales would be constructed at the proposed toe of the roadway slope. Larger facilities, such as rain gardens, may be required south of the existing bridge.
- **Replacement of Water Line-** Each Action Alternative includes the replacement of the existing water line currently attached to the existing bridge. Alternatives 1 and 2 include placing the new waterline onto the new structure while the existing line remains in service. Alternatives 3 and 4 will require construction of a temporary waterline during construction.
- Relocating Overhead Utility Lines- Each Action Alternative includes the relocation of utilities to accommodate a wider bridge and shifts in the roadway alignment. Utilities to be relocated are overhead power lines on poles running adjacent to MD 355 northbound and southbound.

5.3 SECTION 4(F) RESOURCES

The project area is entirely within and surrounded by the Monocacy National Battlefield which forms an overall historic landscape that generally represents the area where the Civil War "Battle that Saved Washington" took place on July 9, 1864 (**Figure 5-3**). Within the study area and the Battlefield, several other historic resources exist, some of which contribute to the significance of the Battlefield. The Section 4(f) resources within the study area include:

- Monocacy National Battlefield;
- 14th New Jersey Monument;
- Best Farm (*L'Hermitage*);
- Frederick Junction;
- Monocacy River Bridge (Bridge No. 10085).

The Monocacy National Battlefield is listed on the National Register of Historic Places, is a National Historic Landmark, and serves as a publicly-owned public park. The public can access areas of the park including the visitor center, historic buildings, monuments, trails, and can participate in a formal driving tour to areas of interest within the Battlefield.



Figure 5-3: Study Area Historic Resources Map

5.3.1 Monocacy National Battlefield

The Monocacy National Battlefield, surrounding the MD 355 Bridge over CSX, contains numerous structures, buildings, and other features that reflect the historical significance of the area. Historic structures include farmhouses, barns, monuments, fences, earthworks, bridges and traces of roads. Although some adjustments have been made, many of the elements were present during the Battle of Monocacy. These elements contribute to the Battlefield's designation as a National Historic Landmark (NHL) and a site listed on the National Register of Historic Places. NPS manages the Monocacy National Battlefield and serves as the Official with Jurisdiction.

Several areas near the MD 355 Bridge over CSX were focal points during the 1864 Battle of Monocacy. To the east of the bridge, Union forces were engaged in protecting the Monocacy Junction and a wooden trestle bridge across the Monocacy River. To the south, the Georgetown Pike Bridge was burned by Union forces to prevent Confederates from crossing the river. In the project area, Union skirmishers held off Confederate forces attempting to advance from the north. Currently, interpretive signs are posted in the Battlefield to describe these events.

The MD 355 Bridge over CSX was constructed 67 years after the battle, in 1931. In 2001, a determination was made by SHA that the bridge was not eligible for listing in the National Register of Historic Places, and the Maryland State Historic Preservation Officer (MD SHPO) concurred. SHA coordinated with MD SHPO again in 2014, and MD SHPO concurred on August 27, 2014 that Bridge No. 1008400 (MD 355 over CSX) is not eligible for listing in the National Register of Historic Places and is not a contributing resource to the Monocacy National Battlefield. MD SHPO also concurred that the alignment of MD 355 from the bridge over CSX to the northern boundary of the Monocacy National Battlefield is not a contributing resource to the Battlefield. Additional contributing elements are located in the vicinity of the project area and surrounding lands. Additional information on the Monocacy National Battlefield can be found in Chapter 3 "*Affected Environment*""of the Environmental Assessment.

5.3.2 14th New Jersey Monument

Just southwest of the MD 355 Bridge over CSX, a 24-foot tall monument commemorates the services of the 14th Regiment of the New Jersey Voluntary Infantry. The Monument stands in memory of the service provided by the 14th Regiment throughout the Civil War. The Regiment's activity in the area began in the winter of 1862, during which an encampment known as Camp

Hooker was built to protect the Frederick Junction. Camp Hooker housed between 800 and 1,000 soldiers and included a hospital, bakery, commissary, as well as various defensive structures and earthworks. In July 1863, members of the 14th Regiment returned to the site as part of the Gettysburg Campaign to construct two blockhouses (two-story guardhouses, approximately 30-feet in depth and width). The remains of the blockhouses have not yet been found, but it is believed that one was located on the south side of the Frederick Junction close to the Monocacy River Bridge, and the other was located on the north side of the rail line just east of the Monocacy River. The 14th Regiment was present during the Battle of Monocacy and suffered heavy losses. In 1907, the State of New Jersey dedicated the monument to the memory of those who served in what came to be known as the "Monocacy Regiment".

Both the Monument and its access point to MD 355 fall within the study area established for the

project. Currently, the Monument serves as the second stop on the Monocacy National Battlefield driving tour. Visitors access the site by turning off MD 355 just south of the MD 355 Bridge over CSX. The access drive to the Monument is short, constructed of gravel, and permits parking on its shoulders. The grounds directly adjacent to the Monument are mowed turf with a wooden rail fence and small row of trees. The agricultural fields of the Best Farm abut the Monument to the west and the Monocacy



River's floodplain forms its southern border. The site's northern and eastern boundaries are formed by the CSX rail line and MD 355, respectively. The 14th New Jersey Monument is not individually eligible for listing on the National Register but is a contributing resource to the Battlefield. The State of New Jersey owns the Monument but NPS maintains it under an existing agreement. The 14th New Jersey Monument would not be directly impacted by any of the Action Alternatives. The NPS serves as the Official with Jurisdiction over this resource.

5.3.3 Best Farm (L'Hermitage)

The Best Farm is unique among the farmsteads which comprise the Monocacy National Battlefield. Rather than being operated by the English and German settlers which dominated the area, the Best Farm is the final remnant of a French plantation known as *L'Hermitage*. The land for *L'Hermitage* was purchased largely from John Marshall by Victoire Pauline Marie Gabrielle de la Vincendière in 1798. The Vincendière family immigrated to Maryland from the French colony of Saint-Domingue, most likely as a result of the colony's abolition of slavery in 1793.

Under the Vincendière family's tenure, *L'Hermitage* was managed more like a Caribbean slave plantation than a mid-Atlantic tobacco farm or homestead. As a result, the layout of the plantation, the design of its structures, and the lives of it's over 90 African slaves created a historical setting that is rare in the region. In 1827, the Vincendières sold the plantation and initiated a period of short term ownership. Ownership of the plantation became stable in 1852, when the tract was purchased by Charles E. Trail. Unlike the Vincendières who resided on the property, the Trails operated the plantation as a tenant farm. The primary tenant of the plantation was the Best Family, which occupied the southern 370 acre portion of the plantation as early as 1830.



The historic boundary of the Best Farm encompasses both sides of MD 355 within the project area. Currently the Best Farm serves as the first stop on the Monocacy National Battlefield

driving tour. Visitors access the Best Farm through an access road 1,200 feet north of the MD 355 CSX Bridge. The access roads lead back to the Best House and a set of interpretive panels. With the exception of a small mowed yard, the Best House is surrounded by active agricultural fields. Split-rail wooden fences and tree rows serve as barriers between portions of the Best Farm and MD 355. The Best Farm is individually eligible for listing on the National Register of Historic Places and is also a contributing resource to the Battlefield. NPS manages the Best Farm as part of the Monocacy National Battlefield and serves as the Official with Jurisdiction.

5.3.4 Frederick Junction

The Frederick Junction is a railroad wye built in 1830 and is owned and operated by CSX Transportation, subsidiary of CSX Corporation. A wye is a triangular railroad intersection that allows trains from adjoining lines to transfer onto a mainline going either direction. In addition, a wye allows trains on either line to turn around. In the case of Frederick Junction, both of the lines were built as part of the Baltimore & Ohio Railroad Company. The lesser of the two lines provides service into Frederick while the primary line connects Baltimore with Pittsburg and most of the Midwest. In addition to any notoriety it gained as a result of its geographic position, Frederick Junction was also famous for being the first wye to be built in the United States.



During the American Civil War, Frederick Junction became the focus of repeated military activity. In the winter of 1862, the Union elected to protect the Junction by building Camp Hooker and stationing up to 1,000 soldiers on the premises. In 1863, two blockhouses were constructed around the Junction to provide further support. During the Battle of Monocacy, the Junction and its Blockhouses were the first targets attacked by the Confederate troops.

A portion of Frederick Junction lies within the project area of the MD 355 Bridge over CSX project. Although the Junction is not managed by the National Park Service, the Frederick Junction remains an important piece of the area's rail infrastructure. The Frederick Junction is eligible for inclusion in the National Register of Historic Places and is a contributing resource to

the Battlefield. The NPS is the Official with Jurisdiction over this resource.

5.3.5 Monocacy River Bridge

The Monocacy River Bridge (Bridge No. 10085) is located just beyond the southern terminus of the project area and is owned by the State of Maryland. The Monocacy River Bridge (MD 355 over the Monocacy River, SHA Bridge No. 1008500) is an example of a 1930 2-span Parker Through Truss Bridge. The bridge stands on 19th century stone abutments and a stone center pier. On either side of the interior of the trusses, there is a metal railing and "jersey" barrier. According to the State Roads Commission's Biennial Report for 1930, it was constructed in three months in 1930 following the collapse of a 19th century truss bridge on June 10, 1930. Prior to the metal truss bridges, covered wooden bridges carried the Georgetown Pike over the river starting in 1828. In 1862, Confederate troops set the bridge on fire, and it was rebuilt, only to be burned again on July 9, 1864 during the Monocacy Battle (Battle that Saved Washington). Metal truss bridges became popular in the late 19th century for their strength and ease of construction, being primarily used by the railroads. The Monocacy River Bridge is individually eligible for listing in the National Register of Historic Places as an example of a 1930 steel truss bridge under Criterion C but is not a contributing resource to the Battlefield. The Monocacy River Bridge would not be directly impacted by any of the Action Alternatives. The MD SHPO serves as the Official with Jurisdiction.



5.4 SECTION 4(F) USES

This section discusses the potential impacts to Section 4(f) resources that would be caused by the proposed action. For the purposes of this Draft Section 4(f) Evaluation, the Monocacy National Battlefield will be considered the main Section 4(f) resource upon which the impacts are analyzed because the other individually eligible resources are either not impacted or are a contributing element to the overall Battlefield. **Table 5-1** provides an overview of the impacts to the Battlefield and other resources by alternative. There are three types of Section 4(f) uses, per 23 CFR 774, as discussed below:

- *Permanent use* This type of use involves permanent incorporation of the Section 4(f) resource into the transportation facility. Permanent incorporation is through right-of-way acquisition or through a perpetual easement. This type of use is the primary focus of the discussion in this evaluation.
- *Temporary use* This type of use occurs when there is a temporary occupancy of a Section 4(f) resource that would be considered adverse to the resource. At this stage, it is difficult to define the full extent of temporary easement so for the purposes of this evaluation, all impacts are considered permanent with the exception of Alternative 3. Temporary impacts are identified in relation to the temporary structure associated with Alternative 3.
- *Constructive Use* This type of use occurs when there is no permanent or temporary incorporation of land into a transportation facility but proximity impacts caused by the project are so severe that the protected activities, features, or attributes that qualify a resource for protection under Section 4(f) are substantially impaired. Proximity impacts can include noise, vibration, visual impacts etc.

Because the proposed action generally involves replacement of the existing MD 355 Bridge due to structural deficiencies without adding roadway capacity, a proximity impact from the project will not substantially alter the existing setting and the resources would continue to qualify for Section 4(f) protection. Therefore, the proposed action does not cause a constructive use of Section 4(f) resources.

The Action Alternatives described below each include the construction of a new bridge, widening the typical section for consistent shoulders, raising the bridge and approach roadway profile, adding pedestrian connectivity, closing the 14th New Jersey Monument access road, improving the existing NPS east side parking area, constructing stormwater management facilities, and relocating utilities. For this reason, the study area and limits of disturbance are the same for each alternative and the impact to the Monocacy National Battlefield are generally the same. The Section 4(f) impacts to the Battlefield are considered direct impacts through the permanent incorporation of land from property within the historic boundary of the Battlefield to transportation use. Table 5-1 presents a comparison of impacts for each alternative.

5.4.1 NO ACTION ALTERNATIVE

Under the No-Action Alternative, all corrective actions would be limited to routine maintenance and spot improvements. Maintenance activities would likely include replacing the bridge deck and resurfacing approaches; removing loose or missing sections of the concrete superstructure and replacing them using cast-in-place methods; replacing joint seals and gutters; and reinforcing the existing guardrail. Although these actions would slow the structure's deterioration, they would not address the underlying causes of the deficiencies. Beyond the bridge itself, routine maintenance activities would likely include roadway resurfacing, sign replacement and drainage facility maintenance. Since these actions preserve the existing roadway design, they would not address the safety issues associated with vehicles turning in and out of the 14th New Jersey Monument area and its adjacent parking lot. Visitors parked at either parking area to the south of the MD 355 Bridge would continue to have to walk across the bridge, which currently provides no sidewalks or sufficient shoulder width to allow space for pedestrians or separation between pedestrians and vehicle traffic. Similarly, visitors hoping to access the 14th New Jersey Monument from the parking area on the opposite side of MD 355 would continue to have to contend with the minimal site distance on MD 355 from the north.

In addition, the MD 355 Bridge over CSX would continue to be in violation of several minimum design standards adopted by AASHTO and SHA and minimum clearance requirements set by CSX. While this alternative avoids the use of the Battlefield, the No Action Alternative cannot satisfy the purpose and need for the proposed action. The MD 355 Bridge over CSX would

eventually need to be closed to traffic causing a significant impact to NPS operations of the Battlefield as well as local and regional traffic.

5.4.2 ALTERNATIVE 1: REPLACE BRIDGE WEST OF EXISTING BRIDGE

Under Alternative 1, a new bridge would be constructed to the west of the existing bridge. The approaches leading to the bridge would need to be shifted west to accommodate the new alignment. The replacement structure would be approximately 150 feet long. The existing bridge would be used to maintain two lanes of traffic during construction of the new bridge. Upon completion of the new bridge, the existing bridge and its approaches would be removed. The limits of the work would extend from the Monocacy River Bridge to approximately 150 feet north of the Best Farm driveway. The total construction duration under Alternative 1 would be approximately 18 to 20 months. Alternative 1 would require the permanent use of approximately 2.3 acres of land from the Battlefield for the new bridge and approach roadways and for the maintenance of slopes and stormwater management facilities. This permanent use of land includes 2.05 acres from the Best Farm and 0.25 acre from the Frederick Junction, both contributing resources to the Battlefield. Alternative 1 would result in an adverse effect under Section 106 and a Section 4(f) use of the Monocacy National Battlefield, including the Best Farm and Frederick Junction.



Figure 5-4: Alternative 1- Replace Bridge West of Existing Alignment

5.4.3 ALTERNATIVE 2: REPLACE BRIDGE EAST OF THE EXISTING BRIDGE

Under Alternative 2, a new bridge would be constructed east of the existing bridge. The approaches leading to the bridge would need to be shifted east to accommodate the new alignment. The replacement structure would be approximately 160 feet long. The existing bridge would be used to maintain two lanes of traffic during construction of the new bridge. Upon completion of the new bridge, the existing bridge and its approaches would be removed. The limits of the work would extend from the Monocacy River Bridge to approximately 150 feet north of the Best Farm driveway. The total construction duration under Alternative 2 would be approximately 18 to 20 months. Alternative 2 would require the permanent use of 3.2 acres of land from the Battlefield for the new bridge and approach roadway and for the maintenance of slopes and stormwater management facilities. This permanent use of land includes 2.85 acres from the Best Farm and 0.35 acre from the Frederick Junction, both contributing resources. Alternative 2 would result in an adverse effect under Section 106 and a Section 4(f) use of the Battlefield, including the Best Farm and Frederick Junction.





5.4.4 ALTERNATIVE 3 (*Preferred Alternative*): REPLACE BRIDGE ON EXISTING ALIGNMENT; PROVIDE TEMPORARY BRIDGE FOR MAINTENANCE OF TRAFFIC

Under Alternative 3, a temporary bridge would be constructed to the west of the existing bridge to bear traffic while the existing bridge is being replaced. The temporary bridge would provide two 11- foot travel lanes with minimal (2-foot) shoulders. The replacement bridge would be approximately 150 feet long, and follow the same alignment of the existing MD 355 Bridge over Page | 162

CSX. Once the replacement bridge is opened, the temporary bridge and roadway approaches would be removed and the area would be returned to Park use. The limits of the work would extend from the Monocacy River Bridge to approximately 150 feet north of the Best Farm driveway. The total construction duration under Alternative 3 would be approximately 24 to 28 months. The increase in duration from Alternatives 1 and 2 is due to the construction of the temporary bridge. Alternative 3 would require the permanent use of 2.4 acres land from the Battlefield for the maintenance of slopes needed to support the bridge and roadway and for maintenance of stormwater management facilities. An additional 0.25 acre of temporary use would be needed from the Best Farm for construction of the temporary bridge. Even though Alternative 3 uses the existing alignment, the need to raise the bridge and approach roadway profile, widen to accommodate pedestrian access, construct stormwater management facilities, and relocate utilities results in a permanent use. The permanent use of the land includes 2.15 acres from the Best Farm and 0.25 acre from the Frederick Junction, both contributing resources. Alternative 3 would result in an adverse effect under Section 106 and a Section 4(f) use of the Battlefield, including the Best Farm and Frederick Junction.





5.4.4 ALTERNATIVE 4: REPLACE BRIDGE ON EXISTING ALIGNMENT WITH PHASED CONSTRUCTION

Under Alternative 4, the existing bridge would remain in service while it is being demolished and reconstructed. This would be achieved by reducing traffic on MD 355 to a single reversible lane moderated by a signal. The reversible lane would follow the alignment of one of the existing lanes and would, therefore, allow the construction team to demolish the other half of the bridge. Once that half was replaced, the reversible lane would be shifted onto the new section of bridge. The construction crew would then demolish the remaining portions of the original MD 355 Bridge over CSX and construct the second half of the replacement structure. The replacement structure would be approximately 150 feet long. The new bridge would be constructed in phases under this alternative. This would allow for the replacement of half of the bridge while maintaining one lane of traffic on the other half of the bridge during construction. Temporary traffic signals would be provided at each end of the construction zone to alternate the traffic during construction. The total construction duration for Alternative 4 is approximately 26 to 30 months. Even though Alternative 4 uses the existing alignment, the need to raise the bridge and approad roadway profile, widen to accomodate pedestrian access, construct stormwater management facilities, and relocate utilities requires the permanent use of 2.4 acres of land from the Battlefield. This permanent use includes 2.15 acres from the Best Farm and 0.25 acre from the Frederick Junction,



Figure 5-7: Alternative 4-Replace Bridge on Existing Alignment

both contributing resources. Alternative 4 would result in an adverse effect under Section 106 and a Section 4(f) use of the Battlefield, including the Best Farm and Frederick Junction.

5.5 AVOIDANCE ANALYSIS

This section describes the one alternative that would avoid the use of land from the identified Section 4(f) resource. Per 23 CFR 774.3, an analysis of feasible and prudent avoidance alternatives must be studied before approval of use of Section 4(f) resources can be made. A feasible and prudent avoidance alternative is one that avoids use, meets the purpose and need, and does not cause other severe problems of a magnitude that substantially outweighs the importance of protecting the Section 4(f) resource (23 CFR 774.3). Because the Monocacy National Battlefield surrounds the MD 355 Bridge over CSX, complete avoidance of the resource is difficult.

5.5.1 NO ACTION ALTERNATIVE

Under the No-Action Alternative, all corrective actions would be limited to routine maintenance and spot improvements on the existing bridge and roadway. Maintenance activities would likely include replacing the bridge deck and resurfacing the approaches; removing loose or missing sections of the concrete superstructure and replacing them using cast-in-place methods; replacing joint seals and gutters; and reinforcing the existing guardrail. Although these actions would allow continued vehicular passage, they would not address the substantive deficiencies. Because the MD 355 Bridge over CSX is structurally deficient, the life span of the bridge is minimal and full closure is imminent, if not replaced. Beyond the bridge itself, routine maintenance activities would likely include roadway resurfacing, sign replacement and drainage facility maintenance.

Since these actions preserve the *existing* design and profile of both the roadway and bridge, they would not address the safety issues associated with the limited sight distance and lack of pedestrian and cyclist access. Vehicles turning in and out of the 14th New Jersey Monument area and the Battlefield parking lot adjacent to it would continue to experience a dangerous crossing as the limited sight distance on the bridge would remain. Visitors parked at either parking area to the south of the MD 355 Bridge would continue to have to walk across the bridge, which currently provides no sidewalks or sufficient shoulder width to allow space for pedestrians and separation between pedestrians and vehicle traffic.

In addition, the MD 355 Bridge over CSX would continue to be in violation of several current minimum design standards adopted by American Association of State Highway Transportation Officials (AASHTO) and SHA and minimum clearance requirements set by CSX. The current bridge profile is approximately 1 foot below the *minimum* CSX requirement of 23 feet of vertical clearance. AASHTO and SHA standards recommend a minimum of two 12-foot travel lanes and two 6-foot wide shoulders for safe vehicular passage and cyclist access. The current bridge profile consists of minimal shoulders (approximately 1 foot on either side).

The No Action Alternative would avoid the use of the Section 4(f) resource and would not have any direct impact to cultural or natural resources. However, the No Action Alternative cannot satisfy the purpose and need for the proposed action. The state of deterioration of the bridge is at a level that full closure would be needed if the bridge is not replaced. This would cause a significant permanent detour for local and regional vehicular traffic. MD 355 is a heavily used commuter route and serves as an alternate route for I-270 should an incident occur. Based on discussions with SHA's District 7 Office, incidents on I-270 occur several times per month. In addition, closure of the MD 355 Bridge would have a significant impact to the NPS and operation of the Monocacy National Battlefield because MD 355 is the primary route to access the Battlefield. Therefore, while the No Action Alternative avoids use of the Section 4(f) resource, it causes other severe problems of a magnitude that substantially outweigh the importance of protecting the Section 4(f) resource. Although the final determination that there is no feasible and prudent avoidance alternative will be reserved for the Final Section 4(f) Evaluation, based on the analysis above, the No Action Alternative does not meet the qualifications of 'prudent and feasible'.

5.6 LEAST OVERALL HARM ANALYSIS

Based on the preliminary avoidance analysis in Section 5.5, there is no avoidance alternative considered feasible and prudent; however, the final determination has been reserved for the Final Section 4(f) Evaluation. Based on 23 CFR 774.3(c)(1), if the avoidance analysis determines that there is no feasible and prudent avoidance alternative, then only the alternative that causes the least overall harm to the Section 4(f) resource may be approved. At this stage, it is appropriate to assume a least harm analysis is necessary. The next section provides a preliminary analysis of

the remaining alternatives that use the Section 4(f) resource.

23 CFR 774.3(c)(1), provides factors for identifying the alternative with the least overall harm including:

- 1. The ability to mitigate adverse impacts to each Section 4(f) property (including any measures that result in benefits to the property);
- 2. The relative severity of the remaining harm, after mitigation, to the protected activities, attributes, or features that qualify each Section 4(f) property for protection;
- 3. The relative significance of each Section 4(f) property;
- 4. The views of the officials with jurisdiction over each Section 4(f) property;
- 5. The degree to which each alternative meets the purpose and need for the project;
- 6. After reasonable mitigation, the magnitude of any adverse impacts to resources not protected by Section 4(f); and
- 7. Substantial differences in costs among the alternatives.

Table 5-2 presents a preliminary comparison of the alternatives by each least overall harm evaluation factor as outlined by 23 CFR 774.3(c)(1). **Table 5-1** also provides a comparison of impacts by each alternative.

5.6.1 No Action Alternative

As previously described, the No Action Alternative would not result in a Section 4(f) use of the Battlefield, including contributing or individually listed or eligible resources. Under the No Action Alternative, the MD 355 Bridge over the CSX would receive routine maintenance but the maintenance would not address the substantial structural deficiencies. Closure of the bridge would be imminent.

The No Action Alternative would have no impact to any natural or cultural resources located in the project area. However, the No Action Alternative does not meet the purpose and need of the project and would cause significant impacts to operation of the Battlefield as well as local and regional transportation due to the eventual closure of the bridge.

5.6.2 Alternative 1- Replace Bridge West of Existing Bridge

Under Alternative 1, a new bridge would be constructed to the west of the existing bridge requiring 2.3 acres of permanent use from within the historic boundary of the Monocacy

National Battlefield. This permanent use of land for transportation would have an adverse effect on historic resources under Section 106. Alternative 1 would result in permanent use of approximately 2.05 acres from the Best Farm and 0.25 acre from the Frederick Junction, both contributing resources to the Battlefield. While the new bridge and roadway would be moved west toward the Best Farm historic structures and the 14th New Jersey Monument, the Monument and Best Farm structures are well removed from the project area and would not be directly impacted. However, Alternative 1 would have visual impacts on the Best Farm and the 14th New Jersey Monument. The duration of construction under Alternative 1 would be approximately 18 to 20 months and the construction cost would be roughly \$7 million. Impacts to natural resources would occur under Alternative 1, although the impacts would be considered minor. These include tree and vegetation removal (0.8 acre) and minor floodplain disturbance (0.13 acre). Although the construction activity may slow traffic, there would not be a substantial impact to local or regional traffic as the existing bridge would remain open while the new bridge is being constructed.

Alternative 1 would meet the purpose and need and would address the design considerations developed during the scoping stage. These would include beneficial impacts to the Battlefield consisting of safer vehicular access to and from the 14th New Jersey Monument and the adjacent Battlefield parking lot and new pedestrian connectivity to areas of interest within the Battlefield.

5.6.2 Alternative 2: Replace Bridge East of the Existing Bridge

Under Alternative 2, a new bridge would be constructed east of the existing bridge requiring 3.2 acres of land from within the historic boundary of the Monocacy National Battlefield, including 2.85 acres from the Best Farm and 0.35 acre from the Frederick Junction, both contributing resources. This permanent use of land for transportation would have an adverse effect on historic resources under Section 106. Because the Best Farm boundary encompasses both sides of MD 355 and due to the longer bridge, Alternative 2 would have greater direct property impact to the Best Farm. Alternative 2 would have a greater visual impact on the Frederick Juction as the structure would be closer, but would be farther removed from the historic structures associated with the Best Farm than Alternatives 1, 3, and 4. The total construction duration under Alternative 2 would be approximately 18 to 20 months and the construction cost would be roughly \$7 million. Impacts to natural resources under Alternative 2 would be similar to Alternative 1 and would consist of tree and vegetation removal (0.8 acre) and floodplain disturbance (0.13 acre). Although the construction activity may slow traffic, there would not be a substantial impact to local or regional traffic as the existing bridge would Page | 168

remain open while the new bridge is being constructed.

Alternative 2 would meet the purpose and need and would address the design considerations developed during the scoping stage. These would include beneficial impacts to the Battlefield consisting of safer vehicular access to and from the 14th New Jersey Monument and the adjacent Battlefield parking lot and new pedestrian connectivity to areas of interest within the Battlefield.

5.6.3 Alternative 3 (*Preferred Alternative*): Replace Bridge on Existing Alignment; Provide Temporary Bridge for Maintenance of Traffic

Under Alternative 3, a temporary bridge would be constructed to the west of the existing bridge to carry traffic while the existing bridge is being replaced. Alternative 3 would require the permanent use of 2.4 acres of land from within the historic boundary of the Monocacy National Battlefield. This permanent use of land for transportation would have an adverse effect on historic resources under Section 106. Alternative 3 would result in 2.15 acres of permanent and 0.25 acre of temporary use from the Best Farm and 0.25 acre of permanent use from the Frederick Junction, both contributing resources to the Battlefield. A significant benefit of Alternative 3 includes keeping the bridge on existing alignment while being able to temporarily accomodate traffic during construction. The total construction duration under Alternative 3 would be approximately 24 to 28 months. The increase in construction duration is due to the construction of the temporary bridge. The approximate construction cost of Alternative 3 is \$8 million, a cost increase from Alternatives 1 and 2 due to the construction of a temporary bridge. Impacts to natural resources under Alternative 3 would be similar to Alternatives 1 and 2 and would consist of tree and vegetation removal (0.8 acre) and floodplain disturbance (0.13 acre). Although the construction activity may slow traffic, there would not be a substantial impact to local or regional traffic as the temporary bridge would serve as a full detour while the new bridge is being constructed.

Alternative 3 would meet the purpose and need and would address the design considerations as developed during the scoping stage. These would include beneficial impacts to the Battlefield consisting of safer vehicular access to and from the 14th New Jersey Monument and the adjacent Battlefield parking lot and new pedestrian connectivity to areas of interest within the Battlefield.
5.6.4 Alternative 4: Replace Bridge on Existing Alignment with Phased Construction

Under Alternative 4, the existing bridge would remain in service while it is being demolised and reconstructed. This would be achieved by reducing traffic on MD 355 to a single reversible land moderated by a signal. Alternative 4 would require 2.4 acres of permanent use of land from within the historic boundary of the Monocacy National Battlefield and would result in 2.15 acre of permanent impact to the Best Farm and 0.25 acre of permanent impact to the Frederick Junction, both contributing resources. The total construction duration for Alternative 4 is approximately 26 to 30 months. The construction duration time is increased under Alternative 4 due to the need to maintain traffic on the existing bridge while being replaced. The construction cost estimate for Alternative 4 is \$12 million. The increase in cost between Alternative 4 and the other action alternatives is due to the increased construction duration and method of construction. Impacts to natural resources under Alternative 4 would be similar to the previously discussed action alternatives and would consist of tree and vegetation removal (0.8 acre) and floodplain disturbance (0.13 acre).

Alternative 4 would meet the purpose and need and would address the design considerations as developed during the scoping stage. These would include beneficial impacts to the Battlefield consisting of safer vehicular access to and from the 14th New Jersey Monument and the adjacent Battlefield parking lot and new pedestrian connectivity to areas of interest within the Battlefield.

However, Alternative 4 would cause a significant impact to local and regional vehicular traffic during construction. MD 355 is a heavily used commuter route and serves as an alternate route for I-270 should an incident occur. Because Alternative 4 uses traffic signals to maintain traffic on the existing bridge during construction, traffic would be significantly impeded during peak hours and congestion would be exacerbated should an incident on I-270 occur. Safety concerns are higher with Alternative 4 due to the need to demolish the existing deteriorating bridge in phases while maintaining vehicular traffic. Alternative 4 would also impede visitor access to the Battlefield during construction because of the need to have signals at the 14th New Jersey Monument and adjacent Battlefield parking area, *should* they remain open during construction. Alternative 4 would have a negative impact on visitor use and experience.

