CSTEE-0008-00(986); Bibb County P.I. Number 0008986

Ocmulgee Heritage Trail: Walnut Creek Extension

The proposed expansion of the Ocmulgee Heritage Trail from Otis Redding Bridge along the Ocmulgee River to near the mouth of Walnut Creek.

ENVIRONMENTAL ASSESSMENT

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION,
U.S. DEPARTMENT OF INTERIOR
NATIONAL PARK SERVICE,
AND
GEORGIA DEPARTMENT OF TRANSPORTATION

SUBMITTED PURSUANT TO 42 USC 4321 et. seq.

APPROVAL FOR ADVANCEMENT TO AVAILABILITY/PUBLIC HEARING PHASE

11/1/2013
DATE

FOR: GLENN BOWMAN, P.E.
STATE ENVIRONMENTAL ADMINISTRATOR
GEORGIA DEPARTMENT OF TRANSPORTATION

11/21/13
DATE

FOR: RODNEY N. BARRY, P.E.
DIVISION ADMINISTRATOR
FEDERAL HIGHWAY ADMINISTRATION

APPROVAL OF ENVIRONMENTAL ASSESSMENT

DATE

FOR: RODNEY N. BARRY, P.E.
DIVISION ADMINISTRATOR
FEDERAL HIGHWAY ADMINISTRATION

DATE

FOR: GLENN BOWMAN, P.E.
STATE ENVIRONMENTAL ADMINISTRATOR
GEORGIA DEPARTMENT OF TRANSPORTATION

EXECUTIVE SUMMARY[1]

The Georgia Department of Transportation (GDOT), in cooperation with the National Park Service (NPS) and the Federal Highway Administration (FHWA), is undertaking this Environmental Assessment (EA) for an extension of the Ocmulgee Heritage Trail (or Heritage Trail) into the Ocmulgee National Monument (OCMU). This extension—called the Walnut Creek Extension—is the proposed project for this EA, which will assess the proposed project's impact per FHWA and NPS requirements in order to comply with the National Environmental Policies Act (NEPA). The OCMU is located on the eastern edge of the City of Macon in central Georgia. In order to improve visitor access and recreational opportunities, the proposed project would connect the proposed Otis Redding Loop Trail and existing OCMU trails by way of a 10-foot wide concrete, gravel, or asphalt trail running essentially parallel to Interstate 16 (I-16) and the Ocmulgee River. The Otis Redding Loop Trail is part of the Ocmulgee Heritage Trail: Amerson Water Works Park, Old Bibb Mill, and Otis Redding Loop Trail project (CSHPP-0007-00(636), GDOT P.I. 0007636).

The Walnut Creek Extension would begin approximately 950 feet east of the Otis Redding Bridge at the future terminus of the Otis Redding Loop Trail and would terminate approximately 670 feet from the intersection of Walnut Creek and the Ocmulgee River. The total length of the proposed trail is approximately 6,500 feet (1.23 miles) in length and would require right of entry from the OCMU. Current deficiencies of the OCMU trail system include poor accessibility and visitor use in the southwestern portion, in contrast with the increasing visitation demands. The Walnut Creek Extension would serve to improve visitor access and recreational opportunities by providing continuity in the OCMU trail system. This EA describes the affected environment and analyzes potential impacts associated with the no-build and build alternatives.

[1] This is a NPS requirement per Directors Order (DO) 12.

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LIST OF ABBREVIATED TERMS

ADA	Americans with Disabilities Act
APE	Area of Potential Effect
ARPA	Archaeological Resources Protection Act
BMP	Best Management Practices
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CO	Carbon Monoxide
CO_2	Carbon Dioxide
DO	Director's Order
DOI	United States Department of Interior
DOT	United States Department of Transportation
E	Endangered
EA	Environmental Assessment
EO	Executive Order
EPD	Environmental Protection Division
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FONSI	Finding of No Significant Impact
FPPA	Farmland Protection Policy Act
GDNR	Georgia Department of Natural Resources
GDOT	Georgia Department of Transportation
GEPD	Georgia Environmental Protection Division
GHG	Greenhouse Gases
GHS	Georgia Historical Society

GPS	Global Positioning System
GWRD	Wildlife Resources Division, Georgia Department of Natural Resources
Heritage Trail	Ocmulgee Heritage Trail
HUC	Hydrological Unit Code
I	Interstate
ICI	Indirect and Cumulative Impacts
Joint Coordination Procedures	Joint Coordination Procedures for the Endangered Species Act and Fish and Wildlife Coordination Act for the Georgia Offices of the U.S. Fish and Wildlife Service, Federal Highway Administration, and the Georgia Department of Transportation as Amended January 2007
LLC	Limited Liability Corporation
MBTA	Migratory Bird Treaty Act
MOA	Memorandum of Agreement
MPO	Metropolitan Planning Organization
MSAT	Mobile Source Air Toxics
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NL	Not Listed
NPS	National Park Service
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
OCMU	Ocmulgee National Monument
Organic Act	Organic Act of 1916 for NPS
P	Rare, Protected

$PM_{2.5}$	Particulate Matter Less than 2.5 Microns in Diameter
RCW	Red-cockaded woodpeckers
S1	Stream-1
S2	Stream-2
S3	Stream-3
SC	State Species of Concern
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
T	Threatened
TIP	Transportation Improvement Program
TMA	Transportation Management Association
TMDLs	Total Maximum Daily Loads
USACE	United States Army Corps of Engineers
USC	United States Code
USCB	United States Census Bureau
USDA	United States Department of Agriculture
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
W1	Wetland-1
W2	Wetland-2

I. NEED AND PURPOSE

A. Introduction

The Georgia Department of Transportation (GDOT), in cooperation with the National Park Service (NPS) and Federal Highway Administration (FHWA), is undertaking this Environmental Assessment (EA) for an extension of the Ocmulgee Heritage Trail (or Heritage Trail) into the Ocmulgee National Monument (OCMU). This EA will assess the proposed project's impact per FHWA and NPS requirements in order to comply with NEPA. This extension – called the Walnut Creek Extension – is the proposed project for this EA. Several coordination meetings were held between the cooperating agencies in order to discuss the proposed project and the approach for the EA (Appendix D).

The need for this project is to correct deficiencies in the current trail system in the southwestern portion of the OCMU. The Heritage Trail expansion was included in the 2012-15 Transportation Improvement Program (TIP) for Bibb County as a Transportation Enhancement (TE) Lump Sum item funded as TIP #MCN-TEA-1 and as GDOT TE Lump Sum item funded as PI 0006122. The purpose of this project is to improve visitor access and use in the southwestern portion of the OCMU by connecting the Otis Redding Loop Trail to existent OCMU trails. The Otis Redding Loop Trail project (CSHPP-0007-00(636), GDOT P.I. 0007636) is part of the planned Ocmulgee Heritage Trail, which also includes the Amerson Water Works Park and the Old Bibb Mill. The project would begin approximately 950 feet east of the Otis Redding Bridge at the future terminus of the Otis Redding Loop Trail and would terminate approximately 670 feet from the intersection of Walnut Creek and the Ocmulgee River at an existing OCMU trail. The total length of the Walnut Creek Extension is approximately 6,500 feet (1.23 miles).

B. Planning Basis for the Action

The OCMU is located on the eastern edge of the City of Macon in central Georgia (Figure 1-1). Macon is the Bibb County seat and has an estimated 2006 population of 93,665 (United States Census Bureau (USCB), 2009). The OCMU is open year-round (NPS, 2010). From 2005 to 2009, it received an average of 119,670 visitors annually (NPS, 2010). The park encompasses 700 acres and contains

approximately 5 miles of walking and biking trails, including the Opelofa, Loop, Bartram, McDougal, Mound Village, and Heritage Trails (NPS, 2001). The southwestern portion of the OCMU is bisected by Interstate 16 (I-16).

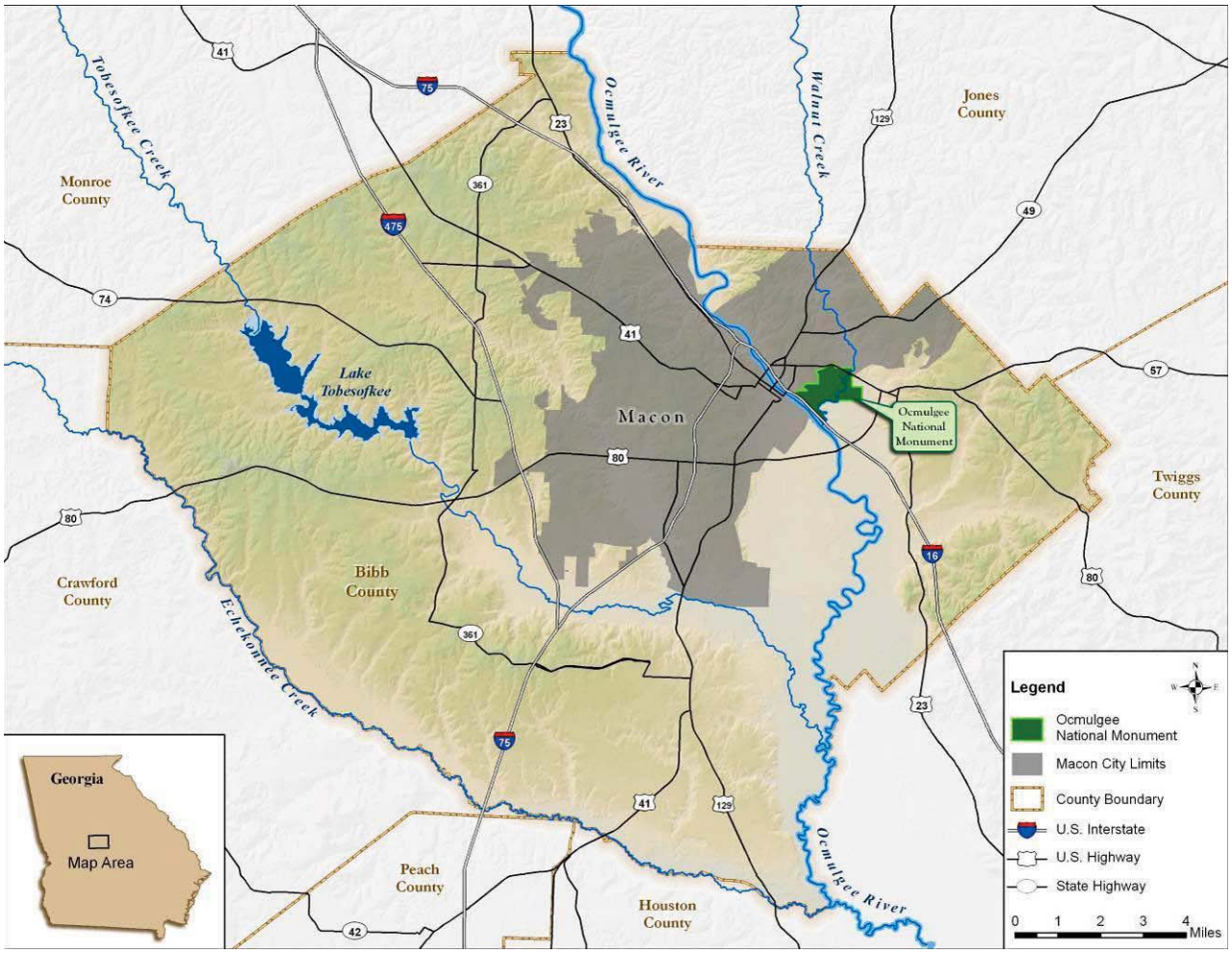

Figure 1-1. Project Location Map

Source: ESRI software, 2002

The present terminus of the OCMU Monument Trail is located between I-16 and the Ocmulgee River near Walnut Creek (Figure 1-2). Construction of the Otis Redding Loop Trail (anticipated for 2012) would extend the Heritage Trail to the Otis Redding Bridge just west of OCMU. In order to improve visitor access and recreational opportunities, the proposed project would connect the future Otis Redding

Loop Trail to the existing OCMU Trail by way of a 10-foot wide gravel, concrete, or asphalt trail running essentially parallel to I-16 and the Ocmulgee River (Figure 1-2).

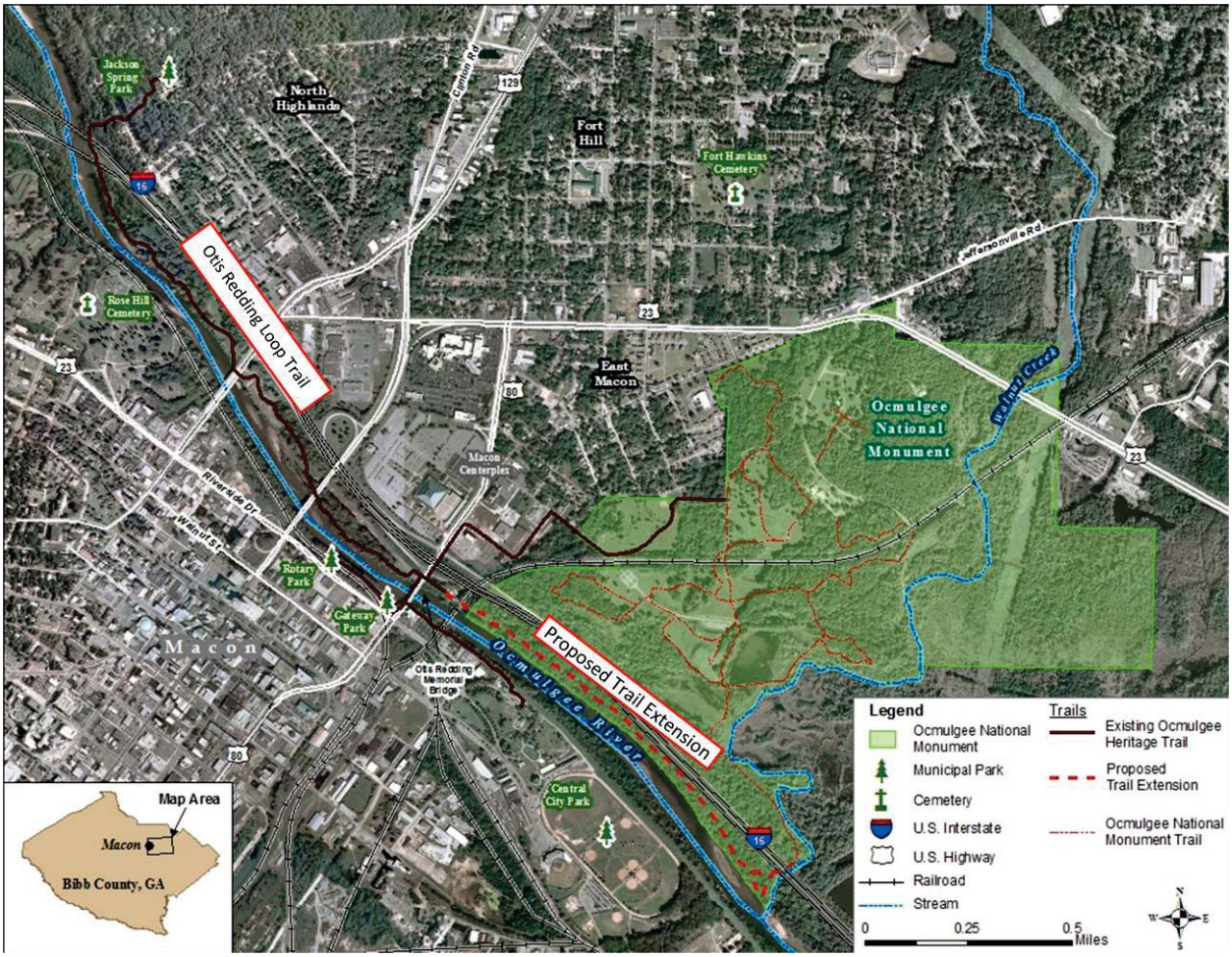

Figure 1-2. Map of Ocmulgee National Monument Trails and Ocmulgee Heritage Trail

Source: ESRI software, 2002

C. Deficiencies in the System

The southwestern portion of the OCMU is currently underutilized due to the absence of trails, which translates to poor visitor accessibility. This deficiency in the OCMU trail system is exacerbated by increasing visitation trends (Figure 1-3). Despite the visitation fluctuation in Figure 1-3, increased visitation is the overall trend. The Walnut Creek Extension would serve to provide continuity in the OCMU trail system as well as to improve visitor access and recreational opportunities.

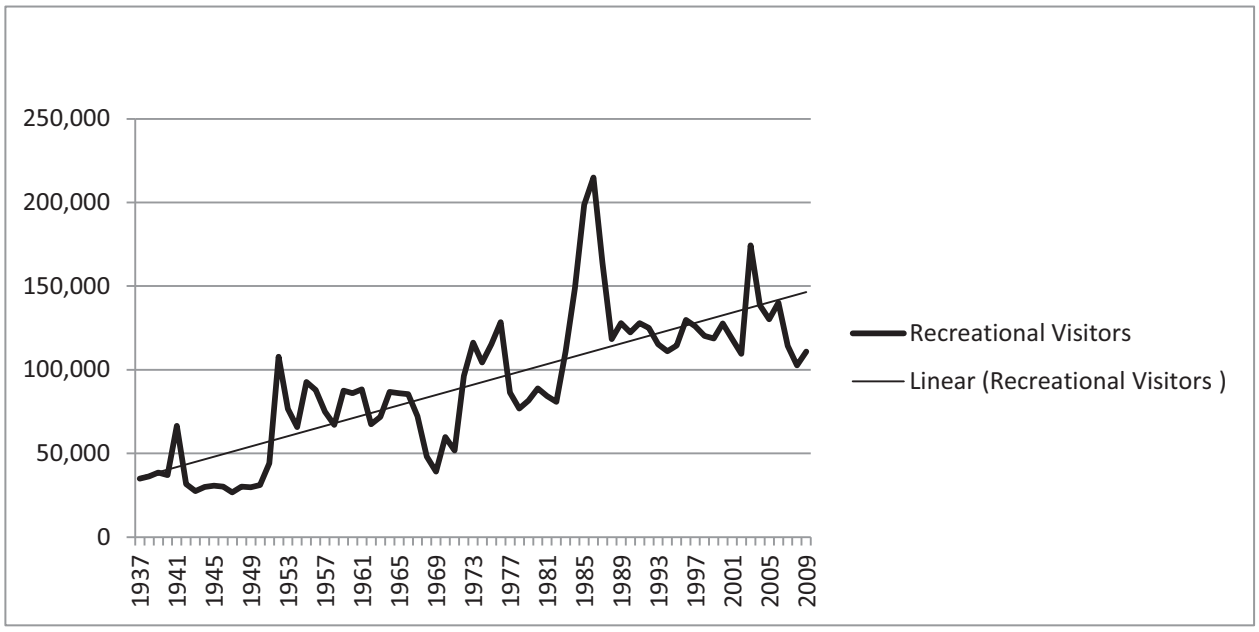

Figure 1-3. Annual OCMU Visitation from 1937 to 2009

Source: (NPS, No date)

D. Logical Termini

The northern terminus of the proposed Walnut Creek Extension would be located approximately 950 feet southeast of the Otis Redding Bridge at the end of the future Otis Redding Loop Trail (CSHPP-0007-00(636), GDOT PI 0007636), which has an approved CE and is scheduled to let in March 2012 and therefore, should be in place prior to construction of the proposed project. The southern terminus would be approximately 670 feet northwest of Walnut Creek at an existing OCMU trail. The Walnut Creek Extension would connect logical termini, be usable and a reasonable expenditure even without other local transportation improvements; be of sufficient length to address environmental matters on a broad scope;

and would not restrict consideration of alternatives for other reasonably foreseeable transportation improvements.

II. DESCRIPTION OF ALTERNATIVES

A. Introduction

Following standard procedure, the proposed project alignments were developed to include environmental parameters as a part of the location investigation prior to laying out a proposed alignment. Basic data on the corridor was gathered and studied. Data for this project included, at a minimum, aerial photography, topographic maps, previous studies, wetland inventory maps, soil surveys maps, floodplain maps, and Georgia Department of Natural Resources' (GDNR) historic resource survey maps.

Wetland and hydric soil boundaries, floodplains, parks, and recreational facilities, known or suspected historical and archaeological sites, existing rights-of-way, possible underground storage tanks/landfill/hazardous waste sites, and areas of possible endangered species habitat were delineated on the aerial photographs prior to laying out an alignment. Aerial photographs also identified other "controls" such as churches, cemeteries, schools, hospitals, and other noise sensitive areas. Only at this point was the proposed alignment delineated with every attempt made to avoid environmentally sensitive areas. Where avoidance was not possible, every attempt was made to minimize harm to resources. The proposed alignment was then field checked and additional refinements were made to further minimize harm to both the natural and built environment.

Two alternatives were considered for the Walnut Creek Extension of the Heritage Trail from the Otis Redding Bridge to OCMU's Monument Trail: the build alternative and the no-build alternative.

B. The Build Alternative

The preferred alternative is the proposed construction of a 6,500-foot extension of the Heritage Trail between the Ocmulgee River and I-16, eventually connecting to the existing OCMU Monument Trail near Walnut Creek (Figure 1-2). Approximately one mile of the trail would be located within OCMU.

This portion of the OCMU is currently undeveloped and reserved for recreational uses. The remaining section of the trail, near the Otis Redding Bridge, would be constructed on land jointly owned by the City of Macon and Norfolk Southern Railroad Company, with easements granted to Georgia Power Company and Macon Water Authority. This portion of the trail on non-NPS land is small. The meandering 10-foot wide trail would remain between 30 and 100 feet from the banks of the Ocmulgee River at all times, so the trail would not penetrate the 25-foot warm-water vegetated stream buffer. Due to the sensitive nature of the OCMU area, the construction of the proposed trail would maintain existing grades to the greatest extent possible.

The trail would be constructed with concrete, asphalt or gravel, depending upon budget constraints at the time of construction. The trail surface was discussed with NPS during a meeting on May 12, 2010 (See Appendix D: Agency Coordination Meeting Notes). Currently, NPS has not yet identified a preferred material for the trail surface; however, regardless of the selection of the trail surface, the trail will be compliant with the Americans with Disabilities Act (ADA). One 60 foot long footbridge would cross over Stream-1 (S1) (See Section II(E)3: Waters of the U.S. for further details). This footbridge would be approximately 630 feet from the Otis Redding Bridge. The project would also introduce a culvert to a NPS Wetland (W1) in order to cross the feature (See Section II(E)4: NPS Wetlands for further details). Subsequent to the 2010 ecology report approval, additional investigation revealed that an existing culvert at S1 should be able to handle the construction traffic given its current use for maintenance traffic. Consequently, the additional culvert through S1, previously proposed in the ecology report, has been removed from consideration.

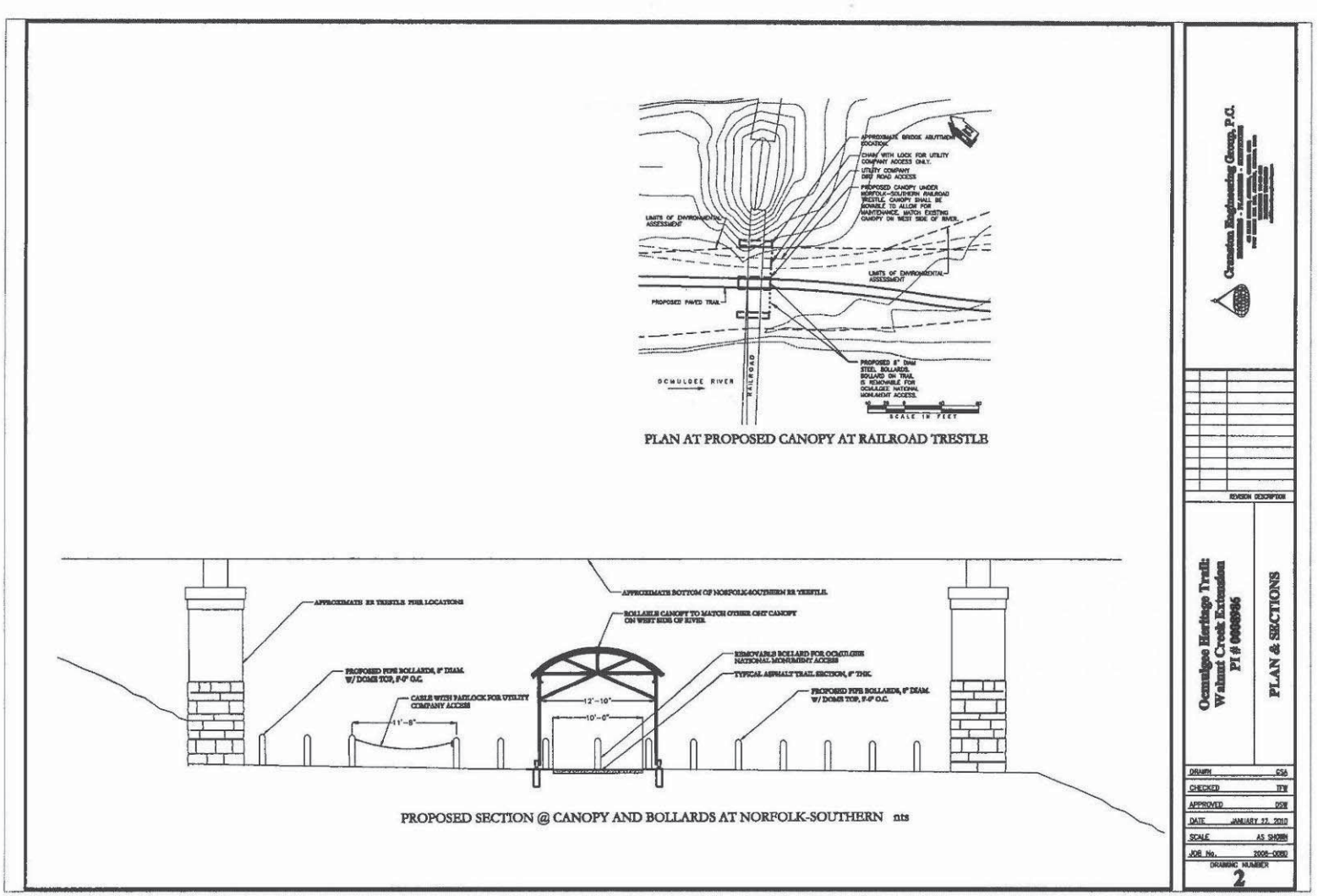

Figure 2-1. Concept Design for Canopy

Source: (Cranston Engineering Group, 2010).

A canopy would be constructed under the Norfolk-Southern Railroad trestle (See Figure 2-2). This canopy would allow safe track and trestle maintenance in concurrence with pedestrians utilizing the trail below (Environmental Services, Inc., 2010).

The trail would be constructed using low-impact techniques such as keeping mostly with the existing grade, avoiding environmentally sensitive areas, and minimizing clearing during construction. All heavy equipment would be staged in upland areas to avoid impacts to the Walnut Creek, Ocmulgee River, and NPS wetlands. Removal of shrubby vegetation [consisting largely of non-native Chinese privet (*Ligustrum sinense*), the dominant understory species] would be necessary for the trail and an additional four-to-six foot wide lawn on either side of the trail would be planted. Removal of trees and native vegetation would be avoided to the greatest extent possible, and areas along the river side of the trail where non-native species removal has taken place would be seeded with native plant species.

C. The No-Build Alternative

Council on Environmental Quality (CEQ) regulations (40 Code of Federal Regulations (CFR) 1502.14) require the assessment of a no-action alternative in National Environmental Policy Act (NEPA) documents. The no-action alternative provides a basis for comparing the management direction and environmental consequences of the proposed action and must be considered in every EA. Under the no-build alternative, GDOT would take no action to fund or construct the proposed trail expansion, Walnut Creek Extension. The no-build alternative, which is the no-action alternative, would not meet the purpose and need of improving visitor accessibility and recreational opportunities at the OCMU.

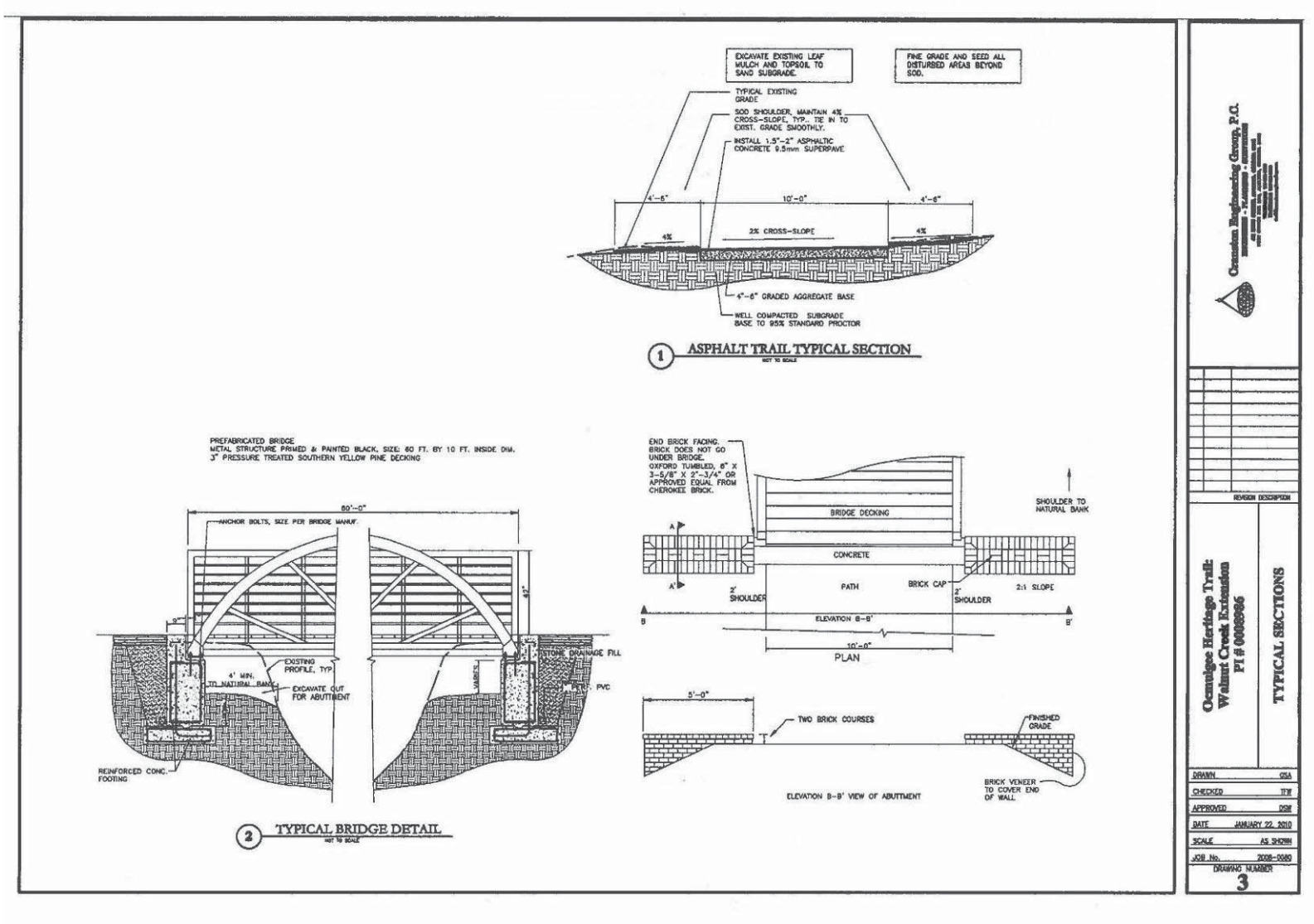

Figure 2-2. Typical Section of Trail and Bridge

Source: (Cranston Engineering Group, 2010).

D. Alternatives No Longer Under Consideration

CEQ regulations for implementing NEPA require that Federal agencies explore and objectively evaluate all reasonable alternatives of a proposed action and briefly discuss the rationale for eliminating alternatives not considered in detail. This section describes the only other alternative to the Build Alternative considered and eliminated from further study. It proposed construction within the stream buffer, which was dismissed due to environmental sensitivity.

E. Environmentally Preferred Alternative

In accordance with NPS's Director's Order (DO)-12, NPS is required to identify the "environmentally preferred alternative" in all environmental documents, including EAs. This was determined by applying the criteria suggested in NEPA, which is guided by the CEQ. As stated in Section 2.7 (D) of the NPS DO-12 Handbook, "The environmentally preferred alternative is the alternative that will best promote the national environmental policy expressed in NEPA (Section 101(b))." This environmental policy is stated in six goal statements, which include:

1. Fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;
2. Assure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings;
3. Attain the widest range of beneficial uses of the environment without degradation, risk to health and safety, or other undesirable and unintended consequences;
4. Preserve important historic, cultural, and natural aspects of our national heritage, and maintain wherever possible, an environment which supports diversity and variety of individual choice;
5. Achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities; and
6. Enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources (NEPA, 42 USC 4321-4347).

In summary, the environmentally preferred alternative is the alternative that not only results in the least damage to the biological and physical environment but also best protects, preserves, and enhances

historic, cultural, and natural resources. The Build Alternative is the environmentally preferred alternative for the following reasons:

1. It contributes to meeting Policy Goal #1 because the trail would provide visitor access to otherwise inaccessible areas of the OCMU while improving the surrounding ecosystem through removal of non-native plant species and seeding of native ones.
2. It contributes to meeting Policy Goal #2 because it would provide public access to otherwise inaccessible areas in a safe and productive manner and to scenic and aesthetically pleasing natural surroundings.
3. It contributes to meeting Policy Goal #3 because it would offer the widest range of beneficial uses of the environment without degradation, risk to health and safety, or other undesirable and unintended consequences.
4. It contributes to meeting Policy Goal #4 by improving visitor opportunities in the OCMU, which provides access to historic and cultural heritage.
5. It contributes to meeting Policy Goal #5 because it would accommodate the demands for visitor use at the OCMU by connecting the proposed Otis Redding Loop Trail and the existing OMCU trail without causing considerable environmental degradation.
6. It contributes to meeting Policy Goal #6 because the trail would enhance the quality of renewable resources with building materials and design that address environmental concerns in the selection of materials and landscaping plants.

F. Comparison of Alternatives[2]

Table 1. Summary of Alternatives

	Description of Components	Fulfills Purpose and Need
Build Alternative	Project components are trail expansion, canopy, a footbridge, and a culvert. The trail expansion along the Ocmulgee River would be asphalt, concrete, or gravel. It would start at the Otis Redding Loop Trail's future terminus at the Otis Redding Bridge and would end within 670 feet of the confluence of Walnut Creek and Ocmulgee River.	Yes
No-Build Alternative	The OCMU trails remain in current configuration with no expansion.	No

[2] This section is a NPS requirement.

Table 2. Summary Impacts of the Alternatives

Impact Topic	Build Alternative	No-Build Alternative
Land Use Changes	Direct and cumulative effects: beneficial; no indirect effects	No direct, indirect, or cumulative effects (negligible impacts)
Economics	Negligible, short-term direct effects, no indirect or cumulative effects (negligible impacts)	No direct, indirect, or cumulative effects (negligible impacts)
Community Cohesion	Minor, beneficial, long-term direct and cumulative effects, no indirect effects (negligible impacts)	No direct, indirect, or cumulative effects (negligible impacts).
Relocations	No direct, indirect, or cumulative effects (negligible impacts)	No direct, indirect, or cumulative effects (negligible impacts)
Churches and Institutions	No direct, indirect, or cumulative effects (negligible impacts)	No direct, indirect, or cumulative effects (negligible impacts)
Community Impacts/Environmental Justice	No direct, indirect, or cumulative effects (negligible impacts)	No direct, indirect, or cumulative effects (negligible impacts)
Public Involvement	Public involvement would be accomplished after the Draft EA is approved via an announcement in the OCMU newsletter and a major newspaper.	No direct, indirect, or cumulative effects (negligible impacts)
Historic Resources	Direct, indirect, and cumulative: no adverse effects provided bridge footings do not extend deeper than 5.5 feet	No direct, indirect, or cumulative effects (negligible impacts)
Archaeological Resources	No direct, indirect, or cumulative effects (negligible impacts)	No direct, indirect, or cumulative effects (negligible impacts)
Parklands/Recreation Areas/Wildlife Refuges	Minor, beneficial, long-term direct and indirect effects, moderate, beneficial, long-term cumulative effects	Minor, adverse, long-term direct and cumulative effects; and no indirect effects (negligible impact)
Water Quality	No direct effects; negligible, long-term, local, adverse indirect and cumulative effects	No direct, indirect, or cumulative effects (negligible impacts)
Waters of the U.S.	Minor, short-term, local, adverse direct effects; negligible, local, long-term, adverse indirect effects; and minor, local, short-term, adverse cumulative effects	No direct, indirect, or cumulative effects (negligible impacts)
NPS Wetlands	Minor, short-term, local, adverse direct effects; negligible, long-term, local, adverse indirect and cumulative effects	No direct, indirect, or cumulative effects (negligible impacts)
Floodplains	Negligible long-term, local, and adverse direct effects; none for indirect (negligible impacts); and cumulative of negligible, long-term, local, and adverse	No direct, indirect, or cumulative effects (negligible impacts)
Farmlands	No direct, indirect, or cumulative effects (negligible impacts)	No direct, indirect, or cumulative effects (negligible impacts)
Threatened and Endangered Species	No direct, indirect, or cumulative effects (negligible impacts)	No direct, indirect, or cumulative effects (negligible impacts)
Migratory Birds	No direct effects (negligible impacts); minor, local, short- and long-term adverse indirect and cumulative effects	No direct, indirect, or cumulative effects (negligible impacts)

Table 2. Summary Impacts of the Alternatives

Impact Topic	Build Alternative	No-Build Alternative
Invasive Species	Minor, local, short-term, beneficial direct effects; minor, local, short- and long-term adverse indirect and cumulative effects	Minor, long-term, local, adverse direct effects; no indirect effects (negligible impacts); and minor, long-term, local, adverse cumulative effects
Noise	Minor, localized, short-term direct and cumulative effects during construction; no indirect effects (negligible impacts).	No direct, indirect, or cumulative effects (negligible impacts)
Air	Minimal, localized direct effects during construction; no indirect or cumulative effects (negligible impacts)	No direct, indirect, or cumulative effects (negligible impacts)
Energy/Mineral Resources	Negligible, short-term direct effects; negligible, long-term indirect effects; and no cumulative effects (negligible impacts)	No direct, indirect, or cumulative effects (negligible impacts)
Visitor Use and Experience/Recreation*	Minor, long-term beneficial direct and indirect effects and no cumulative effects (negligible impacts)	No direct, indirect, or cumulative effects (negligible impacts)
Human Health and Safety*	Negligible, short-term direct effects; minor, long-term indirect effects; and minor, long-term adverse and beneficial cumulative effects	No direct, indirect, or cumulative effects (negligible impacts)
Visual Resources*	Minor, short-term and long-term, beneficial direct effects and cumulative effects; no indirect effects (negligible impacts)	No direct, indirect, or cumulative effects (negligible impacts)
Park Operations*	Minor, long-term direct effects; no indirect or cumulative effects (negligible impacts)	No direct, indirect, or cumulative effects (negligible impacts)
Soils*	Minor, short-term direct effects; no indirect or cumulative effects (negligible impacts)	No direct, indirect, or cumulative effects (negligible impacts)
Vegetation*	Minor, short-term, local, beneficial direct effects; minor, local, long-term, adverse indirect and cumulative effects	No direct, indirect, or cumulative effects (negligible impacts)
Wildlife*	Negligible, short-term direct effects and no indirect or cumulative effects (negligible impacts)	No direct, indirect, or cumulative effects (negligible impacts)
Short Term Uses Versus Long Term Sustainability*	No direct effects (negligible impacts); minor, long-term, beneficial indirect and cumulative effects	No direct, indirect, or cumulative effects (negligible impacts)

*= NPS required analysis

III. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

A. Types of Effects: Direct, Indirect, and Cumulative Effects

The CEQ Regulations *for Implementing the Procedural Provisions of the NEPA*, in the CFR, specifically 40 CFR §§1500-1508, requires that not only direct impacts, but indirect and cumulative impacts (ICI) also be evaluated for the "reasonably foreseeable" future (40 CFR 1508.8). For purposes of

this analysis, the "reasonably foreseeable" future is considered the two year horizon, as the construction period would be less than a year for the build alternative. According to 40 CFR 1508.8, effects include both direct effects and indirect effects. Effects and impacts as used in these regulations are synonyms. Effects include ecological (the effects on natural resources and functioning of affected ecosystems), historic, cultural, economic, social, or health effects, whether direct, indirect, or cumulative. Effects can be both beneficial and detrimental, even if the agency believes that the effect will be overall beneficial.

Direct, indirect, and cumulative effects can be defined as follows:

- **Direct effects** are caused by, and coincide in time and place, with the action.
- **Indirect effects** are caused by the action and are later in time or farther removed in distance but are still reasonably foreseeable (40 CFR 1508.8(b)). Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems.
- **Cumulative Effects** are 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 non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

The direct, indirect, and cumulative effects of the proposed action are presented in the subsections that follow. To effectively analyze indirect effects, the potentially affected area has been extended outside the immediate project area. The impacts analysis focuses on the immediate project area and includes the area extending west to the Ocmulgee River and east to I-16. The future extension of the Heritage Trail to the Otis Redding Bridge (Otis Redding Loop Trail) is the only other project in the two year time horizon other than the existing minimal maintenance activity. Other past projects, such as the I-16 project or

installation of the culvert in W1, occurred enough in the past that the proposed Walnut Creek Extension should not have interactive impacts with these past projects. Therefore, the only past projects evaluated in the cumulative impact sections are the minimal maintenance activity and the Otis Redding Loop Trail.

Indirect and cumulative effects analyses have not been included for the following resources: historic markers; section 4(f) applicability; public involvement; construction/utilities; and USTs/hazardous waste. For all NPS required resources, NPS specific criteria are analyzed and addressed in Appendix D – NPS Impairment.

B. NPS Methodology

The policies and procedures by which the NPS carries out its responsibilities under the National Environmental Policy Act (NEPA) are based on Director's Order #12 from the NPS Office of Policy. Director's Order #12 defines the approach to environmental analysis, public involvement, and making resource-based decisions concerning the Nation's parks. Table 3 below defines all impacts (negligible, minor, moderate and major) as well as the duration threshold applicable to each. These impacts are defined based on Impact Topic and provide guidance for each section of the NEPA document.

C. Affected Environment and Effects on the Economic and Social Environment

1. Land Use Changes

Approximately one mile of the trail would be located on the OCMU. This portion of the OCMU is currently undeveloped and reserved for recreational uses. The remaining section of the trail, near the Otis Redding Bridge, would be constructed on land jointly owned by the City of Macon and Norfolk Southern Railroad Company with easements granted to Georgia Power Company and Macon Water Authority. This portion of the trail on non-NPS land is small.

Build Alternative

Direct Effects

Implementing this alternative would be consistent with current land use planning. The City of Macon has granted utility easements for sewer and power lines within a portion of the proposed project corridor; while Norfolk Southern has a railroad bridge on its property. The non-NPS landowners of the project area agree with the land use expansion to include recreation, and there would be no change in land ownership. Because the project area is mostly wooded, the use of gravel for the trail extension would be more compatible with existing land use than that of concrete or asphalt. However, asphalt or concrete would still be compatible with the park setting. Thus, direct impacts from implementing this alternative would be beneficial as the land would be used for its intended purpose of recreation on NPS land, as well as being beneficial to the visitors through increased accessibility to the park in order to experience the wealth of historical and archaeological resources preserved within the park. Since the non-NPS landowners agree with the change and change in landownership would not occur, no conflict exists on the small trail portion (approximately 0.2 mile) on non-NPS land. Direct effects to land use would be minor, beneficial, and long-term.

Indirect Effects

Most of the 1.2 mile trail extension would occur on OCMU land planned for recreation. The proposed alternative does not include other amenities for the trail, such as bathrooms or visitor centers and would not induce changes to the areas of the park in which historical or archaeological resources are preserved. Since the City of Macon and the OCMU already have many trails, a small trail expansion without further amenities would not expect to induce land use changes. Further, because no landownership, zoning, or plans would change, the project would not encourage other land use changes. Thus, there would be no indirect effects (negligible impact) to land use.

Table 3. NPS Methodology[3]

Impact Topic	Negligible Impact	Minor Impact	Moderate Impact	Major Impact	Duration Threshold
Land Use Changes	Impacts to the land uses would be barely detectable with neither adverse nor beneficial consequences.	Impacts on land uses would be measureable but require minimal mitigation to address.	Impacts on land uses would be substantial and would require some level of mitigation to adequately address, but the required mitigation would likely be successful.	Impacts on land uses would be substantial and of serious concern, would require substantial mitigation to adequately address, and the required mitigation might not be successful.	*Short-term:* Effects would extend less than two years beyond the time of project implementation. *Long-term:* Effects would likely last more than two years and may continue beyond the lifetime of the project implementation.
Economics	Impacts to the economy would be barely detectable with neither adverse nor beneficial consequences.	Impacts on the economy would be measureable but require minimal mitigation to address.	Impacts on the economy would be substantial and would require some level of mitigation to adequately address, but the required mitigation would likely be successful.	Impacts on the economy would be substantial and of serious concern, would require substantial mitigation to adequately address, and the required mitigation might not be successful.	*Short-term:* Effects would extend less than two years beyond the time of project implementation. *Long-term:* Effects would likely last more than two years and may continue beyond the lifetime of the project implementation.

[3] Please note that a methodology section is a NPS requirement.

Impact Topic	Negligible Impact	Minor Impact	Moderate Impact	Major Impact	Duration Threshold
Community Cohesion	Impacts to the community cohesions would be barely detectable with neither adverse nor beneficial consequences.	Impacts on community cohesion would be measureable but require minimal mitigation to address or would be slightly beneficial.	Impacts on community cohesion would be substantial and would require some level of mitigation to adequately address, but the required mitigation would likely be successful or the impacts would be moderately beneficial.	Impacts on community cohesion would be substantial and of serious concern, would require substantial mitigation to adequately address, and the required mitigation might not be successful or the impacts would be extremely beneficial.	*Short-term:* Effects would extend less than two years beyond the time of project implementation. *Long-term:* Effects would likely last more than two years and may continue beyond the lifetime of the project implementation.
Relocations	No relocations would be required.	One relocation would be required and minimal mitigation would be necessary.	Several relocations would be required and would require mitigation to adequately address the issue. Mitigation may not appease all of those involved.	A substantial number of relocations would be required and would require substantial mitigation to adequately address. Mitigation may not appease those being relocated.	*Short-term:* Effects would extend through project construction. *Long-term:* Effects would continue beyond the lifetime of the project implementation.
Churches and Institutions	No churches and institutions are located within the project area, or those located within the project area would be unaffected by project implementation.	Churches and institutions within the project area would be minimally impacted by minor inconveniences as a result of project construction.	Churches and institutions within the project area would be impacted during or post construction by changes in accessibility or loss of property not resulting in changes to the function of the church or institution's facilities. Some mitigation may be required.	Churches and institutions would lose portions or all of their property as a result of project implementation, facility function would be compromised and mitigation would be required.	*Short-term:* Effects would extend through project construction. *Long-term:* Effects would continue beyond the lifetime of the project implementation.

Impact Topic	Negligible Impact	Minor Impact	Moderate Impact	Major Impact	Duration Threshold
Community Impacts/ Environmental Justice	There would be no community impacts or environmental justice concerns as a result of project implementation	Minor changes to the community function or demographics may occur, but would not alter or negatively affect the community.	Changes to the community function or demographics would occur; however, mitigation efforts would maintain the sense of community and overall function.	Changes to the community function or demographics would occur; however, mitigation efforts would not likely ameliorate the changes brought about as a result of project implementation.	*Short-term:* Effects would extend through project construction. *Long-term:* Effects would continue beyond the lifetime of the project implementation.
Public Involvement	NA	NA	NA	NA	NA
Cultural Resources	Impact is barely detectable with neither adverse nor beneficial consequences. The determination of effect for §106 would be no adverse effect.	Alteration of a feature(s) would not diminish the overall integrity of the resource. The determination of effect for §106 would be *no adverse effect*.	Alteration of a feature(s) would diminish the overall integrity of the resource. The determination of effect for §106 would be *adverse effect*. A memorandum of agreement (MOA) is executed among the National Park Service and applicable state or tribal historic preservation officer and, if necessary, the Advisory Council on Historic Preservation in accordance with 36 CFR 800.6(b). Measures identified in the MOA to minimize or mitigate adverse impacts reduce the intensity of impact under NEPA from major to moderate.	Alteration of a feature(s) would diminish the overall integrity of the resource. The determination of effect for §106 would be adverse effect. Measures to minimize or mitigate adverse impacts cannot be agreed upon and the National Park Service and applicable state or tribal historic preservation officer and/or Advisory Council are unable to negotiate and execute a memorandum of agreement in accordance with 36 CFR 800.6(b).	*Short-term:* Impact would extend beyond the time of project implementation actions, but would not last more than two years. *Long-term:* Impact would likely last more than two years and may continue beyond the lifetime of the project implementation.