5.6.5 Alternative 5: Replace Bridge with Shift West and a Temporary Signal

Alternative 5 is a hybrid of Alternative 4 and Alternative 1. Like Alternative 4, Alternative 5 proposes to maintain traffic on the existing bridge during construction by completing the

replacement process in two phases. While Alternative 4 maintains only a single lane of traffic, Alternative 5 maintains two lanes of traffic. This is accomplished by narrowing the two travel lanes as much as possible, shifting the lanes to the western side of the bridge, and then demolishing the remaining area. Rather than replacing just that area, however, the construction team would expand the replacement bridge to the west enough that the new area could carry two lanes of traffic. As soon as the transfer was in place, the construction team would then remove the remaining section of the existing bridge and construct a slightly narrower portion in its place. Once the second stage of construction was completed, both travels lanes would be reopened at their appropriate widths. Under Alternative 5, the final bridge alignment would be west of its current location.

Alternative 5 would require the use of 2.4 acres of land from within the historic boundary of the Monocacy National Battlefield, including 2.15 acres from the Best Farm and 0.25 acre from the Frederick Junction, both contributing resources. The total construction duration for Alternative 5 is approximately 26 to 30 months and the construction cost estimate is \$12 million. Impacts to natural resources under Alternative 5 would be similar to the previously discussed action alternatives and would consist of tree and vegetation removal (0.8 acre) and floodplain disturbance (0.13 acre).

Alternative 5 would meet the project's purpose and need but was dismissed from further consideration because it added a significant safety risk and did not present any unique advantages over the other action alternatives. Alternative 5 would require cutting the existing bridge in two pieces. As is the case for Alternative 4, demolishing the existing bridge in this manner generates a number of safety concerns. Given the bridge's advanced level of deterioration, a cut down the long axis of the bridge could undermine the structure's stability. In addition, maintaining traffic on the bridge during construction increases the likelihood of a construction-related collision occurring. The ability to maintain public access to the 14th New Jersey Monument or the Frederick Junction would not be feasible considering the need for signalized staging. This would negatively impact visitor use and experience.

5.6.6 Alternative 6: Replace Bridge with Roll-In Construction

Under Alternative 6, a replacement bridge would be built on site next to the existing structure. Once completed, the existing bridge would be rapidly deconstructed and the replacement section would be rolled into place using Self Propelled Modular Transporters. Alternative 6 would require the use of approximately 2.4 acres of land from within the historic boundary of the Monocacy National Battlefield, including the permanent use of 2.15 acres from the Best Farm and 0.25 acre from the Frederick Junction. The total construction duration for Alternative 6 is approximately 26 to 30 months and the construction cost estimate is \$9 million. Impacts to natural resources under Alternative 6 would be similar to the previously discussed action alternatives and would consist of tree and vegetation removal (0.8 acre) and floodplain disturbance (0.13 acre).

Alternative 6 meets the project's purpose and need but was dismissed from further consideration because the process of removing the existing bridge and rolling the replacement section into place would require a complete closure MD 355 for 4 to 8 months, for a total construction period of 26 to 30 months. Due to the classification of MD 355 as an alternate route for I-270, a closure of this length was determined to be unreasonable. In addition, the process of rolling the replacement section in place would generate significant safety concerns and require a complete closure of the CSX rail lines and the Frederick Junction during the 4-8 month replacement process.

5.7 ALL POSSIBLE PLANNING TO MINIMIZE HARM

As defined by 23 CFR 774.11, "all possible planning" includes all reasonable measures to minimize harm and mitigate for adverse impacts and effects to Section 4(f) resources. A final determination of whether all possible planning to minimize harm and mitigate adverse effects has been reserved for the Final Section 4(f) Evaluation, after consideration of comments on this Draft Section 4(f) Evaluation has occurred. However, reasonable measures to minimize harm developed to-date are discussed below.

At this stage, the design of the alternatives has not been refined to the extent that all minimization measures could be included. However, measures that have been included that minimize the amount of land needed from the Battlefield for transportation use consist of

lowering the approach roadway profile, decreasing side slopes, providing mechanically stabilized embankments, and reducing the space needed for stormwater management.

Under Alternatives 1, 2, and 3, the new bridge and the temporary bridge would be designed as close as possible to the existing structure to minimize additional disturbance to the Battlefield. In addition, under each Action Alternative, SHA is recommending a steel beam bridge as opposed to a concrete bridge which would allow for a lower profile thus minimizing the height of the bridge and width of the side slopes. The typical section under each Action Alternative was reduced from the initial design of 8-foot shoulders to 6-foot shoulders and 12-foot travel lanes to 11-foot travel lanes. In order to further reduce the amount of land needed from the Battlefield, the proposed stormwater management consists largely of bioswales. Bioswales are linear features that can be placed adjacent to roadways and are typically grassed areas thus minimizing visual impacts. As design progresses, SHA and NPS will further discuss maintenance of the bioswales and the option for NPS to maintain the side slopes that are not required to support the bridge or roadway which would further minimize the amount of land permanently transferred to SHA.

Mitigation is considered for Section 4(f) uses that cannot be avoided or further minimized. Mitigation would be commensurate with the severity of impact to the Section 4(f) resource and would be determined through consultation with the official with jurisdiction over the resources. At this stage, mitigation has not been formalized; however, based on numerous discussions with NPS and interested parties, a list of mitigation has been developed. A Memorandum of Agreement (MOA) will be required since the project received a Section 106 adverse effect determination. The final list of mitigation measures would be developed in consultation with NPS, the MD SHPO, consulting parties and, as appropriate, the Advisory Council on Historic Preservation (ACHP). The MOA would be prepared following this Draft Section (f) Evaluation and after receiving comments from consulting parties and the public.

Mitigation measures that have been discussed in detail with NPS, MD SHPO, FHWA, and other consulting parties include::

- Transferring land from SHA ownership to NPS ownership in an amount greater than what is being permanently impacted by the Action Alternatives. To-date, SHA and NPS have identified parcels of interest adjacent to the Battlefield. Upon completion of the transfer, the parcels would become part of the boundary of the Battlefield;
- Installing trail benches beneath new bridge, providing 8-foot sidewalk on the east side of the bridge extending along the east side of MD 355 until it meets grade and connects with the existing Visitor Center trail on the north side and then on the south side of the bridge to the existing NPS east side parking area. This connectivity provides full access to areas of interest;
- Designing the bridge aesthetics, sidewalk, and roadway features to minimize visual impacts including painted guardrail, stained concrete, and textured trail and sidewalk surfaces;
- Restoring and interpreting the 1864 Georgetown Pike road prism located along the west side of MD 355. The restoration may include removing vegetation to restore the Civil War era landscape, installing six-rail wooden fencing, and adding interpretive panels;
- Completing the Cultural Landscape Report for the Gambrill Tract;
- Improving the east side parking area and including an NPS approved landscape plan for the area;
- Restoring the Civil War landscape by removing trees and replacing the six-rail wooden fencing along the east side of MD 355 within the project limits.

5.8 COORDINATION

5.8.1 OFFICIALS WITH JURISDICTION

The U.S. Department of Interior/National Park Service serves as the Official with Jurisdiction over the Monocacy National Battlefield as the land manager and due to its status as a National Historic Landmark. The NPS is co-lead with the FHWA on the EA and extensive coordination with NPS has occurred during the project development process. SHA will continue to coordinate with NPS during the project development stage and as design progresses. NPS will be a signatory to the MOA developed in accordance with Section 106 regulations. SHA will circulate this Draft Section 4(f) Evaluation to NPS, and all comments will be addressed in the Final Section 4(f) Evaluation.

5.8.2 MARYLAND STATE HISTORIC PRESERVATION OFFICER

The Maryland SHPO has been actively involved in the project planning process for the MD 355 Bridge over CSX. On November 4, 2015, the SHPO concurred that the action alternatives would have an adverse effect on the Monocacy National Battlefield. SHA will circulate this Draft Section 4(f) Evaluation to the SHPO, and all comments will be addressed in the Final Section 4(f) Evaluation. SHPO will also be a signatory to the MOA.

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5.8.3 CONSULTING PARTIES

Aside from the SHPO, NPS, and ACHP, other interested parties were invited to participate in the Section 106 process. A letter was sent to MHT on August 26, 2011 to formally initiate consultation in accordance with Section 106 of the NHPA. In addition, the same letter was carbon copied to federally recognized Indian tribes and other potential consulting parties to invite each organization to participate in the Section 106 consultation. Letters were sent to the following organizations:

- Absentee Shawnee Tribe of Oklahoma
- Advisory Council on Historic Preservation
- American Battlefield Protection Program
- Cedarville Band of Piscataway Indians
- Civil War Trust
- CSX Transportation
- Delaware Nation
- Eastern Shawnee Tribe
- Federal Highway Administration
- Frederick County Historic Preservation Commission
- Frederick County Sites Consortium
- Journey Through Hallowed Ground
- Maryland Commission on Indian Affairs
- Maryland Historical Trust
- NPS National Historic Landmarks Program
- Oneida Indian Nation
- Onondago Nation
- Piscataway Conoy Tribe
- Piscataway Indian Nation
- Saint Regis Mohawk Tribe
- State of New Jersey, Department of Environmental Programs
- Tuscarora Nation
- Youghiogheny River Band of Shawnee Indians

On October 1, 2015, the consulting parties were notified of the adverse effect determination via SHA's letter to the SHPO. One response was received from the Heart of the Civil War Heritage Area in which they concurred with the adverse effect determination. A consulting parties meeting was held on December 15, 2015 at which time input was received on appropriate

mitigation strategies to offset the adverse effect.

5.8.4 PUBLIC AT LARGE

Public scoping included a 30-day public comment period from December 5, 2013 through January 5, 2014. In addition to the public comment period, a public scoping meeting was held at the Monocacy National Battlefield Visitor Center on December 5, 2013 to give the public the opportunity to provide input on the scope of the project, preliminary concepts, and areas of concern. Public notices were posted on the NPS's Planning, Environment and Public Comment website (PEPC), the Maryland SHA website, and advertised in the Frederick News-Post newspaper. The project team also sent mailings to adjacent property owners and individuals on the Monocacy National Battlefield mailing list.

The public will have the opportunity to comment on this Draft Section 4(f) Evaluation during a 45 day comment period. All comments received will be considered in the Final Section 4(f) Evaluation.

5.9 LATE DISCOVERY OF ARCHEOLOGICAL RESOURCES

Based on previous archeological studies, there is the potential for late discovery of archeological sites during construction. A special provision will be added to the contract document to secure an archeological monitor for the duration of construction. When archeological sites are discovered during construction, FHWA must determine if an approval is necessary or if an exception applies under 23 CFR 774.13(c). If the site warrants preservation in place and a Section 4(f) approval is required, the Section 4(f) process will be expedited. The review and consultation process with other agencies would be expedited, would be consistent with the process set forth in Section 106 of the NHPA regulations, and would include Indian tribes that may attach religious and cultural significance to sites discovered (36 CFR 800.13) (FHWA 2012).

 Table 5-1: Comparison of Alternative Impacts

	No Action Alternative	Alternative 1: Shift West	Alternative 2: East Shift	Alternative 3: Temporary Bridge	Alternative 4: Existing Alignment	Alternative 5: Replace Bridge with a Shift West and Temporary Signal	Alternative 6: Replace Bridge with Roll-In Construction
Section 4(f) Resource Avoidance?	Yes	No	No	No	No	No	No
Impact to Monocacy National Battlefield?	No	Yes, 2.3 acres of permanent use	Yes, 3.2 acres of permanent use	Yes, 2.4 acres of permanent use and 0.25 acre of temporary use	Yes, 2.4 acres of permanent use	Yes, 2.4 acres of permanent use	Yes, 2.4 acres of permanent use
Impact to contributing resources?	No	Yes, 2.05 acres of permanent use from Best Farm and 0.25 acre of permanent use from Frederick Junction	Yes, 2.85 acres of permanent use from Best Farm and 0.35 acre of permanent use from Frederick Junction	Yes, 2.15 acres of permanent use from Best Farm and 0.25 acre of permanent from Frederick Junction; 0.25 acre of temporary use from Best Farm	Yes, 2.15 acres of permanent use from Best Farm and 0.25 acre from Frederick Junction	Yes, 2.15 acres of permanent use from Best Farm and 0.25 acre from Frederick Junction	Yes, 2.15 acres of permanent use from Best Farm and 0.25 acre from Frederick Junction
Wetland or stream impacts?	No	No	No	No	No	No	No

Floodplain		Yes, 0.13 acre	Yes, 0.13 acre	Yes, 0.13 acre	Yes, 0.13 acre	Yes, 0.13 acre	Yes, 0.13 acre
impacts?	No	disturbance	disturbance	disturbance	disturbance	disturbance	disturbance
Tree/vegetation impacts?	No	Yes, 0.8 acre and 10 large trees	Yes, 0.8 acre and 11 large trees	Yes, 0.8 acre and 10 large trees	Yes, 0.8 acre and 10 large trees	Yes, 0.8 acre and 10 large trees	Yes, 0.8 acre and 10 large trees
Traffic Impacts?	Yes, vehicular weight restrictions and eventual closure of bridge	Short-term slowing due to construction	Short-term slowing due to construction	Short-term slowing due to construction	Yes, significant impacts due to temporary signal to maintain one lane of traffic for the duration of construction	Yes, significant impacts during construction due to maintaining narrow lanes while half of the existing bridge is demolished and replaced	Yes, significant impacts due to the complete closure of MD 355 and CSX railroad for 4-6 months
Unique Problems	Yes, eventual closure of bridge	No	No	No	Yes, significant safety concerns associated with demolishing a deteriorated bridge in sections while maintaining traffic	Yes, significant safety issues associated with demolishing half of a deteriorating bridge while maintaining traffic on the other half	Yes, new construction method that has the potential for significant safety concerns, complete closure of roadway and railroad
Meets Purpose and Need?	No	Yes	Yes	Yes	Yes	Yes	Yes

23 CFR 774.3(c) Factor	No Action Alternative	Alternative 1: Shift West	Alternative 2: Shift East	Alternative 3: Temporary Bridge	Alternative 4: Existing Alignment	Alternative 5: Shift West Temporary Signal	Alternative 6: Roll-In Construction
i. The ability to mitigate adverse impacts to each Section 4(f) property	Mitigation not appropriate given avoidance of impact to the Battlefield	Land replacement; restoring 1864 Georgetown Pike road prism; completing CLR for Gambrill Tract; removing vegetation to restore Civil War era landscape, pedestrian improvements; NPS parking lot improvements	Land replacement; restoring 1864 Georgetown Pike road prism; completing CLR for Gambrill Tract; removing vegetation to restore Civil War era landscape, pedestrian improvements; NPS parking lot improvements	Land replacement; restoring 1864 Georgetown Pike road prism; completing CLR for Gambrill Tract; removing vegetation to restore Civil War era landscape, pedestrian improvements; NPS parking lot improvements	Land replacement; restoring 1864 Georgetown Pike road prism; completing CLR for Gambrill Tract; removing vegetation to restore Civil War era landscape, pedestrian improvements; NPS parking lot improvements	Land replacement; restoring 1864 Georgetown Pike road prism; completing CLR for Gambrill Tract; removing vegetation to restore Civil War era landscape, pedestrian improvements; NPS parking lot improvements	Land replacement; restoring 1864 Georgetown Pike road prism; completing CLR for Gambrill Tract; removing vegetation to restore Civil War era landscape, pedestrian improvements; NPS parking lot improvements
ii. The relative severity of the remaining harm, after mitigation to the protected activities, attributes or features that qualify each Section 4(f) property for protection	No harm	Limited harm to overall Battlefield.					
iii. The relative significance of each Section 4(f) property.	The Monocacy Na encompasses the e the other individua	tional Battlefield is ntire project area, is ılly eligible resource	considered the main a National Historic s are either not impa	Section 4(f) resourd Landmark, a resourd acted or are a contrib	ce upon which the in ce listed on the Natio puting resource to th	npacts are analyzed onal Register of Hist e overall Battlefield	because it coric Places, and
iv. The views of the OWJ over each Section 4(f) property	No Section 4(f) properties impacted.	The MD SHPO and NPS concur with an adverse effect determination and agree with the proposed mitigation.	The MD SHPO and NPS concur with an adverse effect determination and agree with the proposed mitigation.	The MD SHPO and NPS concur with an adverse effect determination and agree with the proposed mitigation.	The MD SHPO and NPS concur with an adverse effect determination and agree with the proposed mitigation.	The MD SHPO and NPS concur with an adverse effect determination and agree with the proposed mitigation.	The MD SHPO and NPS concur with an adverse effect determination and agree with the proposed mitigation.

Table 5-2 Cont'd.: Preliminary Least Overall Harm Analysis

v. The degree to which each alternative meets the purpose and need.	Does not meet the purpose and need.	Meets the purpose and need.	Meets the purpose and need.	Meets the purpose and need.	Meets the purpose and need.	Meets the purpose and need.	Meets the purpose and need.
vi. After reasonable mitigation, the magnitude of any adverse impacts to the resources not protected by Section 4(f).	No adverse impacts to other environmental resources.						
vii. Substantial differences in cost among the alternatives.	\$0	\$7 million	\$7 million	\$8 million	\$12 million	\$12 million	\$9 million

CHAPTER $\mathbf{6}$: CONSULTATION AND COORDINATION

6.1 INTRODUCTION

NEPA regulations require an "early and open process" with the public and agencies to determine the scope of issues and resultant environmental impacts related to a proposed action. Consultation and coordination with the public as well as federal, state, and local agencies was conducted to identify issues and/or concerns related to natural and cultural resources in the study area. Chapter 6 provides a summary of the public involvement and agency consultation that occurred in the preparation of the EA.

6.2 PUBLIC INVOLVEMENT

6.2.1 PUBLIC SCOPING

Public scoping included a 30-day public comment period from December 5, 2013 through January 5, 2014. In addition to the public comment period, a public scoping meeting was held at the Monocacy National Battlefield Visitor Center on December 5, 2013 to give the public the opportunity to provide input on the scope of the project, preliminary concepts, and areas of concern. Public notices were posted on the NPS's Planning, Environment and Public Comment website (PEPC), the Maryland SHA website, and advertised in the Frederick News-Post newspaper. The project team also sent mailings to adjacent property owners and individuals on the Monocacy National Battlefield mailing list. The public meeting was held in an open house format where the public was given the opportunity to view informational displays, including four concept plan alternatives. SHA and NPS staff was present at the meeting and were available to discuss the project with the public and answer questions.

A total of 12 comments were received via comment cards, emails, the SHA project website, and phone calls during the scoping period. All comments were generally in support of the action alternatives (i.e. the replacement of the bridge). Three comments supported the implementation of Alternative 1, two supported Alternative 2, three supported Alternative 3, and one comment

supported the implementation of Alternative 4. Five commenters were opposed to Alternative 4 due to traffic concerns during construction. Four commenters supported the construction of sidewalks to provide safe pedestrian access across the bridge.

6.3 AGENCY CONSULTATION/COORDINATION

Consultation and coordination with federal, state, and local agencies was conducted during the NEPA process to identify issues and concerns related to the replacement of the MD 355 Bridge over CSX. Correspondences received at it relates to agency consultation are provided in Appendix A.

6.3.1 AGENCY SCOPING

Agency scoping was initiated on November 20, 2013 at SHA's Interagency Review Meeting (IRM). SHA uses the IRM to present projects and solicit agency comments and concurrences on planning projects. The US Army Corps of Engineers (USACE), Maryland Department of Environment (MDE), Maryland Department of Natural Resources (DNR), Maryland Department of Planning (MDP), Federal Highway Administration (FHWA), Environmental Protection Agency (EPA), Maryland Historical Trust (MHT), Maryland Department of Transportation (MDOT), and various other agencies attend the IRM meetings. The MD 355 Bridge over CSX project was presented at the November 2013 IRM meeting by the SHA project planning and design managers in the form of a PowerPoint presentation that presented the project history, project location, purpose and need, environmental resources, design considerations, and design concepts. Verbal comments from the Interagency group included:

Environmental Protection Agency (EPA)

The EPA representative at the IRM asked if the bridge clearance will need to accommodate double-stacked rail cars. SHA indicated that the clearance does not need to accommodate double-stacked rail cars.

Maryland Transit Administration (MTA)

The MTA representative at the IRM asked if NPS will be involved in the decision-making regarding the architectural elements of the bridge design. SHA responded that NPS is a co-lead agency and are very involved in the planning of the project.

Maryland Department of Natural Resources (DNR)

The Maryland DNR representative at the IRM noted that the Monocacy River is a Maryland Scenic and Wild River and asked that this be discussed in the EA.

U.S. Army Corps of Engineers (USACE)

The USACE representative at the IRM asked if Priority 1 is the highest priority for bridge repair, and if SHA anticipates the need for a USACE permit. SHA responded that Priority 1 is the highest priority, and that a USACE permit is not anticipated.

6.3.2 SECTION 7 CONSULTATION

On April 14, 2011, the SHA sent a letter to the USFWS Chesapeake Bay Field Office to initiate consultation in accordance with Section 7 of the Endangered Species Act. The USFWS responded on April 26, 2011 that "except for occasional transient individuals, no federally proposed or listed endangered or threatened species are known to exist within the project impact areas." SHA coordinated a second time with USFWS on April 29, 2015 due to the time lapse from the initial correspondence. USFWS responded that the federally endangered Indiana Bat could exist within the geographic area of the study area. In April of 2015, a new bat species, the Northern Long-Eared Bat, became listed as a federally threatened species. In response, SHA provided more detailed information to the USFWS including a more detailed description of the alternatives, alternatives mapping, and the natural resource inventory. The USFWS responded on September 8, 2015 that the proposed action is not likely to adversely affect the Northern Long-Eared Bat and made the same determination on December 3, 2015 for the Indiana Bat.

6.3.3 SENSITIVE SPECIES AND ENVIRONMENTAL REVIEW

On April 14, 2011, SHA sent letters to the Maryland DNR Wildlife and Heritage Program and the Maryland DNR Environmental Review Unit to initiate consultation and request information related to state-listed plant and animal species and protection of aquatic resources. The Maryland DNR Environmental Review Unit responded on April 25, 2011 that existing riparian vegetation along the Monocacy River should be preserved as much as possible to maintain aquatic habitat and provide shading to the stream; construction access should avoid impacts to streams and riparian vegetation; temporarily disturbed areas should be revegetated; and potential anadromous fish species should be adequately protected by the Use-I in-stream work restriction period (March 1 and June 15 of any year).

SHA coordinated a second time with both DNR offices due to the time lapse from the initial 2011 correspondence. DNR Wildlife and Heritage responded on June 15, 2015 that there are no State or Federal records for rare, threatened or endangered species within the boundaries of the project area as delineated. DNR Integrated Policy Review Unit (formally Environmental Review Unit) responded on June 18, 2015 that the Monocacy River is a Maryland Scenic and Wild River and is a Use-I stream that supports support communities of several warmwater fish species. The fisheries resources in the project area should be adequately protected by the instream work restrictions associated with Use-I, stringent sediment and erosion control methods, and other Best Management Practices typically used for protection of stream resources.

6.3.4 SECTION 106/TRIBAL CONSULTATION

SHA sent a letter to the Maryland SHPO on August 26, 2011 to formally initiate consultation in accordance with Section 106 of the NHPA. The same letter in copy form was sent to federally recognized Indian tribes and other potential consulting parties to invite each organization to participate in the Section 106 consultation. Letters were sent to the following organizations:

- Absentee Shawnee Tribe of Oklahoma
- Advisory Council on Historic Preservation
- American Battlefield Protection Program
- Cedarville Band of Piscataway Indians
- Civil War Trust
- CSX Transportation
- Delaware Nation
- Eastern Shawnee Tribe
- Federal Highway Administration

- Frederick County Historic Preservation Commission
- Frederick County Sites Consortium
- Journey Through Hallowed Ground
- Maryland Commission on Indian Affairs
- Maryland Historical Trust
- NPS National Historic Landmarks Program
- Oneida Indian Nation
- Onondago Nation
- Piscataway Conoy Tribe
- Piscataway Indian Nation
- Saint Regis Mohawk Tribe
- State of New Jersey, Department of Environmental Programs
- Tuscarora Nation
- Youghiogheny River Band of Shawnee Indians

Following Phase I archeological surveys conducted in 2014, SHA sent a letter to MHT and consulting parties on July 29, 2014 transmitting the results of the draft Phase I archeology report and requesting concurrence on the eligibility of structures within the APE. On July 30, 2014 SHA sent "Tribal Project Information Forms" to the nine federally recognized tribes which transmitted the draft Phase I archeological report and requested comments on the findings. MHT responded to the July 29, 2014 letter on August 27, 2014 and concurred that the previous determination of ineligibility of the MD 355 Bridge over CSX (1008400) remains valid. Comments on the draft Phase I archeological report were also transmitted with that letter.

Phase II surveys were conducted in late winter 2014. The draft Phase II archeological report was submitted to MHT along with the effect determination letter for the proposed action on October 1, 2015. The SHPO (MHT) concurred on the adverse effect determination and provided comments on the draft Phase II report on November 4, 2015. On December 18, 2015 the ACHP declined to participate in resolving the adverse effect.

On December 15, 2015 a consulting parties meeting was held to further develop mitigation strategies that would be incorporated into the proposed action to offset negative impacts. A

Memorandum of Agreement outlining the measures to mitigate the adverse effect will be developed in coordination with the SHPO, NPS, FHWA, and the ACHP.

6.4 EA/DRAFT SECTION 4(F) EVALUATION PUBLIC REVIEW AND COMMENT PERIOD

The EA and Draft Section 4(f) Evaluation will be on formal public and agency review for 45 days and has been distributed to a variety of interested individuals, agencies, and organizations. It is available for public review on the NPS Planning, Environment, and Public Comment (PEPC) web site at http://parkplanning.nps.gov/mono. Limited hard copies are available at the Monocacy National Battlefield administrative offices located at 4632 Araby Church Road, Frederick, MD 21704 and the Monocacy National Battlefield visitor center located at 5201 Urbana Pike, Frederick MD 21704.

APPENDIX

AGENCY COORDINATION AND CONSULTATION



U.S. Department of Transportation

Federal Highway Administration

DelMar Division

November 30, 2011

10 South Howard Street, Suite 2450 Baltimore, MD 21201 (410) 962-4440 (410) 962-4054 http://www.fhwa.dot.gov/demddiv/

> In Reply Refer To: HDA-MD (FR559B21)

Dr. Susan W. Trail Superintendent, Monocacy National Battlefield National Park Service 4801 Urbana Pike Frederick, MD 21704

Dear Dr. Trail:

The Federal Highway Administration (FHWA), in cooperation with the Maryland State Highway Administration (SHA), has initiated a Preliminary Engineering study for MD 355 over CSX Transportation in Frederick County, Maryland. This project consists of the replacement of Bridge No. 10084 on MD 355 over CSX Transportation in Frederick County. The existing bridge measures 31'-2'' in length, with a clear roadway width of 27'-0'' consisting of two 12' lanes and minimal shoulders. The total width contains a 2'-1'' parapet on each side. The proposed Typical Section for the bridge replacement will contain a clear roadway width of approximately 44'-0'' (or 40'-0'') with 2-12'-0'' lanes and 10'-0'' (or 8'-0'') shoulders (TBD).

A Maintenance of Traffic Alternates Analysis has indicated that 2 lanes of traffic along MD 355 should be maintained at all times during construction. In order to replace the bridge while maintaining traffic, the roadway alignment has been shifted to the southwest to accommodate a new bridge adjacent to the existing alignment. The new alignment requires that right-of-way be obtained from the Monocacy National Battlefield. The existing entrance to the 14th New Jersey Monument will be reconstructed east of its existing location to improve safety and accessibility to the monument.

Your agency has been identified as an agency with jurisdiction by law that may have an interest in the project due to your property ownership within the study area. With this letter, we extend your agency an invitation to become a participating and cooperating agency in the development of the environmental document for the MD 355 over CSX Transportation project. This designation does not imply that your agency supports any specific proposal.

Pursuant to Section 6002 of SAFETEA-LU, 23 U.S.C. 139, participating agencies are responsible to identify, as early as practicable, any issues of concern regarding the project's potential environmental or socioeconomic impacts that could substantially delay or prevent an agency from granting a permit or other approval that is needed for the project. We suggest that your agency's role in the development of the above project should include the following as they relate to your area of expertise:

- Provide meaningful and early input in determining the range of alternatives to be considered.
- Participate in coordination meetings and joint field reviews as appropriate.
- Provide timely review and comment on the draft and/or final environmental • documents to reflect the views and concerns of your agency on the adequacy of the document, alternatives considered, and the anticipated impacts and mitigation.

Please respond to the FHWA in writing with an acceptance or denial of the invitation prior to December 30, 2011. If declining the invitation, the response should state your reason for declining the invitation.

If you have any questions or would like to discuss this proposal and/or our agencies' respective roles and responsibilities during the development of the environmental document, please contact Ms. Jeanette Mar of my staff at (410) 779-7152 or Jeanette.mar@dot.gov.

Sincerely yours,

Jeanette Ma Bron Gregory Murrill

Division Administrator

4 NPPF 71 INECO2 PM 1:5

cc:

Mr. Steve Whitesell, Regional Director, National Capital Region, NPS

- Mr. Donald Sparklin, Division Chief, SHA
- Ms. Kelly Nash, Project Manager, SHA

Ms. Adriene Metzbower, Environmental Manager, SHA

Ms. Jorismar Torres, Area Engineer, FHWA

Larry Hogan, *Governor* Boyd Rutherford, *Lt. Governor*



Pete K. Rahn, Secretary

April 29, 2015

RE: Project No. FR559C21 MD 355 over CSX Transportation Bridge Replacement Frederick County Maryland

Ms. Lori Byrne, Environmental Review Specialist Wildlife and Heritage Division Department of Natural Resources Tawes State Office Building, E-1 Annapolis MD 21401

Dear Ms. Byrne:

The Maryland State Highway Administration (SHA) is proposing to replace the structurally deficient bridge on MD 355 over CSX Transportation in Frederick County, Maryland. The scope of work consists of replacement of the bridge, minor widening of the approach roadways, and stormwater management. No work will occur near the Monocacy River. Attached is a location map for your information.

We request any information concerning state threatened or endangered species and unique habitat that may occur in the study area.

Very truly yours,

Cary JABrooka

Caryn G. Brookman Environmental Manager Environmental Planning Division

My telephone number/toll-free number is

Maryland Relay Service for Impaired Hearing or Speech 1.800.735.2258 Statewide Toll Free

Street Address: 707 North Calvert Street • Baltimore, Maryland 21202 • Phone 410.545.0300 • www.roads.maryland.gov



Lawrence J. Hogan, Jr., Governor Boyd K. Rutherford, Lt. Governor Mark J. Belton, Acting Secretary

June 15, 2015

Mr. Bruce M. Grey Maryland Department of Transportation State Highway Administration 707 North Calvert Street Baltimore, MD 21202

RE: Environmental Review for MD 355 over CSX Transportation, Bridge Replacement, Frederick County, Maryland.

Dear Mr. Grey:

The Wildlife and Heritage Service has determined that there are no State or Federal records for rare, threatened or endangered species within the boundaries of the project site as delineated. As a result, we have no specific comments or requirements pertaining to protection measures at this time. This statement should not be interpreted however as meaning that rare, threatened or endangered species are not in fact present. If appropriate habitat is available, certain species could be present without documentation because adequate surveys have not been conducted.

Thank you for allowing us the opportunity to review this project. If you should have any further questions regarding this information, please contact me at (410) 260-8573.

Sincerely,

Louia. Bym

Lori A. Byrne, Environmental Review Coordinator Wildlife and Heritage Service MD Dept. of Natural Resources

ER# 2015.0626.fr Cc: M. Stauss, DNR

Coordination Sheet for Maryland Department of Natural Resources, Project Review Division information on fisheries resources, including anadromous fish, related to project locations and study areas

DATE OF REQUEST:	NAME OF REQUESTOR:	FMIS#:
4/29/2015	Caryn G. Brookman	FR559C21

PROJECT NAME AND LOCATION: MD 355 over CSX Transportation; Bridge Replacement

NAME OF STREAM(S) (and MDE Use Classification) WITHIN THE STUDY AREA: Monocacy River and Tributaries; Use 1

SUB-BASIN (8 digit watershed), County: Lower Monocacy River 02140302; Frederick County

DNR RESPONSE:

_____ Generally, no instream work is permitted in Use I streams during the period of March 1 through June 15, inclusive, during any year.

_____ Where presence of yellow perch has been documented in the vicinity of an instream project area, generally no instream work is permitted in Use I waters during the period of February 15 through June 15, inclusive, during any year.

_____ Generally, no instream work is permitted in Use II streams during the period of June 1 through September 30 and December 16 through March 14th, inclusive, during any year.

_____ Generally, no instream work is permitted in Use III streams during the period of October 1 through April 30, inclusive, during any year.

_____ Generally, no instream work is permitted in Use IV streams during the period of March 1 through May 31, inclusive, during any year.

ADDITIONAL FISHERIES RESOURCES NOTES (to be added by PRD):

ADDITIONAL COMMENTS ON BMPS:

FURTHER COORDINATION NEEDED:

MD DNR, Project Review Division signature

DATE: _____



Coordination Sheet for Maryland Department of Natural Resources, Project Review Division information on fisheries resources, including anadromous fish, related to project locations and study areas

DATE OF REQUEST:	NAME OF REQUESTOR:	FMIS#:
4/29/2015	Caryn G. Brookman	FR559C21

PROJECT NAME AND LOCATION: MD 355 over CSX Transportation; Bridge Replacement

NAME OF STREAM(S) (and MDE Use Classification) WITHIN THE STUDY AREA: Monocacy River and Tributaries; Use 1

SUB-BASIN (8 digit watershed), County: Lower Monocacy River 02140302; Frederick County

DNR RESPONSE:

<u> $\sqrt{}$ </u> Generally, no instream work is permitted in Use I streams during the period of March 1 through June 15, inclusive, during any year.

ADDITIONAL FISHERIES RESOURCES NOTES (to be added by PRD):

In perennial stream reaches in this general vicinity, communities of several warmwater fish species can typically be found. Nearby Maryland Biological Stream Survey (MBSS) stations document the following summary of findings for warmwater fish: Blacknose Dace, Longnose Dace, Blue Ridge Sculpin, White Sucker, Bluegill, Fantail Darter, Bluntnose Minnow, Green Sunfish, Longnose Dace, Largemouth Bass, Creek Chub, Potomac Sculpin, Yellow Bullhead, Central Stoneroller, and Lepomis Hybrid.

ADDITIONAL COMMENTS ON BMPS:

The fisheries resources in the above area should be adequately protected by the instream work restrictions referenced above, stringent sediment and erosion control methods, and other Best Management Practices typically used for protection of stream resources.

FURTHER COORDINATION NEEDED:

The proposed project may be visible from the Monocacy River which is a Maryland Scenic and Wild River; further coordination may need to be conducted with DNR as project planning and review continues.

MD DNR, Project Review Division signature

Gwen Gibson

DATE: June 18, 2015



United States Department of the Interior

FISH AND WILDLIFE SERVICE Chesapeake Bay Ecological Services Field Office 177 ADMIRAL COCHRANE DRIVE ANNAPOLIS, MD 21401 PHONE: (410)573-4599 FAX: (410)266-9127



Consultation Code: 05E2CB00-2015-SLI-0867 Event Code: 05E2CB00-2015-E-00771 Project Name: MD 355 over CSX Railroad April 29, 2015

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having

similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan

(http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and

http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment



Project name: MD 355 over CSX Railroad

Preliminary Species list

Provided by:

Chesapeake Bay Ecological Services Field Office 177 ADMIRAL COCHRANE DRIVE ANNAPOLIS, MD 21401 (410) 573-4599

Consultation Code: 05E2CB00-2015-SLI-0867 **Event Code:** 05E2CB00-2015-E-00771

Project Type: Transportation

Project Name: MD 355 over CSX Railroad **Project Description:** The scope of work consists of replacing the bridge on MD 355 over the CSX railroad in Frederick County.

Please Note: The FWS office may have modified the Project Name and/or Project Description, so it may be different from what was submitted in your previous request. If the Consultation Code matches, the FWS considers this to be the same project. Contact the office in the 'Provided by' section of your previous Official Species list if you have any questions or concerns.



Project name: MD 355 over CSX Railroad

Project Location Map:



Project Coordinates: MULTIPOLYGON (((-77.3962073 39.3740806, -77.3951559 39.3744281, -77.3917227 39.3715584, -77.3906927 39.370447, -77.3901777 39.3696508, -77.3908429 39.3693688, -77.3916368 39.3703143, -77.3962073 39.3740806)))

Project Counties: Frederick, MD



Project name: MD 355 over CSX Railroad

Endangered Species Act Species List

There are a total of 1 threatened or endangered species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Critical habitats listed under the **Has Critical Habitat** column may or may not lie within your project area. See the **Critical habitats within your project area** section further below for critical habitat that lies within your project. Please contact the designated FWS office if you have questions.

-

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Project name: MD 355 over CSX Railroad

Critical habitats that lie within your project area

There are no critical habitats within your project area.

http://ecos.fws.gov/ipac, 04/29/2015 01:39 PM



United States Department of the Interior

FISH & WILDLIFE SERVICE

FISH AND WILDLIFE SERVICE

Chesapeake Bay Field Office 177 Admiral Cochrane Drive Annapolis, Maryland 21401 http://www.fws.gov/chesapeakebay

September 8, 2015

Caryn Brookman Consultant Environmental Manager for Maryland State Highway Administration Environmental Planning Division (EPLD) Maryland State Highway Administration 707 N. Calvert Street, MS C-301

RE: NLAA Determination for Northern long-eared bat for MD 355 Bridge over CSX; Bridge Replacement in Frederick County

Dear Ms. Brookman:

This responds to your September 08th, 2015 e-mail requesting review of the proposed MD 355 Bridge over CSX; Bridge Replacement project in Frederick County. The scope of work for the project entails a complete bridge replacement over CSX railroad and includes:

- Replacing the bridge on the same alignment but constructing a temporary bridge to the west during construction;
- \cdot Minor raising the existing vertical profile of the bridge which necessitates approach roadway work north and south of the bridge;
- Necessary SWM swales;

• Pedestrian improvements for access to the Monocacy National Battlefield including sidewalk/trail and parking area modifications. The following comments are provided pursuant to Section 7 of the Endangered Species Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq).

The proposed project is located in Frederick County, MD which is considered to be part of the range for northern long-eared bats (*Myotis septentrionalis*), a federally listed threatened species. The northern long-eared bat is a temperate, insectivorous migratory bat that hibernates in mines and caves in the winter and summers in wooded areas. Since the tree clearing will occur within 100' of pavement along a linear corridor (w/ low quality habitat on) and there are no records of northern long-eared bats in the project vicinity, the project is not likely to have an adverse effect on this species. Except for occasional transient individuals, no other Federal



proposed or listed endangered or threatened species under our jurisdiction are known to exist within the project impact area. Should project plans change, or if additional information on the distribution of listed or proposed species becomes available, this determination may be reconsidered.

We appreciate the opportunity to provide information relevant to threatened and endangered fish and wildlife resources. This ESA determination does not exempt this project from obtaining all permits and approvals that may be required by other state or federal agencies. Should you have any questions or concerns regarding this letter, please contact Julie Slacum of my Endangered Species staff at (410) 573-4595 or by email at Julie_thompson@fws.gov.

Sincerely,

& La Rouche

Genevieve LaRouche Field Supervisor Author: Julie Slacum



United States Department of the Interior

FISH AND WILDLIFE SERVICE Chesapeake Bay Field Office 177 Admiral Cochrane Drive Annapolis, MD 21401 410/573-4575



December 3, 2015

Caryn Brookman Maryland State Highway Administration Environmental Planning Division (EPLD) Maryland State Highway Administration 707 N. Calvert Street, MS C-301

RE: RE: NLAA Determination for Indiana bat for MD 355 Bridge over CSX; Bridge Replacement in Frederick County

Dear Ms. Brookman:

This responds to your letter of September 8th, 2015 requesting information about federally listed and proposed endangered and threatened species within the area of this project. The following comments are provided pursuant to the Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) to ensure the protection of endangered and threatened species and the Migratory Bird Treaty Act (MBTA, 16 U.S.C. 703-712; Ch. 128; July 13, 1918; 40 Stat. 755, as amended) to ensure the protection of migratory bird species.

Federally Listed Species

The project is within the range of the Indiana bat (*Myotis sodalis*), a species that is federally listed as endangered. Indiana bats hibernate in caves and abandoned mines during the winter months (November through March), and use a variety of upland, wetland and riparian habitats during the spring, summer and fall. Due to the close proximity of the project area to a known Indiana bat hibernaculum, removal of trees and forested areas within the project area could result in the direct take of roosting Indiana bats, which could be injured or killed when trees are cut. Studies have found that forested areas near hibernacula provide important foraging and roosting habitat for Indiana bats, especially during the fall and spring, when bats are building up their fat reserves prior to and after hibernation. In addition, female maternity colonies and individual male bats may be found in the vicinity of hibernacula throughout the summer months. Female Indiana bats form nursery colonies under the exfoliating bark of dead or living trees, such as shagbark hickory, black birch, red oak, white oak, and sugar maple, in upland or riparian areas.

Land-clearing, especially of forested areas, may adversely affect Indiana bats by killing, injuring or harassing roosting bats, and by removing or reducing the quality of foraging and roosting

habitat. However based on the project Description provided in your package, this project is not likely to adversely affect this species.

http://www.fws.gov/northeast/ecologicalservices/pdf/NationalBaldEagleManagementGuidel ines.pdf

In the future, if your project can not avoid disturbance to the bald eagle by complying with the Eagle Management Guidelines, you will be able to apply for a permit that authorizes the take of bald and golden eagles under the Bald and Golden Eagle Protection Act, generally where the take to be authorized is associated with otherwise lawful activities. This proposed permit process will not be available until the Service issues a final rule for the issuance of these take permits under the Bald and Golden Eagle Protection Act.

An additional concern of the Service is wetlands protection. Federal and state partners of the Chesapeake Bay Program have adopted an interim goal of no overall net loss of the basin's remaining wetlands, and the long term goal of increasing the quality and quantity of the basin's wetlands resource base. Because of this policy and the functions and values wetlands perform, the Service recommends avoiding wetland impacts. All wetlands within the project area should be identified, and if construction in wetlands is proposed, the U.S. Army Corps of Engineers, Baltimore District should be contacted for permit requirements. They can be reached at (410) 962-3670.

This response relates only to federally protected threatened or endangered species under our jurisdiction. For information on the presence of other rare species, you should contact Lori Byrne of the Maryland Wildlife and Heritage Division at (410) 260-8573.

We appreciate the opportunity to provide information relative to fish and wildlife issues, and thank you for your interest in these resources. If you have any questions or need further assistance, please contact Trevor Clark of my staff at 410-573-4527.

Sincerely,

& La Rouche

Genevieve LaRouche Supervisor
Value Analysis Study for the MD 355 Over CSX Railroad Bridge No. 1008400 Project in Frederick County Bridge Replacement

Conducted August 22, 2014









Prepared by: Stantec 6110 Frost Place Laurel MD 20707-2927

Revised October 31, 2014

October 31, 2014

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Executive Summary

PROJECT OVERVIEW

The Maryland State Highway Administration (SHA), Federal Highway Administration (FHWA), and the National Park Service (NPS), conducted a Value Analysis for the MD-355 over CSX Bridge Replacement Project at the Monocacy National Battlefield. This report represents the process and results of this evaluation including selection of the Choosing-by-Advantages (CBA) preferred alternative.

SHA is currently in planning stage to identify a solution to replace the MD 355 bridge which is currently near the end of its useful life and currently rated as structurally deficient. As part of the next steps in planning, SHA and FHWA, in cooperation with the NPS are preparing an Environmental Assessment (EA) and Section 4(f) Evaluation in accordance with the National Environmental Policy Act, NPS Director's Order #12, and other applicable laws, regulations, and polices.

PURPOSE AND NEED OF THE PROJECT:

Purpose and Need of this Project: The purpose of the project is to replace the MD 355 Bridge over CSX in Frederick County, Maryland. The bridge is within the boundary of Monocacy National Battlefield, a unit of the NPS. Replacement of the bridge is intended to enhance the safety of the travelling public.

The project is needed because the bridge is currently rated as structurally deficient. The existing bridge was constructed in 1931 and is showing signs of advanced deterioration. Recent inspections show that the bridge's condition requires replacement. The replacement of the bridge has been designated a Priority 1 project by the SHA. The following is a non-inclusive list of advance deterioration signs and breach of standards for the MD 355 Bridge over CSX:

- The existing bridge width is 27 feet (two12-foot lanes and minimal shoulders) and would be increased to meet American Association of State Highway Officials (AASHTO) and SHA standards (12-foot lanes and 6-foot shoulders).
- The existing bridge clearance is 22 feet and would be increased to meet CSX requirements of 23 feet.
- The existing concrete bridge deck is rated a '4' which indicates a deck that is structurally deficient. The deck has numerous cracks and spalls and has been rehabilitated to provide a smooth riding surface until replacement can occur.

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- The concrete encasing the steel girders has numerous cracks and spalls and the exposed steel girders are showing rust damage. Loose concrete has been removed from the steel over the railroad tracks.
- The pier columns and pier caps also have cracks and spalls which have exposed the reinforcement in some locations.
- The existing traffic barrier is not crash tested. In addition, the concrete on the bridge railing is deteriorating and there are missing elements including the top rail. A "W-beam" traffic barrier has been attached to the existing concrete railing to improve safety until full replacement can be achieved.

VALUE ANALYSIS OBJECTIVES

Value Analysis (VA) is a process of arriving at an optimal solution to a complex issue through a structured and reasoned analysis of the factors and functions related to the issue. Director's Order 90 "Value Analysis" and its handbook set forth the policy and procedures for the NPS to follow in performing value analysis. As stated in DO-90, tThe goal of Value Analysis is to provide a structured process that ensures that:

- Essential functional requirements are met
- All viable alternatives are considered
- Factors used to evaluate them are sound and fully considered
- All alternatives are tested equally against these factors
- Solutions are cost effective
- Benefit to cost relationships were considered
- Independent second opinions and perspectives were considered
- Rationale for decisions is clearly documented.

NPS, as a steward of many of America's most important cultural and natural resources, is charged to preserve them for the enjoyment of present and future generations. The NPS must achieve this mission in a cost-effective and environmentally responsible manner, ensuring value returned for every agency expenditure and action. Management decision-making and activities throughout the national park system should utilize value analysis, which is mandatory for all Department of the Interior (DOI) bureaus, to help achieve this goal.

The value analysis process considers all statutory and regulatory requirements including those imposed by the National Environmental Policy Act of 1969 (NEPA) and the National Historic Preservation Act (NHPA), and additional requirements or standards imposed as a matter of NPS policy.

Choosing by Advantages (CBA) may be used as an evaluation method during the evaluation phase of the value analysis process. CBA quantifies the relative importance of non-monetary advantages or benefits for a set of alternatives and allows subsequent benefit and cost consideration during decision-making.

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The purpose of the Value Analysis (VA) was to:

- Identify a bridge replacement preferred alternative though VA team consensus using the CBA evaluation method. Natural resources, cultural resources, management, and other perspectives were considered.
- Seek ideas to help maximize the value improvements of the project.
- Discuss the key focus areas of the project to come to a consensus on the areas of interest with the highest value to each agency.

ALTERNATIVES CONSIDERED

The VA team reviewed the alternatives prepared before the VA, and those developed during the creativity phase of the workshop. Alternatives considered and evaluated in the VA workshop are presented in Table 1 below:

Alternative:	Description:	Status:	Estimated Construction Costs:
Alternative NA	No Action - keep all facilities in current location	Dismissed from co VA	nsideration in the
Alternative 1	Replace Bridge West of Existing Bridge	Evaluated in CBA	\$7 million
Alternative 2	Replace Bridge East of Existing Bridge	Evaluated in CBA	\$7 million
Alternative 3	Replace Bridge on Existing Alignment, Provide Temporary Bridge for MOT	Evaluated in CBA	\$8 million
Alternative 4a	Replace Bridge on Existing Alignment with Phased Construction	Evaluated in CBA	\$12 million
Alternative 4b*	Replace Bridge with Shift West	Evaluated in CBA	\$12 million
Alternative 4c*	Replace Bridge with Roll In	Evaluated in CBA	\$9 million

Table ES-1:	Alternatives	Considered
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*Alternatives developed during the VA process.

The merits of the chosen alternatives can be seen in the detailed CBA matrix included in Figure 4, Section B of this report. A detailed summary of the alternatives considered is as follows.

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No Action Alternative

Under the No Action Alternative, no changes to the existing bridge would occur. This alternative was dismissed from consideration in the VA because it did not address the purpose and need of the project.



Figure ES-1: Existing Bridge

Action Alternatives:

Alternative 1: Replace Bridge West of Existing Bridge

Alternative 1 consists of constructing a new bridge and approach roadways to the west of the existing bridge. The existing bridge would maintain two lanes of traffic during the construction of the new bridge. Upon completion of the new bridge, the existing bridge and its approaches would be removed. The limits of the work would extend from the Monocacy River Bridge to approximately 150 feet north of the Best Farm driveway.

Other work involved in replacing the bridge under Alternative 1 would include relocation of the overhead utilities, relocation of the New Jersey Monument access road approximately 100 feet south of its current location, and providing stormwater management for the new bridge and roadway.

Alternative 2: Replace Bridge East of Existing Bridge

Alternative 2 consists of constructing a new bridge and approach roadways to the east of the existing bridge. The existing bridge would maintain two lanes of traffic during the construction of the new bridge. Upon completion of the new bridge, the existing bridge and its approaches would be removed. The limits of the work would extend from the Monocacy River Bridge to approximately 150 feet north of the Best Farm

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driveway. Under this alternative, the bridge would need to be longer than other alternatives to span the wye in the CSX railroad tracks at the historic Frederick Junction.

Alternative 3: Replace Bridge on Existing Alignment, Provide Temporary Bridge for Maintenance of Traffic (MOT)

This alternative consists of replacing the existing bridge with a new bridge that would be in the same location, and on the same alignment, as the current bridge. A temporary two-lane bridge would be constructed west of the MD 355 bridge to maintain traffic during construction. Following construction and the opening of the new bridge to traffic, the temporary bridge would be removed and the area would be returned to Park use. The limits of the work would extend from the Monocacy River Bridge to approximately 150 feet north of the Best Farm driveway.

Other work involved in replacing the bridge under Alternative 3 would include relocation of the overhead utilities, relocation of the New Jersey Monument access road approximately 100 feet south of its current location, and providing stormwater management for the new bridge and roadway.

Alternative 4a: Replace Bridge on Existing Alignment with Phase Construction

Alternative 4a consists of replacing the existing bridge with a new bridge that would be in the same location and on the same alignment as the current bridge. The new bridge would be constructed in phases, which would essentially construct half of the bridge while maintaining one lane of traffic on the other half of the bridge during construction. Temporary traffic signals would be provided at each end of the construction zone to alternate the traffic during construction.

Other work involved in replacing the bridge under Alternative 4a would include relocation of the overhead utilities, relocation of the New Jersey Monument access road approximately 100 feet south of its current location, and providing stormwater management for the new bridge and roadway.

Alternative 4b: Replace Bridge with Shift West and a Temporary Signal

This alternative is a modification of Alternative 4a that maintains the existing alignment and utilizes a temporary signal to maintain traffic across through the project site during construction. The modification is that the alignment would shift from the existing centerline by approximately 10 feet, 6 inches west. This shift in the alignment would allow a one lane section of the proposed bridge to be built while two lanes of traffic are maintained on the existing bridge. Once the new section of bridge and approach roadway is constructed, a temporary signal would be installed to remove the existing bridge and construct the remaining section of the new bridge.

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An alternate to this would be to use the signal in stage one and remove a portion of the existing bridge and construct a section of the new bridge wide enough to carry two lanes of traffic.

Other work involved in replacing the bridge under Alternative 4b would include relocation of the overhead utilities, relocation of the New Jersey Monument access road approximately 100 feet south of its current location, and providing stormwater management for the new bridge and roadway.

Alternative 4c: Replace Bridge with Roll In Construction

This alternative will construct the superstructure of the proposed bridge off alignment either over CSX on temporary supports or in the CSX access parking area. Once complete, MD 355 will be shut down and the existing bridge removed and new substructure units constructed. The superstructure will be moved into place using Self Propelled Modular Transporters and work will take place to open the roadway back up to traffic.

Other work involved in replacing the bridge under Alternative 4c would include relocation of the overhead utilities, relocation of the New Jersey Monument access road approximately 100 feet south of its current location, and providing stormwater management for the new bridge and roadway.

PREFERRED ALTERNATIVE (VIA CBA)

In using CBA to determine a preferred alternative, the VA team identified the alternative that offers the highest total importance of advantages at the lowest cost. The resulting graphs compare the total importance of advantages to cost, which identifies the preferred alternative. The total importance summary that drives the results chart for CBA is detailed in Table ES-2 below. Life cycle costs were not available for the project.

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	Alternative 1		Alternative 2		Alternative 3		Alternative 4	а
	Replace Bridge We Existing Bridge	st of	Replace Bridge East of Existing Bridge		Replace Bridge on Existing Alignment, Provide Temporary Bridge for MOT		Replace Bridge On Existing Alignment with Phase Construction	
Total Importance of Advantages (Benefits)		228		212		258		210
Estimated Construction Cost (Short-term)	\$7 million		\$7 million		\$8 million		\$12 million	

Table ES-2: Total Importance Summary

	Alternative 4b		Alternative 4c		
	Replace Bridge with West and a Tempo Signal	Shift orary	Replace Bridge with Roll In Construction		
Total Importance of Advantages (Benefits)		194		230	
Estimated Construction Cost (Short-term)	\$12 million		\$9 million		

Scoring information can be found in Table 1-4. Alternative 3 – "Replace Bridge on Existing Alignment, Provide Temporary Bridge for MOT" was identified as having the highest total importance of advantages. This alternative was selected as it offered the following advantages:

- 1. Better at minimizing impacts to the traveling public (10 points)
- 2. Better at minimizing impacts to cultural resources (8 points)
- 3. Significantly better at minimizing loss of NPS land (6 points)
- 4. Better at maximizing safety during construction (4 points)
- 5. Better at minimizing risk (Cost, Safety, Duration) (2 points)

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Abbreviations

AASHTO	American Association of State Highway Officials
СВА	Choosing By Advantages
DOI	Department of the Interior
EA	Environmental Assessment
FHWA	Federal Highway Administration
MOT	Maintenance of Traffic
SHA	Maryland State Highway Administration
NPS	National Park Service
VA	Value Analysis

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1.0 VALUE ANALYSIS STUDY

1.1 PHASE I INFORMATION AND FUNCTION ANALYSIS

1.1.1 Study Specifics

The Value Analysis (VA) workshop began with an introduction of the VA Team members and a presentation of the objectives of the Mini VA. The VA team was composed of a mix of professional disciplines and varied subject matter experts in design, operations, sustainability and engineering. Members of the MD 355 Over CSX Bridge Replacement project staff grounded the VA team with knowledge of the site and its operation. Following introductions SHA presented an overview of the project which included information on the Purpose and Need, alternatives, costs, and environmental and cultural resources information. Detailed information on potential traffic impacts in the study area and archeological and cultural resources impacts were given to the team members for consideration.

1.1.2 VA Team

The (VA team members consisted of the following members captured in Table 1.

.

National Park Serv	vice (NPS) - National Capital		
Rick Slade	Superintendent Monocacy National Battlefield	301-694-3147	rick_slade@nps.gov
Joy Beasley	Chief of Cultural Resources National Capital Region	202-619-7146	joy_beasley@nps.gov
Maryland State Hi	ghway Administration (SHA)		
Caryn Brookman	Environmental Manager Environmental Planning Division	410-545-8698	CBrookman@sha.state.md.us
Dennis Atkins	Assistant Division Chief Environmental Planning Division	410-545-8520	DAtkins@sha.state.md.us
Will Tardy	Environmental Manager Environmental Planning Division	410-545-8565	WTardy@sha.state.md.us
Kelly Nash	Bridge Engineer Office of Structures	410-545-8074	KNash@sha.state.md.us
Glenn Vaughn	Deputy Director Office of Structures	410-545-8070	GVaughn@sha.state.md.us
Anne Bruder	Architectural Historian Environmental Planning Division	410-545-8559	ABruder@sha.state.md.us
Donald Sparklin	Division Chief Environmental Planning Division	410-545-8564	DSparklin@sha.state.md.us
Federal Highway	Administration (FHWA)		
Daniel Suarez	Assistant Area Engineer	410-779-7159	daniel.suarez@dot.gov
Joy Liang	Environmental Specialist	410-779-7148	joy.liang@dot.gov

Table 1-1: Participants

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Dennis O'Shea	Division Bridge Engineer	302-734-3609	Dennis.O'Shea@dot.gov
Jeanette Mar	Environmental Program Manager	410-779-7152	Jeanette.Mar@dot.gov
Stantec			
Joan Glynn	Senior Environmental Planner	301-982-2846	joan.glynn@stantec.com
John Wiser	Senior Environmental Planner	240-398-0561	john.wiser@stantec.com
Robin Griffin	Senior Environmental Scientist	301-220-2618	robin.griffin@stantec.com

The VA team reviewed the design alternatives, considered cost estimates, and prepared a "function diagram" as a part of the workshop. Certain VA analytical tools and methods were used during the workshop to focus the VA team on the issues, problems and opportunities presented by the proposed project alternatives. The VA agenda, in conformance with the standards of NPS can be found in Appendix A of this report.

1.1.3 Alternatives Presentation

The SHA team developed the conceptual alternatives for the VA team along with a presentation that helped explain the alternatives. The following documents were provided to the VA team:

- SHA provided
 - o Conceptual design presentation for the original alternatives
 - o Summary of the cost estimates for the alternatives
- The National Park Service provided
 - o Operational knowledge of the project and site
- Stantec provided the value models used in the VA study

1.2 PHASE II CREATIVITY PHASE

1.2.1 Creative Ideas

SHA presented two creative alternatives during the "brainstorming" portion of the VA workshop. These ideas were in addition to the alternatives developed by the SHA team. The alternatives developed during the creative phase were included in this report because the VA team deemed them as potentially viable alternatives that could provide value opportunities. It should be noted that detailed analyses to determine whether these alternatives are actually feasible were not completed prior to the workshop.

These alternatives are as follows:

1.2.1.1 Alternative 4b: Replace Bridge with Shift West and a Temporary Signal

This alternative is a modification of Alternative 4a that maintains the existing alignment and utilizes a temporary signal to maintain traffic across through the project site during

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construction. The modification is that alignment would shift from the existing centerline by approximately 10 feet, 6 inches west. This shift in the alignment would allow a onelane section of the proposed bridge to be built while two lanes of traffic are maintained on the existing bridge. Once the new section of bridge and approach roadway is constructed, a temporary signal would be installed to remove the existing bridge and construct the remaining section of the new bridge. An alternate to this would be to use the signal in stage one and remove a portion of the existing bridge and construct a section of the new bridge wide enough to carry two lanes of traffic.

1.2.1.2 Alternative 4c: Replace Bridge with Roll In Construction

This alternative will construct the superstructure of the proposed bridge off alignment either over CSX on temporary supports or in the CSX access parking area. Once complete, MD 355 will be shut down and the existing bridge removed and new substructure units constructed. The superstructure will be moved into place using Self Propelled Modular Transporters and work will take place to open the roadway back up to traffic.

1.3 PHASE III EVALUATION (PART 1 - EVALUATION FACTORS & DEFINITIONS)

As the first task of the evaluation phase, the VA team developed and discussed the factors which would be used to evaluate the alternatives. A factor is an element, or a component, of a decision for which differences are anticipated between alternatives. During this process, the VA team came up with a list of 33 factors. Figure 1-1, MD 355 Over CSX Bridge Replacement Project Factors, shows these different project factors and how they relate to objectives that are standard for all projects undertaken by the NPS. From this long list of factors, the VA team came up with a shortlist of factors to be used to measure differences between alternatives. The VA team determined which factors were the most important and would serve as CBA Criterion (see factors designated with red dots in Figure 1-1). The VA team then nominated five CBA Criteria to be used in the evaluation process. The CBA Criteria for the project were identified as follows and were ranked according to importance based on VA team discussions (see points value):

- Minimizing Impacts to Traveling Public (10 points)
- Minimizing Impacts to Cultural Resources (8 points)
- Minimize Loss of NPS land (6 points)
- Maximize Safety During Construction (4 points)
- Minimize Risk (Cost, Safety, Duration) (2 points)

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To further define the project factors, the VA team then defined sub-factors and definitions/variables for each sub-factor to tailor the evaluation to the needs of this project. These sub-factors and their definitions provided guidance on what to consider when scoring each alternative. Table 1-2, Factors for CBA, is a table of the evaluation factors and definitions used.