Impact Topic	Negligible Impact	Minor Impact	Moderate Impact	Major Impact	Duration Threshold
Water Quality	Any impacts to water quality or aquatic biota would be barely detectable with neither adverse nor beneficial consequences.	Effects to water quality or aquatic biota would be measurable but would require minimal mitigation to address.	Effects to water quality or aquatic biota would be substantial and require some level of mitigation to adequately address, but the required mitigation would likely be successful.	Effects to water quality would be substantial and of serious concern, would require substantial mitigation to adequately address, and the required mitigation might not be successful.	*Short-term:* Recovery takes less than one year following project implementation. *Long-term:* Recovery takes longer than one year following project implementation.
Waters of the U.S.	Any impacts to waters of the U.S. would be barely detectable with neither adverse nor beneficial consequences.	Effects to waters of the U.S. would be substantive but would require minimal mitigation to adequately address.	Effects to waters of the U.S. would be substantial and require some level of mitigation to adequately address, but the required mitigation would likely be successful.	Effects to waters of the U.S. would be substantial and of serious concern, would require substantial mitigation to adequately address, and the required mitigation might not be successful.	*Short-term:* Recovery takes less than one year following project implementation. *Long-term:* Recovery takes longer than one year following project implementation.
NPS Wetlands	Any impacts to NPS wetlands would be barely detectable with neither adverse nor beneficial consequences.	Effects to NPS wetlands would be substantive but would require minimal mitigation to adequately address.	Effects to NPS wetlands would be substantial and require some level of mitigation to adequately address, but the required mitigation would likely be successful.	Effects to NPS wetlands would be substantial and of serious concern, would require substantial mitigation to adequately address, and the required mitigation might not be successful.	*Short-term:* Recovery takes less than one year following project implementation. *Long-term:* Recovery takes longer than one year following project implementation.
Floodplains	Any impacts to floodplain would be barely detectable with neither adverse nor beneficial consequences.	Effects to floodplain would be substantive but would require minimal mitigation to adequately address.	Effects to floodplain would be substantial and require some level of mitigation to adequately address, but the required mitigation would likely be successful.	Effects to floodplain would be substantial and of serious concern, would require substantial mitigation to adequately address, and the required mitigation might not be successful.	*Short-term:* Recovery takes less than one year following project implementation. *Long-term:* Recovery takes longer than one year following project implementation.

Impact Topic	Negligible Impact	Minor Impact	Moderate Impact	Major Impact	Duration Threshold
Threatened and Endangered Species	The action would cause barely detectable effect on protected wildlife or invertebrate species or critical habitat; the likely determination in Section 7 consultation would be *no effect*.	The action would be expected to result in readily discountable effects on a protected wildlife or invertebrate species or critical habitat (i.e., extremely unlikely to occur and not able to be meaningfully measured, detected, or evaluated), or it would be completely beneficial. The likely determination in Section 7 consultation would be not likely to adversely affect.	The action would result in a direct or indirect adverse effect on a protected wildlife or invertebrate species or critical habitat, and the effect would not be discountable. The likely determination in Section 7 consultation would be likely to adversely affect.	The action would result in a direct or indirect adverse effect on a protected wildlife or invertebrate species or critical habitat, and the effect would not be discountable. The likely determination in Section 7 consultation would be likely to adversely affect.	*Short-term:* Recovery takes less than one year. *Long-term:* Recovery takes longer than one year.
Invasive Species	Any impacts to invasive species would be barely detectable with neither adverse nor beneficial consequences	Some spread of invasive species in areas already infested or introductions are easily and cheaply removed.	Spread of invasive species to new areas. Mitigation efforts would be necessary to offset adverse effects and would likely be successful.	Spread of invasive species to multiple and/or large new areas. Extensive mitigation would be necessary to offset any adverse impacts, and the success of which could not be guaranteed.	*Short-term:* Recovery takes less than one year. *Long-term:* Recovery takes longer than one year.
Noise	Effects to noise would be barely detectable with neither adverse nor beneficial consequences	Increases in noise would be localized and measurable and require minimal mitigation to address.	Increases in the noise environment would be substantial and require some level of mitigation to adequately address, but the required mitigation would likely be successful.	Increases in the noise environment would be substantial and of serious concern, would require substantial mitigation.	*Short-term:* Recovery takes less than one year following project implementation. *Long-term:* Recovery takes longer than one year following project implementation.

Impact Topic	Negligible Impact	Minor Impact	Moderate Impact	Major Impact	Duration Threshold
Air	Effects to air quality, specifically increases in criteria air pollutants and impacts to visibility, would be barely detectable, with no adverse or beneficial consequence.	Increases in emissions of criteria air pollutants or impacts to visibility or sensitive individuals from smoke particulates, would be localized at one or a few sites, or repeatedly at one site, would be brief lasting for 3 hours or less and may require minimal mitigation to keep within acceptable limits.	Increases in criteria air pollutants or impacts to visibility or sensitive individuals from smoke would occur at a number of locations, or repeatedly in one location and may continue for more than 3 hours. Effects would require mitigation to remain within acceptable limits and the required mitigation would likely be successful.	Increases in criteria air pollutants or impacts to visibility or sensitive individuals from smoke, would occur at many locations, or frequently at one or more locations, would occur over a number of periods of 3 hours or longer, would require substantial mitigation to reduce to acceptable levels, and the required mitigation might not be successful.	*Short-term:* Recovery takes less than seven days. *Long-term:* Recovery takes longer than seven days.
Visitor Use and Experience/Recreation	Impacts on visitor use, experience, and recreation would be barely detectable with neither adverse nor beneficial consequences.	Impacts on visitor use, experience, and recreation would be measureable but require minimal mitigation to address.	Impacts on visitor use, experience, and recreation would be substantial and would require some level of mitigation to adequately address, but the required mitigation would likely be successful.	Impacts on visitor use, experience, and recreation would be substantial and of serious concern, would require substantial mitigation to adequately address, and the required mitigation might not be successful.	*Short-term:* Occurs only during the project implementation. *Long-term:* Occurs after the project implementation.
Human Health and Safety*	Impacts on human health and safety would be barely detectable with neither adverse nor beneficial consequences.	Impacts on human health and safety would be measureable but require minimal mitigation to address.	Impacts on human health and safety would be substantial and would require some level of mitigation to adequately address, but the required mitigation would likely be successful.	Impacts on human health and safety would be substantial and of serious concern, would require substantial mitigation to adequately address, and the required mitigation might not be successful.	*Short-term:* Effects would extend through project construction. *Long-term:* Effects would continue beyond the lifetime of the project implementation.

Impact Topic	Negligible Impact	Minor Impact	Moderate Impact	Major Impact	Duration Threshold
Visual Resources*	Impacts on visual resources would be barely detectable with neither adverse nor beneficial consequences.	Impacts on visual resources would be measureable but require minimal mitigation to address.	Impacts on visual resources would be substantial and would require some level of mitigation to adequately address, but the required mitigation would likely be successful.	Impacts on visual resources would be substantial and of serious concern, would require substantial mitigation to adequately address, and the required mitigation might not be successful.	*Short-term:* Effects would extend through project construction. *Long-term:* Effects would continue beyond the lifetime of the project implementation.
Park Operations*	Impacts on visual resources would be barely detectable with neither adverse nor beneficial consequences.	Impacts on visual resources would be measureable but require minimal mitigation to address.	Impacts on visual resources would be substantial and would require some level of mitigation to adequately address, but the required mitigation would likely be successful.	Impacts on visual resources would be substantial and of serious concern, would require substantial mitigation to adequately address, and the required mitigation might not be successful.	*Short-term:* Effects would extend through project construction. *Long-term:* Effects would continue beyond the lifetime of the project implementation.
Soils*	Impacts on soils would be barely detectable with neither adverse nor beneficial consequences.	Impacts on soils would be measureable but require minimal mitigation to address or would not be adverse.	Impacts on soils would be substantial and would require some level of mitigation to adequately address, but the required mitigation would likely be successful.	Impacts on soils would be substantial and of serious concern, would require substantial mitigation to adequately address, and the required mitigation might not be successful.	*Short-term:* Effects would extend through project construction. *Long-term:* Effects would continue beyond the lifetime of the project implementation.
Vegetation*	Impacts on vegetation would be barely detectable with neither adverse nor beneficial consequences.	Impacts on vegetation would be measureable but require minimal mitigation to address or could be considered beneficial.	Impacts on vegetation would be substantial and if the affect is adverse, then mitigation efforts would be required and would likely be successful at addressing the concerns. Conversely, impacts could be substantially beneficial.	Impacts on vegetation would be substantial and of serious concern, would require substantial mitigation to adequately address, and the required mitigation might not be successful. Threatened or endangered plant species may be of concern. Conversely, invasive species could be removed and replaced with native species.	*Short-term:* Effects would extend through project construction. *Long-term:* Effects would continue beyond the lifetime of the project implementation.

Impact Topic	Negligible Impact	Minor Impact	Moderate Impact	Major Impact	Duration Threshold
Wildlife*	Impacts on wildlife would be barely detectable with neither adverse nor beneficial consequences.	Impacts on wildlife would be measureable but require minimal mitigation to address or could be considered beneficial.	Impacts on wildlife would be substantial and if the affect is adverse, then mitigation efforts would be required and would likely be successful at addressing the concerns. Conversely, impacts could be substantially beneficial.	Impacts on wildlife would be substantial and of serious concern, would require substantial mitigation to adequately address, and the required mitigation might not be successful. Threatened or endangered species may be of concern. Conversely, previously degraded habitat could be restored and substantially beneficial.	*Short-term:* Effects would extend through project construction. *Long-term:* Effects would continue beyond the lifetime of the project implementation.
Short Term Uses Versus Long Term Sustainability *	Short term uses would have no impact on long term sustainability.	Short term use may affect long term sustainability, but minimal adverse affects would occur or overall sustainability could be slightly improved.	Short term use affects long term sustainability and if the affect is adverse, then mitigation efforts would be required and would likely be successful at addressing the concerns. Conversely, short term use could improve the overall sustainability.	Short term use would affect long term sustainability in substantial ways either detrimentally or in a manner that would achieve a more certain long term sustainability.	*Short-term:* Effects would extend through project construction. *Long-term:* Effects would continue beyond the lifetime of the project implementation.

NA = Not applicable
Source: NPS Office of Environmental Policy Directors Order #12
* = NPS requirement.
Note: For all resources, the context of an impact is defined by the geographic extent of the setting in which the impact would take place, and in general varies from site-specific or local to regional. Localized impacts are those that affect the resource area only on the project site or its immediate surroundings, and would not extend into the rest of the region.

Indirect Effects

Most of the 1.2 mile trail extension would occur on OCMU land planned for recreation. The proposed alternative does not include other amenities for the trail, such as bathrooms or visitor centers and would not induce changes to the areas of the park in which historical or archaeological resources are preserved. Since the City of Macon and the OCMU already have many trails, a small trail expansion without further amenities would not expect to induce land use changes. Further, because no landownership, zoning, or plans would change, the project would not encourage other land use changes. Thus, there would be no indirect effects (negligible impact) to land use.

Cumulative Effects

It can be assumed that the area would continue to be managed and owned by current landowners in a manner consistent with existing land uses including the OCMU. This trail extension for recreational purposes is the planned NPS land use and is also compatible with non-NPS land uses. The Otis Redding Loop Trail northwest of the proposed project to the Otis Redding Bridge will be constructed in 2012, and in staying consistent with current land use plans, it will produce a negligible change. The addition of the Otis Redding Loop Trail would increase accessibility and recreational opportunities, producing beneficial impacts to land use. No other ongoing activities or planned projects would affect land use in the project area. Thus, cumulative effects would be minor, beneficial, and long-term and are compatible with the intended land uses.

Conclusion[7]*:*

Under this alternative, the proposed trail expansion would support the area's planned use of recreation. Thus, direct and cumulative effects to this resource from implementing this alternative would be beneficial, and there would be no indirect impacts (negligible impact).

No-Build Alternative

Direct Effects

Under this alternative, the trail extension would not occur, which is a missed opportunity to utilize this area for its intended purpose of recreation and improve visitor use of the historical and archaeological resources throughout the OCMU. However, as it is currently not used for recreation, implementing this alternative would only represent a continuation of the current compatible land uses and ownerships of mainly vegetated areas. Thus, there would be no direct effects (negligible impact) to land use.

Indirect Effects

Without direct impacts, there are no indirect effects (negligible impact) since this alternative does not introduce new activities.

Cumulative Effects

The Otis Redding Loop Trail to the Otis Redding Bridge is consistent with land use policy to improve visitor use and recreation in the OCMU. Although the no-build alternative would be compatible with existing land uses, it would not complement the benefits of improved visitor use in the OCMU derived from the Heritage Trail extension to the Otis Redding Bridge presented by the Otis Redding Loop Trail. This represents a lost opportunity but also no cumulative effects (negligible impact), as no changes in land use would occur.

Conclusions

Under this alternative, the proposed trail extension would not occur. Thus, this alternative would proceed with current and compatible land uses, producing no direct, indirect, or cumulative effects (negligible impact).

2. Economic

The proposed project site is located in eastern Bibb County, Georgia and lies entirely within in the City of Macon. The majority of the project corridor is located within the OCMU. In 2003, the Ocmulgee

River Basin Management Plan was released which highlights the regional significance of the Ocmulgee River Plain Corridor. A very active local group, the Macon Blueprints for Successful Communities agreed that the vision of the committee is to increase understanding and raise awareness of the Ocmulgee River and the adjacent cultural and natural resources and is attempting to have it designated a National Heritage Corridor (NHC). As part of the NHC, a public-private effort has been underway to develop the Ocmulgee Heritage Trail with the idea of it serving to promote economic development that incorporates the natural, cultural, and historic resources of the Ocmulgee River corridor (Bibb County Comprehensive Plan). The OCMU was established on December 23, 1936 and today the park contains 700 acres of forested uplands, open fields, year-round wetlands, and thickly wooded river floodplain. The OCMU Main Unit is open to visitors year round and the Lamar Mounds and Village Unit can be visited by special use permit. The OCMU has fees only for special events and is typically open to the public free of charge. In 1995, the OCMU had 114,544 visitors, creating a significant tourist draw for the county (Bibb County Comprehensive Plan).

Build Alternative

Direct Effects

Due to the low number of construction jobs expected to be generated by this project and the project's estimated one million dollar construction cost, the construction of the proposed project would minimally stimulate the local economy. Thus only negligible, short- term direct economic effects would occur as a result of the proposed project.

Indirect Effects

No induced economic growth, such as new businesses, would be expected given the lack of amenities and concessions for such a small trail expansion, as well as the small increase in labor for construction and maintenance described in the previous section. Further, since land ownership would not change, neither would the tax base. However, the additional visitor spending attributable to this proposed project would occur but be negligible due to the small size of the new trail, the existence of approximately

five miles of trails within the parks currently available for recreation, the fact that park activities are generally at no cost to visitors, and there are no trail-dependent businesses and employment, such as concession stands, as part of the trail expansion. Therefore, indirect effects would be negligible.

Cumulative Effects

Construction of the proposed Otis Redding Loop Trail may occur during the same time-frame as the proposed project. However, this is also a small trail expansion with limited amenities, so its impacts would be similar to the Walnut Creek Extension. The continuation of maintenance activities on the five miles of existent OCMU trails along with the City of Macon trails represents a negligible additive cost. No other proposed projects in the area fit the time-frame and types of economic impacts – such as short-term construction jobs – of the Walnut Creek Extension to have interactive effects. As discussed above, the incremental contribution of the proposed trail extension to economic resources in the area is negligible because of its small size. Therefore, cumulative effects would be negligible.

Conclusion

The project would represent a small, temporary employment and spending increase for construction and maintenance. Direct, indirect, and cumulative effects would be negligible.

No-Build Alternative

Direct Effects

Under this alternative, trail extension with its related jobs and spending would not occur. Thus, there would be no direct effects (negligible impact).

Indirect Effects

Without new spending or economic activities, there would be no indirect effects (negligible impacts).

Cumulative Effects

Under this alternative, the proposed extension of the trail would not occur as well as any related jobs or spending, which would be missed opportunity for limited economic activity. The limited maintenance of local trails and the eventual construction of the Otis Redding Loop Trail would produce impacts negligible to the City of Macon's economic resources. Since the proposed project extension would not occur and no direct or indirect effects would occur from the no-build alternative, it is not reasonable to attribute any cumulative effects (negligible impact) on the local economy to this alternative.

Conclusion

As the proposed trail extension would not occur, neither would the associated expenditure and job creation. Thus, there would be no direct, indirect, or cumulative effects (negligible impact).

3. Community Cohesion

Because the proposed project is a small extension of a trail on predominantly government-owned land, it would constitute a small additional recreational opportunity. The potential recreational opportunity mirrors one presently offered at OCMU in close proximity to the proposed project. Consequently, the trail extension would not represent a completely original recreational opportunity to a community lacking in recreational opportunities. Furthermore, the proposed project would be open to the public and would not alter community cohesion, especially as landownership would not change.

Build Alternative

Direct Effects

The proposed project would not introduce new recreational opportunities to a community lacking in recreational opportunities, but would extend the existing trail network providing access to new areas of the OCMU. Only minor, beneficial, long-term direct effects would occur as a result of the minor increase in recreational opportunities and the expanded accessibility of the OCMU as a result of the proposed project.

Indirect Effects

Alterations to the existing trail network would not induce changes on the existing community cohesion. Therefore, indirect effects would not be expected as a result of the proposed project or would be negligible.

Cumulative Effects

The proposed project would tie into the planned Otis Redding Loop Trail, which would create a more complete trail network, with greater access to the OCMU, as well as more connectivity for users to other points within downtown Macon along the Ocmulgee River. Therefore, cumulative effects would be minor, beneficial and long-term.

Conclusion

The project would have minor, beneficial, long-term direct and cumulative effects as a result of the expanded trail network and increased accessibility of portions of the OCMU. No indirect effects (negligible impact) on community cohesion are expected as a result of the proposed project.

No-Build Alternative

Direct Effects

Under this alternative, the trail network would not be constructed and the accessibility to the OCMU would not be altered from the existing condition; thus, there would be no direct effects (negligible impact), as community cohesion would not be altered.

Indirect Effects

Without the proposed trails construction, there would be no indirect effects (negligible impact).

Cumulative Effects

Under this alternative, the trail network would not be constructed and the connection between the existing OCMU trails and the proposed Otis Redding Loop Trail would not be completed. Since the proposed project extension would not occur and no direct or indirect impacts would occur from the no-

build alternative, it is not reasonable to attribute any cumulative effects (negligible impact) on community cohesion to this alternative.

Conclusion

As the proposed trail extension would not occur, changes in community cohesion would not be altered from existing conditions. Thus, there would be no direct, indirect, or cumulative effects (negligible impact).

4. Relocations

Relocations would not be necessary for project implementation. The proposed project would be constructed predominantly on existing NPS lands for a distance approximately one mile, with the balance of the project length (approximately 1,200 linear feet) constructed on lands jointly owned by the City of Macon and Norfolk Southern Railroad Company, with easements granted to Georgia Power Company and Macon Water Authority. Neither residential nor commercial structures exist within the proposed project corridor. No further assessment of these resources is required.

The project would not require a federal land transfer but it would require a right of entry (ROE) for contractors funded by the FHWA TE program to construct the proposed project on NPS land. Discussion about coordinating among GDOT, FHWA and NPS occurred during a meeting on April 5, 2012 (See Appendix D). Because the trail would be maintained by NPS, however, coordination between the NPS Regional Office and the Park Superintendent determined a Special Use Permit would be issued granting access for the purposes of trail construction. Permit issuance would be issued by the park upon completion of the NEPA process.

Build Alternative

Direct Effects

The proposed project would occur within existing NPS, City of Macon, and Norfolk Southern Railroad property and would not require any relocations. No direct (negligible impact) effects would occur as a result of the proposed project.

Indirect Effects

Construction of the proposed trail project is not expected to induce growth which could spur relocations. No indirect effects (negligible impact) are expected to relocations as a result of the proposed project.

Cumulative Effects

No direct or indirect effects are expected on relocations; therefore, no cumulative effects (negligible impact) are expected either.

Conclusion

The proposed project would have no direct, indirect, or cumulative effects (negligible impact) on relocations.

No-Build Alternative

Direct Effects

Under this alternative, the trail network would not be constructed. The no-build alternative would not require relocations to occur; thus, there would be no direct impacts (negligible impact).

Indirect Effects

Without the proposed trails construction, there would be no indirect impacts (negligible impact).

Cumulative Effects

No direct or indirect effects are expected on relocations; therefore, no cumulative effects (negligible impact) are expected either.

Conclusion

The proposed project would have no direct, indirect, or cumulative effects (negligible impact) on relocations.

5. Churches and Institutions

As previously discussed, the majority of the proposed project would be located on NPS and the balance of the project on utility right-of-way land, no churches or other institutions exist within or adjacent to the project area that would potentially be impacted by its implementation.

Build Alternative

Direct Effects

No churches or institutions were identified within the proposed project area; therefore, there would be no direct effects (negligible impact).

Indirect Effects

No churches or institutions were identified within the area surrounding the proposed project area which may experience indirect effects from implementation of the proposed project; therefore, there would be no indirect impacts (negligible impact).

Cumulative Effects

No direct or indirect effects are expected on churches or institutions; therefore, no cumulative effects (negligible impact) are expected either.

Conclusion

The proposed project would have no direct, indirect, or cumulative effects (negligible impact) on churches or institutions.

No-Build Alternative

Direct Effects

Under this alternative, the trail network would not be constructed. No churches or institutions were identified within the proposed project area that would be affected by not implementing the proposed project; thus, there would be no direct effects (negligible impacts).

Indirect Effects

No churches or institutions were identified within the area surrounding the proposed project area which may experience indirect effects from not completing the proposed project; therefore, there would be no indirect effects (negligible impacts).

Cumulative Effects

No direct or indirect effects are expected on churches or institutions; therefore, no cumulative effects (negligible impact) are expected either.

Conclusion

The proposed project would have no direct, indirect, or cumulative effects (negligible impact) on churches or institutions.

6. Community Impacts/Environmental Justice

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations, signed by the President on February 11, 1994 directs Federal agencies to take the appropriate and necessary steps to identify and address disproportionately high and adverse effects of Federal projects on the health or environment of minority and low-income populations to the greatest extent practicable and permitted by law. Minority persons include citizens or lawful, permanent residents of the U.S. who are African-American, Hispanic, Asian-American, American Indian or Alaskan Native. Low income persons are defined as those whose median household income is below the U.S. Department

of Health and Human Services poverty guidelines. Minority or low income communities are groups of minority or low income persons who live in reasonably close proximity to one another. This analysis serves to identify populations affected by the project and make conclusions as to whether disproportionately high and adverse effects would occur.

In order to identify the demographic populations in the Study Area, the US Environmental Protection Agency (USEPA) EJ Geographic Assessment Tool (http://www.epa.gov/compliance/whereyoulive/ejtool.html) was used to perform an initial analysis to identify minority and low-income populations along the project corridor, and which is currently known as the EJ View (http://epamap14.epa.gov/ejmap/entry.html). This tool utilizes data from the 2000 US Census along the digitized Study Area corridor and compares the data for the corridor with County and State data. Although the project area is located on undeveloped NPS lands isolated between Interstate 16 and the Ocmulgee River, the Study Area consists of a 0.5-mile buffer surrounding the project corridor to identify potential EJ populations that may be located across the river from the project or in the area surrounding the project corridor. Columns one, two, and four of Table 4: Low-Income/Minority/Hispanic Percent Composition in Study Area, details the low-income, minority and Hispanic populations in the Study Area, Bibb County, and Georgia, respectively. Columns three and five provide the percent difference between the Study Area and the reference populations of Bibb County and Georgia, respectively.

Table 4: Low-Income / Minority / Hispanic Percent Composition in Study Area

	Low-Income / Minority / Hispanic Percent Composition (No. persons) in Study Area				
	1	**2**	**3**	**4**	**5**
	Study Area (total pop. 915)	**Avg. in Bibb County** (total pop. 153,887)	**% Diff.:** Study Area vs. Bibb County (1)	**Avg. in GA (total pop.** 8,186,453)	% Diff.: Study Area Avg. vs. GA (1)

Environ-mental Justice Criteria	**Low-Income** 55.8%[2] (483) **Minority** 87.3%[3] (799) **Hispanic** 1% (10)	**Low-Income** 19.1%[2] (28,370) **Minority** 50.4%[3] (77,559) **Hispanic** 1.1% (1,635)	**Low-Income** 192% Above **Minority** 73% Above **Hispanic** 9% Below	**Low-Income** 12.6%[2] (1,033,793) **Minority** 37.3%[3] (3,053,547) **Hispanic** 5.3% (433,833)	**Low-Income** 342.8% above **Minority** 134% Above **Hispanic** 81.1% Below

[1] Percent Difference between Study Area and Bibb County Population; and Study Area and the State of Georgia Population. [(|Reference Population Percentage –Study Area Average Percentage|)/ (Reference Population Percentage)] x 100%

[2] Low-income persons are defined as those whose household income is at or below the U.S. Department of Health and Human Services poverty guidelines. This value is calculated based on numbers of persons below poverty divided by the total population, instead of the total population for whom poverty was established. This is a data limitation provided by USEPA's EJ Geographic Assessment Tool and approximates the percentage of persons in poverty.