NPS OBJECTIVE: Improve Operational Efficiency, Reliability, & Sustainability				
Factor 1: Minimize Impacts to Traveling Public				
Sub-factor Definitions/Variables				
Minimize Duration of Impact	Duration of construction			
Traffic Delays at Bridge	Length of delays; number of lanes open			
Detour Need	Detour necessary			
Delays on Other Routes	Traffic shift onto other routes			
Detour Duration/Shift in Traffic Patterns	Length of time detour needed; geometric length of detour			

Table 1-2:	Factors for	Choosing	By	Advantages

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NPS OBJECTIVE: Prevent Loss/Improve Condition of Resources								
Factor 2: Minimize Impacts to Cultur	al Resources							
Sub-factor	Definitions/Variables							
Minimize Impacts to Archeology	Number of archeology sites; limits of disturbance							
Minimize Cultural Landscape Impacts	Removal of trees; amount of vegetation impacted;							
Minimize Impacts to Viewsheds	Changes to views to and from park resources							
Minimize Impacts to Structures (NI	Impacts to access to N I Monument							
Monument)								
Factor 3: Minimize Loss of NPS Land	d la							
Sub-factor	Definitions/Variables							
Total Permanent Acreage Used	Total acreage required							
Change in Use/LOD	Total temporary acreage required							
NPS OBJECTIVE: Protect	Public Health/Safety and Welfare							
Factor 4: Maximize Safety During Co	onstruction							
Sub-factor	Definitions/Variables							
Worker Safety	Proximity to through traffic/vehicles; duration of							
	construction period							
Driver Safety	Proximity to construction zone; duration of construction							
	period							
Visitor Safety	Proximity to construction zone; duration of construction							
	period							
Park Staff Safety	Proximity to construction zone; duration of construction							
	period							
Pedestrian/Cyclist Safety	Proximity to construction zone; duration of construction							
	period							
NPS OBJECTIVE: Provide Cost E	ffective, Environmentally Responsible &							
Beneficial D	evelopment to NPS							
Factor 5: Minimize Risk (cost, safety	, duration)							
Sub-factor	Definitions/Variables							
Potential for Delays	Length of project; unusual design/construction process							
Redesign	Potential for changes in design							
LOD Shift	Potential for shifts in LOD that could affect additional							
	resources							
Rail Operations	Potential for closures to rail line							
	Need for work during non-peak hours (night work)							
SPECIAL	FACTOR: COST							
Sub-factor	Definition/Variables							
ESTIMATED CONSTRUCTION COST (Short-	Capital Costs							

1.4 PHASE III EVALUATION (PART 2 – CHOOSING BY ADVANTAGES)

The selected alternatives were evaluated using a process called Choosing by Advantages (CBA), where decisions are based on the importance of advantages between alternatives. The evaluation involves the identification of the attributes or characteristics of each alternative relative to the evaluation criteria (or CBA Criteria), a

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determination of the advantages for each alternative within the evaluation factors/sub-factors, and then the weighing of importance of each advantage. Table 1-3 lists the Alternatives evaluated during this process.

Alternative:	Description:						
Alternative 1	Replace Bridge West of Existing Bridge						
Alternative 2	Replace Bridge East of Existing Bridge						
Alternative 3	Replace Bridge on Existing Alignment, Provide Temporary Bridge for MOT						
Alternative 4a	Replace Bridge on Existing Alignment with Phase Construction						
Alternative 4b	Replace Bridge with Shift West						
Alternative 4c	Replace Bridge with Roll In						

Table 1-3: Alternatives Evaluated in CBA

The highest importance advantage was identified in each factor. The paramount advantage (most important), across factors, was determined and assigned a score (of 1 through 10) by the VA team. Remaining advantages were rated on the same scale. Further clarification of the advantage was captured with the following terminology from highest to lowest importance: significantly better, much better, moderately better, somewhat better, slightly better, and no advantage. The scores were then multiplied by the CBA points value assigned to each factors. Table 1-4 shows the ranking of advantages for each alternative under each factor with the final CBA value for each.

Construction costs were developed prior to the VA Workshop for each alternative based on input from the SHA design team. Recommendations are based on a balance of importance and cost.

The VA team reviewed the four original alternatives for the project as well as two additional alternatives presented during the creative phase. The VA team then reviewed the merits of all the alternatives to determine which represented the most viable alternatives. Ultimately, six alternatives were chosen to be evaluated in the CBA completed in the VA workshop. The merits of these alternatives, along with the initial construction cost estimates can be seen in the detailed CBA matrix included in the following pages. Initial construction cost estimates, based on conceptual plans for the alternatives, were developed before the VA workshop by MD SHA.

The alternatives evaluated in the CBA are as follows:

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1.4.1 Original Design

The VA team reviewed the original alternatives for the project as well as two additional alternatives presented during the Creativity Phase. Ultimately the following alternatives were evaluated:

- Alternative 1 Replace Bridge West of Existing Bridge
- Alternative 2 Replace Bridge East of Existing Bridge
- Alternative 3 Replace Bridge on Existing Alignment, Provide Temporary Bridge for MOT
- Alternative 4a Replace Bridge on Existing Alignment with Phase Construction
- Alternative 4b Replace Bridge with Shift West
- Alternative 4c Replace Bridge with Roll In

1.4.2 Preferred Alternative

Based on the CBA analysis, the VA team identified the Alternative 3 as the preferred alternative. The advantages of Preferred Alternative are as follows:

- Better at minimizing impacts to the traveling public (10 points).
- Better at minimizing impacts to cultural resources (8 points).
- Significantly better at minimizing loss of NPS land (6 points).
- Better at maximizing safety during construction (4 points).
- Better at minimizing risk (cost, safety, duration) (2 points).

Figure 1-2 depicts the ranking of advantages graphically. On a purely total importance basis, Alternative 3 provides the greatest total importance of advantages to the NPS. This alternative also had the 3rd lowest estimated construction costs out of the alternatives.

Table 1-4 describes the differences between alternatives for each of the five factors analyzed during the VA process.

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Table 1-4: Choosing By Advantages Matrix

	Alternative 1		Alternative 2		Alternative 3		Alternative 4a		Alternative 4b		Alternative 4c	
Factors:	Replace Bridge West of Bridge	Existing	Replace Bridge East of E Bridge	xisting	Replace Bridge on Exis Alignment, Provide Tem Bridge for MOT	sting porary	Replace Bridge on Existing Alignment with Phase		Replace Bridge with Shift West		Replace Bridge with Roll In	
Improve Operational E	fficiency, Reliability &	Sustain	ability				Conocidation					
Factor 1: Minimize Impa	cts to Traveling Public;	Subfacto	r:									
Factor 1a: Minimize Duration of Impact	Road Stays Open		Road Stays Open		Road Stays Open (more shift than 1 and 2)		1 Lane Open (26 months)		1 lane for ½ of construction period; 2 lanes for ½ of construction period (12 months)		4-8 month full closure	
Factor 1b: Traffic Delays at Bridge	Road Stays Open		Road Stays Open		Road Stays Open (more shift than 1 and 2)		1 Lane Open (26 months)		1 lane for ½ of construction period; 2 lanes for ½ of construction period		4-8 month full closure	
Factor 1c: Detour Need	No Detour Needed		No Detour Needed		No Detour Needed		Unofficial Detour		Unofficial Detour		Detour Needed	
Factor 1d: Delays on Other Routes	er No Delays on Other Routes		No Delays on Other Routes		No Delays on Other Routes		Some Delays with Traffic Shift		Some Delays with Traffic Shift		Severe Delays	
Factor 1e: Detour Duration/Shift in Traffic Patterns	No Detour Needed		No Detour Needed		No Detour Needed		Longest Detour Duration/Shift in Traffic Patterns		Moderate Detour Duration/Shift in Traffic Patterns		Shortest Detour Duration/Shift in Traffic Patterns	
Advantages:	Significantly better at minimizing impacts to the traveling public.	100	Significantly better at minimizing impacts to the traveling public.	100	Much better at minimizing impacts to the traveling public.	90	Somewhat better at minimizing impacts to the traveling public.	40 •	Moderately impacts to the traveling public.	60	Moderately better at minimizing impacts to the traveling public.	70
Prevent Loss/Improve Condition of Resources												
Factor 2: Minimize Impa	cts to Cultural Resource	s										
Factor 2a: Minimize Impacts to Archeology	Less Benefit to Archeology		Least Benefit to Archeology (due to shift to the east)		Less Benefit to Archeology		Most Benefit to Archeology		Some Benefit to Archeology		Most Benefit to Archeology	
Factor 2b: Minimize Cultural Landscape Impacts	Less Beneficial to Cultural Landscapes		Least Beneficial to Cultural Landscapes		Most Beneficial to Cultural Landscapes (Temporary Impacts)		Most Beneficial to Cultural Landscapes		Somewhat Beneficial to Cultural Landscapes		Most Beneficial to Cultural Landscapes	
Factor 2c: Minimize Impacts to Viewsheds	Less Beneficial to Viewsheds		Least Beneficial to Viewsheds (due to removal of trees blocking view of MD 355)		Most Beneficial to Viewsheds		Most Beneficial to Viewsheds		Somewhat Beneficial to Viewsheds		Most Beneficial to Viewsheds	
Factor 2d: Minimize Impacts to Structures (NJ Monument)	Least Benefit to Structures		Most Benefit to Structures		Somewhat Beneficial to Structures		More Beneficial to Structures		Somewhat Beneficial to Structures		Most Benefit to Structures (Temporary Impacts)	
Advantages:	Somewhat better at minimizing impacts to cultural resources.	32	Slightly better at minimizing impacts to cultural resources.	16	Somewhat better at minimizing impacts to cultural resources.	56	Significantly better at minimizing impacts to cultural resources.	80	Somewhat better at minimizing impacts to cultural resources.	48	Moderately better at minimizing impacts to cultural resources.	64
Factor 3: Minimize Loss	of NPS Land											
Factor 3a: Total Acreage Used	15 Acres		15 Acres		16 Acres		16 Acres		Potential for more than 16 acres		16 Acres	
Factor 3b: Change in Use/LOD	Greatest Change in Use/LOD		Greatest Change in Use/LOD		Least Change in Use/LOD		Least Change in Use/LOD		Some Change in Use/LOD		Least Change in Use/LOD	
Advantages:	Somewhat better at reducing use of NPS Land	36	Somewhat better at 36 reducing use of NPS Land.		Moderately better at 60 reducing use of NPS Land.		Moderately better at 60 reducing use of NPS Land.		Somewhat better at 48 reducing use of NPS Land.		Moderately better at reducing use of NPS Land	60
Protect Public Health/	Safety and Welfare											
Factor 4: Maximize Safe	ty During Construction											
Factor 4a: Worker Safety	Separates Workers Mos Construction Zone	st from	Separates Workers Most from Construction Zone		Separates Workers Most from Construction Zone		Separates Workers Leas Construction Zone	Separates Workers Least from Construction Zone		Separates Workers Less from Construction Zone		
Factor 4b: Driver Safety	Most Beneficial To Driver Safety		Most Beneficial To Driver Safety		Beneficial To Driver Safety		Least Beneficial To Driver Safety		Less Beneficial To Driver Safety		Most Beneficial To Drive	r Safety
Factor 4c: Visitor Safety	Shorter Duration of Expo	sure to	Shorter Duration of Exposure to		Longest Duration of Exposure to		Longest Duration of Exposure to		Longest Duration of Exposure to		Unknown Risks	

ive 4b	Alternative 4c							
vith Shift West	Replace Bridge with Roll In							
truction period; 2 ruction period (12 ns)	4-8 month full closure							
truction period; 2 struction period	4-8 month full closure							
Detour	Detour Needed							
th Traffic Shift	Severe Delays							
Duration/Shift in atterns	Shortest Detour Duration/Shift in Traffic Patterns							
to the 60	Moderately better at 70 minimizing impacts to the traveling public.							

October 31, 2014

	Construction Zones		Construction Zones		Construction Zones		Construction Zones		Construction Zones			
Factor 4d: Park Staff	Separates Park Staff Mo	ost from	Separates Park Staff Most from		Separates Park Staff Most from		Separates Park Staff Least from		Separates Park Staff Less from		Unknown Risks	
Safety	Construction Zone	Э	Construction Zone		Construction Zone	Construction Zone		Construction Zone				
Factor 4e: Pedestrian/Cyclist Safety	Separates Pedestrians/Cyc from Construction Z	lists Better one	rSeparates Pedestrians/Cycli from Construction Zo	ists Better one	Separates Pedestrians/C Most from Construction (temporary bridge)	Cyclists Separates Pedestrians/Cyc n Zone from Construction Zo		lists Least one	Separates Pedestrians/Cyclists Less from Construction Zone		Unknown Risks	
Advantages:	Somewhat better at maximizing safety during construction.	40	Somewhat better at maximizing safety during construction.	40	Somewhat better at maximizing safety during construction.	36	Slightly better at maximizing safety during construction.	20	Slightly better at maximizing safety during construction.	24	Somewhat better at maximizing safety during construction.	32
Provide Cost Effective	e, Environmentally Res	ponsible	e & Beneficial Developr	ment to	NPS							
Factor 5: Minimize Risk												
Factor 5a: Potential For Delays	Least Potential for Delays		Least Potential for Delays		Less Potential for Delays		High Potential For Delays		Some Potential For Delays		Highest Potential For Delays	
Factor 5b: Redesign	Low Risk of Redesign		Low Risk of Redesign		Low Risk of Redesign		Highest Risk for Redesign		Some Risk of Redesign		Highest Risk for Redesign	
Factor 5c:	Lowest Risk for Increased		Lowest Risk for Increased		Less Risk for Increased Costs		Highest Risk for Increased		High Risk for Increased Costs		Highest Risk for Increased	
Increased Costs	Costs		Costs				Costs				Costs	
Factor 5d:LOD Shift	Greatest Risk of LOD Shift (Unknowns w/Shift)		Greatest Risk of LOD Shift		Greatest Risk of LOD Shift		Least Risk of LOD Shift		Less Risk of LOD Shift		High Risk of LOD Shift	
Factor 5e: Rail Operations	Lowest Risk to Rail Operations		Lowest Risk to Rail Operations		High Risk to Rail Design (Setting Stee Twice Plus Removal of Temporary Bridge)		el High Risk to Rail Operations (Setting Steel Twice)		High Risk to Rail Traffic (Setting Steel Twice)		Highest Risk to Rail Operations	
Advantages:	Somewhat better at minimizing risk.	20	Somewhat better at minimizing risk.	20	Slightly better at minimizing risk.	g 16	Slightly better at minimizing risk.	10	Slightly better at minimizing risk.	g 14	No Advantage?	4
Total Importance of Advantages		228		212		25	8	210		194		230
Estimated Construction Cost	\$7 million		\$7 million		\$8 million		\$12 million		\$12 million		\$9 million	

October 31, 2014



Figure 1-2: Total Importance Allocation to Advantages Scale

October 31, 2014

Appendix A MD 355 Over CSX Bridge Replacement Alternatives





PLOTTED: Wednesday, May 01, 2013 AT 08:19 AM FILE: T:\MD355_CSXtoNewHorizon\Design\TMR Files\TMR_ALT2_DISPLAY_MD355.dgn





APPENDIX B

SECTION 106 CONSULTATION

Martin O'Malley, Governor Anthony G. Brown, Lt. Governor



Beverley K. Swaim-Staley, *Secretary* Darrell B. Mobley, *Acting Administrator*

MARYLAND DEPARTMENT OF TRANSPORTATION

September 1, 2011

Re:

Project No. FR559B21 MD 355 over CSXT Replacement of SHA Bridge No. 1008400 Frederick County, Maryland USGS *Buckeystown* 7.5' Quadrangle

Mr. Gregory Murrill Division Administrator Federal Highway Administration City Crescent Building – Suite 2450 10 South Howard Street Baltimore MD 21211

Attn.: Ms. Jeanette Mar

Dear Mr. Murrill:

The Maryland State Highway Administration (SHA) respectfully requests that you notify the Advisory Council on Historic Preservation (ACHP) of SHA's proposed bridge replacement project on MD 355 over the CSX Transportation within the Monocacy National Battlefield, a National Historic Landmark (NHL). Since the ACHP is participating in the consultation with FHWA, SHA, the Maryland Historical Trust and the National Park Service on another SHA project within the boundaries of the battlefield, SHA seeks to invite the ACHP to participate in this consultation. The Maryland State Historic Preservation Officer was notified concerning the project on August 26, 2011 and is participating in the consultation, as is the National Park Service National Capital Region and Monocacy National Battlefield. A draft letter conforming to the requirements cited at 36 CFR §800.10 has been provided for your use in notifying the ACHP (Attachment). Mr. Gregory Murrill MD 355 over CSXT Page Two

Thank you for your assistance in expediting this project's Section 106 consultation process. If you have any further questions or comments, please do not hesitate to contact Dr. Julie Schablitsky, Assistant Division Chief, Environmental Planning Division, at 410-545-8870, or via email at jschablitsky@sha.state.md.us. SHA will be pleased to assist you.

Sincerely,

Darrell B. Mobley Acting Administrator

by:

Mrake Gregory I. Slater, Director

Office of Planning and Preliminary Engineering

Attachment

cc:

Ms. Kelly Nash, Project Manager, Office of Structures, SHA

Ms. Adriene Metzbower, Environmental Manager, Environmental Planning Division, SHA

Ms. Carol A. Ebright, Archeologist, Environmental Planning Division, SHA Ms. Anne E. Bruder, Architectural Historian, Environmental Planning Division, SHA Mr. J. Rodney Little, MD State Historic Preservation Officer, MHT (w/Attachment) Dr. Julie Schablitsky, Assistant Division Chief, Environmental Planning Division, SHA



Preserving America's Heritage

November 30, 2011

Gregory Murrill Division Administrator FHWA - DelMar Division 10 South Howard Street, Suite 2450 Baltimore, MD 21201

Ref: Initiation of Section 106 Consultation for the Replacement of Bridge No. 1008400 Project Frederick County, Maryland

Dear Mr. Murrill:

The Advisory Council on Historic Preservation (ACHP) recently received the Federal Highway Administration's (FHWA's) letter formally initiating Section 106 consultation for the referenced undertaking. We appreciate receiving this early notification; however, it is premature for us to determine whether or not our participation in consultation is warranted.

FHWA should proceed to carry out the requirements of 36 CFR 800.3 through 800.5 of the ACHP's regulations "Protection of Historic Properties" (36 CFR Part 800) to determine the effect of the referenced project on historic properties. This effort should be conducted in consultation with the Maryland State Highway Administration (SHA), the Maryland State Historic Preservation Officer (SHPO), the National Park Service (NPS) and other consulting parties. FHWA should notify the ACHP if the effects of the undertaking are determined to be adverse. Once we receive this notification and the required documentation, the ACHP will determine whether our participation in consultation is warranted. The decision will be based on Appendix A of the regulations, *Criteria for Council Involvement in Reviewing Individual Section 106* Cases.

If appropriate, the notification of adverse effect to the ACHP should be submitted by FHWA in accordance with Section 800.6(a)(1) of our regulations. It should be accompanied with the following documentation specified in 36 CFR 800.11(e):

- A description of the undertaking, specifying the federal involvement, and its area of potential effects, including photographs, maps, and drawings, as necessary;
- A description of the steps taken to identify historic properties;
- A description of the affected historic properties, including information on the characteristics that qualify them for the National Register;
- An explanation of why the criteria of adverse effect were found applicable or inapplicable to historic properties within the area of potential effects; including any conditions or future actions to avoid, minimize or mitigate adverse effects; and
- Copies of or summaries of any views provided by the State Historic Preservation Office (SHPO), consulting parties, and the public.

ADVISORY COUNCIL ON HISTORIC PRESERVATION

1100 Pennsylvania Avenue NW, Suite 803 • Washington, DC 20004 Phone: 202-606-8503 • Fax: 202-606-8647 • achp@achp.gov • www.achp.gov Upon receipt of the additional information, we will notify FHWA within 15 days of our decision whether or not we will participate in consultation. If you have any questions, please contact Najah Duvall-Gabriel. Historic Preservation Specialist, at 202-606-8585, or by e-mail at <u>ngabriel@achp.gov</u>.

Sincerely,

Leffacurio for

Charlene Dwin Vaughn, AICP Assistant Director Office of Federal Agency Programs



U.S. Department of Transportation

Federal Highway Administration

DelMar Division

November 30, 2011

10 South Howard Street, Suite 2450 Baltimore, MD 21201 (410) 962-4440 (410) 962-4054 http://www.fhwa.dot.gov/demddiv/

> In Reply Refer To: HDA-MD (FR559B21)

Dr. Susan W. Trail Superintendent, Monocacy National Battlefield National Park Service 4801 Urbana Pike Frederick, MD 21704

Dear Dr. Trail:

The Federal Highway Administration (FHWA), in cooperation with the Maryland State Highway Administration (SHA), has initiated a Preliminary Engineering study for MD 355 over CSX Transportation in Frederick County, Maryland. This project consists of the replacement of Bridge No. 10084 on MD 355 over CSX Transportation in Frederick County. The existing bridge measures 31'-2'' in length, with a clear roadway width of 27'-0'' consisting of two 12' lanes and minimal shoulders. The total width contains a 2'-1'' parapet on each side. The proposed Typical Section for the bridge replacement will contain a clear roadway width of approximately 44'-0'' (or 40'-0'') with 2-12'-0'' lanes and 10'-0'' (or 8'-0'') shoulders (TBD).

A Maintenance of Traffic Alternates Analysis has indicated that 2 lanes of traffic along MD 355 should be maintained at all times during construction. In order to replace the bridge while maintaining traffic, the roadway alignment has been shifted to the southwest to accommodate a new bridge adjacent to the existing alignment. The new alignment requires that right-of-way be obtained from the Monocacy National Battlefield. The existing entrance to the 14th New Jersey Monument will be reconstructed east of its existing location to improve safety and accessibility to the monument.

Your agency has been identified as an agency with jurisdiction by law that may have an interest in the project due to your property ownership within the study area. With this letter, we extend your agency an invitation to become a participating and cooperating agency in the development of the environmental document for the MD 355 over CSX Transportation project. This designation does not imply that your agency supports any specific proposal.

Pursuant to Section 6002 of SAFETEA-LU, 23 U.S.C. 139, participating agencies are responsible to identify, as early as practicable, any issues of concern regarding the project's potential environmental or socioeconomic impacts that could substantially delay or prevent an agency from granting a permit or other approval that is needed for the project. We suggest that your agency's role in the development of the above project should include the following as they relate to your area of expertise:

- Provide meaningful and early input in determining the range of alternatives to be considered.
- Participate in coordination meetings and joint field reviews as appropriate.
- Provide timely review and comment on the draft and/or final environmental • documents to reflect the views and concerns of your agency on the adequacy of the document, alternatives considered, and the anticipated impacts and mitigation.

Please respond to the FHWA in writing with an acceptance or denial of the invitation prior to December 30, 2011. If declining the invitation, the response should state your reason for declining the invitation.

If you have any questions or would like to discuss this proposal and/or our agencies' respective roles and responsibilities during the development of the environmental document, please contact Ms. Jeanette Mar of my staff at (410) 779-7152 or Jeanette.mar@dot.gov.

Sincerely yours,

Jeanette Ma Bron Gregory Murrill

Division Administrator

4 NPPF 71 INECO2 PM 1:5

cc:

Mr. Steve Whitesell, Regional Director, National Capital Region, NPS

- Mr. Donald Sparklin, Division Chief, SHA
- Ms. Kelly Nash, Project Manager, SHA

Ms. Adriene Metzbower, Environmental Manager, SHA

Ms. Jorismar Torres, Area Engineer, FHWA

Consulting Parties for Monocacy National Battlefield (a National Historic Landmark)

Maryland Historical Trust (Maryland State Historic Preservation Office [SHPO]

Ms. Elizabeth Hughes State Historic Preservation Officer Maryland Historical Trust 100 Community Place Crownsville, MD 21032

Ms. Elizabeth J. Cole, Administrator, Project Review and Compliance Mr. Tim Tamburrino, Preservation Officer

Federal Highway Administration Maryland Division

Ms. Jeanette Mar Environmental Program Manager FHWA - Maryland Division 10 South Howard Street, Suite 2450 Baltimore, MD 21201

Mr. Daniel Suarez FHWA Area Engineer FHWA - Maryland Division 10 South Howard Street, Suite 2450 Baltimore, MD 21201

Department of the Interior (Monocacy National Battlefield, 11/12/1973)

National Park Service – Monocacy Battlefield Mr. Rick Slade Superintendent Monocacy National Battlefield National Park Service 4632 Araby Church Road Frederick MD 21704

Mr. Andrew Banasik, Resources Program Manager

Ms. Tammy Stidham Regional Director National Park Service [NCR] 100 Ohio Drive, S.W. Washington DC 20242 Ms. Joy Beasley Chief, Cultural Resources National Capital Region National Park Service 1100 Ohio Drive, SW Washington, DC 20242

National Historic Landmark

Ms. Kathryn Smith National Historic Landmark Coordinator NPS -National Capital Region 1100 Ohio Drive S.W. Washington DC 20241

14th New Jersey Monument within the MNB

Mark Texel, Director Div. of Parks and Forestry Dept. of Environmental Protection State of New Jersey 501 East State Street P.O. Box 404 Trenton, NJ 08675-0404

Mr. Tom Keck Regional Superintendent Southern Region Office State of New Jersey Dept. of Environmental Protection Division of Parks and Forestry 31 Batsto Road Hammonton, NJ 08037 609-704-1964

Advisory Council on Historic Preservation

Mr. Reid J. Nelson, Director Office of Agency Programs Advisory Council on Historic Preservation 1100 Pennsylvania Avenue, NW Suite 809 Washington DC 20004

Journey Through Hallowed Ground

Ms. Cate Magennis Wyatt President Journey Through Hallowed Ground P.O. Box 77 Waterford, VA 20197

Michelle (Kellogg) Burrelli, Chief Operating Officer

American Battlefield Protection Program

Mr. Paul Hawke (Kristen McMasters) American Battlefield Protection Program National Park Service 1201 Eye Street, N.W. (2255) Washington, D.C. 20005

Civil War Trust

Mr. O. James Lighthizer Attention: Mr. Paul Coussan 1156 15th Street NW, Suite 900 Washington, D.C 20005

Frederick County Sites Consortium

Ms. Elizabeth Scott Shatto 19 East Church Street Frederick, MD 21701

Frederick County Historic Preservation Commission

Mr. Denis Superczynski Frederick County Historic Preservation Commission Department of Planning and Zoning 30 North Market Street Frederick MD 21701

CSX Transportation

Mr. Patrick DesMarais Project Manager, Freight Rail Group CSX Transportation AECOM 1700 Market Street Suite 1600 Philadelphia, PA 19103

Civil War Roundtable

Mr. Jack Sheriff, President Frederick County Civil War Roundtable Post Office Box 3232 Frederick MD 21705-3232

<u>Monocacy Archaeological Society</u> Mr. Jeremy Lazelle, President

Mr. Jeremy Lazelle, President Monocacy Archaeological Society 9825 Barrick Road Woodsboro MD 21798


Beverley K. Swaim-Staley, *Secretary* Darrell B. Mobley, *Acting Administrator*

MARYLAND DEPARTMENT OF TRANSPORTATION

August 26, 2011

Re: Project No. FR559B21 MD 355 over CSXT Replacement of SHA Bridge No. 1008400 Frederick County, Maryland USGS *Buckeystown* 7.5' Quadrangle

Mr. Paul Hawke American Battlefield Protection Program 1201 Eye Street, N.W. (2255) WashingtonDC20005

Dear Mr. Hawke:

Introduction and Project Description

This letter serves to inform the American Battlefield Protection Program that the Maryland State Highway Administration (SHA) has notified the Maryland Historical Trust (MHT) about SHA's proposed Project No. FR559B21. The project involves replacement of SHA Bridge No. 1008400 on MD 355 over CSX Transportation (CSXT) at Frederick Junction in Frederick County. MD 355 is the former Georgetown Road, also known historically as the Georgetown Pike, the Washington Pike or the Urbana Pike. The project will occur within the Monocacy National Battlefield, a National Historic Landmark (NHL), MIHP No. F-3-42. MD 355 passes through the east side of the Monocacy National Battlefield. SHA has included a copy of the MHT notification letter with its attachments to this letter as Attachment 1. Please refer to it for additional information about this project.

As required by 36 CRF §800.10, SHA is also notifying the American Battlefield Protection Program about this bridge replacement project in order to request your participation in the Section 106 consultation with the Federal Highway Administration, the Maryland State Historic Preservation Officer (MHT) and the Maryland State Highway Administration.

Review Request

Mr. Paul Hawke MD 355 over CSXT Page Two

abruder@sha.state.md.us with questions regarding standing structures for this project. Ms. Carol A. Ebright may be reached at 410-545-2879 or cebright@sha.state.md.us with concerns regarding archeology.

Very truly yours,

Julie M. Schablitsky Assistant Division Chief Environmental Planning Division

Attachments: 1) Letter to the Maryland Historical Trust with Attachments

Ms. Anne E. Bruder, SHA-EPLD cc: Ms. Beth Cole/Mr. Tim Tamburrino, MHT Ms. Carol A. Ebright, SHA-EPLD Ms. Jeanette Mar, FHWA Ms. Adriene Metzbower, SHA-EPLD Ms. Kelly Nash, SHA-OOS Dr. Julie M. Schablitsky, SHA-EPLD Ms. Joris Torres-Hernandez, FHWA



Beverley K. Swaim-Staley, *Secretary* Darrell B. Mobley, *Acting Administrator*

MARYLAND DEPARTMENT OF TRANSPORTATION

September 1, 2011

Re: Project No. FR559B21 MD 355 over CSXT Replacement of Bridge No. 1008400 Frederick County, Maryland

Chief Stuart Patterson Tuscarora Nation, Chiefs Council 1983 Upper Mountain Rd. Sanborn, NY 14132

Dear Chief Patterson:

On behalf of the Federal Highway Administration (FHWA), the Maryland State Highway Administration (SHA) would like to inform the Tuscarora Nation that we are currently conducting planning and preliminary engineering studies for the replacement of the MD 355 bridge over CSXT railroad tracks at Frederick Junction in Frederick County, Maryland. The project will occur within the Monocacy National Battlefield, a National Historic Landmark. We invite you to consult on this project.

The project includes replacing the MD 355 bridge over CSXT on new alignment immediately to the west of the existing bridge. The project is located where the July 9, 1864 Battle of Monocacy was fought during the Civil War. We have enclosed a copy of the detailed MHT notification letter that summarizes the various cultural resources that will likely be impacted by this project. Please refer to it for additional information about this project (Attachment 1).

We invite you to consult with us on this project and assist us in the identification and discussion of cultural and environmental issues that may be relevant to the Tuscarora Nation. To facilitate your response, we have enclosed a MD SHA Tribal Consultation Project Notification Form (Attachment 2).

Chief Stuart Patterson MD 355 over CSXT Page Two

Thank you for reviewing this letter and the enclosed documentation. If we do not hear from you after 30 days, we will contact you by phone to address any questions or concerns on the project. If you have any questions, please do not hesitate to contact Carol Ebright at 410-545-2879 or via email at *cebright@sha.state.md.us*.