[3] Data note: Minority data do include those who identify themselves as Hispanic and may belong to any race, including white. The Hispanic population is not additive in these numbers of race breakdown, since those who identify themselves as Hispanic can belong to any race.

The Study Area percentage of low-income and minority populations are higher than the reference populations of the county and state, and the Study Area percentage of Hispanic population is lower than the reference populations of the county and state.

Based on the analytical data, there are low-income and/or minority individuals living within the Study Area, however, no communities comprised of minorities or low-income populations are located along the project corridor as the project is located on NPS land and utility right-of way. There would be no displacement of low-income or minority residents and no limitation in access to low-income or minority residences as a result of this project, and all users of the trail would realize the benefits of the proposed trail.

No minority or low-income populations have been identified that would be adversely impacted by the proposed project as determined above. Therefore, in accordance with the provisions of E.O. 12898 and FHWA Order 6640.23, no further EJ analysis is required

7. Public Involvement

During the course of project coordination meetings with the participating agency, FHWA, and the cooperating agency, NPS, it was agreed that a Public Information Open House is not necessary for the approval of the Draft EA (Appendix B and Appendix E). Following completion and release of the Final EA, NPS will make the EA available on its PEPC website for 30 days. Due to the low controversy potential of the project, it was decided by the participating agencies at the March 4, 2008 Environmental Kickoff Meeting (See Appendix E) that a Public Hearing Open House would be held after approval of the DEA in order to satisfy GDOT and FHWA's public involvement requirements, Any comments concerning this EA should be addressed to:

Mr. Glenn Bowman, P.E.
State Environmental/Location Engineer
Georgia Department of Transportation
3993 Aviation Circle
Atlanta, GA 30336

or

Mr. Rodney N. Barry, P.E.
Division Administrator
Federal Highway Administration
Atlanta Federal Center
61 Forsyth Street, S.W.
Suite 17 T100
Atlanta, GA 30303-3104

After review of comments received during the comment period for the public meeting and any comments received from the OCMU newsletter article, a decision will be made by the responsible officials concerning which alternative will be selected.

D. Affected Environment and Effects on the Cultural Environment

1. Introduction

In compliance with Section 106 of the National Historic Preservation Act (NHPA) of 1966 and amendments thereto as well as the Archaeological Resources Protection Act (ARPA), 16 USC § 470aa *et*

seq. and Native American Graves Protection and Repatriation Act (NAGPRA), 25 USC § 3001; the proposed project has been surveyed for archaeological and historic resources as described in the next section, especially those on or eligible for inclusion in the National Register of Historic Places (NRHP). The purpose of the survey was to locate, identify, and evaluate the significance of any historic and archaeological resources within the proposed project corridor. The survey boundary and methodology were established using the *GDOT/ FHWA Cultural Resource Survey Guidelines*. These guidelines were established as a result of past interaction with the Georgia State Historic Preservation Officer (SHPO) and his staff, and were agreed upon by the FHWA and the SHPO.

The APE (Area of Potential Effect), as defined in 36 CFR 800.16(d), is the geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties if any such properties exist. Based on the nature and the scope of the undertaking, the guidance in the *GDOT/FHWA Cultural Resources Survey Guidelines*, and past experience with similar projects, GDOT has evaluated and defined the APE for this proposed project. The area of potential effects consists of the project view shed and the proposed right-of-way of the proposed project, within which all construction and ground disturbing activity would be confined.

In addition to the Georgia SHPO, other potential consulting parties were identified based on the nature of the undertaking and the guidance in the GDOT/FHWA Cultural Resource Survey Guidelines. The other potential consulting parties invited to participate in the Section 106 process include the Middle Georgia Regional Development Center, Georgia SHPO, Indian Tribes, Historic Macon Foundation, National Park Service-Ocmulgee National Monument, and the Bibb County Commission; all of which were contacted for assistance in identifying known historic resources. In addition, a search of the Georgia Archaeological Site Files was conducted. The consulting parties were informed of efforts to identify historic properties through existing information and of those results. They were asked to provide information on any unidentified listed or eligible NRHP properties within the proposed project's area of potential effects (APE) by letter dated July 20, 2009. The responses received are included in the history

special report (Environmental Services, Inc., 2009b). Section 106 consultation with Tribal Partners was transmitted by email dated August 21, 2012 (Appendix B). One response from the Cherokee Nation deferring to the Muscogee and Seminole Nations regarding this project was received September 14, 2012 (Appendix B); no other responses were received during the 30 day comment period.

2. Historic and Archaeological Resources

a) Historic Resources

Existing information on previously identified historic properties was evaluated to determine if any are located within the APE of this undertaking. This review included NRHP listed properties, pending NRHP nominations, National Historic Landmarks, and the updated Georgia Historic Bridge Survey (GHBS). As a result of these efforts, five NRHP listed properties were identified within a mile of the proposed project: the Macon Railroad Industrial District; Central City Park Bandstand; Luther Williams Field; the OCMU; and the Railroad Overpass at Ocmulgee (Figure 3-1). The Department of Natural Resources (GDNR) Bibb County survey (1990) was also consulted and one additional historic resource was identified within the APE, the Central of Georgia Railroad Bridge. Because of the age of the GDNR Bibb County survey, the proposed project was field surveyed for potentially eligible historic properties that may not have been identified as part of the background research. As a result of these efforts, no additional properties considered eligible for listing in the NRHP were identified within the proposed project's APE and no additional properties 50 years or older were identified. The SHPO concurred with the findings in the Historic Resource Survey Report on April 29, 2010 (Appendix B).

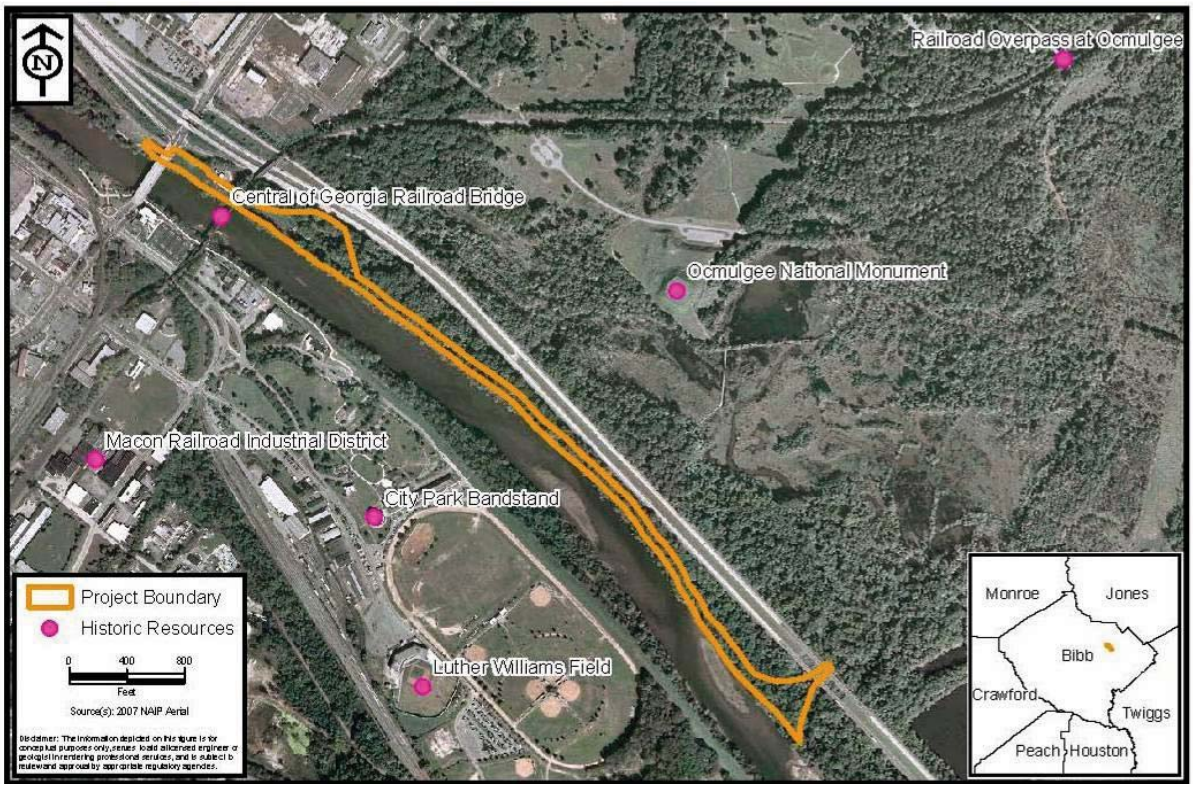

Figure 3-1. Cultural Resources in the Project Vicinity
Source: (ESRI, 2002)

Macon Railroad Industrial District

The Macon Railroad Industrial District was listed on the National Register in 1987. It is comprised of late 19th and early 20th century industrial, commercial, warehouse, and railroad buildings and structures, including railroad trestles, tracks, bridges, and overpasses. The development of the district dates from the late 1830's when railroads came to Macon. Many of the 98 contributing buildings are brick and are related to the businesses and industries, as well as the railroad structures that continued to be expanded and altered over the next 100 years. The district possesses significance at the local level under Criterion A for its contributions to the development of transportation infrastructure, commerce, and industry in Macon. The district is significant under Criterion C in terms of architecture for its unsurpassed collection of late 19th and early 20th century railroad, industrial, commercial, and warehouse buildings, including the 1916 Macon Terminal.

The boundary of the NRHP district is the area around Broadway, 5th, 6th, and 7th Streets and Central of Georgia, Southern, and Seaboard Railroad tracks. The boundary contains all NRHP qualifying characteristics and features of the district.

Central City Park Bandstand

The Central City Park Bandstand was nominated for the NRHP in 1972 as a significant architectural and historic structure. This property was evaluated for eligibility for listing under Criterion C. Built between 1871 and 1887, the hexagonally-shaped, wooden Central City Park Bandstand building is recognized by the National Park Service as one of the few of its kind remaining in the United States, possessing significance at the local, state, and national level. The NRHP boundary of the bandstand includes only the structure.

Luther Williams Field

Luther Williams Field is a baseball park and was listed on the NRHP in 2004 under Criterion A and C. The park possesses significance at the local level under Criterion A for its contribution as an entertainment and recreation facility, being the oldest ballpark in Georgia, and for hosting a minor league baseball team since it was constructed in 1929. The park is significant at the state level under Criterion C in terms of architecture for its representation of a typical baseball stadium in the early 20th century. According to the Georgia Department of Natural Resources Historic Preservation Division (GDNR-HPD), the park was constructed between 1929 and 1936. The NRHP boundary includes the ticket office, grandstand, and field.

Ocmulgee National Monument

The OCMU was established as a national park in 1941 and was listed on the NRHP in 1966 under Criterion A, C, and D. Archaeological investigations determined the occupation of this resource extended over 1,200 years. The national monument includes seven prehistoric mounds in the main village, evidence of an earthlodge, the Lamar mounds and trenches, prehistoric corn storage pits, the historic Dunlap house,

a Civil War fortification, the Visitors Center, and the fifty-foot flagstaff placed in honor of the establishment of the national park at Ocmulgee. The park boundaries include the Ocmulgee River to the south, several residential streets to the east (Plumtree Street, Fletcher Street, and Dunlap Street), and Emery Highway to the north.

Railroad Overpass at Ocmulgee

The Railroad Overpass at Ocmulgee was added to the NRHP in 1979. The resource is located within the OCMU property off of GA 49. According to the GDNR-HPD, the overpass was constructed around 1870. This structure was determined to be eligible under Criterion C. The property possesses a local level of significance as a transportation feature, and includes an arched tunnel providing access for a single vehicle. The property boundary consists of a 200-foot square, centered on the overpass, within the 200-foot railroad right-of-way. This square includes the overpass, railroad embankment, and highway approaches.

Central of Georgia Railroad Bridge

The Central of Georgia Railroad Bridge is in the proposed trail right-of-way. The Central of Georgia Railroad Bridge was identified in the GDNR Bibb County Survey (1990); however, both the Georgia SHPO on April 29, 2010 and the NPS on November 4, 2009 concurred with the historical resource survey report for this project, which recommended the Central of Georgia Railroad Bridge not eligible for inclusion in the NRHP (See Appendix B).

Build Alternative

Direct Effects

Macon Railroad Industrial District

There would be no acquisition of right-of-way from within the boundary of the listed or eligible NRHP property in order to implement the proposed project. Therefore, there would be no physical destruction of or damage to part or all of the property. No feature that contributes to the NRHP

significance of this district would be removed. The Macon Railroad Industrial District would not be visually affected by project implementation. The visual character of the surrounding area of the historic district has been compromised by modern commercial/residential/industrial development. The addition of the proposed project, located approximately 1,100 feet northeast of the district on the opposite side of the Ocmulgee River, would not compromise the visual character of the district. Project implementation would not result in the introduction of atmospheric elements that diminish the integrity of the historic district's significant historic characteristics or features. There would be no atmospheric effect to this property as a result of project implementation. No direct effects (negligible impacts) would occur to the Macon Railroad Industrial District.

Central City Park Bandstand

There would be no acquisition of right-of-way from within the boundary of the listed or eligible NRHP property in order to implement the proposed project. Therefore, there would be no physical destruction of or damage to all or part of the property. No feature that contributes to the NRHP significance of this district would be removed because all work would occur outside of the NRHP eligible boundary. In addition, no features outside of the boundary contribute to the NRHP significance of the property. The Central City Park Bandstand is located approximately 1,200 feet southeast, and on the opposite side of the Ocmulgee River, from the proposed project. Therefore, The Central City Park Bandstand would not be visually affected by project implementation. The visual character of the surrounding area of the historic district has been compromised by modern commercial/residential/industrial development. The addition of the proposed project would not compromise the visual character of the district. Project implementation would not result in the introduction of atmospheric elements that diminish the integrity of the historic district's significant historic characteristics or features. There would be no atmospheric effect to this property as a result of project implementation. No direct effects (negligible impacts) would occur to the Central City Park Bandstand.

Luther Williams Field

There would be no acquisition of right-of-way from within the boundary of the listed or eligible NRHP property in order to implement the proposed project. Therefore, there would be no physical destruction of or damage to all or part of the property. No feature that contributes to the NRHP significance of this district would be removed because all work would occur outside of the NRHP eligible boundary. In addition, no features outside of the boundary contribute to the NRHP significance of the property. The field is located on the opposite side of the Ocmulgee River from the proposed project. Luther Williams Field would not be visually affected by project implementation. The property is located approximately 0.4 mile from the boundaries of the project location. The visual character of the surrounding area of the historic district has been compromised by modern commercial/residential/industrial development. The addition of the proposed project would not compromise the visual character of the district. Project implementation would not result in the introduction of atmospheric elements that diminish the integrity of the historic district's significant historic characteristics or features. There would be no atmospheric effect to this property as a result of project implementation. No direct effects (negligible impacts) would occur to the Luther Williams Field.

Ocmulgee National Monument

No features that contribute to the NRHP significance would be removed as a result of the proposed project. OCMU would not be visually affected by project implementation. The proposed walking trail would connect to an existing trail network within the park. The addition of the walking trail to those existing trails would not compromise the visual character of the mounds. Project implementation would not result in the introduction of atmospheric elements that diminish the integrity of the historic district's significant historic characteristics or features. There would be no atmospheric effect to this property as a result of project implementation. No direct effects (negligible impacts) would occur to the OCMU.

The Railroad Overpass at Ocmulgee

No features that contribute to the NRHP significance would be removed as a result of the proposed project. The Railroad Overpass at Ocmulgee would not be visually affected by project implementation as this feature is approximately 4,400 feet from the southern end of the proposed project. The addition of the walking trail to those trails already present near the overpass would not compromise the visual character of the resource. Project implementation would not result in the introduction of atmospheric elements that diminish the integrity of the historic district's significant historic characteristics or features. There would be no atmospheric effect to this property as a result of project implementation. No direct effects (negligible impacts) would occur to the Railroad Overpass at Ocmulgee.

Indirect Effects

Macon Railroad Industrial District

No indirect effects (negligible impacts) to the Macon Railroad Industrial are anticipated as a result of the proposed project implementation. No changes in traffic patterns would result from project implementation. No additional access to the existing transportation facilities would be provided and no existing access to the facilities would be removed.

Central City Park Bandstand

No indirect effects (negligible impacts) to the Central City Park Bandstand are anticipated as a result of the proposed project implementation. No changes in traffic patterns would result from project implementation. No additional access to the existing transportation facilities would be provided and no existing access to the facilities would be removed.

Luther Williams Field

No indirect effects (negligible impacts) to Luther Williams Field are anticipated as a result of the proposed project implementation. No changes in traffic patterns would result from project implementation.

No additional access to the existing transportation facilities would be provided and no existing access to the facilities would be removed.

Ocmulgee National Monument

No indirect effects (negligible impacts) to Ocmulgee National Monument are anticipated as a result of the proposed project implementation. No changes in traffic patterns would result from project implementation. No additional access to the existing transportation facilities would be provided and no existing access to the facilities would be removed.

The Overpass at Ocmulgee

No indirect effects (negligible impacts) to the Overpass at Ocmulgee are anticipated as a result of the proposed project implementation. No changes in traffic patterns would result from project implementation. No additional access to the existing transportation facilities would be provided and no existing access to the facilities would be removed.

Cumulative Effects

Past actions that have resulted in impacts to the NRHP eligible resources located within the proposed project's APE have primarily been a result of infill development and redevelopment opportunities within the urbanized area surrounding the Ocmulgee National Monument. Within the park itself, existing walking trails have been built and any future trails that are built would have to abide by all of the requirements of the NEPA and NPS regulations. There are no reasonably foreseeable future changes in land use, additional occurrences of infill development in the surrounding area, or creation of additional walking trails that would reasonably be identified as having adverse cumulative effects on the NRHP eligible resources or contributing features, and if any of these scenarios were to occur, they would be unrelated to any action alternative from the proposed project. No cumulative effects (negligible impacts) would be expected to occur.

Conclusion

The proposed project would not alter the characteristics of any of the historic properties that qualified them for inclusion in or eligibility for the NRHP. The proposed project would not have direct, indirect, or cumulative effects (negligible impacts) on any of the historical resources identified within the APE. As such, the SHPO concurred with the findings in the Historic Resources Survey Report (See Appendix B – SHPO letter dated April 29, 2010) and a finding of No Historic Properties Affected for this project was issued in accordance with 36 CFR 800.4(d)(1) and signed by the SHPO on June 15, 2010 (See Appendix B).

No-Build Alternative

Direct Effects

Under the no-build alternative, the proposed trail extensions would not be built; therefore, there would be no direct effects (negligible impacts) to historic resources identified within the project area.

Indirect Effects

Under the no-build alternative, the proposed trail extensions would not be built; therefore, there would be no indirect effects (negligible impacts) to historic resources identified within the project area.

Cumulative Effects

Past actions that have resulted in impacts to the NRHP eligible resources located within the proposed project's APE have primarily been a result of infill development and redevelopment opportunities within the urbanized area surrounding the Ocmulgee National Monument. Within the park itself, existing walking trails have been built and any future trails that are built would have to abide by all of the requirements of the NEPA and NPS regulations. There are no reasonably foreseeable future changes in land use, additional occurrences of infill development in the surrounding area, or creation of additional walking trails that would reasonably be identified as having adverse cumulative effects (negligible impacts) on the NRHP eligible resources or contributing features, and if any of these scenarios were to occur, they would be unrelated to any action alternative from the proposed project.

Conclusion

Under the no-build alternative, the proposed trail extension would not be built. No direct, indirect, or cumulative effects (negligible impacts) to historical resources would occur as a result of the no-build alternative.

Because of the importance of maintaining viewsheds to historic resources, the survey encompassed resources outside of the immediate project site. As a result of these efforts, five NRHP listed properties were identified within a mile of the proposed project: Macon Railroad Industrial District; Central City Park Bandstand; OCMU; Luther Williams Field; and Railroad Overpass at Ocmulgee (Figure 3-1). The Macon Railroad Industrial District was developed from 1844 to 1936 and once included commercial and industrial developments such as Dixie Works and Macon Cabinet Company. Built between 1871 and 1887, the hexagonally-shaped, wooden Central City Park Bandstand building was used for entertainment and recreational activities and is one of the few of its kind remaining in the US. The OCMU is a prehistoric monument with archaeological artifacts dating back over 1,200 years. Constructed between 1929 and 1936, the Luther Williams Field was an important recreation and entertainment facility for the African-American community of Macon as a center for cultural activities and social/cultural development. The Railroad Overpass at Ocmulgee was constructed around 1870 whose arched tunnel provided access for a single vehicle and was included in the NRHP as a significant transportation feature (Environmental Services, Inc., 2009b).

One additional site to the five NRHP listed sites, the Central of Georgia Railroad Bridge, is in the proposed trail right-of-way. However, using the Criteria of Eligibility, it was recommended that the bridge be considered ineligible for listing in the NRHP due to the likelihood that it was modified during 1912. If the bridge was modified in 1912, then the bridge is part of a historic railroad line but is not a significant historic resource itself (Environmental Services, Inc., 2009b). Both the Georgia SHPO on April 29, 2010 and the NPS on November 4, 2009 concurred with the history special report for this project, which contains this conclusion of ineligibility for the Central of Georgia Railroad Bridge (See Appendix B).

b) Archaeological Resources

The Walnut Creek Extension, PI# 0008986, has two project areas with regards to archaeological resources. One project area is a very small portion not owned by the NPS. This segment between the Otis Redding Bridge easterly to the Norfolk Southern Railroad was not archaeologically tested for this project because it had been previously surveyed in two sets of past projects. This area was subject to archaeological survey in 2000 as part of GDOT proposed projects NH-IM-16-1(92)(104)(131) and NH-IM-75-2(177) in Bibb County (I-16/I-75 Interchange Reconstruction); and again in 2002 as part of GDOT proposed projects FLF-540(16)(17) and NH-16-1(91) in Bibb County (Eisenhower Parkway). Neither survey located cultural resources within the project area shared with the Walnut Creek Extension. The SHPO concurred with the findings for both sets of projects on October 10, 2000, January 4, 2001 and July 3, 2003 (See Appendix B).

The remainder of the project is located on property owned and operated by the NPS as the OCMU. For this second project area, an archaeology survey was conducted between June 15 and June 19, 2009. The purpose of this survey was to locate, identify, and evaluate the significance of any archaeological resources within this project area that could be affected. A total of 39 shovel tests were performed along the length of the proposed corridor. All of the shovel tests were negative for cultural remains or artifacts. The proposed project corridor's alignment is set to run directly on top of the Ocmulgee Bottoms archaeological site. Shovel tests within the Ocmulgee Bottoms site were negative for cultural remains or artifacts. Soil core probes were extended within four shovel tests within the Ocmulgee Bottoms site in order to determine the amount of river sediment accumulation on top of the site. The soil probes determined that at least 1.7 meters (5.5 feet) of sediment covers the Ocmulgee Bottoms site. In its December 18, 2009 documentation, the Georgia SHPO stipulated that additional archeological investigation would be required if the project would involve the construction of a pedestrian bridge with bridge footers that could impact deeply buried archeological resources (Appendix B). At the time of the Draft EA the proposed project includes the construction of a bridge with footers. Therefore, Georgia

SHPO and NPS will be afforded the opportunity to review the proposed construction plans in order to evaluate the need for additional archeological survey within the areas of proposed bridge footer placement.

Build Alternative

Direct Effects

The proposed build alternative would be constructed over the approximately 0.62 mile long Ocmulgee Bottoms archaeological site. Archaeological field were unsuccessful at reaching the cultural layer and determined that approximately 5.5 feet of sediment is now on top of the Ocmulgee Bottoms archaeological site. Construction of the proposed footbridge is a potential concern; however, noting the depth to the cultural layer, bridge footings placed no deeper than 5.5 feet would not disturb any archaeological artifacts within the Ocmulgee Bottoms archaeological site. Therefore, the proposed project would not affect archaeological resources on or eligible for inclusion in the NRHP. NPS approved the current project design with regards to archeology per email on August 6, 2009, stating that if the construction of the final project does include the construction of the pedestrian bridge, the NPS requests a review opportunity of all engineering/design drawings and that as long as the footers go no deeper than 5.5 feet, there would be no archaeological issues. The SHPO concurred with the findings of the archaeological survey report on December 18, 2009 and stated that should it be decided that a bridge is necessary for the completion of the trail, additional testing may be required to determine if foot bridge placements would have any impact on the deeply buried archaeological site. NPS and SHPO would be offered the opportunity to review all of the engineering and design drawings prior to project implementation. If additional archaeological concerns arise as a result of these reviews, they would be addressed appropriately at that time.

Despite the extensive surveys, if any previously unknown cultural resources were to be discovered during the project implementation, the activities would stop, proper authorities would be contacted, and appropriate mitigation would be performed. With these steps in place, there would be no measurable, direct effects (negligible impacts) to cultural resources.

Indirect Effects

No indirect effects (negligible impacts) to archaeological resources would be expected as a result of the proposed build alternative.

Cumulative Effects

Archeological resources within the project area were not identified as a result of the large sediment loads that have deposited over the Ocmulgee Bottoms archaeological site. Due to the effective sealing in of artifacts by the sediment and the sites location within protected NPS lands, no cumulative effects (negligible impacts) to NRHP listed or eligible archaeological sites would be expected to occur as a result of the proposed project or the foreseeable action of others within the project's APE.

Conclusion

Based on the archaeological surveys from past projects west of the Norfolk Southern Railroad line on the non-NPS owned portion of the project area and the study performed on the NPS land; archaeological resources are absent down to 5.5 feet. Consequently, the archeology report concurred by the SHPO on December 18, 2009 agreed with the findings although the SHPO suggested that further testing may be required if the proposed pedestrian bridge was constructed due to the potential for impacting the deeply buried archaeological resources (Appendix B). The NPS concluded in an e-mail dated August 6, 2009 that there were no archaeological issues as long as the construction of the proposed pedestrian bridge does not require footers deeper than 5.5 feet (Appendix B). Therefore, there are not expected to be any measurable direct, indirect, or cumulative effects (negligible impacts) to archaeological resources.

No-Build Alternative

Direct Effects

Under the no-build alternative, the proposed trail extensions would not be built; therefore, there would be no direct effects (negligible impacts) to the Ocmulgee Bottoms archaeological site or any other potential archaeological resources.

Indirect Effects

Under the no-build alternative, the proposed trail extensions would not be built; therefore, there would be no indirect effects (negligible impacts) to the Ocmulgee Bottoms archaeological site or any other potential archaeological resources.

Cumulative Effects

Past actions that have resulted in impacts to the NRHP eligible resources located within the proposed project's APE have primarily been a result of infill development and redevelopment opportunities within the urbanized area surrounding the Ocmulgee National Monument. Within the park itself, existing walking trails have been built and any future trails that are built would have to abide by all of the requirements of the NEPA and NPS regulations. There are no reasonably foreseeable future changes in land use, additional occurrences of infill development in the surrounding area, or creation of additional walking trails that would reasonably be identified as having cumulative effects (negligible impacts) on the NRHP eligible resources or contributing features.

Conclusion

Under the no-build alternative, the proposed trail extension would not occur. Current activities would not change and there would be no direct, indirect, or cumulative effects (negligible impacts) on archaeological resources from not constructing the proposed trail extension.

3. Historic Markers

No historic markers exist in the affected project area or its immediate vicinity.

4. Parklands/Recreation Areas/Wildlife Refuges

The OCMU was established on December 23, 1936 and today the park contains 702 acres of forested uplands, open fields, year-round wetlands, and thickly wooded river floodplain. The OCMU Main Unit is open to visitors year round and the Lamar Mounds and Village Unit can be visited by special use permit. The OCMU has fees only for special events and is typically open to the public free of charge. The

OCMU currently offers year-round recreational and educational opportunities, and for the last 5 years averaged 125,211 visitors annually (NPS, 2010). Section III.G, below, analyzes various aspects of the parks and the impact of the build and no-build alternatives on those specific aspects of the park. No other publicly owned parklands/recreation areas/wildlife refuges of state, local, or national significance are located in the project corridor, and the implementation of a 1.2-mile trail extension with a canopy and a footbridge would not affect any parklands/recreation areas/wildlife refuges outside of the project area.

Build Alternative

Direct Effects

Access to the park would be maintained during construction and none of the park facilities or functions would be disrupted during construction. The proposed project would occur primarily in an area of the park with limited accessibility, with the exception of the tie-in with the existing trail network. The build alternative would enhance the park by offering a new trail and views as well as access to the southwestern portion of OCMU. The direct effect of the proposed project would be a moderate, long-term impact on the park, which would be a benefit to the park users. The proposed project would extend the existing trail network in OCMU and would provide access to a new portion of the OCMU to park users. The proposed project is approximately 1.2 acres within the OCMU which is approximately 702 acres.

Indirect Effects

Since this trail would link to other proposed and existing trails, the project would provide an indirect benefit to the park user by providing accessibility to additional areas of the park, increasing the length of usable trails for visitors to utilize, and providing additional scenery and landscape for the user to experience. However, there are no planned interpretative facilities, such as signs, or other enhancements for the project area, such as park benches. The users of the park would indirectly benefit from the creation of the expanded trail network. These indirect benefits would be moderate, beneficial, and long-term in nature.

Cumulative Effects

As there are no similar projects planned for OCMU, it can be assumed that the area would continue to be managed by NPS in a manner consistent with the mission or purpose of the park, with the additional benefit of the proposed project providing a minor improvement to recreational opportunities. The Otis Redding Loop Trail is going out to bid in 2011 or 2012 to extend the existing Ocmulgee Heritage Trail northwest of the proposed project to the Otis Redding Bridge. This extension would also improve access to the OCMU. Cumulative effects from the proposed project and the Otis Redding Loop Trail are expected to be moderate, beneficial, long-term impacts due to increased recreational opportunities that would be available as a result of a longer, interconnected trail network accessing the OCMU as well as connecting to other points within Macon.

Conclusion

Under this alternative, an approximately 1.2-mile trail extension would occur. This would increase the recreational opportunities within the park and allow access to the southwestern portion of OCMU. The direct, indirect, and cumulative impacts would be beneficial due to the introduction of a trail connecting existing trails and providing access to the southwestern part of OCMU. The direct, indirect, and cumulative impacts are expected to be moderate and long-term due to the connection to the Otis Redding Loop Trail providing additional access points to the trail network as well as connecting to other points in Macon.

No-Build Alternative

Direct Effects

Under the no-build alternative, no extension would be created, and the existing trail network would remain as is. Given the visitor use demand, the lack of a trail in the southwestern portion of the OCMU may cause some inconveniences and dissatisfaction by visitors, but more likely it would represent a lost opportunity for recreation. Overall, the lack of accessibility to the southwestern portion of OCMU would

be a minor cause for visitor dissatisfaction as it does not prevent recreational opportunities in the southwestern portion of OCMU. Further, increased visitation could possibly cause congestion on the existing trails in the future. Direct impacts to the park from implementing this alternative would be long-term and minor in nature. Not implementing the proposed build alternative would not support the need and purpose of the proposed project and would not create additional recreation opportunities within the park which would be considered a direct effect that would be minor, long-term and adverse in nature.

Indirect Effects

Under this alternative, there would be no new activities, so no indirect effects (negligible impacts) would occur.

Cumulative Effects

The Otis Redding Loop Trail could provide the area's visitors with an opportunity for recreation near the Ocmulgee River. However, under the no-build alternative this opportunity would not be provided at OCMU for its visitors. It can be assumed that the area within the park would continue to be managed by NPS in a manner that is consistent with the mission or purpose of the park without the proposed project. However, no constructing the build alternative, would leave a missing link in the overall planned trail network, would not tie into the Otis Redding Loop Trail or the existing OCMU Trails and would be a minor, adverse, long-term cumulative effect of the no-build alternative.

Conclusion

Under this alternative, the proposed expansion would not occur. This would not improve the accessibility of the southwestern portion of OCMU. The lack of accessibility in this portion of OCMU could be a minor cause of dissatisfaction for the park user as it does not allow for recreational opportunities in the southwestern portion of OCMU. Thus, direct and cumulative effects would be considered long-term, minor, adverse impacts. There would be no indirect effects (negligible impacts) from the no-build alternative.

5. Section 4(f) Applicability

Section 4(f) of the Department of Transportation Act (recodified in 49 U.S.C. 303 and 23 U.S.C 138). refers to the temporary and/or permanent and constructive use of land from a significant publicly owned park, recreation area, or wildlife and waterfowl refuge, or any historic site. Under the provisions of Section 4(f), if the proposed project would result in adverse effects to these resources, FHWA must conduct an evaluation to demonstrate that there is no prudent and feasible alternative to the use of the 4(f) property. This concurrence enables FHWA to make a *de minimis* (minimal impact) finding, which satisfies the requirements of Section 4(f) and precludes the need for a Section 4(f) Evaluation. Please see Section IIB: Build Alternative and Figure 1.2 for description of the areas where the trail would occur. This proposed 1.2-mile trail extension would connect two trails; build a footbridge over a stream, a culvert through a wetland, and a canopy under an existing bridge.

The proposed project would convert approximately 52,800 square feet (1.21 acres) of the property within the boundaries of the OCMU to a multi-use trail. According to a letter dated April 29, 2011 from the NPS to FHWA, the NPS concurs that this project meets the impact criteria and associated determination requirements for a Section 4(f) *de minimis* finding as the proposed transportation use of the Section 4(f) resource, including consideration of impact avoidance, minimization, and mitigation or enhancement measures; does not adversely affect the activities, features, and attributes that qualify the resource for protection under Section 4(f) (see Appendix B: Correspondence).

E. Affected Environment and Effects on the Natural Environment

1. Water Quality/303(d) List

Sections 305(b) and 303(d) of the *Clean Water Act of 1972*, as amended, provide a Federal requirement to catalog streams with impaired water quality. Section 303(d) catalogs water quality by the ability of a stream to support its designated use (e.g., fishing, recreation, drinking water, etc.). The 303(d) list, as it is commonly known, classifies water bodies as “supporting” or “not supporting” their designated

uses. In general, those streams listed as "not supporting" have a lower overall level of water quality than those streams listed as "supporting." In accordance with Section 303(d) of the Clean Water Act, the 303(d) list comprises waters not meeting their uses and for which total maximum daily loads (TMDLs) have not been completed for the parameters of concern. Once the TMDL is completed for the parameters of concern, the water may still not support its intended use; however, it is no longer on the 303(d) list. The closest drinking water intake is six miles upstream on the Ocmulgee River by the Macon Water Authority.

Surface Water

The project area lies within the Upper Ocmulgee Watershed [Hydrologic Unit Code (HUC) 03070103 [United States Environmental Protection Agency (USEPA), 2011]. Urban runoff in the City of Macon and Bibb County is addressed in the Georgia Environmental Protection Division Stormwater Management Strategy [Georgia Environmental Protection Division (GEPD), 2003].

The section of the Ocmulgee River by the proposed project, which is in the Middle Ocmulgee Water Planning Region and runs from Beaverdam Creek in Jones County to Walnut Creek in Bibb County, is not listed on the Georgia 2010 Integrated 305(b)/303(d) list as a Category 5 stream. This portion of the Ocmulgee River is listed as supporting its designated use of drinking water and fishing. The section of Walnut Creek near the project area is not supporting its designated use of fishing due to fecal coliform bacteria from urban runoff/urban effects. However, this section of Walnut Creek does have an approved TMDL, so it is not on the 303(d) list.

Groundwater

No drinking water wells were identified within the proposed project area. The proposed project corridor passes through an area of average groundwater pollution susceptibility. The proposed project does not pass through a groundwater recharge area, or area of thick soils.

Build Alternative

Direct Effects

Under this alternative, the trail extension would proceed. This would involve heavy machinery and soil disturbance, and these activities can pose risks to water quality through contamination from spills. However, Best Management Practices (BMPs), such as the measures described below, would be implemented to minimize these risks. Further, there would be no activities within the 25-foot buffer for the Ocmulgee River and Walnut Creek, which are both state waters. The proposed project is no less than 30 feet from either Walnut Creek or the Ocmulgee River.

Provisions in the construction contract would require the contractor to exercise every reasonable precaution to prevent pollution of the Ocmulgee River and Walnut Creek. Dumping of chemicals, fuels, lubricants, bitumens, raw sewage, or other harmful wastes into or alongside of streams or impoundments, or natural or manmade channels leading thereto, would be prohibited. The proposed project passes through an area of average groundwater pollution susceptibility and does not pass through a groundwater recharge area. Because all permit requirements would be met, and with previously described BMPs in place, no direct effects (negligible impacts) to ground or surface water quality would be occur.

Indirect Effects

Under this alternative, the trail extension would proceed. Heavy machinery and soil disturbance can pose risks to surface water quality through contamination from runoff. However, BMPs, such as the measures described below, would be implemented to minimize these risks. Further, no activities in the 25-foot buffer for state waters would occur, and Ocmulgee and Walnut Creek are both state waters.

Provisions in the construction contract would require the contractor to exercise every reasonable precaution during construction to prevent pollution of the Ocmulgee River and Walnut Creek. Wherever possible, BMPs such as early re-vegetation of disturbed areas would be accomplished so as to minimize soil movement. Additional contract provisions would require the use of temporary erosion control

measures as deemed necessary during construction. These temporary measures may include the use of berms, dikes, dams, sediment basins, fiber mats, netting, gravel, mulches, grasses, slope drains, and other erosion control devices or methods as applicable. These provisions are coordinated with the permanent erosion control features insofar as practical to assure economical, effective, and continuous erosion control throughout the construction and post-construction periods and are in accordance with 23 CFR, Part 650, Subpart B. The project is no less than 30 feet from Walnut Creek so in conjunction with these precautions impacts to this stream should be negligible.

If asphalt or concrete is used, the trail's approximately 1.2 miles of impervious surface should negligibly affect water quality because of erosion control measures and the preservation of the 25-foot buffer for state waters. If gravel were to be used, the water quality impacts would be further minimized given the filtering effect of the material. These surfaces would be further evaluated as the design proceeds. Because all permit requirements would be met, and with previously described BMPs in place, the indirect effects to water quality would be negligible, long-term, local, and adverse.

Cumulative Effects

The eventual Otis Redding Loop Trail could have impacts to water quality near the proposed project area. Similar to the proposed project, it is a small construction project with a short construction period resulting in a small increase in impervious surface area. The short construction period indicates temporary soil disturbance. However, with proper BMPs as described above, impacts from soil disturbance and leaks from heavy machinery as well as changes to impervious surface areas should be negligible. All other projects would be subject to the same water quality regulations as described above, and there are no other major related projects within a similar timeframe and project area to the Walnut Creek Extension, which would allow the resource to recover from the potential Walnut Creek Expansion effects and future negligible impacts from the Otis Redding Loop Trail. Consequently, it is assumed that activities in the area would continue to conform to water quality standards. Therefore, the cumulative effects would be negligible, long-term, local, and adverse.

Conclusion

Implementing the trail extension could have impacts to water quality, but permit regulations and BMPs as described above would minimize these impacts. There would be no direct effects. Indirect and cumulative effects would be negligible, long-term, local, and adverse on water quality.

No-Build Alternative

Direct Effects

Under this alternative, no new activities would be introduced. Without new activities, there would be no direct effects (negligible impacts) to water quality.

Indirect Effects

Without new activities, land surfaces would not change and neither would runoff and other sources of indirect impacts to water quality. As such, there would be no indirect effects (negligible impacts) to water quality.

Cumulative Effects

Given the fact there would be no foreseeable direct or indirect effects, there would be no cumulative effects (negligible impacts).

Conclusion

No new activities would be introduced under this alternative as the trail extension would not occur, so there would be no direct, indirect, or cumulative effects (negligible impacts) on water quality.

2. State Waters

Walnut Creek and Ocmulgee River are state waters, so the 25-foot warm water vegetative buffer regulations apply to these features.

Build Alternative

Direct Effects

The project parallels Ocmulgee River and Walnut Creek and does not encroach on the Georgia-regulated, 25-foot warm water vegetative buffer, which was verified using global positioning system (GPS). The project does involve the crossing of the unnamed S1, which is a state water [for more details see Section III(E)3: Waters of the U.S.]. Given the nature of the project, a buffer variance would not be required under the regulation outlined in the Georgia Erosion and Sedimentation Act of 1975. Since the project constitutes a "roadway drainage structure" (i.e. bridge) and no other portion of the project area impacts buffer zones other than this parallel crossing, the project is exempted from a buffer variance [O.C.G.A. § 12-7-6 (2009)]. Despite the project crossing the unnamed S1 and being adjacent to Walnut Creek and Ocmulgee River, no stream buffer variance is needed. Due to necessary vegetative clearing for the proposed trail, direct impacts would occur, but would be minor in nature.

Indirect Effects

BMPs discussed in the water quality section would minimize impacts to state waters from runoff. Due to the type of proposed project, plans to maintain existing grade to the greatest extent possible, and relatively small footprint (10-foot wide path) in the vicinity of the state waters, the proposed project would be expected to have negligible indirect impacts to state waters.

Cumulative Effects

Constructions of the remaining portions of the Ocmulgee Heritage Trail would likely have similar negligible impacts to state waters. It would not be expected that the negligible impacts from this project and others in the area would be of concern cumulatively to state waters; therefore, cumulative effects would likely be negligible.

Conclusion

Construction of the proposed project would not be expected to have any significant affects to state waters. Vegetative clearing for the proposed trail would cause minor, direct effects to state waters. No indirect or cumulative effects would be expected to occur as a result of the proposed project (negligible impacts).

No-Build Alternative

Direct Effects

Under this alternative, the trail network would not be constructed and existing conditions would not be altered; thus, there would be no direct effects (negligible impact) to state waters.

Indirect Effects

Without the proposed trails construction, there would be no indirect effects (negligible impact).

Cumulative Effects

Without the proposed trails construction, there would be no cumulative effects (negligible impact).

Conclusion

As the proposed trail extension would not occur, state waters would not be altered from existing conditions. Thus, there would be no direct, indirect, or cumulative effects (negligible impact).

3. Waters of the U.S.

Jurisdictional Waters of the U.S. are defined by 33 CFR Part 328.3(b) and are protected by Section 404 of the Clean Water Act (33 USC 1344), which is administered and enforced by the U.S. Army Corps of Engineers (USACE). This wetland assessment was performed in accordance with the *Corps of Engineers Wetlands Delineation Manual; January* 1987, 33 CFR Part 328; *Definition of Waters of the United States.* The above referenced documents define the methodologies used to identify the jurisdictional limits of Waters of the United States, including freshwater wetlands. In general, areas that meet specified

hydrology standards, contain hydrophytic vegetation and hydric soils are considered jurisdictional wetlands by the USACE.

The proposed project corridor was surveyed between April 29 and June 26, 2009 with respect to its involvement with Waters of the U.S. as required by the provisions of EO 11990 and subsequent federal regulations. GDOT submitted the Phase II Ecology Assessment to NPS on January 4, 2011, which concurred with the findings on January 25, 2011 (See Appendix B).

a) Wetlands and Streams

W1 and Wetland-2 (W2) are further discussed in Section III(E)4: NPS Wetlands. W1 did not exhibit hydrologic or hydrophytic vegetation characteristics and W2 did not exhibit the hydrophytic vegetation characteristics necessary to be considered a jurisdictional USACE wetland. No other wetlands were found in the study area. The three below streams also met NPS jurisdictional requirements but are analyzed in this section.

Stream-1 (S1**)** is a low quality, warm-water, unnamed perennial stream that is primarily fed by storm water conveyance structures associated with Interstate 16 and other upstream developments. S1 flows directly into the Ocmulgee River in the northern portion of the project and is considered a state water. Therefore, Georgia riparian buffer regulations do apply to this feature; however the proposed use is exempt from requiring a buffer variance.

The project necessitates the crossing of one stream that is considered a state water. The S1 crossing is a perennial, non-tidal, warm water stream. This state water is eligible for 25' riparian buffer (top of each bank) protection; however given the nature of the project a buffer variance will not be required under the regulation outlined in the Georgia Erosion and Sedimentation Act of 1975. Due to the project being for a "roadway drainage structure" (i.e., bridge) and no other portion of the project area requiring buffer zone impacts other than this parallel crossing, the project is exempt from needing a buffer variance [O.C.G.A. § 12-7-6 (2009)].

This stream is not listed on the Georgia 2010 Integrated 305(b)/303(d) list as a Category 5 stream. The gullied stream channel is approximately 50-feet wide top of bank to top of bank, with a wetted channel width of approximately 3-6 feet wide north of the existing road crossing and 5-8 feet south of the existing road crossing. The water was observed within the stream to be approximately 1 to 3 feet deep. The width of the riparian zone off of both banks is in excess of 100 feet due to the entire reach of S1 being in the floodplain of the Ocmulgee River (S2).

S1 has a sand, silt, and limited cobble substrate throughout the reach; silt appears to be the dominate substrate. The water was turbid with a slow flow into the Ocmulgee River. The channel appears to be ditched and very entrenched with little to no sinuosity and as previously mentioned there is a culverted road crossing that separates S1 into two segments. Additionally, south of the existing road crossing of S1 is a sewer line crossing. The riparian buffer of S1 within the project area is comprised of mixed hardwood forest with an understory dominated by exotic vegetation (Chinese privet). Using the definitions outlined in the USACE Standard Operation Procedure (SOP) document for Stream Mitigation Factors, S1 is considered to be "fully impaired."

Project plans for the S1 crossing entail the use of a bridge structure to span this feature that is subject to high flow events given the entrenchment and scour present along the stream bank. Given the topography outside S1's delineated boundary, placing the bridge footers 2.5 feet inside the tops-of-the bank, but above the ordinary high water mark (OHWM) is necessary. The bridge would not impede the passage of fish, which likely only utilize the stream during high flow periods. Coordination with the US Fish and Wildlife Service (USFWS) under the Fish and Wildlife Coordination Act (FWCA) is not required since the proposed improvements would occur above the ordinary high water mark (OHWM) and would not be regulated by FWCA.

Stream-2 (S2) is the Ocmulgee River and is located just outside and to the southwest of the limits of study; however given its proximity to the project it is described and included herein. The Ocmulgee River is a warm-water, perennial and traditionally navigable water (TNW) by USACE standards. S2 is the

receiving water for the onsite SI and is considered a state water. Therefore, Georgia riparian buffer regulations do apply to this feature; however the proposed project parallels S2 but does not encroach within the Georgia regulated 25 foot riparian buffer zone. This river ranges from approximately 300-350 feet in width and has highly variable depths that are dependent upon current flood stage. At the time of this assessment, the river was below normal levels and sandbars were present above the water line intermittently throughout the reach that parallels the limits of study. The width of the riparian zone on the project side of S2 varies from 150' to 350' wide.

The Ocmulgee River has a predominantly sand substrate; however limited areas of silt and cobble were identified. The water was turbid at the time of the assessment with a moderate flow rate. The section of the Ocmulgee River by the proposed project, which is in the Middle Ocmulgee Water Planning Region and runs from Beaverdam Creek in Jones County to Walnut Creek in Bibb County, is not listed on the Georgia 2010 Integrated 305(b)/303(d) list as a Category 5 stream. This portion of the Ocmulgee River is listed as supporting its designated use of drinking water and fishing. Using the definitions outlined in the USACE SOP document for Stream Mitigation Factors, S2 is considered to be "fully functional."

Stream-2 is outside the project area and construction of the proposed project would not impact it; therefore, coordination under the FWCA is not required.

Stream-3 (S3) is Walnut Creek and is located just outside and to the southeast of the southeastern most project study area terminus. However, given its proximity to the project it is described and included herein. Walnut Creek is a warm-water, perennial stream by USACE standards and could be considered a TNW during normal to above normal flow periods. Stream-3 is considered a state water therefore Georgia riparian buffer regulations do apply to this feature. The proposed project parallels S3, however it does not encroach within the Georgia regulated 25 foot riparian buffer zone. This stream is not listed on the Georgia 2010 Integrated 305(b)/303(d) list as a Category 5 stream. Walnut Creek ranges from approximately 16-25 feet in width and is generally approximately 2-5 feet deep during normal flow periods and dependent upon

whether the measurement is at a riffle or pool location. The width of the riparian zone on the project side of S3 is in excess of 100 feet due to the entire reach of S3 being in the floodplain of the Ocmulgee River (S2).

Construction of the proposed project would not impact S3; therefore, coordination under the FWCA is not required.

Build Alternative

Direct Effects

The proposed project would not impact to the stream bank gauge for the Ocmulgee River on the Otis Redding Bridge as the proposed project begins approximately 950 feet east of the bridge and continues in the opposite direction. As part of this proposed project, a 12-foot wide footbridge would be constructed over S1 with little in-channel work (Figure 2-2). The permanent stream impact from installation of the footbridge would be 51 square feet.

Project plans for the S1 crossing entail the use of a bridge structure to mostly span this feature that is subject to high flow events given the entrenchment and scour present along the stream bank. Given the topography outside S1's delineated boundary, placing the bridge footers slightly inside the tops-of-the bank at 2.5 feet is necessary. The bridge would not impede the passage of fish, which likely only utilize the stream during high flow periods. As previously stated, coordination with the USFWS under FWCA is not required for these impacts, as these impacts occur above the OHWM.

Given the S1 location within NPS lands, a Savannah District Regional Condition mandates that a Nationwide Permit #18 pre-construction notification be submitted and approved by the USACE prior to project construction. Nationwide Permit #18 addresses minor discharges or fill materials into all waters of the United States. NPS granted an exemption even for mitigation per their January 25, 2011 email (Appendix B). This exemption was granted for mitigation because the proposed project satisfies item "a" of the "may be excepted" activities in the NPS Procedural Manual #77-1: 4.2.1 Potential Exceptions for Certain "Water Dependent" and Maintenance Activities.