Very truly yours,

Darrell B. Mobley Acting Administrator

By:

Gregory I. Slater, Director

Office of Planning and Preliminary Engineering

Attachments: SHA Correspondence with MHT Tribal Project Notification Form

- cc: Ms. Kelly Nash, Project Manager, Environmental Planning Division, SHA Ms. April Fehr, Cultural Resources Team Leader, Environmental Planning Division, SHA
 - Mr. Keith Colston, Administrator, Maryland Commission on Indian Affairs

Ms. Carol Ebright, Senior Archeologist, Environmental Planning Division, SHA

Mr. Bruce Grey, Deputy Director, Office of Planning and Preliminary Engineering, SHA

Ms. Jeannette Mar, Environmental Specialist, FHWA

Mr. J. Rodney Little, MD SHPO

Ms. Noreen Raza, Public Involvement Coordinator, Environmental Planning Division, SHA

Dr. Julie Schablitsky, Assistant Division Chief-Cultural Resources, Environmental Planning Division, SHA

Ms. Adriene Metzbower, Environmental Manager, Environmental Planning Division, SHA



Beverley K. Swaim-Staley, *Secretary* Darrell B. Mobley, *Acting Administrator*

MARYLAND DEPARTMENT OF TRANSPORTATION

August 26, 2011

Re: Project No. FR559B21 MD 355 over CSXT Replacement of SHA Bridge No. 1008400 Frederick County, Maryland USGS *Buckeystown* 7.5' Quadrangle

Mr. Randall Rook CSX Transportation AECOM 1700 Market Street PhiladelphiaPA19103

Dear Mr. Rook:

Introduction and Project Description

This letter serves to inform the CSX Transportation that the Maryland State Highway Administration (SHA) has notified the Maryland Historical Trust (MHT) about SHA's proposed Project No. FR559B21. The project involves replacement of SHA Bridge No. 1008400 on MD 355 over CSX Transportation (CSXT) at Frederick Junction in Frederick County. MD 355 is the former Georgetown Road, also known historically as the Georgetown Pike, the Washington Pike or the Urbana Pike. The project will occur within the Monocacy National Battlefield, a National Historic Landmark (NHL), MIHP No. F-3-42. MD 355 passes through the east side of the Monocacy National Battlefield. SHA has included a copy of the MHT notification letter with its attachments to this letter as Attachment 1. Please refer to it for additional information about this project.

As required by 36 CRF §800.10, SHA is also notifying the CSX Transportation about this bridge replacement project in order to request your participation in the Section 106 consultation with the Federal Highway Administration, the Maryland State Historic Preservation Officer (MHT) and the Maryland State Highway Administration.

Review Request

Mr. Randall Rook MD 355 over CSXT Page Two

abruder@sha.state.md.us with questions regarding standing structures for this project. Ms. Carol A. Ebright may be reached at 410-545-2879 or cebright@sha.state.md.us with concerns regarding archeology.

Very truly yours, piltem

Julie M. Schablitsky Assistant Division Chief Environmental Planning Division

Attachments: 1) Letter to the Maryland Historical Trust with Attachments

cc: Ms. Anne E. Bruder, SHA-EPLD Ms. Beth Cole/Mr. Tim Tamburrino, MHT Ms. Carol A. Ebright, SHA-EPLD Ms. Jeanette Mar, FHWA Ms. Adriene Metzbower, SHA-EPLD Ms. Kelly Nash, SHA-OOS Dr. Julie M. Schablitsky, SHA-EPLD Ms. Joris Torres-Hernandez, FHWA



Beverley K. Swaim-Staley, *Secretary* Darrell B. Mobley, *Acting Administrator*

MARYLAND DEPARTMENT OF TRANSPORTATION

August 26, 2011

Re: Project No. FR559B21 MD 355 over CSXT Replacement of SHA Bridge No. 1008400 Frederick County, Maryland USGS *Buckeystown* 7.5' Quadrangle

Mr. O. James Lighthizer Civil War Trust 1331 H Street NW, Suite 1001 WashingtonDC20005

Dear Mr. Lighthizer:

Introduction and Project Description

This letter serves to inform the Civil War Trust that the Maryland State Highway Administration (SHA) has notified the Maryland Historical Trust (MHT) about SHA's proposed Project No. FR559B21. The project involves replacement of SHA Bridge No. 1008400 on MD 355 over CSX Transportation (CSXT) at Frederick Junction in Frederick County. MD 355 is the former Georgetown Road, also known historically as the Georgetown Pike, the Washington Pike or the Urbana Pike. The project will occur within the Monocacy National Battlefield, a National Historic Landmark (NHL), MIHP No. F-3-42. MD 355 passes through the east side of the Monocacy National Battlefield. SHA has included a copy of the MHT notification letter with its attachments to this letter as Attachment 1. Please refer to it for additional information about this project.

As required by 36 CRF §800.10, SHA is also notifying the Civil War Trust about this bridge replacement project in order to request your participation in the Section 106 consultation with the Federal Highway Administration, the Maryland State Historic Preservation Officer (MHT) and the Maryland State Highway Administration.

Review Request

Mr. O. James Lighthizer MD 355 over CSXT Page Two

abruder@sha.state.md.us with questions regarding standing structures for this project. Ms. Carol A. Ebright may be reached at 410-545-2879 or cebright@sha.state.md.us with concerns regarding archeology.

Very truly yours,

Julie M. Schablitsky Assistant Division Chief Environmental Planning Division

Attachments: 1) Letter to the Maryland Historical Trust with Attachments

Ms. Anne E. Bruder, SHA-EPLD cc: Ms. Beth Cole/Mr. Tim Tamburrino, MHT Ms. Carol A. Ebright, SHA-EPLD Ms. Jeanette Mar, FHWA Ms. Adriene Metzbower, SHA-EPLD Ms. Kelly Nash, SHA-OOS Dr. Julie M. Schablitsky, SHA-EPLD Ms. Joris Torres-Hernandez, FHWA



Beverley K. Swaim-Staley, *Secretary* Darrell B. Mobley, *Acting Administrator*

Maryland Department of Transportation

Re:

November 8, 2011

Project No. FR559B21 MD 355 over CSXT Replacement of Bridge No. 1008400 Frederick County, Maryland

Dr. Brice Obermeyer, THPO Delaware Tribe Historic Preservation Office 1420 C of E Drive, Suite 190 Emporia, KD 66801

Dear Dr. Obermeyer:

On behalf of the Federal Highway Administration (FHWA), the Maryland State Highway Administration (SHA) would like to inform the Delaware Tribe that we are currently conducting planning and preliminary engineering studies for the replacement of the MD 355 bridge over CSXT railroad tracks at Frederick Junction in Frederick County, Maryland. The project will occur within the Monocacy National Battlefield, a National Historic Landmark. We invite you to consult on this project.

The project includes replacing the MD 355 bridge over CSXT on new alignment immediately to the west of the existing bridge. The project is located where the July 9, 1864 Battle of Monocacy was fought during the Civil War. We have enclosed a copy of the detailed MHT notification letter that summarizes the various cultural resources that will likely be impacted by this project. Please refer to it for additional information about this project (Attachment 1).

We invite you to consult with us on this project and assist us in the identification and discussion of cultural and environmental issues that may be relevant to the Delaware Tribe. To facilitate your response, we have enclosed a MD SHA Tribal Consultation Project Notification Form (Attachment 2).

Dr. Brice Obermeyer MD 355 over CSXT Page Two

Thank you for reviewing this letter and the enclosed documentation. If we do not hear from you after 30 days, we will contact you by phone to address any questions or concerns on the project. If you have any questions, please do not hesitate to contact Carol Ebright at 410-545-2879 or via email at *cebright@sha.state.md.us*.

Very truly yours,

Darrell B. Mobley Acting Administrator Gregory). Slater, Director Office of Planning and **Preliminary Engineering**

Attachments: SHA Correspondence with MHT Tribal Project Notification Form

cc: Mr. Keith Colston, Administrator, Maryland Commission on Indian Affairs

Ms. Carol Ebright, Senior Archeologist, EPLD-SHA

Ms. April Fehr, Cultural Resources Team Leader, EPLD-SHA

Mr. Bruce Grey, Deputy Director, OPPE-SHA

Mr. Kerry Holton, President, Delaware Nation

Mr. J. Rodney Little, MD SHPO

Ms. Jeannette Mar, Environmental Specialist, FHWA

Ms. Adriene Metzbower, Environmental Manager, EPLD-SHA

Ms. Kelly Nash, Project Manager, OOS-SHA

Ms. Noreen Raza, Public Involvement Coordinator, EPLD-SHA

Dr. Julie Schablitsky, Assistant Division Chief-Cultural Resources, EPLD-SHA



Beverley K. Swaim-Staley, *Secretary* Darrell B. Mobley, *Acting Administrator*

MARYLAND DEPARTMENT OF TRANSPORTATION

September 1, 2011

Re: Project No. FR559B21 MD 355 over CSXT Replacement of Bridge No. 1008400 Frederick County, Maryland

Ms. Robin Dushane Cultural Preservation Director Eastern Shawnee Tribe P.O. Box 350 Seneca, MO 64865

Dear Ms. Dushane:

On behalf of the Federal Highway Administration (FHWA), the Maryland State Highway Administration (SHA) would like to inform the Eastern Shawnee Tribe that we are currently conducting planning and preliminary engineering studies for the replacement of the MD 355 bridge over CSXT railroad tracks at Frederick Junction in Frederick County, Maryland. The project will occur within the Monocacy National Battlefield, a National Historic Landmark. We invite you to consult on this project.

The project includes replacing the MD 355 bridge over CSXT on new alignment immediately to the west of the existing bridge. The project is located where the July 9, 1864 Battle of Monocacy was fought during the Civil War. We have enclosed a copy of the detailed MHT notification letter that summarizes the various cultural resources that will likely be impacted by this project. Please refer to it for additional information about this project (Attachment 1).

We invite you to consult with us on this project and assist us in the identification and discussion of cultural and environmental issues that may be relevant to the Eastern Shawnee Tribe. To facilitate your response, we have enclosed a MD SHA Tribal Consultation Project Notification Form (Attachment 2).

Street Address: 707 North Calvert Street • Baltimore, Maryland 21202 • Phone 410.545.0300 • www.roads.maryland.gov

Ms. Robin Dushane MD 355 over CSXT Page Two

Thank you for reviewing this letter and the enclosed documentation. If we do not hear from you after 30 days, we will contact you by phone to address any questions or concerns on the project. If you have any questions, please do not hesitate to contact Carol Ebright at 410-545-2879 or via email at *cebright@sha.state.md.us*.

Very truly yours,

Darrell B. Mobley Acting Administrator

By:

Gregory I. Slater, Director Office of Planning and Preliminary Engineering

Attachments: SHA Correspondence with MHT Tribal Project Notification Form

- cc: Ms. Kelly Nash, Project Manager, Environmental Planning Division, SHA
 Ms. April Fehr, Cultural Resources Team Leader, Environmental Planning Division, SHA
 - Mr. Keith Colston, Administrator, Maryland Commission on Indian Affairs

Ms. Carol Ebright, Senior Archeologist, Environmental Planning Division, SHA

Mr. Bruce Grey, Deputy Director, Office of Planning and Preliminary Engineering, SHA

Ms. Jeannette Mar, Environmental Specialist, FHWA

Mr. J. Rodney Little, MD SHPO

Ms. Noreen Raza, Public Involvement Coordinator, Environmental Planning Division, SHA

Dr. Julie Schablitsky, Assistant Division Chief-Cultural Resources, Environmental Planning Division, SHA

Ms. Adriene Metzbower, Environmental Manager, Environmental Planning Division, SHA



Beverley K. Swaim-Staley, *Secretary* Darrell B. Mobley, *Acting Administrator*

MARYLAND DEPARTMENT OF TRANSPORTATION

September 1, 2011

Re: Project No. FR559B21 MD 355 over CSXT Replacement of Bridge No. 1008400 Frederick County, Maryland

Tony Gonyea, Faithkeeper RR 1, Box 319 B Nedrow, NY 13120

Dear Faithkeeper Gonyea:

On behalf of the Federal Highway Administration (FHWA), the Maryland State Highway Administration (SHA) would like to inform the Onondaga Nation that we are currently conducting planning and preliminary engineering studies for the replacement of the MD 355 bridge over CSXT railroad tracks at Frederick Junction in Frederick County, Maryland. The project will occur within the Monocacy National Battlefield, a National Historic Landmark. We invite you to consult on this project.

The project includes replacing the MD 355 bridge over CSXT on new alignment immediately to the west of the existing bridge. The project is located where the July 9, 1864 Battle of Monocacy was fought during the Civil War. We have enclosed a copy of the detailed MHT notification letter that summarizes the various cultural resources that will likely be impacted by this project. Please refer to it for additional information about this project (Attachment 1).

We invite you to consult with us on this project and assist us in the identification and discussion of cultural and environmental issues that may be relevant to the Onondaga Nation. To facilitate your response, we have enclosed a MD SHA Tribal Consultation Project Notification Form (Attachment 2).

Street Address: 707 North Calvert Street • Baltimore, Maryland 21202 • Phone 410.545.0300 • www.roads.maryland.gov

Tony Gonyea, Faithkeeper MD 355 over CSXT Page Two

Thank you for reviewing this letter and the enclosed documentation. If we do not hear from you after 30 days, we will contact you by phone to address any questions or concerns on the project. If you have any questions, please do not hesitate to contact Carol Ebright at 410-545-2879 or via email at *cebright@sha.state.md.us*.

Very truly yours,

Darrell B. Mobley Acting Administrator

By:

Gregory I. Slater, Director Office of Planning and Preliminary Engineering

Attachments: SHA Correspondence with MHT Tribal Project Notification Form

cc: Ms. Kelly Nash, Project Manager, Office of Structures, SHA

Ms. April Fehr, Cultural Resources Team Leader, Environmental Planning Division, SHA

Mr. Keith Colston, Administrator, Maryland Commission on Indian Affairs

Ms. Carol Ebright, Senior Archeologist, Environmental Planning Division, SHA

Mr. Bruce Grey, Deputy Director, Office of Planning and Preliminary Engineering, SHA

Ms. Jeannette Mar, Environmental Specialist, FHWA

Mr. J. Rodney Little, MD SHPO

Ms. Noreen Raza, Public Involvement Coordinator, Environmental Planning Division, SHA

Dr. Julie Schablitsky, Assistant Division Chief-Cultural Resources, Environmental Planning Division, SHA

Ms. Adriene Metzbower, Environmental Manager, Environmental Planning Division, SHA



Beverley K. Swaim-Staley, *Secretary* Darrell B. Mobley, *Acting Administrator*

MARYLAND DEPARTMENT OF TRANSPORTATION

Re:

August 26, 2011

Project No. FR559B21 MD 355 over CSXT Replacement of SHA Bridge No. 1008400 Frederick County, Maryland USGS *Buckeystown* 7.5' Quadrangle

Ms. Elizabeth Scott Shatto Frederick County Sites Consortium 19 East Church Street FrederickMD21701

Dear Ms. Shatto:

Introduction and Project Description

This letter serves to inform the Frederick County Sites Consortium that the Maryland State Highway Administration (SHA) has notified the Maryland Historical Trust (MHT) about SHA's proposed Project No. FR559B21. The project involves replacement of SHA Bridge No. 1008400 on MD 355 over CSX Transportation (CSXT) at Frederick Junction in Frederick County. MD 355 is the former Georgetown Road, also known historically as the Georgetown Pike, the Washington Pike or the Urbana Pike. The project will occur within the Monocacy National Battlefield, a National Historic Landmark (NHL), MIHP No. F-3-42. MD 355 passes through the east side of the Monocacy National Battlefield. SHA has included a copy of the MHT notification letter with its attachments to this letter as Attachment 1. Please refer to it for additional information about this project.

As required by 36 CRF §800.10, SHA is also notifying the Frederick County Sites Consortium about this bridge replacement project in order to request your participation in the Section 106 consultation with the Federal Highway Administration, the Maryland State Historic Preservation Officer (MHT) and the Maryland State Highway Administration.

Review Request

Please examine the attached letter and accompanying maps and plans. We request your agreement to participate in the consultation and to recommend any additional consulting parties by September 30, 2011. If no response is received by September 30, 2011, we will assume that your office declines to participate. Please contact Ms. Anne E. Bruder at 410-545-8559 or

Street Address: 707 North Calvert Street • Baltimore, Maryland 21202 • Phone 410.545.0300 • www.roads.maryland.gov

Ms. Elizabeth Scott Shatto MD 355 over CSXT Page Two

abruder@sha.state.md.us with questions regarding standing structures for this project. Ms. Carol A. Ebright may be reached at 410-545-2879 or cebright@sha.state.md.us with concerns regarding archeology.

Very truly yours, April Fehr Julie M. Schablitsky

Julie M. Schablitsky Assistant Division Chief Environmental Planning Division

Attachments: 1) Letter to the Maryland Historical Trust with Attachments

cc: Ms. Anne E. Bruder, SHA-EPLD Ms. Beth Cole/Mr. Tim Tamburrino, MHT Ms. Carol A. Ebright, SHA-EPLD Ms. Jeanette Mar, FHWA Ms. Adriene Metzbower, SHA-EPLD Ms. Kelly Nash, SHA-OOS Dr. Julie M. Schablitsky, SHA-EPLD Ms. Joris Torres-Hernandez, FHWA



Beverley K. Swaim-Staley, *Secretary* Darrell B. Mobley, *Acting Administrator*

MARYLAND DEPARTMENT OF TRANSPORTATION

Re:

August 26, 2011

Project No. FR559B21 MD 355 over CSXT Replacement of SHA Bridge No. 1008400 Frederick County, Maryland USGS *Buckeystown* 7.5' Quadrangle

Mr. Dennis Superczynski Frederick County Historic District Commission 12 East Church Street FrederickMD21701

Dear Mr. Superczynski:

Introduction and Project Description

This letter serves to inform the Frederick County Historic Preservation Commission that the Maryland State Highway Administration (SHA) has notified the Maryland Historical Trust (MHT) about SHA's proposed Project No. FR559B21. The project involves replacement of SHA Bridge No. 1008400 on MD 355 over CSX Transportation (CSXT) at Frederick Junction in Frederick County. MD 355 is the former Georgetown Road, also known historically as the Georgetown Pike, the Washington Pike or the Urbana Pike. The project will occur within the Monocacy National Battlefield, a National Historic Landmark (NHL), MIHP No. F-3-42. MD 355 passes through the east side of the Monocacy National Battlefield. SHA has included a copy of the MHT notification letter with its attachments to this letter as Attachment 1. Please refer to it for additional information about this project.

As required by 36 CRF §800.10, SHA is also notifying the Frederick County Historic Preservation Commission about this bridge replacement project in order to request your participation in the Section 106 consultation with the Federal Highway Administration, the Maryland State Historic Preservation Officer (MHT) and the Maryland State Highway Administration.

Review Request

Mr. Dennis Superczynski MD 355 over CSXT Page Two

abruder@sha.state.md.us with questions regarding standing structures for this project. Ms. Carol A. Ebright may be reached at 410-545-2879 or cebright@sha.state.md.us with concerns regarding archeology.

Very truly yours,



Julie M. Schablitsky Assistant Division Chief Environmental Planning Division

Attachments: 1) Letter to the Maryland Historical Trust with Attachments

Ms. Anne E. Bruder, SHA-EPLD cc: Ms. Beth Cole/Mr. Tim Tamburrino, MHT Ms. Carol A. Ebright, SHA-EPLD Ms. Jeanette Mar, FHWA Ms. Adriene Metzbower, SHA-EPLD Ms. Kelly Nash, SHA-OOS Dr. Julie M. Schablitsky, SHA-EPLD Ms. Joris Torres-Hernandez, FHWA



Beverley K. Swaim-Staley, *Secretary* Darrell B. Mobley, *Acting Administrator*

MARYLAND DEPARTMENT OF TRANSPORTATION

September 1, 2011

Re: Pr M

Project No. FR559B21 MD 355 over CSXT Replacement of Bridge No. 1008400 Frederick County, Maryland

Mr. Raymond Halbritter Nation Representative Oneida Indian Nation 5218 Patrick Road Verona, NY 13478

Dear Representative Halbritter:

On behalf of the Federal Highway Administration (FHWA), the Maryland State Highway Administration (SHA) would like to inform the Oneida Indian Nation that we are currently conducting planning and preliminary engineering studies for the replacement of the MD 355 bridge over CSXT railroad tracks at Frederick Junction in Frederick County, Maryland. The project will occur within the Monocacy National Battlefield, a National Historic Landmark. We invite you to consult on this project.

The project includes replacing the MD 355 bridge over CSXT on new alignment immediately to the west of the existing bridge. The project is located where the July 9, 1864 Battle of Monocacy was fought during the Civil War. We have enclosed a copy of the detailed MHT notification letter that summarizes the various cultural resources that will likely be impacted by this project. Please refer to it for additional information about this project (Attachment 1).

We invite you to consult with us on this project and assist us in the identification and discussion of cultural and environmental issues that may be relevant to the Oneida Indian Nation. To facilitate your response, we have enclosed a MD SHA Tribal Consultation Project Notification Form (Attachment 2).

Street Address: 707 North Calvert Street • Baltimore, Maryland 21202 • Phone 410.545.0300 • www.roads.maryland.gov

Mr. Raymond Halbritter MD 355 over CSXT Page Two

Thank you for reviewing this letter and the enclosed documentation. If we do not hear from you after 30 days, we will contact you by phone to address any questions or concerns on the project. If you have any questions, please do not hesitate to contact Carol Ebright at 410-545-2879 or via email at *cebright@sha.state.md.us*.

Very truly yours,

Darrell B. Mobley Acting Administrator

By:

Gregory I. Slater, Director

Office of Planning and Preliminary Engineering

Attachments: SHA Correspondence with MHT Tribal Project Notification Form

cc: Ms. Kelly Nash, Project Manager, Environmental Planning Division, SHA Mr. Jesse Bergevin, Oneida Indian Nation

Ms. April Fehr, Cultural Resources Team Leader, Environmental Planning Division, SHA

Mr. Keith Colston, Administrator, Maryland Commission on Indian Affairs

Ms. Carol Ebright, Senior Archeologist, Environmental Planning Division, SHA

Mr. Bruce Grey, Deputy Director, Office of Planning and Preliminary Engineering, SHA

Ms. Jeannette Mar, Environmental Specialist, FHWA

Mr. J. Rodney Little, MD SHPO

Ms. Noreen Raza, Public Involvement Coordinator, Environmental Planning Division, SHA

Dr. Julie Schablitsky, Assistant Division Chief-Cultural Resources, Environmental Planning Division, SHA

Ms. Adriene Metzbower, Environmental Manager, Environmental Planning Division, SHA



Beverley K. Swaim-Staley, *Secretary* Darrell B. Mobley, *Acting Administrator*

MARYLAND DEPARTMENT OF TRANSPORTATION

August 26, 2011

Re: Project No. FR559B21 MD 355 over CSXT Replacement of SHA Bridge No. 1008400 Frederick County, Maryland USGS *Buckeystown* 7.5' Quadrangle

Ms. Cate Magennis Wyatt President Journey through Hallowed Ground P.O. Box 77 WaterfordVA20197

Dear Ms. Wyatt:

Introduction and Project Description

This letter serves to inform the Journey Through Hallowed Ground that the Maryland State Highway Administration (SHA) has notified the Maryland Historical Trust (MHT) about SHA's proposed Project No. FR559B21. The project involves replacement of SHA Bridge No. 1008400 on MD 355 over CSX Transportation (CSXT) at Frederick Junction in Frederick County. MD 355 is the former Georgetown Road, also known historically as the Georgetown Pike, the Washington Pike or the Urbana Pike. The project will occur within the Monocacy National Battlefield, a National Historic Landmark (NHL), MIHP No. F-3-42. MD 355 passes through the east side of the Monocacy National Battlefield. SHA has included a copy of the MHT notification letter with its attachments to this letter as Attachment 1. Please refer to it for additional information about this project.

As required by 36 CRF §800.10, SHA is also notifying the Journey Through Hallowed Ground about this bridge replacement project in order to request your participation in the Section 106 consultation with the Federal Highway Administration, the Maryland State Historic Preservation Officer (MHT) and the Maryland State Highway Administration.

Review Request

Ms. Cate Magennis Wyatt MD 355 over CSXT Page Two

abruder@sha.state.md.us with questions regarding standing structures for this project. Ms. Carol A. Ebright may be reached at 410-545-2879 or cebright@sha.state.md.us with concerns regarding archeology.

Very truly yours, silten

for

Julie M. Schablitsky Assistant Division Chief Environmental Planning Division

Attachments: 1) Letter to the Maryland Historical Trust with Attachments

cc: Ms. Anne E. Bruder, SHA-EPLD Ms. Beth Cole/Mr. Tim Tamburrino, MHT Ms. Carol A. Ebright, SHA-EPLD Ms. Jeanette Mar, FHWA Ms. Adriene Metzbower, SHA-EPLD Ms. Kelly Nash, SHA-OOS Dr. Julie M. Schablitsky, SHA-EPLD Ms. Joris Torres-Hernandez, FHWA



Beverley K. Swaim-Staley, *Secretary* Darrell B. Mobley, *Acting Administrator*

MARYLAND DEPARTMENT OF TRANSPORTATION

Re:

September 1, 2011

Project No. FR559B21 MD 355 over CSXT Replacement of Bridge No. 1008400 Frederick County, Maryland

Ms. Karen Kaniatobe Absentee-Shawnee Tribe of Oklahoma Tribal Historic Preservation Officer 2025 S. Gordon Cooper Drive Shawnee, OK 74801

Dear Ms. Kaniatobe:

On behalf of the Federal Highway Administration (FHWA), the Maryland State Highway Administration (SHA) would like to inform the Absentee-Shawnee Tribe of Oklahoma that we are currently conducting planning and preliminary engineering studies for the replacement of the MD 355 bridge over CSXT railroad tracks at Frederick Junction in Frederick County, Maryland. The project will occur within the Monocacy National Battlefield, a National Historic Landmark. We invite you to consult on this project.

The project includes replacing the MD 355 bridge over CSXT on new alignment immediately to the west of the existing bridge. The project is located where the July 9, 1864 Battle of Monocacy was fought during the Civil War. We have enclosed a copy of the detailed MHT notification letter that summarizes the various cultural resources that will likely be impacted by this project. Please refer to it for additional information about this project (Attachment 1).

We invite you to consult with us on this project and assist us in the identification and discussion of cultural and environmental issues that may be relevant to the Absentee-Shawnee Tribe of Oklahoma. To facilitate your response, we have enclosed a MD SHA Tribal Consultation Project Notification Form (Attachment 2).

My telephone number/toll-free number is __________ Maryland Relay Service for Impaired Hearing or Speech 1.800.735.2258 Statewide Toll Free Ms. Karen Kaniatobe MD 355 over CSXT Page Two

Thank you for reviewing this letter and the enclosed documentation. If we do not hear from you after 30 days, we will contact you by phone to address any questions or concerns on the project. If you have any questions, please do not hesitate to contact Carol Ebright at 410-545-2879 or via email at *cebright@sha.state.md.us*.

Very truly yours,

Darrell B. Mobley Acting Administrator

By:

B. M.S

Gregory I. Slater, Director Office of Planning and Preliminary Engineering

Attachments: SHA Correspondence with MHT Tribal Project Notification Form

- cc: Ms. Kelly Nash, Project Manager, Environmental Planning Division, SHA Ms. April Fehr, Cultural Resources Team Leader, Environmental Planning Division, SHA
 - Mr. Keith Colston, Administrator, Maryland Commission on Indian Affairs

Ms. Carol Ebright, Senior Archeologist, Environmental Planning Division, SHA

Mr. Bruce Grey, Deputy Director, Office of Planning and Preliminary Engineering, SHA

Ms. Jeannette Mar, Environmental Specialist, FHWA

Mr. J. Rodney Little, MD SHPO

Ms. Noreen Raza, Public Involvement Coordinator, Environmental Planning Division, SHA

Dr. Julie Schablitsky, Assistant Division Chief-Cultural Resources, Environmental Planning Division, SHA

Ms. Adriene Metzbower, Environmental Manager, Environmental Planning Division, SHA



Beverley K. Swaim-Staley, Secretary Darrell B. Mobley, Acting Administrator

MARYLAND DEPARTMENT OF TRANSPORTATION

August 26, 2011

Re:

Project No. FR559B21 MD 355 over CSXT Replacement of SHA Bridge No. 1008400 Frederick County, Maryland USGS Buckevstown 7.5' Quadrangle

Ms. Susan Trail Superintendent Monocacy National Battlefield 480 Urbana Pike FrederickMD21704

Dear Ms. Trail:

Introduction and Project Description

This letter serves to inform the National Park Service -- Monocacy National Battlefield that the Maryland State Highway Administration (SHA) has notified the Maryland Historical Trust (MHT) about SHA's proposed Project No. FR559B21. The project involves replacement of SHA Bridge No. 1008400 on MD 355 over CSX Transportation (CSXT) at Frederick Junction in Frederick County. MD 355 is the former Georgetown Road, also known historically as the Georgetown Pike, the Washington Pike or the Urbana Pike. The project will occur within the Monocacy National Battlefield, a National Historic Landmark (NHL). MD 355 passes through the east side of the Monocacy National Battlefield. SHA has included a copy of the MHT notification letter with its attachments to this letter as Attachment 1. Please refer to it for additional information about this project.

As required by 36 CRF §800.10, SHA is also notifying the National Park Service --Monocacy National Battlefield about this bridge replacement project in order to request your participation in the Section 106 consultation with the Federal Highway Administration, the Maryland State Historic Preservation Officer (MHT) and the Maryland State Highway Administration.

Review Request

Ms. Susan Trail MD 355 over CSXT Page Two

abruder@sha.state.md.us with questions regarding standing structures for this project. Ms. Carol A. Ebright may be reached at 410-545-2879 or cebright@sha.state.md.us with concerns regarding archeology.

Very truly yours, April Fehr Julie M. Schablitsky

for Jul Ass En

Julie M. Schablitsky Assistant Division Chief Environmental Planning Division

Attachments: 1) Letter to the Maryland Historical Trust with Attachments

cc: Ms. Anne E. Bruder, SHA-EPLD
Ms. Beth Cole/Mr. Tim Tamburrino, MHT
Ms. Carol A. Ebright, SHA-EPLD
Ms. Jeanette Mar, FHWA
Ms. Adriene Metzbower, SHA-EPLD
Ms. Kelly Nash, SHA-OOS
Dr. Julie M. Schablitsky, SHA-EPLD
Ms. Joris Torres-Hernandez, FHWA



Beverley K. Swaim-Staley, *Secretary* Darrell B. Mobley, *Acting Administrator*

MARYLAND DEPARTMENT OF TRANSPORTATION

August 26, 2011

Re: Project No. FR559B21 MD 355 over CSXT Replacement of SHA Bridge No. 1008400 Frederick County, Maryland USGS *Buckeystown* 7.5' Quadrangle

Ms. Catherine Turton NHL Program Director National Park Service -- NPS Northeast Region 200 Chestnut Street PhiladelphiaPA19106

Dear Ms. Turton:

Introduction and Project Description

This letter serves to inform the National Historic Landmark Program that the Maryland State Highway Administration (SHA) has notified the Maryland Historical Trust (MHT) about SHA's proposed Project No. FR559B21. The project involves replacement of SHA Bridge No. 1008400 on MD 355 over CSX Transportation (CSXT) at Frederick Junction in Frederick County. MD 355 is the former Georgetown Road, also known historically as the Georgetown Pike, the Washington Pike or the Urbana Pike. The project will occur within the Monocacy National Battlefield, a National Historic Landmark (NHL). MD 355 passes through the east side of the Monocacy National Battlefield. SHA has included a copy of the MHT notification letter with its attachments to this letter as Attachment 1. Please refer to it for additional information about this project.

As required by 36 CRF §800.10, SHA is also notifying the National Historic Landmark Program about this bridge replacement project in order to request your participation in the Section 106 consultation with the Federal Highway Administration, the Maryland State Historic Preservation Officer (MHT) and the Maryland State Highway Administration.

Review Request

Ms. Catherine Turton MD 355 over CSXT Page Two

abruder@sha.state.md.us with questions regarding standing structures for this project. Ms. Carol A. Ebright may be reached at 410-545-2879 or cebright@sha.state.md.us with concerns regarding archeology.

Very truly yours, *ipid Jehn* Julie M. Schablitsky Assistant Division Chief Environmental Planning Division

Attachments: 1) Letter to the Maryland Historical Trust with Attachments

Ms. Anne E. Bruder, SHA-EPLD cc: Ms. Beth Cole/Mr. Tim Tamburrino, MHT Ms. Carol A. Ebright, SHA-EPLD Ms. Jeanette Mar, FHWA Ms. Adriene Metzbower, SHA-EPLD Ms. Kelly Nash, SHA-OOS Dr. Julie M. Schablitsky, SHA-EPLD Ms. Joris Torres-Hernandez, FHWA



Beverley K. Swaim-Staley, *Secretary* Darrell B. Mobley, *Acting Administrator*

MARYLAND DEPARTMENT OF TRANSPORTATION

August 26, 2011

Re: Project No. FR559B21 MD 355 over CSXT Replacement of SHA Bridge No. 1008400 Frederick County, Maryland USGS *Buckeystown* 7.5' Quadrangle

Mr. Tom Keck Regional Superintendent Divison of Parks and Forestry Department of Environmental Protection 1168 Route 542 Egg Harbor CityNJ08215

Dear Mr. Keck:

Introduction and Project Description

This letter serves to inform the State of New Jersey that the Maryland State Highway Administration (SHA) has notified the Maryland Historical Trust (MHT) about SHA's proposed Project No. FR559B21. The project involves replacement of SHA Bridge No. 1008400 on MD 355 over CSX Transportation (CSXT) at Frederick Junction in Frederick County. MD 355 is the former Georgetown Road, also known historically as the Georgetown Pike, the Washington Pike or the Urbana Pike. The project will occur within the Monocacy National Battlefield, a National Historic Landmark (NHL), MIHP No. F-3-42. MD 355 passes through the east side of the Monocacy National Battlefield. SHA has included a copy of the MHT notification letter with its attachments to this letter as Attachment 1. Please refer to it for additional information about this project.

As required by 36 CRF §800.10, SHA is also notifying the State of New Jersey about this bridge replacement project in order to request your participation in the Section 106 consultation with the Federal Highway Administration, the Maryland State Historic Preservation Officer (MHT) and the Maryland State Highway Administration.

Review Request

Mr. Tom Keck MD 355 over CSXT Page Two

abruder@sha.state.md.us with questions regarding standing structures for this project. Ms. Carol A. Ebright may be reached at 410-545-2879 or cebright@sha.state.md.us with concerns regarding archeology.

Very truly yours,

Julie M. Schablitsky

Julie M. Schablitsky Assistant Division Chief - Environmental Planning Division

Attachments: 1) Letter to the Maryland Historical Trust with Attachments

cc: Ms. Anne E. Bruder, SHA-EPLD Ms. Beth Cole/Mr. Tim Tamburrino, MHT Ms. Carol A. Ebright, SHA-EPLD Ms. Jeanette Mar, FHWA Ms. Adriene Metzbower, SHA-EPLD Ms. Kelly Nash, SHA-OOS Dr. Julie M. Schablitsky, SHA-EPLD Ms. Joris Torres-Hernandez, FHWA



Beverley K. Swaim-Staley, *Secretary* Darrell B. Mobley, *Acting Administrator*

MARYLAND DEPARTMENT OF TRANSPORTATION

August 26, 2011

Re: Project No. FR559B21 MD 355 over CSXT Replacement of SHA Bridge No. 1008400 Frederick County, Maryland

USGS Buckeystown 7.5' Quadrangle

Mr. Steve Whitesell Regional Director National Park Service -- National Capital Region Attn: Mr. David Hayes, Regional Trnasportation Liaison 1000 Ohio Drive SW WashingtonDC20242

Dear Mr. Whitesell:

Introduction and Project Description

This letter serves to inform the National Park Service -- National Capital Region that the Maryland State Highway Administration (SHA) has notified the Maryland Historical Trust (MHT) about SHA's proposed Project No. FR559B21. The project involves replacement of SHA Bridge No. 1008400 on MD 355 over CSX Transportation (CSXT) at Frederick Junction in Frederick County. MD 355 is the former Georgetown Road, also known historically as the Georgetown Pike, the Washington Pike or the Urbana Pike. The project will occur within the Monocacy National Battlefield, a National Historic Landmark (NHL). MD 355 passes through the east side of the Monocacy National Battlefield. SHA has included a copy of the MHT notification letter with its attachments to this letter as Attachment 1. Please refer to it for additional information about this project.

As required by 36 CRF §800.10, SHA is also notifying the National Park Service --National Capital Region about this bridge replacement project in order to request your participation in the Section 106 consultation with the Federal Highway Administration, the Maryland State Historic Preservation Officer (MHT) and the Maryland State Highway Administration.

Review Request

Mr. Steve Whitesell MD 355 over CSXT Page Two

abruder@sha.state.md.us with questions regarding standing structures for this project. Ms. Carol A. Ebright may be reached at 410-545-2879 or cebright@sha.state.md.us with concerns regarding archeology.

Very truly yours, Julie M. Schablitsky

Julié M. Schablitsky Assistant Division Chief Environmental Planning Division

Attachments: 1) Letter to the Maryland Historical Trust with Attachments

cc: Ms. Anne E. Bruder, SHA-EPLD Ms. Beth Cole/Mr. Tim Tamburrino, MHT Ms. Carol A. Ebright, SHA-EPLD Ms. Jeanette Mar, FHWA Ms. Adriene Metzbower, SHA-EPLD Ms. Kelly Nash, SHA-OOS Dr. Julie M. Schablitsky, SHA-EPLD Ms. Joris Torres-Hernandez, FHWA



Beverley K. Swaim-Staley, *Secretary* Darrell B. Mobley, *Acting Administrator*

MARYLAND DEPARTMENT OF TRANSPORTATION

November 8, 2011

Re: Project No. FR559B21 MD 355 over CSXT Replacement of Bridge No. 1008400 Frederick County, Maryland

Ms. Kim Jumper Shawnee Tribe P.O. Box 189 Miami, OK 74355

Dear Ms. Jumper:

On behalf of the Federal Highway Administration (FHWA), the Maryland State Highway Administration (SHA) would like to inform the Shawnee Tribe that we are currently conducting planning and preliminary engineering studies for the replacement of the MD 355 bridge over CSXT railroad tracks at Frederick Junction in Frederick County, Maryland. The project will occur within the Monocacy National Battlefield, a National Historic Landmark. We invite you to consult on this project.

The project includes replacing the MD 355 bridge over CSXT on new alignment immediately to the west of the existing bridge. The project is located where the July 9, 1864 Battle of Monocacy was fought during the Civil War. We have enclosed a copy of the detailed MHT notification letter that summarizes the various cultural resources that will likely be impacted by this project. Please refer to it for additional information about this project (Attachment 1).

We invite you to consult with us on this project and assist us in the identification and discussion of cultural and environmental issues that may be relevant to the Shawnee Tribe. To facilitate your response, we have enclosed a MD SHA Tribal Consultation Project Notification Form (Attachment 2).

My telephone number/toll-free number is

Maryland Relay Service for Impaired Hearing or Speech 1.800.735.2258 Statewide Toll Free

Street Address: 707 North Calvert Street • Baltimore, Maryland 21202 • Phone 410.545.0300 • www.roads.maryland.gov

Ms. Kim Jumper MD 355 over CSXT Page Two

Thank you for reviewing this letter and the enclosed documentation. If we do not hear from you after 30 days, we will contact you to address any questions or concerns on the project. If you have any questions, please do not hesitate to contact Carol Ebright at 410-545-2879 or via email at *cebright@sha.state.md.us*.

Very truly yours,

Darrell B. Mobley Acting Administrator Λ By Gregory I/Slater, Director Office of Planning and

Office of Planning and Preliminary Engineering

Attachments: SHA Correspondence with MHT Tribal Project Notification Form

cc: Mr. Keith Colston, Administrator, Maryland Commission on Indian Affairs Ms. Carol Ebright, Senior Archeologist, EPLD-SHA

Ms. April Fehr, Cultural Resources Team Leader, EPLD-SHA

Mr. Bruce Grey, Deputy Director, OPPE-SHA

Mr. J. Rodney Little, MD SHPO

Ms. Jeannette Mar, Environmental Specialist, FHWA

Ms. Adriene Metzbower, Environmental Manager, EPLD-SHA

Ms. Kelly Nash, Project Manager, OOS-SHA

Ms. Noreen Raza, Public Involvement Coordinator, EPLD-SHA

Dr. Julie Schablitsky, Assistant Division Chief-Cultural Resources, EPLD-SHA



Delaware Tribe Historic Preservation Office

1420 C of E Drive, Suite 190 Emporia, KS 66801 (620) 340-0111 bobermeyer@delawaretribe.org January 14, 2012 Jang D

2

State Highway Administration Maryland Department of Transportation Attn: Gregory I. Slater 707 North Calvert Street Baltimore, Maryland 21202

Re: Project #FR559B21; MD 355 over CSXT; Replacement of Bridge #1008400; Frederick County, Maryland

Dear Gregory I. Slater:

Thank you for informing the Delaware Tribe on the proposed construction associated with the above referenced project. Our review indicates that there are no religious or culturally significant sites in the project area. As such, we defer comment to your office as well as to the State Historic Preservation Office and/or the State Archaeologist.

We wish to continue as a consulting party on this project and look forward to receiving a copy of the cultural resources survey report if one is performed. We also ask that if any human remains are accidentally unearthed during the course of the survey and/or the construction project that you cease development immediately and inform the Delaware Tribe of Indians of the inadvertent discovery.

If you have any questions, please feel free to contact this office by phone at (620) 340-0111 or by e-mail at <u>bobermey</u>er@delawaretribe.org

Sincerely,

Brice Oberne

Brice Obermeyer Delaware Tribe Historic Preservation Office 1420 C of E Drive, Suite 190 Emporia, KS 66801



CARROLL COUNTY

HAMPSTEAD MANCHESTER TANEYTOWN SYKESVILLE UNION BRIDGE WESTMINSTER NEW WINDSOR

FREDERICK

COUNTY BRUNSWICK BURKITTSVILLE EMMITSBURG FREDERICK MIDDLETOWN MYERSVILLE MT. AIRY NEW MARKET ROSEMONT THURMONT WOODSBORO

WASHINGTON COUNTY

BOONSBORO HAGERSTOWN HANCOCK SMITHSBURG WILLIAMSPORT September 19, 2011

Ms. Anne Bruder SHA-EPLD 707 North Calvert Street Baltimore, MD 21202

Dear Ms. Bruder,

This letter is to confirm my agreement to participate in the consultation for SHA's proposed Project No. FR559B21. I will so on behalf of the Heart of the Civil War Heritage Area.

Thank you.

Windoth Sutt Shoth Elizabeth Scott Shatto

Director

Heart of the Civil War Heritage Area
Martin O'Malley, Governor Anthony G. Brown, Lt. Governor



James T. Smith, Jr., Secretary Melinda B. Peters, Administrator

August 27, 2013

Re:

Project No. FR559B21 MD 355 over CSXT Replacement of SHA Bridge No. 1008400 Frederick County, Maryland USGS *Buckeystown* 7.5' Quadrangle

Mr. Stephen E. Whitesell Regional Director National Park Service – National Capital Region Attn: Mr. David Hayes, Regional Transportation Liaison 1000 Ohio Drive SW Washington DC 20242

Dear Mr. Whitesell:

On August 26, 2011, the Maryland State Highway Administration (SHA) notified the Maryland Historical Trust (MHT), the Maryland State Historic Preservation Office, about a proposed project, SHA Project No. FR559B21, MD 355 over CSX Transportation, Replacement of SHA Bridge No. 1008400 in Frederick County, Maryland. The project will occur within the National Register of Historic Places boundary for the Monocacy National Battlefield. On that same date, SHA also provided notification letters to the National Park Service (NPS) – National Capital Region and the Monocacy National Battlefield. In addition to formally notifying the agency of the project, the letter invited the NPS to become a consulting party to the consultation as required by 36 CFR §800.2 and §800.10.

To date, SHA has not received a response to that request. Attached are copies of the August 26, 2011 letter addressed to the National Capital Region and to the Monocacy National Battlefield. SHA requests that the NPS provide written agreement that the National Park Service – National Capital Region and the Monocacy National Battlefield will be a party to this consultation by September 28, 2013. Please contact Ms. Anne E. Bruder at 410-545-8559 (or via email at abruder@sha.state.md.us) with questions

My telephone number/toll-free number is ______ Maryland Relay Service for Impaired Hearing or Speech 1.800.735.2258 Statewide Toll Free

Street Address: 707 North Calvert Street • Baltimore, Maryland 21202 • Phone 410.545.0300 • www.roads.maryland.gov

Mr. Stephen E. Whitesell MD 355 over CSXT Page Two

regarding standing structures for this project. Ms. Carol A. Ebright may be reached at 410-545-2879 (or via email at cebright @sha.state.md.us) with concerns regarding archeology.

Very truly yours,

Digitally signed by April Fehr for DN: cn=April Fehr for, o=SHA, ou=EPLD-CRS, april Fehr email=afehr@sha.state.md.us, c=US Date: 2013.08.28 10:51:04 -04'00'

Julie M. Schablitsky Assistant Division Chief **Environmental Planning Division**

Attachments: 1) August 26, 2011 SHA to the National Park Service National Capital

Region

- 2) August 26, 2011 SHA to the National Park Service Monocacy National Battlefield
- cc: Ms. Caryn Brookman, SHA-EPLD

Ms. Carol A. Ebright, SHA-EPLD

Ms. Anne E. Bruder, SHA-EPLD (w/Attachments)

Mr. Rick Slade, Superintendent, NPS - Monocacy National Battlefield (w/Attachments)

Ms. Beth Cole/Mr. Tim Tamburrino, MHT (w/Attachments)

Ms. Kelly Nash, SHA-OOS

Ms. Jeanette Mar, FHWA (w/Attachments)

Ms. Joris Torres-Hernandez, FHWA (w/Attachments)

Dr. Julie M. Schablitsky, SHA-EPLD



United States Department of the Interior

No. An

NATIONAL PARK SERVICE Monocacy National Battlefield 4632 Araby Church Road Frederick, MD 21704

IN REPLY REFER TO:

October 18, 2013

 $\mathbb{P}^{(n)} \to \mathbb{P}^{(n)}$

Re: Project No. FR559B21 MD 355 over CSXT Replacement of SHA Bridge No. 1008400 Frederick County, Maryland USGS *Buckeystown* 7.5' Quadrangle

Ms. Julie M. Schablitsky Assistant Division Chief Maryland State Highway Administration Office of Planning and Preliminary Engineering Environmental Planning Division 707 North Calvert St. Mail Stop C-301 Baltimore, MD 21202

Dear Ms. Schablitsky,

This letter is in response to your most recent correspondence on August 27, 2013, regarding the invitation to the National Park Service, Monocacy National Battlefield, to become a consulting party in the NHPA Section 106 process for the above-referenced project.

We agree to participate as a consulting party in the Section 106 process for this project, and look forward to continuing to work together with your agency, the Federal Highway Administration, and the Maryland State Historic Preservation Officer.

 $\theta = b^{-1} + \delta = \frac{1}{2} (\theta_{1,2} + \delta_{2,2}) + \delta = 0$

.1.

Regards

Rick Slade Superintendent Monocacy National Battlefield



Martin O'Malley, Governor Anthony G. Brown, Lt. Governor



James T. Smith, Jr., Secretary Melinda B. Peters, Administrator

July 29, 2014

Re: Project No. FR559B21 MD 355 over CSXT Replacement of Bridge No. 1008400 Frederick County USGS *Buckeystown* 7.5' Quadrangle

Mr. J. Rodney Little State Historic Preservation Officer Maryland Historical Trust 100 Community Place Crownsville MD 21032-2023

Dear Mr. Little:

Introduction and Project Description

This letter serves to transmit to the Maryland Historical Trust (MHT) the results of Phase I archaeological survey for the Maryland State Highway Administration's (SHA) proposed Project No. FR559B21, the replacement of Bridge No. 1008400 on MD 355 over the CSXT railroad tracks in Frederick County. SHA also requests concurrence regarding eligibility of structures in the Area of Potential Effects (APE). Our prior correspondence dated August 26, 2011 provided the APE for this project and cultural resources assessments of potential. MD 355 is the former Georgetown Road, also known historically as the Georgetown Turnpike, the Washington Pike, and the Urbana Pike. The project is located within the Monocacy National Battlefield, a National Historic Landmark (NHL).

The project involves replacement of the structurally deficient SHA Bridge No. 1008400 over a CSXT railroad cut, just west of the railroad wye at Monocacy Junction, also known as Frederick Junction. Additional right-of-way and easements will be required. Several alternatives are under consideration, including bridge replacement on new alignments east and west of the current bridge, and replacement in the current footprint, with and without a temporary bridge.

An aerial photograph with the worst case limits of disturbance for the combined alternatives is included as Attachment 1.

Funding

Federal funds are being utilized for this project.

My telephone number/toll-free number is ______ Maryland Relay Service for Impaired Hearing or Speech 1.800.735.2258 Statewide Toll Free

Street Address: 707 North Calvert Street • Baltimore, Maryland 21202 • Phone 410.545.0300 • www.roads.maryland.gov

Area of Potential Effects

In determining the APE for this project, SHA considered direct and indirect impacts to historic properties. As noted in our prior correspondence of August 26, 2011, the APE includes the Monocacy National Battlefield in its entirety (Attachment 2). The archaeology survey area within the APE includes the worst case LOD and the boundaries of adjoining Best Farm Fields A, E, F, G, I, and J, defined for prior archaeological research conducted by the National Park Service (NPS).

Identification Methods and Results

Potentially significant architectural and archaeological resources were both researched as part of the historic investigation instigated by the proposed bridge replacement. As noted in our earlier assessment provided on August 26, 2011, the APE has evidence of human occupation and use ranging from Paleoindian to Late Woodland Native American sites, 18th and 19th century plantation sites, military sites, and important road and railroad corridors. Many of these resources have multiple names and numbers, overlapping boundaries, or are embedded within other resources.

Architecture: SHA Architectural Historian Anne E. Bruder previously consulted the SHA-GIS Cultural Resources Database, the Maryland Inventory of Historic Properties (MIHP) forms for standing structures in the APE including SHA Bridge No. 1008400 (F-7-126), the Monocacy River Bridge (F-7-117), and National Register of Historic Places (NRHP) and Monocacy Battlefield (Additional Information) forms provided to MHT in May 2002 and January 2008 for standing structures and landscapes within the boundaries of the Monocacy National Battlefield (F-3-42) including the Monocacy Crossing (F-7-139), the B&O Railroad Frederick Junction (F-7-140), L'Hermitage and the Best Farm (F-3-231), historic mapping, historic photographs and as-built plans. Ms. Bruder has regularly attended team meetings to discuss the proposed bridge and impacts to the Monocacy National Battlefield.

SHA has not developed any new documentation for standing structures in the APE, but information about several resources is included in the NRHP forms for the Monocacy National Battlefield updates from 2002 and 2008. Since there are outstanding questions regarding the eligibility of SHA Bridge No. 1008400 (MD 355 over CSXT), as well as SHA Bridge No. 1008500 (MD 355 over the Monocacy River), the MD 355 alignment between Bridge No. 1008400 and the northern boundary of the Monocacy National Battlefield, and the B&O Railroad Frederick Junction, SHA requests MHT's concurrence with these determinations.

On February 27, 2001, SHA determined that Bridge No. 1008400 not eligible for the NRHP and MHT concurred with that determination on April 3, 2001. SHA has again reviewed the as-built plans and the Maryland State Roads Commission's (SRC) Report for the Years 1931, 1932, 1933 and 1934 (Baltimore, MD December 28, 1934). No new information has been identified that would change SHA's opinion that the bridge is not eligible. The bridge

that was replaced was an iron and wood structure and the SRC replaced it as part of its grade crossing elimination program. Bridge No. 1008400 was constructed in 1931 on a different alignment and well after either the Civil War or the commemorative events that occurred in 1907 when the 14th New Jersey Monument was dedicated. As a result, the bridge is not a contributing resource to the Monocacy National Battlefield.

SHA continues to find that the Monocacy River Bridge, SHA Bridge No. 1008500, a two-span Parker Through Truss (F-7-117) is eligible for the NRHP as an example of a 1930 steel truss bridge. It replaced an earlier truss bridge that failed on June 10, 1930. SHA determined it eligible for the NRHP on February 27, 2001 and MHT concurred with that determination on April 3, 2001. However, the bridge was not present during the Civil War and does not commemorate any Civil War event. It is individually eligible under NRHP Criterion C as an engineering example from the second quarter of the twentieth century.

SHA also finds the alignment of MD 355 from SHA Bridge No. 1008400 to the northern boundary of the Monocacy National Battlefield to be a noncontributing resource to the Battlefield. Since 1930, the road has been repeatedly widened and the alignment shifted to accommodate traffic between Frederick and Urbana. The current alignment does not reflect the turnpike that was in place during the Civil War.

SHA finds the Frederick Junction (F-7-140) and railroad cut constructed by the B&O Railroad within the project's APE to be eligible for inclusion in the NRHP because it was a key resource during the Civil War in Frederick. Since it has been documented by the NPS as part of the Battlefield's NRHP update, SHA has not prepared additional documentation, but accepts the NPS eligibility determination. Since this structure is within the boundary of the Monocacy National Battlefield, SHA will assess project impacts on that historic property and take into consideration any impacts to the wye and/or the cut.

SHA's determinations are included in Attachment 3, Eligibility Table.

Archaeology: SHA Archaeologist Carol A. Ebright previously assessed the archaeological potential of the survey area as being high for prehistoric and historic period archaeological resources, with expectations of impacts to the Wiles I multicomponent prehistoric site (18FR21), the Monocacy Battlefield archaeological site (18FR30), and the Best Farm archaeological site (18FR792). Additional Phase I archaeological investigations were recommended to clarify the nature of archaeological deposits from those sites within the LOD, and to identify any new archaeological resources within the worst case LOD.

Following coordination with the NPS over the investigation methodology and scope, SHA contracted with TRC Environmental Corporation to conduct Phase I archaeological survey.

Due to extensive archaeological work already completed by the NPS at Monocacy National Battlefield, SHA's investigation followed NPS parameters for unit size and spacing. A preliminary draft report was provided for informal review to NPS and MHT, and a meeting was held on March 24, 2014 to reach consensus on how the Phase I survey results would be integrated into previously defined archaeological sites and/or assigned new site numbers. The following conclusions were reached during the meeting and follow-up conversations with NPS.

- All military artifacts would be recorded as part of 18FR30, regardless of provenience.
- The concentration of prehistoric materials would be included in 18FR21.
- The boundaries of 18FR792 would be extended to include non-concentrated artifacts and railroad related artifacts on the north side of the railroad tracks.
- A new site would be recorded to include domestic artifacts related to a tenancy south of the railroad tracks.

Based on these decisions and additional comments by SHA, the draft report was revised. One copy of *Archaeological Survey for the MD 355 over CSXT Bridge 10084 Replacement Project, Frederick County, Maryland* by Kenline et al. (2008) is provided for your review and comment (Attachment 4). SHA has minor additional comments (Attachment 5).

Given the dispersed and varied nature of the artifacts recovered, SHA concurs with consultant's recommendation that no further archaeological work is warranted for the Best Farm site (18FR792) within the project LOD. We also agree that additional Phase 2 investigations are warranted at the prehistoric Wiles I site (18FR21), if impacted, and the newly recorded Tenant Site (18FR1025), and agree with the level of effort proposed. Although the NPS did not allow the use of heavy machinery during the Phase I investigations, we believe that this methodology is appropriate for Phase II investigations, and is the only effective way to penetrate dense fill layers above intact soils. Phase 2 investigations at 18FR21 and 18FR1025 both have the potential to encounter the 14th New Jersey Regiment blockhouse remains, which were not located during the prior Phase I fieldwork.

Review Request

Please examine the attached aerial plan sheet, APE map, draft Phase I archaeological report and comments, and Eligibility/Status Table. We request your concurrence by August 29, 2014 that SHA Bridge No. 1008400 and the MD 355 alignment between Bridge No. 1008400 and the northern boundary of the Monocacy National Battlefield are not eligible for inclusion in the NRHP. SHA also requests your concurrence that SHA Bridge No. 1008500, MD 355 over the Monocacy River and the B&O Railroad Frederick Junction are eligible for the NRHP or are contributing resources to the Monocacy National Battlefield. By carbon copy, we invite the American Battlefield Protection Program, State of New Jersey Department of Environmental Programs, Journey Through Hallowed Ground, Civil War Trust, CSX Transportation, Frederick County Sites Consortium, Frederick County Historic Preservation Commission, the Frederick County Civil War Roundtable, the Monocacy Archeological Society, Maryland Commission on

Indian Affairs, Piscataway Conoy Tribe, Piscataway Indian Nation, and the Youghiogheny River Band of Shawnee Indians to provide comments and participate in the Section 106 process. Pursuant to the requirements of the implementing regulations found at 36 CFR Part 800, SHA seeks their assistance in identifying historic preservation issues as they relate to this specific project (see 36 CFR §800.2(c)(3) and (5), and §800.3(f) for information regarding the identification and participation of consulting parties, and §800.4, and §800.5 regarding the identification of historic properties and assessment of effects). Federally recognized tribes will be consulted separately. For additional information regarding the Section 106 regulations, see the Advisory Council on Historic Preservation's website, www.achp.gov, or contact the Maryland State Highway Administration or the Maryland Historical Trust. If no response is received by August 29, 2014, we will assume that these offices decline to participate. Please call Ms. Anne E. Bruder at 410-545-8559 (or via email at abruder@sha.state.md.us) with questions regarding standing structures for this project. Ms. Carol A. Ebright may be reached at 410-545-2879 (or via email at cebright@sha.state.md.us) with concerns regarding archaeology.

Very truly yours, *Upit For* Julie M. Schablitsky Assistant Division Chief **Environmental Planning Division**

Attachments: 1) Project Plans

- Area of Potential Effects Map 2)
- 3) Eligibility/Status Table
- Draft Phase I Archaeological Report 4)
- 5) SHA Comments on the Draft Report
- cc: Ms. Caryn Brookman, SHA-EPLD

Mr. Will Tardy, SHA-EPLD

Ms. Anne Bruder, SHA-EPLD (w/Attachments 1,2,3,5)

Ms. Carol A. Ebright, SHA-EPLD (w/Attachments 1,2,3,5)

Ms. Kelly Nash, SHA-OOS

Dr. Julie Schablitsky, SHA-EPLD

Mr. Rick Slade, NPS-Monocacy National Battlefield (w/Attachments 1,2,3,5)

Ms. Joy Beasley, NPS-National Capital Region (w/Attachments 1,2,3,5)

Mr. David Hayes, NPS-National Capital Region (w/Attachments 1,2,3,5)

Ms. Jeanette Mar, FHWA (w/Attachments 1,2,3,5)

Ms. Lourdes Casteneda, FHWA (w/Attachments 1,2,3,5)

> Mr. Denis Superczynski, Frederick County Historic Preservation Commission (w/Attachments 1,2,3,5)

Ms. Catherine Turton, National Park Service National Historic Landmark (w/Attachments 1,2,3,5)

Mr. Paul Hawke, American Battlefield Protection Program, (w/Attachments 1,2,3,5)

Mr. Tom Keck, State of New Jersey, Department of Environmental Programs (w/Attachments 1,2,3,5)

Ms. Cate Magennis Wyatt, Journey Through Hallowed Ground, (w/Attachments 1,2,3,5)

Mr. Randall Rook/Ms. Alanna Strohecke, AECOM (CSXT) (w/Attachments 1,2,3,5)

Mr. O. James Lighthizer, Civil War Trust (w/Attachments 1,2,3,5)

Ms. Elizabeth Scott Shatto, Frederick County Sites Consortium (w/Attachments 1,2,3,5)

Chief William Red Wing Tayac, Piscataway Indian Nation, Inc. (w/Attachments 1,2,3,5) Ms. Mervin Savoy, Piscataway Conoy Tribe of Maryland/Piscataway Conoy

Confederacy and Subtribes of Maryland (w/Attachments 1,2,3,5)

Mr. Maurice Proctor, Piscataway Conoy Tribe of Maryland/Cedarville Band of Piscataway (w/Attachments 1,2,3,5)

Mr. Rico Newman, Piscataway Conoy Tribe of Maryland/Choptico Band of Piscataway (w/Attachments 1,2,3,5)

Mr. Keith Colston, MCIA (w/Attachments 1,2,3,5)

Chief Joseph Crow Neale, Youghiogheny River Band of Shawnee Indians, Inc. (w/Attachments 1,2,3,5)

Ms. Nancy Geasey, Monocacy Archeological Society (w/Attachments 1,2,3,5)

Mr. Jack Sheriff, President, Frederick County Civil War Roundtable (w/Attachments 1,2,3,5)

<u>Concurrence with the MD State Highway Administration's</u> <u>Determination(s) of Eligibility and/or Effects</u>

Project Number: WA559B21 MHT Log No. Project Name: MD 355 over CSXT, Replacement of Bridge No. 1008400 County: Frederick Letter Date: July 29, 2014

The Maryland Historical Trust has reviewed the documentation attached to the referenced letter and concurs with the MD State Highway Administration's determinations as follows:

Eligibility (as noted in the Eligibility Table [Attachment 3]):

- [] Concur
- [] Do Not Concur

Effect (as noted in the Effect Table [N/A]):

- [] No Properties Affected
- [] No Adverse Effect
- [] Conditioned upon the following action(s) (see comments below)
- [] Adverse Effect

Comments:

By:

MD State Historic Preservation Office/ Maryland Historical Trust

Date

Return by U.S. Mail or Facsimile to: Dr. Julie Schablitsky, Assistant Division Chief, Environmental Planning Division, MD State Highway Administration, P.O. Box 717, Baltimore, MD 21203-0717 Telephone: 410-545-8870 and Facsimile: 410-209-5046

Attachment 3: Eligibility/Status Table

Project Name: MD 355 over CSXT, Replacement of Bridge No. 1008400

July 29, 2014

Resource	Туре	SHA NR Det.	SHPO Opinion	Attachment	Remarks
18FR30 Monocacy Battlefield	A		Within NHL 11-8-1973		Different boundaries than NHL, NR, and MIHP. Portions within the NR-206 boundaries are contributing, including the LOD
Tork 792 Best Farm Complex	A		Within NR- 1460 per GIS 1-29-2008		Boundary to be expanded as a result of Kenline et al. 2014 fieldwork. No further work
18FR21 Wiles I	A	ND		1	Rhose 2 merer l LC
18FR1025 Tenant Site	A	ND			Phase 2 recommended for area in LOD
SHA Bridge No. 1008400 F-7-126	S	X 2/27/01	X 4/3/01		Phase 2 recommended for area in LOD
SHA Bridge No. 1008500 F-7-117	S	NR 2/27/01	NR 4/3/01		
MD 355 alignment between Bridge No. 1008400 and the northern boundary of the Monocacy National Battlefield,	S	NC	Requested 7/2014		
Frederick Junction, F-7-140	S	C	Requested 7/2014		
	and the second				
	and the second				

Codes:

Resource Types: S (Structure), A (Archaeological Site), HD (Historic District), NHL (National Historic Landmark) NR Determination: ND (Not Determined), X (Not Eligible), NR (Eligible), NRL (Listed), NHL (Landmark) SHPO Opinion: (B) designates opinion regarding boundary, Code following date signifies SHPO opinion **Bold** rows indicate review action requested



SHA Project No. FR559B21 MD 355 over the CSXT Replacement of SHA Bridge No.1008400 Frederick County APE Map Buckeystown USGS 7.5' Quadrangle



SHA Comments on MD 355 over CSXT Draft Phase I Report

- 1) The Introduction should note that the project is located within the boundaries of the Monocacy National Battlefield (MIHP F-3-042), which is listed in the NRHP (NR-206) and is an NHL.
- 2) Many of the figures and photographs are still too dark and need to be lightened in the final printing.
- 3) Please include a copy of the Bullman sketch map of Camp Hooker in the report.
- 4) Information on Table 3.1 and p. 33 regarding the MD 355 bridge (F-7-126) needs to match. MHT has *informally* indicated that it will concur with SHA that the bridge is not individually eligible, and that it does not contribute to the Monocacy National Battlefield Historic District.