In the Phase I Ecology Assessment, a 50-foot wide construction access corridor was proposed over Sl. At the time of the phase I ecology report, it was not known if the existing culverted road crossing, would be suitable to handle heavy construction equipment. Additional investigation subsequent to the phase I ecology report approval revealed that the existing culvert at S1 should be able to handle the construction traffic given its current use for maintenance traffic. Consequently, the proposed additional culvert through S1 has been removed from the proposed project plan. The same BMPs listed in the Section III(E)4: NPS Wetlands would apply here to prevent impacts to water quality. Since S1 transverses the entire width of the project area, avoiding it is impossible, though the current design and BMPs minimize impacts to water quality. These measures would minimize the risk of contamination into the stream from spills and disturbance from activities. According to NPS standards the minimal work in-channel and proper BMPs described in Section III(E)4: NPS Wetlands, the direct effects should be minor, local, short-term, and adverse.

Indirect Effects

The BMPs listed in Section III(E)4: NPS Wetlands would avoid the indirect effects of runoff from soil disturbance and heavy machinery from construction. However, there could be a negligible increase in runoff from the additional impervious surface area. If gravel were used, the impacts would be less than those from asphalt or concrete. Thus, the indirect effects would be negligible, local, long-term, and adverse.

Cumulative Effects

The related Otis Redding Loop Trail project would not impact S1 due to its location outside of the project area. Because S1 is on NPS land, it is assumed that the same regulations as described above would continue to protect it from future projects; however, no other projects are currently planned for the area around S1. Thus, the cumulative effects would be minor, local, short-term, and adverse from the proposed project.

Conclusion

Only S1 would be impacted by the proposed project from the construction of a footbridge. This would cause minor, local, short-term, and adverse direct effects; negligible, local, long-term, and adverse indirect effects; and minor, local, short-term, and adverse cumulative effects.

No-Build Alternative

Direct Effects

Under this alternative, no new activities would occur, which means no direct effects (negligible impacts) to streams.

Indirect Effects

Since the project would not proceed, no new activities would occur, which means no indirect effects (negligible impacts) to streams.

Cumulative Effects

Given the fact there would be no foreseeable direct or indirect effects, there would be no cumulative effects (negligible impacts).

Conclusion

In the absence of new activities, no direct, indirect, and cumulative effects (negligible impacts) to streams would occur.

4. NPS Wetlands

The Walnut Creek Extension is located predominantly on lands owned by the DOI's NPS, and as such, assessments for Waters of the U.S. must utilize guidance set forth in the *National Park Service Procedural Manual #77-1: Wetland Protection; February 2008.* To further classify wetlands on NPS lands, if one or more of the following three attributes are present, the area is considered a wetland by NPS protocols: (1) at least periodically, the land supports predominantly hydrophytes; (2) the substrate is

predominantly undrained hydric soil; and (3) the substrate is nonsoil and is saturated with water or covered by shallow water at some time during the growing season of each year. For this project, two types of wetland lines were necessary as NPS protocols for wetlands/streams are more inclusive; and two features were identified that met NPS standards for wetlands but not those of the USACE.

The field surveys occurred between April 29 and June 26, 2009. According to the field studies, only two riverine wetland sites in the project area met NPS requirements for wetlands: W1 and W2. NPS concurred with both ecology reports and their conclusion that the project was an exempted action from a NPS Wetlands Statement of Findings and related compensation requirements per email on January 25, 2011 (Appendix B). These two sites do not meet USACE standards for wetlands. Additionally, W1 and W2 are low quality jurisdictional wetlands.

W1 (Cowardin Criteria PUB2) is a low quality NPS jurisdictional wetland comprised of a ditch feature with hydric soils, no sinuosity, and no vegetation present within its boundaries. There has been recent earthwork within a segment of W1. W1 is 17 feet wide and narrows to 9 feet wide at the point of intersection with the Ocmulgee River and is approximately 2-3 feet deep. Within the project study area, W1 is 0.027-acre. Hydrology indicators are consistent with that of a ditch this size but are lacking in areas closer to the river. The hydrologic regime of W1 appears to be associated with storm events of short detention time and seasonal saturation. The main function of W1 appears to be a channel for stormwater runoff from I-16 and lands adjacent to project area. W1 was delineated in the field, located with sub-meter GPS technology. Construction of the proposed trail would require the placement of a culvert in W1 in order to convey stormwater from I-16 and lands adjacent to the project area to the Ocmulgee River (S2).

Based on the NPS definition of wetlands, the maximum acreage of impacts to W1 due to construction of the proposed trail would be 0.016 acre (59.3% of this wetland). Per NPS DO-770-1, Section 4.2.1(a), this action falls within the 0.10 acre Exempted Action definition as the proposed project is a single and complete project where the primary purposes include public education, interpretation, or enjoyment of wetland recourses and where total wetland impacts from fill placement are 0.10 acre or less.

Permanent impacts to W1 resulting from the permanent fill pad associated with the culvert structure would total 0.008 acre. Temporary impacts totaling 0.008 acre would occur as a result of the need for 10-foot wide construction access corridors along both sides of the bridge. The NPS granted an exemption for these W1 impacts from this project per DO#77.1 per NPS's email on January 25, 2011 and also concurred with the delineations and provided an exemption from a NPS Wetland Statement of Findings (Appendix B). A USACE permit will not be required as W1 does not qualify as a jurisdictional wetland as defined by the USACE.

W2 (Cowardin Criteria unknown) is linear, mostly unvegetated, and located underneath and parallel to the I-16 Bridge that shades it completely. The connection of W2 to Walnut Creek is outside of the project area but near the boundary. While W2 becomes flooded during major rain events and high water, it does not retain the water long due to its proximity to the Ocmulgee River. It also receives stormwater runoff from the I-16 Bridge start and end points. An existing W2 timber bridge crossing connects an existing OCMU trail under the interstate bridge with a series of nature trails leading to the edge of both Walnut Creek and the Ocmulgee River. Project plans call for terminating this proposed section of the trail at the foot of the existing NPS footbridge; therefore, W2 would not be impacted as a result of the proposed project.

All wetland sites are linear in nature, and any shift would not likely reduce the overall wetland impact. Since it traverses the entire width of the project area, avoiding W1 is impossible; however, the proposed culvert crossing minimizes impacts. The following BMPs would be implemented:

1. **Effects on hydrology and fluvial processes:** Action must have only negligible to minor, new adverse effects on site hydrology and fluvial processes, including flow, circulation, velocities, hydroperiods, water level fluctuations, sediment transport, channel morphology, and so on. Care must be taken to avoid any rutting caused by vehicles or equipment.
2. **Effects on fauna:** Action must have only negligible to minor, new adverse effects on normal movement, migration, reproduction, or health of aquatic or terrestrial fauna, including at low flow conditions.
3. **Water quality protection and certification:** Action is conducted so as to avoid degrading water quality to the maximum extent practicable. Measures must be

employed to prevent or control spills of fuels, lubricants, or other contaminants from entering the waterway or wetland. Action is consistent with state water quality standards and Clean Water Act Section 401 certification requirements (check with appropriate state agency).

4. **Erosion and siltation controls:** Appropriate erosion and siltation controls must be maintained during construction, and all exposed soil or fill material must be permanently stabilized at the earliest practicable date.
5. **Proper maintenance:** Structure or fill must be properly maintained so as to avoid adverse impacts on aquatic environments or public safety.
6. **Heavy equipment use:** Heavy equipment use in wetlands must be avoided if at all possible. Heavy equipment used in wetlands must be placed on mats, or other measures must be taken to minimize soil and plant root disturbance and to preserve preconstruction elevations.
7. **Stockpiling material:** Whenever possible, excavated material must be placed on an upland site. However, when this is not feasible, temporary stockpiling of excavated material in wetlands must be placed on filter cloth, mats, or some other semipermeable surface, or comparable measures must be taken to ensure that underlying wetland habitat is protected. The material must be stabilized with straw bales, filter cloth, or other appropriate means to prevent reentry into the waterway or wetland.
8. **Removal of stockpiles and other temporary disturbances during construction:** Temporary stockpiles in wetlands must be removed in their entirety as soon as practicable. Wetland areas temporarily disturbed by stockpiling or other activities during construction must be returned to their pre-existing elevations, and soil, hydrology, and native vegetation communities must be restored as soon as practicable.
9. **Topsoil storage and reuse:** Revegetation of disturbed soil areas should be facilitated by salvaging and storing existing topsoil and reusing it in restoration efforts in accordance with NPS policies and guidance. Topsoil storage must be for as short a time as possible to prevent loss of seed and root viability, loss of organic matter, and degradation of the soil microbial community.
10. **Native plants:** Where plantings or seeding are required, native plant material must be obtained and used in accordance with NPS policies and guidance. Management techniques must be implemented to foster rapid development of target native plant communities and to eliminate invasion by exotic or other undesirable species.
11. **Boardwalk elevations:** Minimizing shade impacts, to the extent practicable, should be a consideration in designing boardwalks and similar structures. (Placing a boardwalk at an elevation above the vegetation surface at least equal to the width of the boardwalk is one way to minimize shading.)
12. **Wild and Scenic Rivers:** If the action qualifies as a water resources project pursuant to Section 7(a) of the Wild and Scenic Rivers Act, then appropriate project review and documentation requirements under Section 7(a) are required.
14. **Endangered species:** Action must not jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, including degradation of critical habitat (see *NPS Management Policies 2006* and guidance on threatened and endangered species).
15. **Historic properties:** Action must not have adverse effects on historic properties listed or eligible for listing in the National Register of Historic Places.

W1 and W2 would be expected to continue to be protected by applicable NPDES regulations with only temporary disturbances from nonpoint source pollution. The future Otis Redding Loop Trail would not impact W1 or W2, since W1 is far away and W2 is on the other side of the project area from the terminus of the Otis Redding Loop Trail. Presently, maintenance activities of the existing bridge and culverts in the project area are negligible. Besides runoff, wetland impacts are generally localized to dumping, draining, or other activities. As no other projects are planned in the project area, there should be no additional effects on W1 and W2. Further, W1 and W2 would continue to be protected by the above described regulations. Therefore, the cumulative effects from continued maintenance activities and the proposed project would be negligible, long-term, local, and adverse.

Conclusion

While activities would occur in and around W1 and W2, measures described above would be performed to offset any impacts to wetlands. The effects to wetlands would be minor, short-term, local, and adverse for direct; negligible, long-term, local, and adverse for indirect and cumulative.

5. Mitigation

USACE:

Compensatory mitigation for impacts to Waters of the US would not be required for this project as impacts to streams would be less than the 100 linear foot threshold prescribed by the USACE in NWP 18. Additionally, no USACE jurisdictional wetlands would be impacted by the proposed project.

NPS:

Compensatory mitigation for impacts to NPS wetlands would not be required. Based on the NPS definition of wetlands, the maximum acreage of impacts to W1 due to construction of the proposed trail would be 0.016 acre (59.3% of this wetland). Per NPS DO-770-1, Section 4.2.1(a), this action falls within the 0.10 acre Exempted Action definition as the proposed project is a single and complete project where total wetland impacts from fill placement are 0.10 acre or less.

Floodplains

EO 11988 requires federal agencies 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 and indirect support of floodplain development if a practicable alternative exists. A survey of the project corridor for floodplains as required by the EO has identified a transverse crossing of the 100-year floodplain (FEMA floodplain Zone AE [base floodplain where base flood elevations are provided]) associated with the Ocmulgee River (Figure 3-2). The proposed project is entirely within the 100-year floodplain as is most of OCMU. Per NPS's email on February 1, 2011 (Appendix B), this project is an excepted action under DO-77-2. The relevant excerpt from DO-77-2 - Floodplains, Excepted Actions explains that "this procedure does not apply to certain park functions that are often located near water for the enjoyment of visitors but require little physical development and do not involve overnight occupation. Examples include: Picnic facilities, scenic overlooks, foot trails, and small associated daytime parking facilities in non-high hazard areas provided that the impacts of these facilities on floodplain values are minimized." The FEMA No Rise Certification documentation has been included in Appendix B.

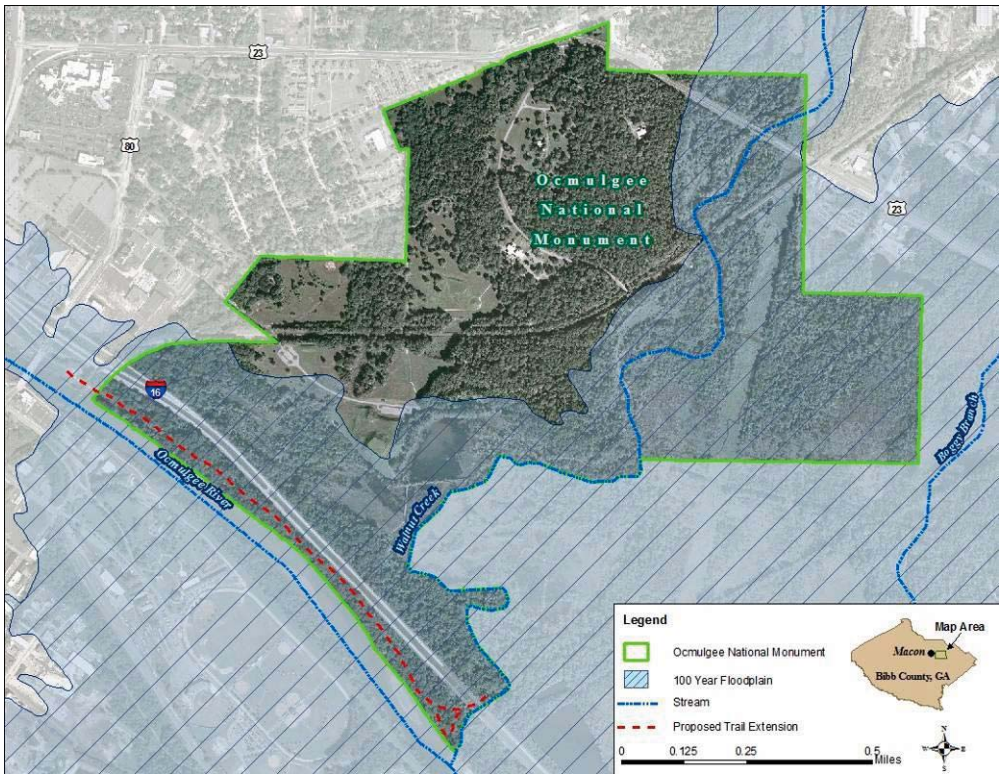

Figure 3-2. Ocmulgee River 100-Year Floodplain

Source: (ESRI, 2002)

Build Alternative

Direct Effects

Under this alternative, the proposed project would involve activities in the regulatory floodplains of the Ocmulgee River. These activities are defined as the construction of a canopy, approximately 1.2 miles of trail, a footbridge, and a culvert. These activities would be expected to have a negligible impact because flood levels and function of the floodplain would only negligibly change. Construction of the project could require the placement of a negligible amount of fill material, in the floodplain, but the project would primarily be closely tied to existing grades.

The project would be designed to have negligible effect on the floodplain. Procedures for Coordinating Highway Encroachments on Floodplains with the Federal Emergency Management Agency (FEMA) are being followed, and the GDNR has been notified of the project (Appendix A). The project

would involve coordination with Bibb County Engineering Department (local floodplain management), FEMA and GDNR in order to obtain a no rise certificate, prior to construction. This coordination would follow "Procedures for Coordinating Highway Encroachment on Floodplains."

At the time of the Draft EA, preliminary evaluation of the project's impacts to the floodplain have indicated that, due to the negligible alteration of existing grades, the project "would not have a substantial impact on natural and beneficial floodplain values and would not support incompatible floodplain development" (Appendix B). As previously described, based on this preliminary evaluation it is anticipated that the project would require a no rise certificate; however, based on hydraulic analysis that will be completed prior to the approval of the Final EA/FONSI., As part of the analysis if it is determined that the project would require a Conditional Letter of Map Revision or a Letter of Map Revision from FEMA, this will be completed prior to construction. As discussed in meetings between GDOT and FHWA on April 5, 2012 and April 12, 2012 (Appendix D), the Final EA will disclose the results of the hydraulic analysis (including a discussion of the project's potential to raise the base flood elevation), appropriate documentation needed (i.e., no rise certificate), the evaluation of practical alternatives that have been evaluated, a discussion of what types of impacts to the floodplain would occur if the project was constructed, the reasons why the proposed actions must be located within the floodplain, and a statement indicating whether the action conforms to the applicable State or local floodplain protection standards, as set forth in 23 CFR 650.113(a)(1-3).

With negligible alteration of existing grades, the project would not represent a substantial risk to life or property; it would not have a substantial impact on natural and beneficial floodplain values; it would not support incompatible floodplain development; and it would not interrupt or terminate a transportation facility that is needed for emergency vehicles or provides a community's only evacuation route, as the project is mostly in a national park. Because established procedures would be employed, the direct effects would be negligible, long-term, local, and adverse.

Indirect Effects

The proposed project is entirely in the floodplain. The project would not induce growth because the NPS has no plans for ancillary projects and the project is entirely on NPS land or utility easements. Consequently, the proposed project would have no indirect effects (negligible impacts).

Cumulative Effects

The future Otis Redding Loop Trail would be in the same floodplain. However, this project would also be subject to the above regulations and would represent a small alteration of the floodplain. There are no other projects planned in the project area that could affect the function of the 100-year floodplain. Cumulative effects would be negligible, long-term, local, and adverse as long as the Otis Redding Loop Trail also keeps predominantly to existing grades.

Conclusion

These small additions to and temporary activities in the floodplain would not degrade it due to proper design, such as keeping predominantly with existing grades. Consequently, the expected impacts to floodplains would be negligible, long-term, local, and adverse for direct; none for indirect (negligible impacts); and negligible, long-term, local, and adverse for cumulative.

No-Build Alternative

Direct Effects

Under this alternative, there would be no new activities, so no direct effects (negligible impacts) would occur.

Indirect Effects

Under this alternative, there would be no new activities, so no indirect effects (negligible impacts) would occur.

Cumulative Effects

Given the fact there would be no foreseeable direct or indirect effects, there would be no cumulative effects (negligible impacts).

Conclusion

In the absence of new activities, no direct, indirect, or cumulative effects (negligible impacts) would occur to the floodplain.

6. Farmland

The project would not affect farmland as defined in the Farmland Protection Policy Act (FPPA), 7 CFR Part 658. In accordance with 7 CFR, Part 658, criteria have been applied to determine effects to farmland; and if the project is compatible with FPPA provisions. Coordination with the Natural Resources Conservation Service (NRCS) of the United States Department of Agriculture (USDA) on August 28, 2009 indicates that the Walnut Creek extension project is completely contained within a U.S. Bureau of the Census Urban Area and is therefore exempt from further assessment (Appendix A). Coordination with NRCS also indicated that there is no record of any Watershed Dams in the project vicinity or downstream. There are also no NRCS easements related to the Wetland Reserve Program and the Farm and Ranch Land Protection Program.

Build Alternative

Direct Effects

The proposed project is completely contained within a U.S. Bureau of the Census Urban Area. As such, assessment under the FPPA is not required. The proposed project would be constructed primarily on NPS property within the urbanized City of Macon. No direct effects (negligible impacts) would occur to farmlands as a result of the implementation of the proposed project.

Indirect Effects

The proposed project is occurring primarily on protected NPS lands in surrounded by an urban environment. Induced growth is not expected as a result of the proposed project and any important farmlands within the area have already been developed. No indirect effects (negligible impacts) to farmlands would occur as a result of the proposed project.

Cumulative Effects

Past development in the surrounding area has already impacted farmlands in the surrounding area. No direct or indirect effects to farmlands would occur as a result of the implementation of the proposed project, and the project would occur within a U.S. Census Bureau, Urban Area; therefore, no cumulative effects (negligible impacts) to farmland are expected as a result of the proposed project.

Conclusion

Construction of the proposed project would not cause direct, indirect, or cumulative effects (negligible impacts) to farmlands.

No-Build Alternative

Direct Effects

Under this alternative, there would be no new activities, so no direct effects (negligible impacts) would occur.

Indirect Effects

Under this alternative, there would be no new activities, so no indirect effects (negligible impacts) would occur.

Cumulative Effects

Given the fact there would be no foreseeable direct or indirect effects, there would be no cumulative effects (negligible impacts).

Conclusion

In the absence of new activities, no direct, indirect, or cumulative effects (negligible impacts) would occur to the floodplain.

7. Threatened and Endangered Species

Pursuant to the Endangered Species Act (ESA) of 1973, a pedestrian survey was conducted between April 29th and June 26, 2009 to identify protected individuals and/or potential habitat for protected species within the project corridor. Surveys were focused in areas that contain habitat types similar to those described for listed endangered and threatened species in Bibb County, Georgia (Table 5). The FHWA concurred with the determination that the project would have no effect to federally listed species or their habitat on November 24, 2010 (Appendix B).

Red-cockaded Woodpecker, *Picoides borealis*

Federal Status: Endangered

State Status: Endangered

The red-cockaded woodpecker (RCW) is federally and state listed as endangered. RCWs are cardinal-sized black and white birds that are associated with mature or old-growth pine stands. The preferred nesting habitat is old-growth pine trees that are 60 years or older with a relatively thin understory. Preferred RCW foraging habitat is described as pine or pine/hardwood stands 30 years of age or older.

The Georgia Natural Heritage Database does not have any records for the RCW within three (3) miles of the project area. No RCWs were observed within the proposed project area, nor was any suitable foraging or nesting habitat, as described above, identified for this species. Additionally, there are no pine stands within the proposed project study area. Since the project area can be characterized as maintained or mixed hardwoods in nature and lacks pine stands, this project would have no effect on the RCW.

Table 5. Federal and State Protected Species Known to Occur in Bibb County, GA

Common Name	Scientific Name	Federal Status	State Status	Habitat	Habitat Available	Species Impact
Bald Eagle	*Haliaeetus leucocephalus*	NL	T	Edges of lakes and large rivers; seacoasts	No	No Effect
Red-cockaded Woodpecker	*Picoides borealis*	E	E	Old-growth pine trees with a relatively thin understory	No	No Effect
Wood Stork	*Mycteria americana*	E	E	Cypress/gum ponds; marshes; river swamps; bays	No	No Effect
Rafinesque's Big-eared Bat	*Corynorhinus rafinesquii*	NL	P	Buildings, old mine shafts, wells, caves, hollow trees, areas behind loose bark, and crevices in rock ledges	Yes*	No Effect
Fringed Campion	*Silene polypetala*	E	E	Mature hardwood or hardwood-pine forests on river bluffs, as well as small stream terraces, moist slopes and well shaded ridge crests	No	No Effect
Green Pitcherplant	*Sarracenia oreophila*	E	E	Open seepy meadows, along sandy flushed banks of streams, and in partially shaded red maple-black gum low woods or poorly drained oak-pine flatwoods	No	No Effect
Relict Trillium	*Trillium reliquum*	E	E	Rich-ravines or adjacent alluvial terraces	No	No Effect
Sweet Pitcher-plant	*Sarracenia rubra*	NL	E	Acid soils of open bogs, sandhill seeps, Atlantic white-cedar swamps, wet savannahs, low areas in pine flatwoods, and along sloughs and ditches	No	No Effect
Yellow Flytrap	*Sarracenia flava*	NL	P	Acidic soils of seepy meadows, bogs, wet savannas, and pine flatwoods, sometimes along ditches and sloughs	No	No Effect

Key: T = Threatened; E = Endangered; NL= Not Listed; P=Rare, Protected; SC=State Species of Concern.
Sources: (Environmental Services, Inc., 2010; Wildlife Resources Division, Georgia Department of Natural Resources (GWRD), 2008; NatureServe, 2009).

*Given that the bridges which could provide potential roosting habitat would not be affected by the project and the use of the trail during the active times for this species (total darkness) would be negligible and not hindering to the potential continued use by the species, a no effect determination for the Rafineque's big-eared bat is warranted.

Wood Stork, *Mycteria americana*

Federal Status: Endangered

State Status: Endangered

The wood stork is federally and state listed as endangered. The wood stork is a large white bird with a black tail and grey neck and head that typically inhabit freshwater and brackish wetlands in the southeast. This species usually nests in cypress or mangrove swamps, and forages in freshwater marshes, narrow tidal creeks, or flooded tidal pools. Ideal feeding habitats are those that have flooded and then dried, creating pools with high concentrations of fish trapped by falling water levels.

The Georgia Natural Heritage Database does not have any records for the wood stork within three (3) miles of the project area. No wood storks or associated rookeries were identified during the field habitat survey, nor were any of the habitats as described above present within the project area. Therefore, this project would have no effect on the wood stork.