<u>Concurrence with the MD State Highway Administration's</u> Determination(s) of Eligibility and/or Effects

Project Number:	FR559B21	MHT Log No.	<u>201403977</u>
Project Name:	MD 355 over CSXT, R	eplacement of Bridg	e No. 1008400
County:	Frederick County		
Letter Date:	July 29, 2014		

The Maryland Historical Trust has reviewed the documentation attached to the referenced letter and concurs with the MD State Highway Administration's determinations as follows:

Eligibility (as noted in the Eligibility Table [Attachment 3]): See Comment Below

- [] Concur
- [] Do Not Concur

Effect (as noted in the Effects Table [N/A]):

- [] No Properties Affected
- [] No Adverse Effect
- [] Conditioned upon the following action(s) (see comments below)
- Adverse Effect

Comments: Based on a careful review of the submitted materials, the Maryland Historical Trust (Trust) acknowledges that the previous determinations of eligibility for SHA-owned resources remain valid. Furthermore, the Monocacy National Battlefield was listed in the National Register in 1973 and concurrently designated a National Historic Landmark. The National Register listing was updated in 2000 and accepted by the Trust in 2002 to provide additional information on the federally owned properties within the Battlefield. The 1973 National Register form mentions the Frederick Junction and the Trust believes that this railroad feature contributes to the Battlefield.

See attached Continuation Sheet for the Trust's comments regarding the Phase I archeological investigations and please contact us if you have questions or need further information. We look forward to ongoing consultation with all involved parties to successfully complete the Section 106 consultation for this undertaking.

By:

Andle

MD State Historic Preservation Office/ Maryland Historical Trust

8-27-14

Date

Return by U.S. Mail or Facsimile to: Dr. Julie M. Schablitsky, Assistant Division Chief, Environmental Planning Division, MD State Highway Administration, P.O. Box 717, Baltimore, MD 21203-0717 Telephone: 410-545-8870 and Facsimile: 410-209-5046

Anne Bruder (SHA) Carol Ebright (SHA)

cc:

<u>Concurrence with the MD State Highway Administration's</u> <u>Determination(s) of Eligibility and/or Effects</u>

<u>CONTINUATION SHEET</u> Maryland Historical Trust Comments

Project Number:FR559B21MHT Log No.201403977Project Name:MD 355 over CSXT, Replacement of Bridge No. 1008400

Archeology Comments: The Trust reviewed the following draft report prepared by TRC Environmental Corporation provided with SHA's submittal: *Archeological Survey for the MD* 355 over CSXT Bridge 10084 Replacement Project, Frederick County, Maryland (Kenline and Millis 2014). The report provides detailed documentation on the goals, methods, and results of Phase I survey SHA conducted within the maximum Limits of Disturbance for the undertaking. The investigations resulted in the identification and testing of one newly discovered site, 18FR1025, and recovered archeological resources associated with three previously inventoried sites, 18FR21, 18FR30, and 18FR792.

Based on the information presented in the report, we agree that further archeological investigations are warranted for 18FR21 and 18FR1025, to conclusively determine whether or not the project will impact archeological resources that are eligible for the National Register of Historic Places. We await further coordination with SHA and NPS regarding an appropriate level of effort, methodologies, and scheduling for the Phase II work at these sites. The Phase II work needs to address the range of surviving archeological deposits at these multi-component sites.

The draft report is consistent with the Trust's *Standards and Guidelines for Archeological Investigations in Maryland* (Shaffer and Cole 1994). We have the following comments on the draft report and ask SHA to have the consultant address these issues, in addition to SHA and NPS review comments, in the preparation of the final document:

- 1. The Abstract and report text state that "a total of 190 additional artifacts recovered from the survey are not assigned to a particular archaeological site pending further discussion." We assume that appropriate recording mechanisms have been decided for these remaining artifacts and the report should reflect the outcome of those decisions.
- 2. Figure 1.2 should be produced on the appropriate section of 7.5' USGS topographic quadrangle and the extent of the project area should be clearly illustrated.
- 3. The plan maps illustrating shovel text pit locations need to add clearly identifiable transect designations so it is possible to correlate illustrated STPs with the artifact catalog.
- 4. The plan maps illustrating artifact distributions from the metal detecting survey need to show the limits of the various "T" collection areas.
- 5. The Fields I and J results chapter should be expanded to include a more detailed discussion of newly identified site 18FR1025. The site extent should be illustrated and labeled on the plan maps showing STP and unit locations.
- 6. The report should add an appendix containing a copy of the ARPA permit NPS issued for the archeological work.
- 7. We await receipt of two hard copies and one electronic copy of the final report, when available.

Larry Hogan, Governor Boyd K. Rutherford, Lt. Governor



Pete K. Rahn, Secretary Gregory C. Johnson, P.E., Administrator

October 1, 2015

Ms. Elizabeth Hughes State Historic Preservation Officer Maryland Historical Trust 100 Community Place Crownsville MD 21032-2023

Dear Ms. Hughes:

Introduction and Project Description:

This letter serves to transmit to the Maryland Historical Trust (MHT) the results of Phase 2 archaeological investigations and Preliminary Investigation plans for the Maryland State Highway Administration's (SHA) proposed Project No. FR559B21, the replacement of SHA Bridge No. 1008400 on MD 355 over the CSX railroad tracks in Frederick County. SHA considered four alternatives for the proposed project to replace SHA Bridge No. 1008400, located in the Monocacy National Battlefield (MNB), a National Historic Landmark (NHL) that is owned by the National Park Service (NPS). SHA finds that proposed Project No. FR559B21 would have an adverse effect on historic properties.

Purpose and Need:

The purpose of the MD 355 Bridge over CSX replacement project is to enhance the safety of the traveling public (vehicular and pedestrian) by replacing SHA Bridge No. 1008400, which is structurally deficient, while minimizing impacts to the MNB. The existing 4-span, concrete-encased girder bridge was constructed in 1931 and is showing signs of advanced deterioration. The September 2013 bridge inspection indicated that the existing bridge is suffering material fatigue, is functionally obsolete, and requires complete replacement.

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Alternatives:

No-Build Alternative: Under the no-build alternative, the replacement of the MD 355 Bridge over CSX would not occur. Routine maintenance and spot improvements would continue to be performed to the existing roadway and bridge, as part of normal maintenance and safety operations. The bridge would remain structurally deficient and would eventually become unsafe for vehicular use. The no-build alternative is not considered an undertaking since SHA would not make any improvements to the bridge.

The build alternatives that SHA has considered consist of:

Alternative 1: This alternative proposes a new bridge would be constructed to the west of the existing bridge. The approaches leading to the bridge would be shifted west to accommodate the new alignment. The replacement structure would be approximately 150 feet long. The existing bridge would be used during construction. Upon completion of the new bridge, the existing bridge and its approaches would be removed. The total construction duration under Alternative 1 would be approximately 18 to 20 months. Impervious surface within the project area would increase from 76,229 square feet to approximately 91,068 square feet under Alternative 1. Alternative 1 would require a transfer of approximately 15 acres of NPS land to SHA for the expanded MD 355 right-of-way.

Alternative 2: This alternative proposes to construct a new bridge east of the existing bridge, and the approaches leading to the bridge would be shifted east to accommodate the new alignment. The replacement structure would be approximately 160 feet long. The existing bridge would be used during construction. Upon completion of the new bridge, the existing bridge and its approaches would be removed. The total construction duration under Alternative 2 would be approximately 18 to 20 months. Impervious surface within the project area would increase from 76,229 square feet to approximately 94,836 square feet under Alternative 2. Alternative 2 would require a transfer of approximately 15 acres of NPS land to SHA for the expanded MD 355 right-of-way.

Alternative 3: This alternative proposes a construction of a temporary bridge to the west of the existing bridge to bear traffic while the existing bridge is being replaced. The temporary bridge would be a metal truss structure that would provide two 11 foot travel lanes with minimal 2-foot shoulders. The final replacement bridge would be approximately 150 feet long, and follow the same alignment of the existing MD 355 Bridge over CSX. Once the replacement bridge is opened, the temporary bridge and roadway approaches would be removed and the area would

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be returned to Park use. The total construction duration under Alternative 3 would be approximately 24 to 28 months. Impervious surface within the project area would increase from 76,229 square feet to approximately 91,298 square feet under Alternative 3. In addition, a temporary increase in impervious surface of 59,217 square feet would occur due to the construction of the temporary bridge and roadway approaches. Alternative 3 would require a transfer of approximately 16 acres of NPS land to SHA for the expanded MD 355 right-of-way. Alternative 3 is SHA's Preferred Alternative.

Alternative 4: This alternative proposes maintaining the existing bridge in service while it is being demolished and reconstructed. This would be achieved by reducing traffic on MD 355 to a single reversible lane moderated by a signal. The reversible lane would follow the alignment of one of the existing lanes in order to demolish the other half of the bridge. Once that half was replaced, the reversible lane would be shifted onto the new section of bridge. The construction crew would then demolish the remaining portions of the original MD 355 Bridge over CSX and construct the second half of the replacement structure. The replacement structure would be approximately 150 feet long. The new bridge would be constructed in phases under this alternative. This would allow for the replacement of half of the bridge while maintaining one lane of traffic on the other half of the bridge during construction. Temporary traffic signals would be provided at each end of the construction zone to alternate the traffic during construction. The total construction duration for Alternative 4 is approximately 26 to 30 months. Impervious surface within the project area would increase from 76,229 square feet to approximately 91,298 square feet under Alternative 4. Alternative 4 would require a transfer of approximately 16 acres of NPS land to SHA for the expanded MD 355 right-of-way.

The conceptual alignments for each alternative, including the total Limits of Disturbance (LOD) are included in Attachment 1A. 30% project plans for MD 355 over the CSX Alternative 3 are included as Attachment 1B.

Elements Common to All Alternatives:

The following section describes elements that would be included with the implementation of any of the build alternatives. The proposed work common to all the alternatives includes:

Design of the MD 355 Bridge over CSX: A new single span bridge would be constructed over the CSX railroad. The limits of the work would extend from the Monocacy River Bridge to approximately 150 feet north of the Best Farm driveway. It would consist of either concrete or steel girders and the substructure (e.g., bridge abutments) would be reinforced concrete. The length of the bridge varies under the build alternatives and options described below. The typical section of the roadway under each build alternative would consist of two 11-foot wide travel lanes and two 6-foot wide shoulders. An 8-foot wide sidewalk would be placed on the east side of the bridge. The replacement structure would provide 23 feet of vertical clearance to meet CSX Ms. Elizabeth Hughes Page Four

requirements over the tracks. The proposed surface on the bridge would be approximately 4-feet higher than the existing bridge due to a deeper bridge superstructure. The bridge will contain concrete parapets that would be 42-inches high. Fencing would be installed onto the parapets, as required by CSX and would extend approximately 4-feet above the bridge parapet.

Widening of roadway approaches: In order to accommodate a wider bridge over the CSX railroad to provide for adequate shoulders, sidewalk and bicycle lanes, the roadway approaches on MD 355 would also be widened. The existing roadway approaches between the Monocacy River crossing and the driveway to Best Farm are approximately 27-feet wide, which includes two 12-foot wide travel lanes and 18-inch wide shoulders. Widening the roadway approaches to approximately 34 feet under the build alternatives would accommodate two 11-foot wide travel lanes and two 6-foot wide shoulders. The proposed 6-foot shoulders would be wide enough to accommodate bicycle users. Roadway widening would be tapered both north and south of the project area to tie into the existing roadway.

Removal of the Entrance to the 14th New Jersey Monument (West of MD 355): Each build alternative includes removing the existing entrance to the 14th New Jersey Monument located on the west side of MD 355 to eliminate sight distance issues for vehicles entering and exiting the site. Access to the 14th New Jersey Monument will be directed to a right in/right out entrance on the east side of MD 355, with pedestrian access under the bridge.

Improved Access to the Battlefield Parking Area: Each build alternative includes improvements to the access road to the parking area southeast of the bridge, opposite of the current 14th New Jersey Monument entrance. The existing access road entrance would be graded and resurfaced and the entrance would be striped as a right-in/right-out to further enhance safety.

Pedestrian Connectivity: SHA's bridge replacement project would include the construction of pedestrian paths to tie into the existing Frederick Junction trail to allow access to all points of interest. From the terminus of the existing trail, a path will be constructed under the proposed bridge on the north side that will provide access to the Best Farm site. This trail will be constructed to the limits of the project. A separate trail will be constructed from this point directing pedestrians to an 8-foot sidewalk that will run along the east side of MD 355 over the bridge to the CSX maintenance parking area southeast of the bridge. From this parking area, a trail will be constructed under the proposed bridge on the south side that will provide access to the 14th New Jersey Monument.

Installing Stormwater Management: To comply with current stormwater management regulations, the new and redeveloped pavement would require water quality treatment. Each build

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alternative includes linear bioswales. The bioswales would be constructed at the proposed toe of the roadway slope. Bioswales are a form of "green infrastructure" that can absorb low flows or convey stormwater runoff from heavy rains to storm sewer inlets or directly to surface waters.

Replacement of Water Line: Each build alternative includes the replacement of the existing water line currently attached to Bridge No. 1008400. Alternatives 1 and 2 include placing the new waterline onto the new structure while the existing line remains in service. Alternatives 3 and 4 will require construction of a temporary waterline during construction.

Relocating Overhead Utility Lines: Each build alternative includes the relocation of utilities to accommodate a wider bridge and shifts in the roadway alignment. Utilities to be relocated are overhead power lines on poles running adjacent to MD 355 northbound and southbound.

Alternatives Retained for Detailed Study: FHWA, NPS and SHA agreed that given the location of the bridge, all of the alternatives would likely cause an adverse impact to the MNB. The differences between each alignment are the locations and the length of each structure, but SHA is able to make the other design elements, including the height of the bridge, the same. The agencies then proceeded to conduct the Value Analysis Study including Choosing by Advantages, which is an alternatives selection process frequently use by the NPS, that allowed the agencies to consider such factors as minimizing impacts to the traveling public, minimizing impacts to cultural resources, minimizing loss of NPS land, maximizing safety during construction for SHA workers, travelers and park visitors, minimizing risk (cost, safety and duration), and the overall project construction costs.

Based on the results, SHA, FHWA and NPS have made Alternative 3 the preferred alternative since it was given the highest ratings in each of these categories. SHA has not proceeded with the design for the other alternatives for the following reasons. Alternative 1 has additional permanent construction required for the alignment of the bridge and highway, and would cause the greater visual intrusion on the 14th New Jersey Monument. Alternative 2 was determined to be too close to the B&O Railroad wye and could potentially impact railroad traffic, which includes both MARC and CSX trains. Alternative 4 would have constructability issues due to the poor structural condition of the bridge, and partial demolition during construction could present safety issues for park visitors, as well as the construction crew and travelers.

Funding

Federal funds are anticipated for this project.

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Area of Potential Effects

In determining the Area of Potential Effects (APE) for this project, SHA considered possible visual, audible, atmospheric and/or physical impacts to historic properties, both archaeological sites and standing structures that would diminish any National Register of Historic Places (NRHP) qualifying characteristic of the historic property's integrity. The project will also require additional right-of-way. As noted in our prior project correspondence, the APE includes the Monocacy National Battlefield in its entirety (Attachment 2), although the project is limited to the area immediately surrounding the MD 355 over CSX Crossing. The APE is indicated on the attached USGS quadrangle map for Buckeystown in Attachment 2. The archaeology survey area is defined as the project worst case limits of disturbance (LOD).

Identification Methods and Results

Potentially significant architectural and archaeological resources were both researched as part of the historic investigation instigated by the proposed bridge replacement project.

Architecture: SHA Architectural Historian Anne E. Bruder consulted the SHA-GIS Cultural Resources Database, previous project correspondence, and attended team meetings with the Federal Highway Administration (FHWA), MHT and NPS to discuss the project and its impacts on the Monocacy National Battlefield, which is a NHL (NR 206 and MIHP No. F-3-42). The most recent meeting with the NPS was held on June 3, 2015. Prior to that date, SHA conducted a Public Scoping Meeting with the NPS for the interested public and consulting parties on December 5, 2013 and a Value Analysis Study Workshop with the NPS on August 22, 2014, and Ms Bruder participated in both meetings.

The project area within the MNB figured prominently in the July 9, 1864 "Battle That Saved Washington" as Confederate forces attacked Union positions at the crossing of the Frederick-Washington Turnpike over the B&O Railroad and the Monocacy River. The Maryland State Roads Commission (SRC) replaced the 19th century bridge over the railroad in 1931, and at that time relocated the highway to the east, raising the road on fill in order to cross the B&O Railroad tracks at a height of 22 feet above grade.

Historic properties identified within the APE in the MNB that will be impacted by the bridge replacement project include the B&O Frederick Junction (F-7-140) and the Best Farm (L'Hermitage) (F-3-231), which both contribute to the MNB. SHA Bridge No. 1008500 (F-7-117), a 2-span Parker Through Truss from 1930, is also individually eligible for the NRHP, while SHA Bridge No. 1008400 (F-7-126) was determined not eligible for the NRHP by SHA in February 2001, with MHT's concurrence in April 2001. Neither bridge contributes to the MNB. The 14th New Jersey Monument is within the APE, and commemorates the service of the 14th New Jersey Regiment during the Civil War. It is an object that was placed in the MNB in 1907 and is similar to several other commemorative sculptures that are located on MD 355 or Araby Church Road.

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Impact Assessment: The replacement of SHA Bridge No. 1008400 on the current alignment of MD 355 will require a widening of the highway approaches, raising the north approach by 9 feet, raising the bridge by 4 feet, and increasing its width to 42 feet to accommodate current requirements including new stormwater management facilities. The increased size and height of the bridge and the highway between the Monocacy River Bridge to north of the Best Farm entrance will introduce new visual and physical elements to the MNB that are out of character with the battlefield.

SHA will raise the MD 355 roadway in front of the Best Farm by 9-feet (see the plan's Roadway Profiles Sheet HP-2) from the north end of the new bridge to the taper down to the height of the existing road near the farm's entrance. Although the current highway is raised several feet above the grade of the Best Farm fields near the bridge, the new alignment calls for a much higher grade for a greater distance at the north approach. SHA believes the road at this height will obscure the traditional view of the Best Farm field on the east side of the highway from the Best House whose main façade faces east. Furthermore, this change in grade will require a new driveway connection between MD 355 and the Best Farm entrance.

Raising the highway consequently requires a wider road that will also accommodate paved shoulders and the sidewalk on the bridge and the connections to the park's trails. The state's environmental regulations also require that SHA accommodate stormwater and runoff from the highway. As noted above, these will be bioswales and rain gardens that will be visible in the landscape. These physical impacts to either side of MD 355 north and south of the new bridge within the MNB including the Best Farm and Frederick Junction will remove portions of the historic battlefield.

SHA conducted a viewshed test from other sites within the MNB that were selected by NPS, such as the Visitors Center and the Gambrill Trail Overlook and no change to the views of the bridge was noted at that time from these locations. From locations further away, such as the Worthington Farm, the views are indirect and no significant viewshed impacts were noted. The visual impacts would accrue to the Best Farm, the Frederick Junction, the 14th New Jersey Monument and Monocacy River Bridge (Bridge No. 1008500).

SHA determined that Alternatives 1, 2 and 4 would have an adverse impact on the MNB, and did not carry the alternatives into further design. Alternative 3 is SHA's preferred alternative and has proceeded to prepare preliminary (30%) design plans for the new bridge and a temporary bridge that will be built to the west of the current structure.

Based on the foregoing assessment, SHA has determined that the visual and physical impacts caused by MD 355 over CSX Alternative 3 for the replacement of SHA Bridge No. 1008400 to the Monocacy National Battlefield, including the Best Farm and the Frederick Junction are adverse and meet the requirements of 36 CFR §800.5, the Criteria of Adverse Effects, including

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physical destruction of a property, change of physical features and introduction of visual elements $[(\S800.5(a)(2)(i), (a)(2)(iv), and (a)(2)(v)]]$. SHA has also determined that the project will have a no adverse impact on SHA Bridge No. 1008500, MD 355 over the Monocacy River since the work planned at the bridge is improvements to the highway, but no work is anticipated for the bridge. SHA's effect finding is summarized in the Hybrid Eligibility and Effects Table in Attachment 5.

Avoidance and Minimization: None of the alternatives that have been considered would enable SHA to avoid an adverse impact since any replacement alternative would require additional impacts to the MNB. Furthermore, it is necessary to replace the bridge and it is not possible to make the footprint of the highway or the bridge smaller or lower. However, SHA has sought ways to minimize the adverse impact on the MNB by providing a bridge design that is similar to the current structure and on the same alignment as the current highway. SHA has limited the stormwater management required for this project and currently proposes buried pipes with 7 riprap outlets and 3 bioretention facilities which are planned to be rain gardens or grass swales. Additional design work is planned and more minimization may be possible.

Mitigation: The NPS requested that SHA consider several potential mitigation items to address the adverse impact, including pedestrian access on and around the new bridge. SHA will accommodate the request and proposes to place an 8-foot wide sidewalk on the east side of the bridge as well as the north and south approaches that will provide access from a new parking area in the southeast quadrant of the bridge and extend to the north to meet with the NPS Visitors Center loop in the north and south benches adjacent to the railroad. This will provide pedestrian access to the Best Farm, the Visitors Center loop, the 14th New Jersey Monument and the parking area. SHA also proposes to provide an improved parking area southeast of the bridge.

Archaeology: SHA Archaeologist Carol A. Ebright previously assessed the archaeological potential of the survey area as being high for prehistoric and historic period archaeological resources, with expectations of impacts to the Wiles I multicomponent prehistoric site (18FR21), the Monocacy Battlefield archaeological site (18FR30), and the Best Farm archaeological site (18FR792). Phase I archaeological investigations identified a fourth site, 18FR1025, which straddles MD 355, and contains deposits from earlier tenants associated with the Best Farm and/or the railroad at Frederick Junction. 18FR1025 also had potential to contain remains of the 14th New Jersey Blockhouse, burned during the July 9, 1864 Battle of Monocacy. Prior correspondence dated July 29, 2014 provided the results of Phase I archaeological survey. On August 27, 2014, your office concurred with our recommendations that Phase 2 investigations would be required to evaluate the significance of 18FR1025, and a small intact portion of 18FR21 within the LOD, and determine if the sites were eligible for listing in the NRHP. No further work was recommended for portions of sites 18FR792 or 18FR30 within the LOD.

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Enclosed for your review and comment is one copy of the draft report *Phase II Archaeological Evaluation of 18FR21 and 18FR1025 for the MD 355 over CSXT Bridge 1008400 Replacement Project, Frederick County, Maryland* by Brooke Kenline of TRC Environmental Corporation (TRC) (Attachment 3). SHA's comments on the draft report are provided in Attachment 4. DOE forms have been transmitted to your office electronically.

Phase 2 investigations at 18FR21 found additional intact soils, but a very low density of prehistoric artifacts, severely limiting the potential of this portion of the site to yield important information. No significant archaeological remains were encountered and no further archaeological work is recommended on the portion of the site within the LOD. NRHP eligibility of the site as a whole has not been evaluated. Other intact portions of the site may exist outside the LOD, which should be protected during construction.

Investigations at 18FR1025 had two goals. Test unit excavations examined domestic tenant occupations on the east side of MD 355. A combination of backhoe trenches and test units were used to investigate the concentration of limestone boulders on the west side of MD 355, to determine if it was potentially the remains of the 14th New Jersey Blockhouse, related to domestic occupations, or had some other function. The general paucity of Civil War artifacts and lack of evidence of burning does not support the interpretation of this rock deposit as being the blockhouse ruins. The rock deposit is interpreted to be an artificial secondarily deposited layer, perhaps related to much later construction of the 1931 bridge over the railroad tracks. Considerable disturbance was documented in both areas and Site 18FR1025 is considered not eligible for NRHP listing.

Following the conventions established during Phase I investigations, the small number of Civil War artifacts recovered during the Phase 2 investigations were assigned to 18FR30, the overarching designation for the Monocacy Battlefield archaeological site, regardless of their individual proveniences within 18FR21 or 18FR1025.

Although the 14th New Jersey Blockhouse was not identified during the Phase 2 investigation, the possibility remains that portions of this feature may have survived under the current MD 355 roadbed which was constructed east of the original Georgetown Pike. One account described the blockhouse as being 100 yards northwest of the turnpike bridge over the Monocacy River. If accurate, that would place the blockhouse well south of the rock layer in 18FR1025, and south of the current access road to the 14th New Jersey Monument, near the point where modern MD 355 diverged from the earlier road alignment. This location would actually be within the boundaries of 18FR21. Undisturbed portions of 18FR21 adjoining MD 355 in this area were previously examined by Goodwin et al. (1990), Child et al. (2004), and by TRC's Phase I for this project, but did not identify the blockhouse feature.

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Because the 14th New Jersey Blockhouse is integral to Civil War activity at Frederick Junction, and was destroyed during the subsequent July 9, 1864 battle, it would be a significant resource if intact portions were located in the LOD during construction. Consequently, draft Special Provisions will be developed for monitoring during construction of the section of MD 355 between the railroad overpass and the MD 355 bridge over of the Monocacy River. These provisions are subject to revision as the project undergoes design and impacts are more completely defined.

In sum, no further archaeological work is recommended for this project as currently planned. Archaeological monitoring during construction south of Bridge No. 1008400 is recommended, in the event that remains of the 14th New Jersey Blockhouse exist beneath the current roadbed and are exposed. There are no adverse impacts to sites 18FR30 and 18FR792.

Next Steps

SHA proposes to conduct a meeting with the consulting parties in order to discuss SHA's recommended alternative. The current plans are at 30% to show type, size and location of the project within the battlefield. Further design work will occur, and SHA also expects to receive comments from the consulting parties following the review of the plans. The consultation parties meeting will permit the parties to discuss the alternatives and ways to further avoid, reduce and mitigate the adverse impact. Since it is not possible to avoid the adverse impact, SHA anticipates entering into a Memorandum of Agreement with the FHWA, the NPS and MHT as well as other parties as appropriate. SHA will contact the consulting parties in order to determine a time for the proposed meeting.

Review Request

Please examine the attached plans, map, draft archaeological report and comments, and Hybrid Eligibility and Effects Table. We request your concurrence by November 1, 2015 that there would be adverse effects on historic properties including the Monocacy National Battlefield by the replacement of SHA Bridge No. 1008400, MD 355 over CSX. By carbon copy, we invite the American Battlefield Protection Program, State of New Jersey, Department of Environmental Programs, Journey Through Hallowed Ground, CSX Transportation, Civil War Trust, Civil War Roundtable of Frederick County, Frederick County Sites Consortium, Frederick County Historic Preservation Commission, Monocacy Archaeological Society, Maryland Commission on Indian Affairs, Piscataway Conoy Tribe, and Piscataway Indian Nation, and to provide comments and

Ms. Elizabeth Hughes Page Eleven

participate in the Section 106 process. Pursuant to the requirements of the implementing regulations found at 36 CFR Part 800, SHA seeks their assistance in identifying historic preservation issues as they relate to this specific project (see 36 CFR §800.2(c)(3) and (5), and §800.3(f) for information regarding the identification and participation of consulting parties, and §800.4, and §800.5 regarding the identification of historic properties and assessment of effects). Federally recognized tribes will be consulted separately. For additional information regarding the Section 106 regulations, see the Advisory Council on Historic Preservation's website, www.achp.gov, or contact the Maryland State Highway Administration or the Maryland Historical Trust. If no response is received by November 1, 2015, we will assume that these offices decline to participate. Please call Ms. Anne Bruder at 410-545-8559 or via email at abruder@sha.state.md.us with questions regarding standing structures for this project. Ms. Carol A. Ebright may be reached at 410-545-2879 (or via email at cebright@sha.state.md.us) with concerns regarding archaeology.

Sincerely,

april Fehr

Julie M. Schablitsky Assistant Division Chief Environmental Planning Division

Attachments: 1) MD 355 Alternatives 1, 2, 3 and 4 Conceptual Plans (1A) and Project Plans (1B)

2) Area of Potential Effects Map

Digitally signed by April Fehr DN: cn=April Fehr, o=MD SHA,

ou=Cultural Resources Section, email=afehr@sha.state.md.us, c=US

- 3) Draft Ph 2 Archaeological Report
- 4) SHA Comments on Draft Ph 2 Archaeological Report
- 5) Hybrid Eligibility and Effects Table
- Ms. Joy Beasley, NPS-National Capital Region (w/Attachments 1A&B, 2, 4 & 5)
 Ms. Lourdes Casteneda, FHWA-MD Division (w/Attachments 1A&B, 2, 4 & 5)
 Mr. Joel Gorder, NPS NCR(w/Attachments 1A&B, 2, 4 & 5)
 - Mr. Paul Hawke, American Battlefield Protection Program (w/Attachments 1A&B, 2, 4 & 5)
 - Mr. Tom Keck, State of New Jersey, Department of Environmental Programs (w/Attachments 1A&B, 2, 4 & 5)
 - Mr. Jeremy Lazelle, Monocacy Archaeological Society (w/Attachments 1A&B, 2 & 5)
 - Mr. O. James Lighthizer, Civil War Trust (w/Attachments 1A&B, 2 & 5)
 - Ms. Cate Magennis Wyatt, Journey Through Hallowed Ground (w/Attachments 1A&B, 2 & 5)
 - Ms. Jeanette Mar, FHWA MD Division (w/Attachments 1A&B, 2, 4 & 5)
 - Mr. Reid J. Nelson, Advisory Council on Historic Preservation (w/Attachments 1A&B, 2,4 & 5)

- Mr. Randall Rook/Ms. Alanna Strohecke, AECOM (CSXT) (w/Attachments 1A&B, 2 & 5)
- Ms. Elizabeth Scott Shatto, Frederick County Sites Consortium, (w/Attachments 1A&B, 2 & 5)
- Mr. Jack Sheriff, Frederick County Civil War Roundtable (w/Attachments 1A&B, 2 & 5)
- Mr. Rick Slade, NPS-Monocacy National Battlefield (w/Attachments 1A&B, 2, 4 & 5)
- Ms. Kathryn Smith, National Park Service National Historic Landmark (w/Attachments 1A&B, 2, 4 & 5)
- Mr. Denis Superczynski, Frederick County Historic Preservation Commission (w/Attachments 1A&B, 2, 4 & 5)
- Chief William Red Wing Tayac, Piscataway Indian Nation, Inc. (w/Attachments 1,2,4,5)
- Mr. Francis Gray, Piscataway Conoy Tribe of Maryland/Piscataway Conoy Confederacy and Subtribes of Maryland (w/Attachments 1,2,4,5)
- Mr. Maurice Proctor, Piscataway Conoy Tribe of Maryland/Cedarville Band of Piscataway (w/Attachments 1,2,4,5)
- Mr. Rico Newman, Piscataway Conoy Tribe of Maryland/Choptico Band of Piscataway (w/Attachments 1,2,4,5)
- Mr. Keith Colston, MCIA (w/Attachments 1,2,4,5)
- Ms. Caryn Brookman, SHA-EPLD (w/Attachments 1A&B, 2 & 5)
- Ms. Anne E. Bruder, SHA-EPLD (w/Attachments 1A&B, 2 & 5)
- Ms. Carol A. Ebright, SHA-EPLD (w/Attachments)
- Ms. Kelly Nash, SHA-OOS (w/Attachments 1A&B, 2 & 5)
- Dr. Julie Schablitsky, SHA-EPLD (w/Attachments 1A&B, 2 & 5)
- Mr. Will Tardy, SHA-EPLD (w/Attachments 1A&B, 2 & 5)

<u>Concurrence with the MD State Highway Administration's</u> <u>Determination(s) of Eligibility and/or Effects</u>

Project Number: WA559B21 MHT Log No.___ Project Name: MD 355 over CSXT, Replacement of Bridge No. 1008400 County: Frederick Letter Date: October 1, 2015

The Maryland Historical Trust has reviewed the documentation attached to the referenced letter and concurs with the MD State Highway Administration's determinations as follows:

Eligibility (as noted in the Eligibility Table [Attachment 5]):

- [] Concur
- [] Do Not Concur

Effect (as noted in the Effect Table [Attachment 5]):

- [] No Properties Affected
- [] No Adverse Effect
- [] Conditioned upon the following action(s) (see comments below)
- [] Adverse Effect

Comments:

By:

MD State Historic Preservation Office/ Maryland Historical Trust

Date

Return by U.S. Mail or Facsimile to: Dr. Julie Schablitsky, Assistant Division Chief, Environmental Planning Division, MD State Highway Administration, P.O. Box 717, Baltimore, MD 21203-0717 Telephone: 410-545-8870 and Facsimile: 410-209-5046 A_proj 7984

Attachment 5: Hybrid Eligibility/Effects Table

Project Name: Replacement of SHA Bridge No. 1008400, MD 355 over CSX

October 1, 2015

				Alternative 1		Alternative 2		Alternative 3		Alternative 4		1	
Resource	Туре	SHA NR Det.	SHPO Opinion	Impact	SHPO Concur	Impact	SHPO Concur	Impact	SHPO Concur	Impact	SHPO Concur	Attachment	Remarks
Monocacy National Battlefield, including the 14 th New Jersey Monument, NR 206 and MIHP No. F-3-42	NHL	NHL	NHL	Adverse	Requested 10/2015	Adverse	Requested 10/2015	Adverse	Requested 10/2015	Adverse	Requested 10/2015		
Frederick Junction, F-7-140	HD	NHL	NHL	Adverse	Requested 10/2015	Adverse	Requested 10/2015	Adverse	Requested 10/2015	Adverse	Requested		-
Best Farm (L'Hermitage), F-3-231	HD	NHL	NHL	Adverse	Requested 9/2015	Adverse	Requested 9/2015	Adverse	Requested 9/2015	Adverse	Requested	1	
SHA Bridge No. 1008400 F-7-126	S	NE	NE	None	Requested 9/2015	None	Requested 9/2015	None	Requested 9/2015	None	Requested		
SHA Bridge No. 1008500 F-7-117	S	E	E	Adverse	Requested 9/2015	Adverse	Requested 9/2015	No Adverse	Requested	Adverse	Requested		1
18FR30 Monocacy Battlefield	A	NR	NR	No Adverse	Requested 9/2015	No Adverse	Requested 9/2015	No Adverse	Requested 9/2015	No Adverse	9/2015 9/2015		Different boundaries than NHL, NR, and MIHP. Portions within the NR-206 boundaries are contributing including the LOD
10FR/92 desi Farm Complex	•	NK	NR	No Adverse	Requested 10/2015		Within NR-1460 per GIS. Boundary expanded as a result of Ph 1 fieldwork. No further work in LOD (MHT concurs 8- 27.16)						
18FR21 Wiles 1	A	ND	Requested 10/2015	None	Requested 10/2015	None	Requested 10/2015	None	Requested	None	Requested		No significant deposits in LOD.
18FR1025 Tenant Site	A	x	Requested 10/2015	None	Requested 10/2015	None	Requested 10/2015	None	Requested 10/2015	None	Requested 10/2015		Not Eligible
Effect				AE	Requested 10/2015	AE	Requested 10/2015	AE	Requested 10/2015	AE	Requested 10/2015		

Codes: Resource Types: S (Structure), A (Archeological Site), HD (Historie District), NHL (Mational Historie Landmark) NR Determination: ND (Not Determined), X (Net Eligible), NRI (Eligible), NRI, (Listed), NRI, (Landmark) SHPO Ophinon: (B) designates ophinon regarding boundary, Code following data significs SHPO ophinon Impart: Nnex, No Adverse, Adverse Elfost: NPA (No Properties Affected), NAE (No Adverse Effect), AE (Adverse Effect) Bold rows indicate review action requested





Attachment 5: Hybrid Eligibility/Effects Table

Project Name: Replacement of SHA Bridge No. 1008400, MD 355 over CSX

October 1, 2015

-				Alternative	1	Alternative	2	Alternative	1	Altomative		1	
Кезонгее	Туре	SHA NR Det.	SHPO Opinion	Impact	SHPO Concur	Impact	SHPO Concur	Impact	SHPO Concur	Impact	SHPO Concur	Attachment	Remarks
Monocacy National Battlefield, including the 14 th New Jersey Monument, NR 206 and MIHP No. F-3-42	NHL	NHL	NHL	Adverse	Requested 10/2015	Adverse	Requested 10/2015	Adverse	Requested 10/2015	Adverse	Requested 10/2015		
Frederick Junction, F-7-140	HD	NHL	NHL	Adverse	Requested 10/2015	Adverse	Requested	Adverse	Requested	Adverse	Requested		
Best Farm (L'Hermitage), F-3-231	HD	NHL	NHL	Adverse	Requested 9/2015	Adverse	Requested 9/2015	Adverse	Requested	Adverse	Requested		
SHA Bridge No. 1008400 F-7-126	S	NE	NE	None	Requested 9/2015	None	Requested 9/2015	None	Requested	None	9/2015 Requested		
SHA Bridge No. 1008500 F-7-117	S	E	E	Adverse	Requested 9/2015	Adverse	Requested 9/2015	No Adverse	Requested	Adverse	9/2015 Requested		
18FR30 Monocacy Battlefield	A	NR	NR	No Adverse	Requested 9/2015	No Adverse	Requested 9/2015	No Adverse	Requested 9/2015	No Adverse	9/2015 Requested 9/2015		Different boundaries than NHL, NR, and MIHP. Portions within the NR-206 boundaries are contributing includies (JOD
10FDat Wass t	A	NK	NK	No Adverse	Requested 10/2015	No Adverse	Requested 10/2015	No Adverse	Requested 10/2015	No Adverse	Requested 10/2015		Within NR-1460 per GIS. Boundary expanded as a result of Ph 1 fieldwork. No further work in LOD (MHT concurs 8- 27 15)
18FR21 Wiles I	A	ND	Requested 10/2015	None	Requested 10/2015	None	Requested 10/2015	None	Requested	None	Requested		No significant deposits in LOD.
18FR 1025 Tenant Site	A	x	Requested 10/2015	None	Requested 10/2015	None	Requested 10/2015	None	Requested 10/2015	None	Requested 10/2015		Not Eligible
Effect				AE	Requested 10/2015	AE	Requested 10/2015	AE	Requested 10/2015	AE	Requested		

Codesi: Resource Types: \$ (Structure). A (Archevological Site), HD (Hintoric District), NHL (National Historic Landmark) NR Determination: ND (Ned Determined), X (Net Eligible), NR (Eligible), NRL (Listed), NHL (Landmark) SHPO Opinion: Updaingnates opinion megniling boundary, Code following data significs SHPO opinion Effect: NPA (No Properties Affredar), NAE (No Adverse Effect), AE (Adverse Effect) Bold rows indicate review action requested

Concurrence with the MD State Highway Administration's Determination(s) of Eligibility and/or Effects

Project Number: WA559B21

MHT Log No. 20150 4353

Project Name: MD 355 over CSXT, Replacement of Bridge No. 1008400 **County:** Frederick Letter Date: October 1, 2015

The Maryland Historical Trust has reviewed the documentation attached to the referenced letter and concurs with the MD State Highway Administration's determinations as follows:

Eligibility (as noted in the Eligibility Table [Attachment 5]):

- M Concur
- [] **Do Not Concur**

Effect (as noted in the Effect Table [Attachment 5]):

11 No Properties Affected

No Adverse Effect []

Conditioned upon the following action(s) (see comments below)

Adverse Effect М

Comments:

[]

SEE ATTACHED

MD State Historic Preservation Office/ Maryland Historical Trust

Date

Return by U.S. Mail or Facsimile to: Dr. Julie Schablitsky, Assistant Division Chief, Environmental Planning Division, MD State Highway Administration, P.O. Box 717, Baltimore, MD 21203-0717 Telephone: 410-545-8870 and Facsimile: 410-209-5046 A_proj 7984

By:

<u>Concurrence with the MD State Highway Administration's</u> <u>Determination(s) of Eligibility and/or Effects</u>

<u>CONTINUATION SHEET #1</u> Maryland Historical Trust Comments

Project Number:	FR599B21	MHT Log No. <u>201504353</u>
Project Name:	MD 355 over CSXT, R	eplacement of Bridge No. 1008400
	Monocacy National Ba	ttlefield
County:	Frederick County	
Letter Date:	October 1, 2015	

The Maryland Historical Trust (Trust) provides the following comments, in addition to the concurrence presented above, and awaits further consultation with all involved parties to successfully complete the project's Section 106 review.

Identification and Evaluation of Archeological Resources: The Trust reviewed the following draft report submitted with SHA's letter: *Phase II Archaeological Evaluation of 18FR21 and 18FR1025 for the MD 355 over CSXT Bridge 1008400 Replacement Project, Frederick County, Maryland* (Kenline 2015). The Trust concurs with SHA's findings and recommendations presented in the report and submittal letter. Based on the Phase II results, we agree that site 18FR1025 does not meet the criteria for eligibility in the National Register of Historic Places given its low information potential and lack of integrity. Since archeological site 18FR21 extends beyond the limits of the area of potential effects for this undertaking, the National Register eligibility of 18FR21 as a whole remains undetermined at this time and is beyond the scope of the current undertaking. No further archeological investigations are warranted for the undertaking as currently planned. However, SHA should develop detailed avoidance and protection provisions and implement those measures throughout construction to ensure avoidance of impacts to archeological resources.

Trust Comments on the draft Phase II Report: The draft report presents detailed discussion of the goals, methods, results and recommendations of the Phase II archeological investigations conducted within the project's area of potential effects. The level of effort meets the recommendations of the Trust's Standards and Guidelines for Archeological Investigations in Maryland (Shaffer and Cole 1994). In addition to SHA's remarks and any comments provided by NPS, we ask SHA to have the consultant address the following comment in the production of the final report:

- 1. The report should include a more detailed discussion of the recovered artifact from both sites, with artifact summary tables and descriptions.
- 2. The report's Abstract and Conclusions should acknowledge that the National Register eligibility of 18FR21 as a whole remains undetermined, since the site extends beyond the limits of the area of potential effects for this undertaking.
- 3. We look forward to receiving two bound copies and one electronic copy on disk of the final report on the Phase archeological investigations conducted for this project.

Resolution of Adverse Effects: As noted in SHA's submittal letter, the next step in the resolution of adverse effects is continuing consultation among SHA, FHWA, NPS, the Trust, and other consulting parties to develop and evaluate measures that could further avoid, minimize, and mitigate the adverse effect (36 CFR 800.6). We look forward to attending the Consulting Parties meeting to discuss these issues and begin negotiation of a Memorandum of Agreement. Given the undertaking's adverse effect on the Monocacy National Battlefield, a National Historic Landmark, it is essential that all parties collaboratively work together to develop meaningful and achievable measures to resolve the impacts on this significant historic property.

<u>Concurrence with the MD State Highway Administration's</u> <u>Determination(s) of Eligibility and/or Effects</u>

<u>CONTINUATION SHEET #2</u> Maryland Historical Trust Comments

Project Number:	FR599B21	MHT Log No. <u>201504353</u>
Project Name:	MD 355 over CSXT, R	eplacement of Bridge No. 1008400
	Monocacy National Ba	ttlefield
County:	Frederick County	
Letter Date:	October 1, 2015	

We look forward to working with all involved parties to successfully complete the Section 106 consultation for the undertaking. If you have questions or need further information, please contact Beth Cole (for archeology) at <u>beth.cole@maryland.gov</u> / 410-514-7631 or Tim Tamburrino (for historic built environment) at <u>tim.tamburrino@maryland.gov</u> / 410-514-7637. Thank you for providing us this opportunity to comment.

BC/TJT/201504353

ccs: Consulting Parties Distribution List



December 18, 2015

Ms. Joy Liang Environmental Specialist Federal Highway Administration Maryland Division City Cresent Building 10 South Howard Street, Suite 2450 Baltimore, MD 21201

Ref: Proposed Replacement of Bridge No. 1008400- MD 355 over CSX Railroad Tracks Frederick County, Maryland

Dear Ms. Liang:

The Advisory Council on Historic Preservation (ACHP) has received your notification and supporting documentation regarding the adverse effects of the referenced undertaking on a property or properties listed or eligible for listing in the National Register of Historic Places. Based upon the information provided, we have concluded that Appendix A, *Criteria for Council Involvement in Reviewing Individual Section 106 Cases*, of our regulations, "Protection of Historic Properties" (36 CFR Part 800), does not apply to this undertaking. Accordingly, we do not believe that our participation in the consultation to resolve adverse effects is needed. However, if we receive a request for participation from the State Historic Preservation Officer (SHPO), Tribal Historic Preservation Officer (THPO), affected Indian tribe, a consulting party, or other party, we may reconsider this decision. Additionally, should circumstances change, and it is determined that our participation is needed to conclude the consultation process, please notify us.

Pursuant to 36 CFR §800.6(b)(1)(iv), you will need to file the final Memorandum of Agreement (MOA), developed in consultation with the Maryland State Historic Preservation Office (SHPO), and any other consulting parties, and related documentation with the ACHP at the conclusion of the consultation process. The filing of the MOA, and supporting documentation with the ACHP is required in order to complete the requirements of Section 106 of the National Historic Preservation Act.

Thank you for providing us with the notification of adverse effect. If you have any questions or require further assistance, please contact Meghan Hesse at 202-517-0214 or via e-mail at <u>mhesse@achp.gov</u>.

Sincerely,

La Shavio Johnson

LaShavio Johnson Historic Preservation Technician Office of Federal Agency Programs

ADVISORY COUNCIL ON HISTORIC PRESERVATION
APPENDIX

PUBLIC INVOLVEMENT



PUBLIC MEETING ANNOUNCEMENT BRIDGE REPLACEMENT

MD 355 over CSXT Railroad

BRIDGE REPLACEMENT TO SUPPORT SAFETY AND MOBILITY

The Maryland State Highway Administration (SHA) is planning to replace the deteriorating bridge that carries MD 355 (Urbana Pike) over the CSXT Railroad in Frederick County, Maryland. The bridge is located along a section of MD 355 which is within the boundary of the Monocacy National Battlefield, a resource managed by the National Park Service (NPS).

For additional information, you are invited to attend a Public Scoping Meeting on Thursday, December 5, 2013.

The scoping meeting will acquaint members of the public with the

MD 355 over CSXT Railroad **Community Public Meeting** WHEN: WHERE: Thursday, **Monocacy National** Battlefield December 5, 2013 **Visitor Center** 5:30 P.M. - 7:00 P.M. 5201 Urbana Pike *Snow Date: Frederick, MD 21704 December 11, 2013 *Meeting will be held on the snow date if county public schools are closed or if the county's snow emergency plan is in effect.

project's purpose and need and allow attendees to share their project-related comments and concerns with representatives of SHA and NPS. Display areas will depict project information and concepts. No formal presentation will be given. You may arrive at any time during meeting hours and walk through at your own pace.

QUESTIONS AND ANSWERS

Why is the work necessary?

The bridge on MD 355, originally constructed in 1930, is structurally safe but is showing signs of advanced deterioration. The most significant deterioration has occurred in the concrete bridge deck (riding surface), which has been paved over with asphalt to improve its smoothness until a new bridge can be designed and constructed. The project is part of SHA's bridge preservation and replacement program.

Are concepts for bridge replacement being considered?

The four concepts listed below explore alignments, maintenance-of-traffic options, and impacts on natural and cultural resources and will be available for comment at the scoping meeting:

- Concept 1 –Places the new bridge to the west of the existing bridge on a new alignment. Traffic would be maintained on the existing bridge during construction.
- Concept 2 –Places the new bridge to the east of the existing bridge on a new alignment. Traffic would be maintained on the existing bridge during construction.
- Concept 3 –Places the new bridge on the current alignment. A temporary bridge and roadway would be constructed to the west of the current alignment to maintain traffic during construction.
- Concept 4 –Places the new bridge on the current alignment. The bridge and roadway would be constructed in stages, and a temporary signal would allow single-lane traffic from alternating directions to travel through the work zone during construction.

What is the project schedule?

SHA expects construction to start as early as spring 2015 and will make every effort to complete this project as quickly as possible while minimizing impacts on motorists, park visitors, and park resources.



REQUEST FOR ASSISTANCE

The Maryland Relay Service can assist teletype users at 7-1-1. Persons requiring assistance to participate (interpreter for hearing/speech disabilities or assistance with the English language) should contact Ms. Brookman by November 27, 2013.



http://parkplanning.nps.gov/projectHome.cfm?projectID=49475

You may also visit the National Park Service's website at:

0ff267577=ontosionqfxqas.noitsmrofnltosior4/slov0sfiLtosior4dsW/vog.bnslyrsm.absor.aqqs/\:qtth

QR code provided: For more information on this project, please type the following link to SHA's website into your web browser, or use the

or email. comments and questions to Ms. Brookman by mail Persons unable to attend the meeting may submit

Email: cbrookman@sha.state.md.us Toll Free: 1-866-527-0502 Phone: 410-545-8698 Baltimore, MD 21202 707 North Calvert Street, Mail Stop C-301, Environmental Planning Division - Planning and Preliminary Engineering -Ms. Caryn Brookman, SHA Environmental Manager,

eu.bm.afata.eda@daena.cliem3 Toll Free: 1-888-375-1084 Phone: 410-545-8074 Baltimore, MD 21202 707 North Calvert Street, Mail Stop C-203, SHA Office of Structures – Structures Engineering Ms. Kelly Nash, PE, SHA Project Manager,

FOR MORE INFORMADION

MARYLAND STATE HIGHWAY ADMINISTRATION, OFFICE OF PLANNING AND PRELIMINARY ENGINEERING, 707 N. CALVERT STREET, MAIL STOP C-301, BALTIMORE, MARYLAND 21202







James T. Smith, Jr., Secretary

link to projects page QR Code for cell phone

Anthony G. Brown, Lt. Governor Martin O'Malley, Governor

down. Always buckle up, and please drive safely. Orange" when driving through work zones by staying alert and slowing apologizes for any inconvenience. SHA reminds motorists to "Think AHS appreciates the patience and cooperation of the community and

(Slisted rot obisni ee?)

Public Scoping Meeting MD 355 over CSXT Railroad

Attend the

🔿 noiterteinimb/ VEWAOLH 91612



Posted Tuesday, December 3rd 2013 @ 1pm

The Maryland State Highway Administration (SHA), the Federal Highway Administration (FHWA), and the National Park Service (NPS) invite interested persons to attend a public scoping meeting regarding the upcoming project to replace the bridge that carries MD 355 (Urbana Pike) over the CSXT Railroad in Frederick County.

The bridge is located along a section of MD 355 which is within the boundary of the Monocacy National Battlefield, a resource managed by the NPS.

The purpose of the project is to enhance the safety of the traveling public by constructing a new bridge on either the existing alignment or a new alignment as part of SHA's bridge preservation and

replacement program.

Depending upon which of the four proposed concepts is chosen, traffic will be maintained either on the existing bridge or on a temporary bridge and roadway during construction, which is expected to begin as early as spring 2015.

The MD 355 bridge over CSX, constructed in 1930, is structurally safe but shows signs of significant deterioration and needs to be replaced. This project is part of SHA's bridge preservation and replacement program aimed at providing reliable facilities in a timely manner.

Roadway alignments are currently being evaluated along with maintenance of traffic schemes which maintain either one or two lanes of traffic at all times during the construction of the replacement bridge.

We have not set a time frame for construction on this project as there are many coordination issues to work out with others (National Park, utility, railroad). Once this project goes to construction SHA will make every effort to complete this project as quickly as possible while minimizing impacts to adjacent properties and motorists. It is anticipated that the construction phase will last one year, weather permitting.

The meeting is taking place on Thursday, December 5, between 5:30 p.m. and 7 p.m., at the Monocacy National Battlefield-Visitor Center, located at 5201 Urbana Pike, Frederick, Md., 21704.



Andrew Banasik 4632 Araby Church Rd Frederick, MD 21704



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Date	Form Comment	Name	Comment
Received	Received	John Crote	Decement support Alternative 4 due to major traffic issues: Stated that MD
11/15/2013	Phone Call	John Gretz	355 experiences a high volume of traffic during peak periods and Alternative 4 would cause more backups; In addition, he stated that 700 homes are being constructed in Urbana by late 2014 and those new residents would likely use MD 355 to get to I-270.
11/17/2013	Email	Richard & Mary Terselic	 We recommend Option 3. Maintaining the current alignment is desirable. 1. Concepts 1 & 2. Because of the short distance between the exit from the bridge over the Monocacy, relocating the new bridge to the right or left would create a safety hazard. The speed limit is 50 MPH in that area and if there were a need to veer right or leftother than during the construction periodwould pose a safety hazard. 2. Concept 4. There is a great deal of traffic on 355 in this area and using a traffic signal to control single lane flow would create unbelievable traffic backups. As it is now, when pothole patching or tree work takes place and single lane diversion occurs, using signal persons, traffic snarls occur. Use of a traffic signal would also pose a problem for emergency vehiclesunless the emergency vehicles could override the signal operation to permit them to continue without waiting for a signal change.
11/19/2013	Email	Dr. Chet Patel and Mrs. Nila Patel	My husband and I both commute over this bridge daily. We would prefer to Concepts 1 and 2 since they would continue to allow the existing traffic patter to continue. Because 270N in Frederick County is only 2 lanes, there is significant commuter traffic on MD 355 which would be a huge issue if it was reduced to a single lane during construction.
12/6/2013	Email	Name unknown	I have enjoyed the Battlefield parks for many years. One thing that could really improve the experience and make for a safe visit is a pedestrian walkway across the river connecting all part of the park. I have witnessed walkers and bike riders trying to squeeze across the current bridge with auto traffic. I have hope that one day, we will be able to walk or ride a bike from Urbana to Frederick City. With a new bridge on the horizon it would be a terrific time to add a pedestrian lane. Also, it would be wonderful if the bridge

			design could speak to the 1800's in some form of detail. I'll add that the
			intersection of 355 and Araby Church Road (just South of the bridge) has
			witnessed many accidents as cars try to leave or access Araby. Careful
			consideration will be needed for the blind hill just South of the bridge. Just a
			note- This location is also a busy deer crossing as wildlife crosses park to park
			and frequently get hit by cars. Good luck with the project and I hope the
			beauty and simplicity of the Battlefield can be maintained.
12/9/2013	Via SHA PLC Website	Mr. Victor	Comments on the design concepts (per website, 12/6/2013) Pedestrian
		Maslanka	accommodation appears to be minimal. While better than the existing bridge,
			shoulders on a high speed road are inadequate. Better pedestrian
			accommodation should be considered, given the location within the
			battlefield park area. Access to the battlefield park area roadways
			immediately south of the bridge may be problematic without left turn lanes.
			This is a relatively high speed roadway (posted 50 mph), with both horizontal
			and vertical curvature in the vicinity of the bridge.
12/5/2013	Comment card; Public	Mr. Rodney Kelly	I feel that Concept 2 is the only logical choice offered. The alignment to bridge
	Scoping Mtg		over river is so much better than other concepts. Concept 4 is not acceptable
			for the following reasons: 1- Too much traffic for one-way pattern. Traffic
			backups would tremendous.
			2-Constructability issues would be insurmountable. Work area is too
			restrictive.
			3- Construction duration would be twice as long.
12/5/13	Comment card; Public	Mr. Denis	Long Range Plans being developed for the MD 355 Corridor anticipate the
	Scoping Mtg.	Supercynski	introduction of mixed use development in the vicinity of the Monocacy MARC
			station & other areas along the corridor north of the Battlefield. A full,
			pedestrian facility, not the Option 2 shared use ped/bike shoulder, should be
			incorporated into the design of the bridge. Interpretation of events within &
			surrounding the Park would suggest that a more robust pedestrian
			accommodation be integrated into the bridge and surrounding site
			improvements. Concept 4-Placing the new bridge on the existing alignment-
			would be the preferred option from the standpoint of the County insofar as
			the concept minimizes the potential negative impact on archeological

			resources. The minimal, and short-lived, disruption in normal traffic patterns	
			does not trump the protection of the resources surrounding the site.	
12/5/2013	Comment card; Public	Mr. David Ott	I would recommend #3 scenario that keeps the bridge in current alignment. I	
	Scoping Mtg.		would also like to see a foot bridge to the New Jersey Monument in the	
			adjacent parking form the field next door for better accessibility.	
12/5/2013	Comment card; Public	Mr. Paul Smith	Concept # 1 looks the best to me. It looks like it would be one of the least	
	Scoping Mtg.		expensive options, causing the least disruption to traffic. It would only take a	
			small amount of extra property from the Battlefield.	
12/5/2013	Comment card; Public	Ms. Brenda Duvall	Based on the current volume of traffic on MD 355 at all times & the continued	
	Scoping Mtg.		growth of Urbana, I feel that Concept #3 is the best option, even though	
			additional expenses for temporary bridge come into play the volume of traffic	
			is too heavy for 1-lane passage for long-term construction as required for the	
			project.	
12/5/2013	Comment card; Public	Mr. Robert C.	Concept 1 seems to be the best one.	
	Scoping Mtg.	Wormley, Jr.		
12/5/2013	Comment card; Public	Mr. Carl Lenhart	I think it is wonderful for the construction of a new bridge. I would like for	
	Scoping Mtg.		the new construction to add a walk area for people to cross the Bridge. We	
			feel that safety and sidewalks on the bridge is a top priority. This project is	
			greatly needed. It also will benefit the Battlefield Park. Thank you for	
			supporting our community.	

Agency Comments from November 20, 2013 Interagency Review Meeting Presentation:

Commenter	Agency	Comment
Ms. Alaina McCurdy	EPA	Ms. McCurdy asked is the bridge would
		require clearance for double stacks. Kelly
		responded that it was not a requirement.
Ir. Rick Kiegel Maryland Transit Administration		Mr. Kiegel asked if NPS will be involved in
		the architectural elements decision. Caryn
		responded that NPS is a co-lead agency and
		has been very involved in the planning. Beth
		Cole (MHT) also stated that there are
		monthly meetings for the project and there
		has been extensive coordination with NPS.
Mr. Greg Golden	DNR-Integrated Policy and Review Unit	Mr. Golden notified the team that the
		Monocacy is a Maryland Scenic and Wild
		River; he suggested that this be investigated
		in the EA.
Mr. Joseph DaiVia	Army Corps of Engineers	Mr. DaVia asked if Priority 1 is the highest
		priority for bridge repair; Kelly stated that it
		was. Mr. DaVia asked if the project team
		anticipated the need for a Corps permit.
		Caryn stated that one is not anticipated at
		this time.

APPENDIX D

BIBLIOGRAPHY, GLOSSARY, & ACRONYMS

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APPENDIX

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