Fringed Campion, *Silene polypetala*

Federal Status: Endangered

State Status: Endangered

The fringed campion is federally and state listed as endangered. The fringed campion is a perennial herb with stems that rise from evergreen rosettes that form at the tips of runners and readily form rooting mats. The leaves are opposite and the flowers are two (2) to three (3) inches wide, consisting of five (5) deeply fringed pink petals that appear from mid-March through May. The preferred habitat for this species is mature hardwood or hardwood-pine forests on river bluffs, as well as small stream terraces, moist slopes, and well shaded ridge crests.

The Georgia Natural Heritage Database has records of one population of the fringed campion within three (3) miles of the project area. The closest population to the project site is approximately 2.9

miles to the north, northwest. There are two other sites located within Bibb County that are 4.2-miles away to the northwest.

A systematic pedestrian survey was performed (April 29, 2009) during the flowering period. While not part of the official habitat description, fringed campion typically inhabits much more open understory environments than that offered by the project area. The habitat on site consists of a heavy under and mid-story of Chinese privet, Chinese tallow-tree, Japanese honeysuckle, and common chickweed (*Stellaria media*) with a closed over-story canopy consisting mainly of hackberry (*Celtis laevigata*), tree-of-heaven, and box-elder. The vegetation composition and condition preclude this site from providing potentially suitable habitat. Despite the project's location along the Ocmulgee River, potentially suitable habitat was not identified. Due to habitat consisting of a dense understory, high concentration of exotic vegetation, the lack of common commiserate species, and a negative species specific survey during the flowering period; the proposed project would have no effect on the fringed campion.

Green Pitcher-plant, *Sarracenia oreophila*

Federal Status: Endangered

State Status: Endangered

The green pitcher-plant is federally and state listed as endangered. The green pitcher-plant is a perennial herb with leaves modified into erect, tubular pitchers that capture and digest animals. The solitary flowers possess five (5) drooping yellow petals that appear from May to early June. The preferred habitat consists of open seepy meadows, along sandy flushed banks of streams, and in partially shaded red maple-blackgum (*Nyssa slyvatica*) low woods or poorly drained oak-pine flatwoods.

The Georgia Natural Heritage Database does not have any records of the green pitcher-plant within three (3) miles of the project area. No potential habitat as described above exists within the project study area nor were any observed during the field habitat surveys. The project study area is dominated by

maintained and mixed hardwood uplands mostly dominated by exotic species; therefore, this project would have no effect on the green pitcher-plant.

Relict Trillium, *Trillium reliquum*

Federal Status: Endangered

State Status: Endangered

The relict trillium is federally and state listed as endangered. The relict trillium is a perennial herb with three (3) leaves in a whorl at the top of a seven (7) inch-long hairless stem. The leaves are mottled green to silver along the midvein. The flowers consist of three (3) petals that are maroon, green, or yellow with purple stamens that appear mid-March through April. The preferred habitat for the relict trillium is in mature hardwood forests and sometimes mixed with mature pines. The relict trillium occurs in rich cove sites with moist, well-drained, deep soils in mixtures of other wildflowers along streams, on stream terraces, and in lime-sink depressions.

The Georgia Natural Heritage Database does not have any records for this species within three (3) miles of the project area. No habitat as described above exists within the project study area nor were any individuals observed during the field habitat survey. The project study area is dominated by maintained and mixed hardwood uplands, contains a high concentration of exotic species, and the onsite stream does not offer suitable habitat. Therefore, this project would have no effect on the relict trillium.

Sweet Pitcher-plant, *Sarracenia rubra*

Federal Status: Not listed

State Status: Endangered

The sweet pitcher-plant is state listed as endangered. It is not a federally listed species. The sweet pitcher-plant is a perennial herb that may be up to 30 inches tall with hollow leaves that are green with some red or purplish veins. A hood curves over the orifice with a sharply pointed tip and a network of

reddish veins. The flower is an umbrella-shaped style, 1 to 1.5 inches in diameter, which are fragrant, solitary, and usually exceed the leaves. The petals are maroon above and sometimes gray or dull purple beneath. The flowering period is April to May. The preferred habitat for the sweet pitcher-plant consists of acid soils of open bogs, sandhill seeps, Atlantic white-cedar swamps, wet savannahs, low areas in pine flatwoods, and along sloughs and ditches.

The Georgia Natural Heritage Database does have a record for this species approximately 2.5 miles east of the project area. No habitat exists within the project area for the sweet pitcher-plant nor were any individuals observed during the field habitat survey. The aforementioned habitats preferred by this species do not exist within the project study area and all sloughs, streams, and ditches were traversed during the wetland delineation for this project and no pitcher-plants of any variety were encountered. The project would have no effect on the sweet pitcher-plant.

Rafinesque's Big-eared Bat, *Corynorhinus rafinesquii*

Federal Status: Not listed

State Status: Rare

The Rafinesque's big-eared bat is considered by the GDNR to be rare and is a state protected species. It is not a federally listed species. The Rafinesque's big-eared bat is a medium-sized bat that ranges from 3.7 to 4.1 inches in total length with very long ears, over 1-inch in length and joined in the middle. The preferred roosting habitat includes buildings, old mine shafts, wells, caves, hollow trees, areas behind loose bark, and crevices in rock ledges. It becomes active only in complete darkness.

The Georgia Natural Heritage Database does have a record for this species approximately 1.0 mile northeast of the project area. Given the habitat description for the Rafinesque's big-eared bat, habitat may exist within the project study area, and as expected given the times this species is active, no individuals were observed during the field habitat survey. No preferred roosting habitats listed above were noted during the habitat survey; however, the underside of nearby bridges could offer adequate roosting habitat.

Given that the bridges which could provide potential roosting habitat would not be affected by the project and the use of the trail during the active times for this species (total darkness) would be negligible and not hindering to the potential continued use by the species, the proposed project would have no effect on the Rafinesque's big-eared bat.

Yellow Flytrap, *Sarracenia flava*

Federal Status: Not listed

State Status: Rare The yellow flytrap is considered by the GDNR to be rare and is a state protected species. It is not a federally listed species. The yellow flytrap is a large perennial herb growing to 37-inches tall, with hollow trumpet-shaped leaves that are greenish-yellow with suberect hoods with reddish-purple splotch at the base. The preferred habitat for the yellow flytrap is acidic soils of seepy meadows, bogs, wet savannahs, and pine flatwoods, sometimes along ditches and sloughs.

The Georgia Natural Heritage Database does have a record for this species approximately 2.5 miles east of the project area. No habitat exists within the project area for the yellow flytrap nor were any individuals observed during the field habitat survey. The aforementioned habitats preferred by this species do not exist within the project study area. All sloughs, streams, and ditches were traversed during the wetland delineation for this project, and no flytraps of any variety were encountered. The proposed project would have no effect on the yellow flytrap.

Bald Eagle, *Haliaeetus leucocephalus*

Federal Status: Not listed

State Status: Threatened

The bald eagle was removed from the federal list of threatened and endangered species on June 28, 2007. The bald eagle is still federally protected by the provisions of the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act (MBTA). The state of Georgia lists the bald eagle as threatened. Bald eagles find habitat along inland waterways and estuarine areas in Georgia, selecting areas with low

human disturbance, suitable forest structure, and abundant prey. The bald eagle likes to nest mainly in the largest tree in its chosen territory and to have many available perching sites. Nest sites along rivers are typically close to the shores with large aquatic areas and little forest edge. Lake nest sites are usually near water with super-dominant trees and little overall human disturbance. This species prefers nesting within 0.5 mile of water and a clear path to that water and usually forages within approximately 1.0 mile of its nest site.

The USFWS removed the bald eagle as threatened under the ESA on August 8, 2007, and in May 2007 published the National Bald Eagle Management Guidelines to assist the public to understand protections afforded to and prohibitions related to the bald eagle under the Bald and Golden Eagle Protection Act (16 USC 668-668d), the MBTA (16 USC 703-712), and the Lacey Act (16 U.S.C. 3371-3378). The Bald and Golden Eagle Protection Act prohibits anyone, without a permit issued by the Secretary of the Interior, from "taking" bald eagles, including their parts, nests, or eggs. It defines "take" as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb." The Act's guidelines define "disturb" as: "'To agitate or bother a bald or golden eagle to the degree that interferes with or interrupts normal breeding, feeding, or sheltering habits, causing injury, death, or nest abandonment. In addition to immediate impacts, this definition also covers impacts that result from human-induced alterations initiated around a previously used nest site during a time when eagles are not present, if, upon the eagle's return, such alterations agitate or bother an eagle to a degree that interferes with or interrupts normal breeding, feeding, or sheltering habits, and causes injury, death, or nest abandonment."

No bald eagles or their nests were observed within the project area. The Georgia Natural Heritage Database does not have any records for the Bald eagle within three (3) miles of the project area; however, they may forage within (3) miles of the site in the Ocmulgee River adjacent to the project study area. According to a recent email received from Mr. Jim Ozier of the Georgia Wildlife Resources Division (GWRD) the nearest known bald eagle nest is located 6.5 miles south-southeast of the midpoint of the project study area. Bald eagles are typically more tolerant to noise and other anthropogenic activities while

foraging. Neither nests nor foraging areas are located within the defined project area and the use of the project area by humans would not preclude or hinder nearby foraging activities (if any), therefore the proposed project would not result in a "take" of bald eagles.

Build Alternative

Direct Effects

Table 3 above states the impact on each of the possible protected species. The protected species and their habitat were not found in the project area for any listed species. Given the small nature of the project, impacts are not anticipated to extend far beyond the project boundaries. Once the construction is completed, the impacts of visitor use and trail maintenance would not be new to the general area since the project would predominantly be in a national park with five miles of similar existing trails. Further, the project area including OCMU is in the urbanized area of the City of Macon. Consequently, the species around the project area have likely acclimated to these activities.

The proposed project would have no effect on all protected species. FHWA concurred with this effect determination on November 24, 2010 (Appendix B).

Indirect Effects

Table 3 lists the effect determination on each of the possible protected species. None of the protected species or their habitats was found in the project area. The Rafinesque's big-eared bat may utilize bridges near the project area, but as described in the affected environment section, due to the fact the bridges which could provide potential roosting habitat would not be affected by the project and the use of the trail during the active times for this species (total darkness) would be negligible and not hindering to the potential continued use by the species, a no-effect determination for the Rafineque's big-eared bat is warranted. With the lack of protected species in the project area and negligible effects from the proposed project with regards to the natural environment, such as water quality, no indirect effects (negligible impacts) are expected.

Cumulative Effects

Given the fact there would be no foreseeable direct or indirect effects, there would be no cumulative effects (negligible impacts).

Conclusion

The proposed project would have no effect on listed species due to lack of individuals and their habitat in the project area. Thus, there would be no direct, indirect, or cumulative effects (negligible impacts) to protected species.

No-Build Alternative

Direct Effects

Under this alternative, there would be no new activities, so no direct effects (negligible impacts) would occur.

Indirect Effects

Under this alternative, there would be no new activities, so no indirect effects (negligible impacts) would occur.

Cumulative Effects

Given the fact there would be no foreseeable direct or indirect effects, there would be no cumulative effects (negligible impacts).

Conclusion

In the absence of new activities, there would be no direct, indirect, or cumulative effects (negligible impacts) to protected species.

8. Wildlife Habitat

As directed under Executive Order (EO) 13186, in furtherance of the MBTA (16 USC 703-711), actions must be taken to avoid or minimize impacts to migratory bird resources and to prevent or abate the detrimental alteration of the environment for the benefit of migratory birds, as practicable. The Migratory Bird Treaty Act protects over 1,500 migratory bird species (see 50 C.F.R. 10.13, List of Migratory Birds) in the U.S. and its territories.

GDOT assesses potential impacts to migratory birds that may result from the fragmentation of large tracts of contiguous habitat. In these areas, the communities surrounding tracts of habitats that may be impacted and the existing disturbances to these communities are evaluated. Soil disturbances and the slight disturbance to the vegetative communities could attract predators, nest parasites, and invasive plant species into areas adjacent to the proposed project, thus available foraging and nesting habitats for bird species requiring contiguous tracts and other vegetative communities are surveyed for potential impacts.

In addition, for projects where rock overhangs occur, or where bridges, culverts, and/or pipes exist, which may be reconstructed or demolished, the GDOT surveys for the nests of birds such as barn swallow (*Hirundo rustica*), cliff swallow (*H. pyrrhonota*), and Eastern phoebe (*Sayornis phoebe*).

Build Alternative

Direct Effects

The project study area includes four bridges (Martin Luther King Jr. Boulevard, the railroad trestle, I-16, and the footbridge under the I-16 bridge), and one culvert located at a crossing of S1 (within the survey area, but north of the location of the proposed trail crossing of S1). None of these structures would be directly affected by the proposed project and therefore they were not surveyed for the presence of migratory birds or their nests. No other bridges, pipes, or culverts are located within the project area.

The proposed project would not fragment a large, mature tract of forest or other vegetative communities within the project area. The project would have negligible effect on migratory bird species

utilizing the communities surrounding the project corridor due to the limited land that would be impacted and the existing disturbance to these communities. The project would not alter the composition of the communities adjacent to the proposed improvements. No direct effects (negligible impacts) would occur to migratory birds as a result of the implementation of the proposed project.

Indirect Effects

Soil disturbance and the slight disturbance to the vegetative communities could attract predators, nest parasites, and invasive plant species into areas adjacent to the project limits, but available foraging and nesting habitat for bird species requiring large forested tracts and other vegetative communities would not be affected. Indirect effects to migratory birds include the potential for increased predation, introduction of nest parasites, and potential for increased introduction of invasive species into adjoining areas. These indirect effects would be considered minor, short- and long-term, localized, adverse impacts.

Cumulative Effects

The planned Otis Redding Loop Trail is an adjoining project that would have impacts similar in nature to the proposed project. As such, the cumulative effects to migratory birds would likely be a result of the potential for increased predation, potential increase in nesting parasites being introduced, and the potential for an increase in invasive plants species introductions to areas adjoining the trail. These effects would be considered minor, localized, short- and long-term, adverse impacts.

Conclusion

The proposed project would not directly affect migratory birds. Indirect and cumulative effects would be considered minor, localized, and adverse in nature.

No-Build Alternative

Direct Effects

Under this alternative, there would be no new activities, so no direct effects (negligible impacts) would occur.

Indirect Effects

Under this alternative, there would be no new activities, so no indirect effects (negligible impacts) would occur.

Cumulative Effects

Given the fact there would be no foreseeable direct or indirect effects, there would be no cumulative effects (negligible impacts).

Conclusion

In the absence of new activities, there would be no direct, indirect, or cumulative effects (negligible impacts) to migratory birds.

9. Invasive Species

In accordance with EO 13112, the population of invasive species that may be spread during construction was surveyed. Those invasive species have been identified by GDOT as having the highest priority due to environmental and economic impacts. Both the selected species and the management practices would be re-evaluated and revised as more information is obtained.

Chinese privet (*Ligustrum sinense*), which is the dominant understory species, Japanese honeysuckle (*Lonicera japonica*), tree-of-heaven (*Ailanthus altissima*), alligatorweed (*Alternanthera philoxeroides*), English ivy, (*Hedera helix*), Japanese knotweed (*Polygonum cuspidatum*), common chickweed (*Stellaria media*), and kudzu (*Pueraria montana*) were found in the project area during field studies conducted between April 29 and June 26, 2009.

Build Alternative

Direct Effects

During the construction process, GDOT would take measures to prevent or minimize the spread of these species as appropriate for the time of the year. These measures would include removal and disposal of vegetative parts in the soil that may reproduce by root raking, such as burning onsite any such parts and aboveground parts that bear fruit, controlling or eradicating infestations prior to construction, and cleaning of vehicles and other equipment prior to leaving the infested site. The measures implemented would be appropriate for the particular species and the specific site conditions, as described in Georgia Standard Specifications Section 201, Clearing and Grubbing of Right-Of-Way. With the measures described above in place, the direct effects would be minor, local, short-term, and beneficial with the removal of some invasive species and the prevention of infestations.

Indirect Effects

Because some of the invasive species along the route would be removed and replaced with native species, the outcome would be fewer invasive species in the project area. However, visitors may introduce species by walking off the trail between infested and not infested areas or arrive with infested equipment. NPS encourages people to stay on trails to help reduce the introduction and spread of invasive species. Even if visitors stayed on the trail, invasive species can still be deposited into the soil below the gravel if transported on the shoes of visitors. Given the heavy infestations of exotic species, these possible pathways would be expected to result in indirect effects that would be considered minor, local, long-term, and adverse.

Cumulative Effects

Regulations and BMPs described above would continue to be used to limit the spread of invasive species with some programs aiming to remove these species. However, removal of invasive species is difficult and requires substantial resources. Current infestations are spreading, and more species are being

or may be introduced. The proposed project would negligibly contribute to cumulative effects despite removing invasive species because of the small size of the project. Cumulative effects would be beneficial because of efforts to remove infestations and limit the introduction of additional invasive species. However, the improved accessibility to this area would increase the possibilities for introducing invasive species, especially with the connection of the Otis Redding Loop Trail. Therefore, the overall cumulative effects would be minor, local, long-term, and adverse.

Conclusion

The project involves removal of some infestations at the small project site mostly during construction, which would reduce the available habitat for invasive species and could act as a barrier for the spread of species. Further, BMPs would be enacted to prevent the introduction of invasive species from the project's activities during construction. Thus, the proposed project could reduce the amount of invasive species in this small area resulting in direct beneficial effects. However, the improved accessibility could increase the possibilities for introducing species, so the indirect and cumulative effects would be minor, local, long-term, and adverse.

No-Build Alternative

Direct Effects

Under this alternative, the removal of invasive species from the project site would not occur. This would mean that these species would continue to spread. The project area would have continued maintenance activities. Since the machinery would be subject to the same regulations as described above, there should be negligible opportunities for introduction of new species. However, the proposed project site is small, and the invasive species are found in other areas of the OCMU and other nearby areas. Consequently, the direct effects from this alternative would be minor, long-term, local, and adverse.

Indirect Effects

There would be no new activities, so there would be no indirect effects (negligible impacts).

Cumulative Effects

It is assumed that the current regulations and BMPs would continue their attempt to stop the spread of invasive species with some programs aiming at removing these species. However, removal of invasive species is difficult and takes substantial resources, current infestations are spreading, and more species are being or threaten to be introduced. Due to small size of the project and that these invasive species exist in other patches nearby, this alternative would contribute to negligible adverse impacts because the site would continue to provide a pathway for invasive species to spread, which becomes more probable with time. The Otis Redding Loop Trail would provide a new pathway nearby for visitors to introduce invasive species via infested equipment which could then spread to the project area. Thus, cumulative effects would be minor, long-term, local, and adverse.

Conclusion

Because the no-build alternative allows for the continued presence and spreading of invasive species in the small project site by not removing them, this alternative would allow for continued and possibly increased invasive species in and around the project site. The direct and cumulative effects would be minor, long-term, local, and adverse with no indirect effects (negligible impacts) due to lack of new activities.

F. Affected Environment and Effects on the Physical Environment

1. Noise

In compliance with 23 USC Section 109(h) and (i), the Federal Highway Administration (FHWA) established guidelines for the assessment of highway traffic-generated noise. These guidelines, published as Part 772 of Title 23 of the Code of Federal Regulations (23 CFR 772), provide procedures to be followed in conducting noise analyses that will protect the public health and welfare. In accordance with the Noise Control Act of 1972, coordination of this regulation with the Environmental Protection Agency has been completed. Further, Highway Traffic Noise: Analysis and Abatement Guidance (Guidance) was

issued in July 2010 (revised January 2011) by the FHWA. The subject project has been reviewed to determine the need for a noise analysis. Based on FHWA guidelines for the assessment of highway traffic-generated noise, no further noise investigation is required. The noise assessment was prepared in accordance with 23 CFR Part 772, was approved by GDOT and sent to FHWA May 1, 2012 (see Appendix B).

Build Alternative

Direct Effects

The Noise Impact Assessment determined that there was no need for detailed noise investigation due to the fact that the project does not increase the number of through lanes and does not have a significant change in road alignment. During construction, the use of heavy machinery may introduce some noise level increases, but these activities would be short in duration due to the construction period of less than a year. Similarly, maintenance of the approximately 1.2-mile trail involving heavy machinery would be temporary and an infrequent source of noise. No sensitive receptors (such as hospitals) exist in the immediate vicinity of the project besides the OCMU, and performing maintenance only during business hours would minimize these impacts. The increase in noise levels from people using the trail would be negligible. Recreational use is the intended land use for this area of OCMU and is compatible with the surrounding recreational and interpretive areas. Thus, the direct noise impacts would be minor, short-term, and local.

Indirect Effects

No indirect noise effects (negligible impact) would be expected to be induced as a result of the construction of the proposed project.

Cumulative Effects

The proposed project would tie into the planned Otis Redding Loop Trail, which would create a more complete trail network, with greater access to the OCMU, as well as more connectivity for users to other points within downtown Macon along the Ocmulgee River. Construction of these two trail projects

would both likely have minor, short-term, direct effects on ambient noise levels; however, due to different construction schedules would not be significant. Therefore, cumulative effects would likely be minor, short-term and not adverse in nature.

Conclusion

The project would have minor, short-term localized direct effects; no indirect effects (negligible), and minor, short-term cumulative effects as a result of the construction of the expanded trail network and increased accessibility of portions of the OCMU.

No-Build Alternative

Direct Effects

Under this alternative, the trail network would not be constructed and the ambient noises would not be altered since no construction would occur and no additional access would be provided for pedestrians; thus, there would be no direct noise effects (negligible impact).

Indirect Effects

Without the proposed trails construction, there would be no indirect effects (negligible impact).

Cumulative Effects

Under this alternative, the trail network would not be constructed and the connection between the existing OCMU trails and the proposed Otis Redding Loop Trail would not be completed. Since the proposed project extension would not occur and no direct or indirect impacts would occur from the no-build alternative, it is not reasonable to attribute any cumulative effects (negligible impact) on ambient noise levels to this alternative.

Conclusion

As the proposed trail extension would not occur, changes in ambient noise levels would not be altered from existing conditions. Thus, there would be no direct, indirect, or cumulative effects (negligible impact).

2. Air

An Air Assessment was prepared for the proposed project, which presented determinations for four priority air pollutants: ozone, carbon monoxide, Mobile Source Air Toxics (MSAT), and Particulate Matter$_{2.5}$ ($PM_{2.5}$). GDOT submitted the approved Air Assessment to FHWA on May 1, 2012 (See Appendix B: Correspondence). Results indicate that the proposed project complies with both State and Federal air quality standards.

The Clean Air Act section 176(c) requires that Federal transportation projects are consistent with state air quality goals, found in the State Implementation Plan (SIP). The process to ensure this consistency is called Transportation Conformity. Conformity to the SIP means that transportation activities will not cause new violations of the national ambient air quality standards (NAAQS), worsen existing violations of the standards, or delay timely attainment of the relevant standard.

Transportation conformity is required for Federal transportation projects in areas that have been designated by the EPA as not meeting the NAAQS. These areas are called nonattainment areas if they currently do not meet air quality standards or maintenance areas if they have previously violated air quality standards, but currently meet them and have an approved maintenance plan. On January 5, 2005, The US EPA designated several non-attainment areas within the State of Georgia, including the Macon Area comprised of Bibb County and a portion of Monroe County, for fine particular matter, called PM 2.5. This designation became effective on April 5, 2005, 90 days after EPA's published action in the Federal Register. Transportation Conformity for the PM 2.5 standards applies as of April 5, 2006, after the one year grace period provided by the Clean Air Act. Metropolitan PM 2.5 nonattainment areas are now required to have a transportation improvement program (TIP) and long range transportation plan (LRTP) that conforms to the PM 2.5 standard.

In addition to PM 2.5 assessments, MSAT assessments are required statewide for most federal transportation projects. Based on the example projects defined in the FHWA guidance "*Interim Guidance*

Update on Mobile Source Air Toxic Analysis in NEPA Documents," dated December 6, 2012, the construction of a multi-use trail would be classified as a project with No Meaningful MSAT Impact.

Ozone

This project is in an area where the State Implementation Plan contains transportation control measures. The Clean Air Act requires Transportation Plans and TIPs in areas not meeting the National Ambient Air Quality Standards to conform to the emissions budget of the State Implementation Plan for air quality. The FY 2012-2015 TIP is the current adopted plan for the Atlanta region showing the region's highest transportation priorities. It was adopted by the Macon-Bibb County Planning and Zoning Commission (MBCPZC) on June 1, 2011 and was approved by US DOT on June 30, 2011.

This project is identified in the Macon MBCPZC Fiscal Year 2012-2015 TIP by reference number MCN-TEA-1 with Lump Sum funding.

Carbon Monoxide (CO)

The project was evaluated for the potential to result in increased CO concentrations in the project area. Based on project type it has been determined that this project would not increase traffic congestion or increase idle emissions and CO concentrations therefore the project is consistent with state and federal air quality goals for CO.

PM 2.5 Qualitative Analysis

This project has been evaluated by an interagency group consisting of FHWA, EPA, EPD and the MPO and was found to be exempt from the PM2.5 hot spot requirements on June 12, 2009 (see Appendix B).

Mobile Source Air Toxics

MSAT assessments are required statewide for most federal transportation projects. Based on the example projects defined in the FHWA guidance "*Interim Guidance Update on Mobile Source Air Toxic*

Analysis in NEPA Documents," dated December 6, 2012, the construction of a multi-use trail would be classified as a project with No Meaningful MSAT Impact.

The purpose of this project is to construct a multi-use paved trail. This project has been determined to generate minimal air quality impacts for CAA 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 MOBILE6.2 model forecasts a combined reduction of 72 percent in the total annual emission rate for the priority MSAT from 1999 to 2050 while vehicle-miles of travel are projected to increase by 145 percent. This will both reduce the background level of MSAT as well as the possibility of even minor MSAT emissions from this project.

In FHWA's view, information is incomplete or unavailable to credibly predict the project-specific health impacts due to changes in MSAT emissions associated with a proposed set of highway alternatives. The outcome of such an assessment, adverse or not, would be influenced more by the uncertainty introduced into the process through assumption and speculation rather than any genuine insight into the actual health impacts directly attributable to MSAT exposure associated with a proposed action.

The EPA is responsible for protecting the public health and welfare from any known or anticipated effect of an air pollutant. They are the lead authority for administering the Clean Air Act and its amendments and have specific statutory obligations with respect to hazardous air pollutants and MSAT. The EPA is in the continual process of assessing human health effects, exposures, and risks posed by air pollutants. They maintain the Integrated Risk Information System (IRIS), which is "a compilation of electronic reports on specific substances found in the environment and their potential to cause human health effects" (EPA, http://www.epa.gov/ncea/iris/index.html). Each report contains assessments of non-

cancerous and cancerous effects for individual compounds and quantitative estimates of risk levels from lifetime oral and inhalation exposures with uncertainty spanning perhaps an order of magnitude.

Other organizations are also active in the research and analyses of the human health effects of MSAT, including the Health Effects Institute (HEI). Two HEI studies are summarized in Appendix D of FHWA's Interim Guidance Update on Mobile source Air Toxic Analysis in NEPA Documents. Among the adverse health effects linked to MSAT compounds at high exposures are cancer in humans in occupational settings; cancer in animals; and irritation to the respiratory tract, including the exacerbation of asthma. Less obvious is the adverse human health effects of MSAT compounds at current environmental concentrations (HEI, http://pubs.healtheffects.org/view.php?id=282) or in the future as vehicle emissions substantially decrease (HEI, http://pubs.healtheffects.org/view.php?id=306).

The methodologies for forecasting health impacts include emissions modeling; dispersion modeling; exposure modeling; and then final determination of health impacts - each step in the process building on the model predictions obtained in the previous step. All are encumbered by technical shortcomings or uncertain science that prevents a more complete differentiation of the MSAT health impacts among a set of project alternatives. These difficulties are magnified for lifetime (i.e., 70 year) assessments, particularly because unsupportable assumptions would have to be made regarding changes in travel patterns and vehicle technology (which affects emissions rates) over that time frame, since such information is unavailable. The results produced by the EPA's MOBILE6.2 model, the California EPA's Emfac2007 model, and the EPA's DraftMOVES2009 model in forecasting MSAT emissions are highly inconsistent. Indications from the development of the MOVES model are that MOBILE6.2 significantly underestimates diesel PM emissions and significantly overestimates benzene emissions.

Regarding air dispersion modeling, an extensive evaluation of EPA's guideline CAL3QHC model was conducted in an NCHRP study (http://www.epa.gov/scram001/dispersion_alt.htm#hyroad), which documents poor model performance at ten sites across the country - three where intensive monitoring was conducted plus an additional seven with less intensive monitoring. The study indicates a bias of the

CAL3QHC model to overestimate concentrations near highly congested intersections and underestimate concentrations near uncongested intersections. The consequence of this is a tendency to overstate the air quality benefits of mitigating congestion at intersections. Such poor model performance is less difficult to manage for demonstrating compliance with National Ambient Air Quality Standards for relatively short time frames than it is for forecasting individual exposure over an entire lifetime, especially given that some information needed for estimating 70-year lifetime exposure is unavailable. It is particularly difficult to reliably forecast MSAT exposure near roadways, and to determine the portion of time that people are actually exposed at a specific location.

There are considerable uncertainties associated with the existing estimates of toxicity of the various MSAT, because of factors such as low-dose extrapolation and translation of occupational exposure data to the general population, a concern expressed by HEI (http://pubs.healtheffects.org/view.php?id=282). As a result, there is no national consensus on air dose-response values assumed to protect the public health and welfare for MSAT compounds, and in particular for diesel PM. The EPA (http://www.epa.gov/risk/basicinformation.htm#g) and the HEI (http://pubs.healtheffects.org/getfile.php?u=395) have not established a basis for quantitative risk assessment of diesel PM in ambient settings.

There is also the lack of a national consensus on an acceptable level of risk. The current context is the process used by the EPA as provided by the Clean Air Act to determine whether more stringent controls are required in order to provide an ample margin of safety to protect public health or to prevent an adverse environmental effect for industrial sources subject to the maximum achievable control technology standards, such as benzene emissions from refineries. The decision framework is a two-step process. The first step requires EPA to determine a "safe" or "acceptable" level of risk due to emissions from a source, which is generally no greater than approximately 100 in a million. Additional factors are considered in the second step, the goal of which is to maximize the number of people with risks less than 1 in a million due to emissions from a source. The results of this statutory two-step process do not guarantee that cancer risks

from exposure to air toxics are less than 1 in a million; in some cases, the residual risk determination could result in maximum individual cancer risks that are as high as approximately 100 in a million. In a June 2008 decision, the U.S. Court of Appeals for the District of Columbia Circuit upheld EPA's approach to addressing risk in its two step decision framework. Information is incomplete or unavailable to establish that even the largest of highway projects would result in levels of risk greater than safe or acceptable.

Because of the limitations in the methodologies for forecasting health impacts described, any predicted difference in health impacts between alternatives is likely to be much smaller than the uncertainties associated with predicting the impacts. Consequently, the results of such assessments would not be useful to decision makers, who would need to weigh this information against project benefits, such as reducing traffic congestion, accident rates, and fatalities plus improved access for emergency response, that are better suited for quantitative analysis.

Construction

All phases of construction operations would temporarily contribute to air pollution. Particulates would increase slightly in the corridor as dust from construction collects in the air surrounding the project. The construction equipment would also produce slight amounts of exhaust emissions. The Rules and Regulations for Air Quality Control outlined in Chapter 391-3-1, Rules of Georgia Department of Natural Resources' Environmental Protection Division, would be followed during the construction of the project. These include covering earth-moving trucks to keep dust levels down, watering haul roads, and refraining from open burning, except as may be permitted by local regulations.

The EPA has listed a number of approved diesel retrofit technologies; many of these can be deployed as emissions mitigation measures for equipment used in construction. This listing can be found at: www.epa.gov/otaq/retrofit/retroverifiedlist.htm.

Conclusion

This project was evaluated for its consistency with state and federal air quality goals, including CO, Ozone, PM 2.5 and MSATs as part of this assessment. Results indicated that the project is consistent with the State Implementation Plan for the attainment of clean air quality in Georgia and is in compliance with both state and federal air quality standards.

Build Alternative

Direct Effects

Direct effects would be expected as a result of the construction of the proposed project. All phases of construction and potentially long-term maintenance operations would temporarily contribute to air pollution. Particulates would increase slightly in the corridor as dust from construction collects in the air surrounding the project. The construction equipment would also produce slight amounts of exhaust emissions. The Rules and Regulations for Air Quality Control outlined in Chapter 391-3-1, Rules of Georgia Department of Natural Resources' Environmental Protection Division, would be followed during the construction of the project. These include covering earth-moving trucks to keep dust levels down, watering haul roads, and refraining from open burning, except as may be permitted by local regulations. The direct effects expected as a result of the construction of the proposed project are likely to be minor impacts while construction activity is occurring and would be expected to be relatively localized and short-term in nature.

Indirect Effects

No indirect effects (negligible impact) on air quality would be expected to be induced as a result of the construction of the proposed project.

Cumulative Effects

The proposed project would tie into the planned Otis Redding Loop Trail, which would create a more complete trail network, with greater access to the OCMU, as well as more connectivity for users to other points within downtown Macon along the Ocmulgee River. Construction of these two trail projects would

both likely have minor, short-term, direct effects on ambient air quality; however, due to different construction schedules would not be significant cumulatively. Therefore, cumulative effects would likely be minor, short-term and not adverse in nature.

Conclusion

The project would have minor, short-term localized direct effects; no indirect effects (negligible), and minor, short-term cumulative effects on ambient air quality as a result of the construction of the expanded trail network and increased accessibility of portions of the OCMU.

No-Build Alternative

Direct Effects

Under this alternative, the trail network would not be constructed and the ambient air quality would not be altered since no construction would occur; thus, there would be no direct air effects (negligible impact).

Indirect Effects

Without the proposed trails construction, there would be no indirect effects (negligible impact).

Cumulative Effects

Under this alternative, the trail network would not be constructed and the connection between the existing OCMU trails and the proposed Otis Redding Loop Trail would not be completed. Since the proposed project extension would not occur and no direct or indirect impacts would occur from the no-build alternative, it is not reasonable to attribute any cumulative effects (negligible impact) on ambient air quality to this alternative.

Conclusion

As the proposed trail extension would not occur, changes in ambient air quality would not be altered from existing conditions. Thus, there would be no direct, indirect, or cumulative effects (negligible impact).

3. Climate Change

The issue of global climate change is an important national and global concern that is being addressed in several ways by the federal government. The Transportation sector is the second largest source of total greenhouse gas emissions (GHG) in the U.S. and the largest source of carbon dioxide (CO_2) emissions – the predominant GHG. In 2004, the transportation sector was responsible for 31% of all U.S. CO_2 emissions. The principal anthropogenic (human-made) source of carbon emissions is the combustion of fossil fuels, which accounts for approximately 80% of anthropogenic emissions of carbon worldwide. Almost all (98%) of transportation-sector emissions result from the consumption of petroleum products such as motor gasoline, diesel fuel, jet fuel, and residual fuel.

To date, no national standards have been established regarding greenhouse gases, nor has the EPA established criteria or thresholds for GHG emissions. On April 2, 2007, the Supreme Court issued a decision in Massachusetts et al. v. Environmental Protection Agency et al. that the EPA does have authority under the Clean Air Act to establish motor vehicle emissions standards for CO_2 emissions. The EPA is currently determining the implications to national policies and programs as a result of the Supreme Court decision. However, the Court's decision did not have any direct implications on requirements for developing transportation projects.

Recognizing these concerns, the FHWA is working with other modal administrations through the Department of Transportation Center for Climate Change and Environmental Forecasting to develop strategies to reduce transportations' contribution to GHGs - particularly CO_2 emissions - and to assess the risks to transportation systems and services from climate change.

Because climate change is a global issue and the emissions changes due to project alternatives are very small compared to global totals, GHG emissions were not calculated for the alternatives considered. The FHWA does not believe it is informative at this point to consider GHG emissions in a project level NEPA document. The climate impacts of CO_2 emissions are global in nature. Further, due to the interactions between elements of the transportation system as a whole, emissions analyses would be less

informative than ones conducted at regional, state, or national levels. Because of these concerns, CO_2 emissions cannot be usefully calculated in this document in the same way that other vehicle emissions are addressed. As more information emerges and as policies and legal requirements evolve, approaches to climate change at both the project and policy level will be reviewed and updated.

4. Energy/Mineral Resources

Build Alternative

Direct Effects

Construction of the proposed project would result in a slight increase in the demand for energy supplies resulting from the manufacture of required materials and actual construction activities, as well as long-term maintenance activities. Heavy machinery and other vehicles necessary for the construction phase use fossil fuels. This increase in fossil fuel use should not create a burden on available supplies of fuel. No lights would be installed along the trail extension, so operational energy requirements would be negligible. The impact of the proposed action is not significant in the context of regional energy usage and direct effects on energy/mineral resources would be negligible and short-term.

Indirect Effects

Indirect effects on energy and mineral resources would be minimal. By the creation of a more connected, accessible, and utilized trail network could actually decrease energy and mineral resource consumption by creating more desirable recreational opportunities in close proximity to the urbanized Macon area. However, these indirect effects as a result of the proposed project would be insignificant in the context of regional energy use and would be negligible, long-term impacts.

Cumulative Effects

It would be expected that cumulative increases in energy and mineral resource usage would occur in the foreseeable future as a result of future development. However, it is not reasonable to assume that any cumulative increase in energy consumption or loss of mineral resources in the area could be attributed to the proposed project; therefore, there would be no cumulative effects (negligible impacts).

Conclusion

The proposed project would have negligible, short-term direct effects; negligible, long-term indirect effects; and no cumulative effects on energy/mineral resources.

No-Build Alternative

Direct Effects

Construction of the proposed trail extension would not occur and no energy or mineral resources would be expended; therefore, there would be no direct effect (negligible) on energy/mineral resources.

Indirect Effects

No indirect effects (negligible impacts) would occur to energy/mineral resources as a result of not constructing the proposed project.

Cumulative Effects

It would be expected that cumulative increases in energy and mineral resource usage would occur in the foreseeable future as a result of future development. However, it is not reasonable to assume that any cumulative increase in energy consumption or loss of mineral resources in the area could be attributed from the no-build alternative for the proposed project and given that there are no direct or indirect effects from the no-build alternative, there would be no cumulative effects (negligible impacts).

Conclusion

No new activities would be introduced under this alternative as the trail extension would not occur, so there would be no direct, indirect, or cumulative impacts on energy/mineral resources.

5. Construction/Utilities

The safety and convenience of the general public and residents of the area would be provided for at all times. Any necessary relocation of utilities, water, sewer, telephone, etc., would be accomplished without long term interruption of services. All other required construction functions would be accomplished in a timely and orderly fashion so that disruptions are negligible, short in duration, and do

not compromise safety. All other impacts from construction are considered in terms of the resource affected.

6. Underground Storage Tanks/Hazardous Waste Sites

No National Priorities List Sites, which are hazardous waste sites, exist in Bibb County (USEPA, 2009b). Further, there are no known underground storage tanks located within the project area (GEPD, 2009).

G. Affected Environment and Effects on NPS Resources[4]

1. Visitor Use and Experience/Recreation

DO-12, the Director's Order that directs NPS on implementing NEPA, requires NEPA documents to include consideration of visitor use and experience as well as recreation. Section 8.2 of the 2006 *Management Policies* also directs NPS to consider this resource in its activities (NPS, 2010b).

The OCMU currently offers year-round recreational and educational opportunities, and for the past 5 years has averaged 125,211 visitors annually (NPS, 2010a; NPS, No date). The proposed trail, which would be ADA compliant, extends the existing network of approximately six miles of trails within the 702-acre OCMU. The educational program covers the 12,000 years of proven history at the site including mounds. Partnerships with twelve Native American Tribes enhance the interpretation and education for park visitors (NPS, 2007).

Build Alternative

Direct Effects

Disruptions to visitor use of existing OCMU trails during construction of the proposed extension would be negligible and short-term. There would be negligible disruption of transportation from the

[4] These sections are required to be analyzed per DO-12 direction.

construction of this project due to its small size and its separation from the larger transportation network, which means little traffic congestion and delays for visitors and the surrounding community. The build alternative would enhance visitor use and experience and recreation by offering a new trail and views as well as access to the southwestern portion of OCMU. This would be an improvement for this resource.

Although the proposal includes approximately 1.2 miles of trail extension with no new interpretation, the new trail would somewhat increase visitor use on the existing five miles of trails, which also have interpretative opportunities. Accordingly, the proposed trail could increase visitor use to OCMU and could encourage longer visits at OCMU by those already visiting. This increase in visitor activity throughout OCMU would likely be at a level that is readily apparent but not obtrusive.

There would be long-term beneficial impacts to visitor use; thus, the direct effects to visitor use and recreation from implementing this alternative would be minor, long-term, and beneficial due to the introduction of a trail providing access to the southwestern portion of OCMU and connecting planned and existing trails.

Indirect Effects

Since this trail would link to other proposed and existing trails, the visitor use and experience would be improved. However, there are no planned interpretative facilities, such as signs, or other enhancements for the project area, such as park benches. The project would not induce other park improvements as it is only a 1.2-mile trail. Therefore, there would be no indirect effects (negligible impacts) to visitor use and experience and recreation.

Cumulative Effects

As there are no similar projects planned for OCMU, it can be assumed that the area would continue to be managed by NPS in a manner consistent with the mission or purpose of the park, with the additional benefit of the proposed project providing a minor improvement to recreational opportunities. The Otis Redding Loop Trail is going out to bid in 2011 or 2012 to extend the existing Ocmulgee Heritage Trail

northwest of the proposed project to the Otis Redding Bridge. This extension would also improve access to the OCMU. Any increase in noise from existing sources, such as I-16 traffic, would be negligible and unlikely to have a measurable effect on visitor use or recreation in the OCMU. Therefore, cumulative impacts to visitor use and recreation from ongoing activities and the incremental contribution of the proposal are expected to be minor, long-term and beneficial due to this new trail increasing the available recreational opportunities.

Conclusion

Under this alternative, an approximately 1.2-mile trail extension would occur. This would constitute an improvement to visitor use and experience/recreation as it would allow access to the southwestern portion of OCMU. The direct and cumulative effects would be minor, long-term and beneficial due to the introduction of a new trail segment connecting existing trails and providing access to the southwestern part of OCMU. No indirect effects (negligible impact) would be expected as a result of the proposed project.

No-Build Alternative

Direct Effects

Under the no-build alternative, no extension would be created, and the existing trail network would continue, which would not represent change in recreational opportunities and to visitor use and experience. Given the visitor use demand, the lack of a trail in the southwestern portion of the OCMU may cause some inconveniences and dissatisfaction by visitors, but more likely it would represent a lost opportunity for recreation. Overall, the lack of accessibility to the southwestern portion of OCMU would be a minor cause for visitor dissatisfaction as it does not prevent recreational opportunities in the southwestern portion of OCMU. Further, increased visitation could possibly cause congestion on the existing trails in the future. Direct effects to this resource from implementing this alternative would be long-term, minor, local, and adverse.

Indirect Effects

Under this alternative, there would be no new activities, so no indirect impacts would occur.

Cumulative Effects

The Otis Redding Loop Trail could provide the area's visitors with an opportunity for recreation near the Ocmulgee River. However, under the no-build Alternative this opportunity would not be provided at OCMU for its visitors. It can be assumed that the area would continue to be managed by NPS in a manner that is consistent with the mission or purpose of the park without the proposed project. This includes interpretation that benefits visitor use and experience, but this would not represent a change from the current situation. Increased visitation could possibly cause congestion on the existing trails in the future. Thus, cumulative impacts would be long-term, minor, local, and adverse.

Conclusion

Under this alternative, the proposed expansion would not occur. This would not improve the accessibility of the southwestern portion of OCMU. The lack of accessibility in this portion of OCMU would be a minor cause of dissatisfaction in visitor use and experience/recreation as it does not allow for recreational opportunities in the southwestern portion of OCMU. Thus, direct and cumulative impacts are long-term, minor, local, and adverse. There would be no indirect impacts.

2. Human Health and Safety

Public safety and health is one of the considerations for the project's significance (40 CFR §1508.27) (NPS, 2010b). Additionally, NPS evaluates impacts to employee safety and visitor safety per direction of DO-12. Two groups of public safety concerns with this project exist: trail construction workers/employees and subsequent users of the trail.

Build Alternative

Direct Effects

The NPS employees, maintenance workers, and construction workers would be subject to the same types of health risks generally associated with their professions. Industry standards and the Occupational Safety and Health Act (29 CFR Parts 1900-2400) would be followed including restricting the construction area to employees and necessary personnel as well as donning appropriate safety equipment, such as safety glasses and hearing protection. Visitors would be restricted from access to the constructions site until the trail is completed. Therefore, overall impacts to human health and safety would be negligible and short-term.

Indirect Effects

Post-construction, visitors would only be subject to the same risks (tripping, sunburn, dehydration, etc.) that are typically associated with park visitation during operation. Due to the increased trail length and the trails location in an outdoor environment, visitors would be exposed to more opportunities to experience such hazards and with no trail amenities such as shelters, water fountains, etc… minor indirect effects could occur on human health and safety as a result of construction of the proposed project. These effects would most likely be considered minor and long-term in duration as the potential hazards would be present for the life of the trail.

Cumulative Effects

Construction of the proposed Otis Redding Loop Trail may occur during the same time-frame as the proposed project. However, this is also a small trail expansion with limited amenities, so its impacts would be similar to the Walnut Creek Extension. Completion of the overall trail network would likely increase the trails use and provide more access points for users. The increase in access points could be considered a beneficial, albeit minor, long-term cumulative effect on human health and safety for the overall trail network. Conversely, increased trail length with no additional amenities could also increase the risk for accidents, dehydration, or sunburn due to the likely longer exposure to users. These risks would be considered a minor, long-term cumulative effect that could be considered a beneficial or adverse impact.

Conclusion

Construction of the proposed project would have negligible direct effects (negligible impacts per NPS language), minor and long-term indirect and cumulative effects as a result of the increased length of the trail and the resultant associated hazards present for the life of the trail.

No-Build Alternative

Direct Effects

Construction of the proposed trail extension would not occur and changes to human health and safety would not differ from existing conditions; therefore, there would be no direct effect (negligible impacts).

Indirect Effects

No indirect effects (negligible impacts) would occur to human health and safety as a result of not constructing the proposed project.

Cumulative Effects

Construction of the proposed project would not occur and therefore the proposed connection between the planned Otis Redding Loop Trail and the existing trail network within the OCMU would not be completed. It is not reasonable to assume that any cumulative effects to human health and safety could be attributed to the no-build alternative for the proposed project and given that there are no direct or indirect effects from the no-build alternative, there would be no cumulative effects (negligible impacts).

Conclusion

The no-build alternative for the proposed project would not have direct, indirect, or cumulative effects on human health and safety (negligible impacts).

3. Visual Resources

Section 4.7 of NPS's 2006 *Management Policies* addresses visual resources and states that scenic views and visual resources are highly valued associated characteristics (NPS, 2010b).

Build Alternative

Direct Effects

Construction would remove and disturb some vegetation immediately adjacent to the proposed trail on the OCMU. This disturbance would detract from the immediate view surrounding the proposed trail. However, construction would be temporary, and the removed vegetation would be replaced with native species. The trail design would be compatible with the area's view and use as a recreational area. Vegetation and distance would shield from view the construction and operation of the trail from other locations, which would reduce potential objections from observers. The visual resources ultimately would be improved as a direct effect of the proposed project, due to the increased amount of the park accessible to the park's visitors as a result of the trail extension. Therefore, direct impacts as a result of construction of the proposed project would represent minor, short- and long-term impacts, beneficial impact on visual resources.

Indirect Effects

Indirect effects (negligible impacts) on the visual resources within the park are not expected as a result of the proposed project.

Cumulative Effects

Construction of the proposed Otis Redding Loop Trail may occur during the same time-frame as the proposed project. However, this is also a small trail expansion with limited amenities, so its impacts would be similar to the Walnut Creek Extension. Completion of the overall trail network would likely increase the trails use and provide a longer trail network for users of the trails and park. As a result of a longer, more interconnected trail network, visual resources would be cumulatively affected due to the increased amount of park lands accessible to the trail users. These cumulative effects would likely be minor, short- and long-term impacts that would be considered beneficial.

Conclusion

Construction of the proposed project would create more opportunities for users of the park to appreciate the visual resources. The build alternative for the proposed project would have minor, short- and long-term direct and cumulative effects on visual resources. These effects would be considered beneficial. No indirect effects are expected to visual resources within the park as a result of the proposed project (negligible impacts).

No-Build Alternative

Direct Effects

Construction of the proposed trail extension would not occur and changes to visual resources within the park would not differ from existing conditions; therefore, there would be no direct effect (negligible impacts).

Indirect Effects

No indirect effects (negligible impacts) would occur to visual resources as a result of not constructing the proposed project.

Cumulative Effects

Construction of the proposed project would not occur and therefore the proposed connection between the planned Otis Redding Loop Trail and the existing trail network within the OCMU would not be completed. It is not reasonable to assume that any cumulative effects to visual resources could be attributed to the no-build alternative for the proposed project and given that there are no direct or indirect effects from the no-build alternative, there would be no cumulative effects (negligible impacts).

Conclusion

No direct, indirect, or cumulative effects (negligible impacts) to visual resources within the park would be expected as a result of not implementing the build alternative for the proposed project.

4. Park Operations

NPS requires analysis of a proposed project on its staffing, operations, facilities, and equipment as well as visitor and employee safety at its parks (NPS, 2010b). Ocmulgee Heritage Trail, Limited Liability Corporation (LLC), not NPS, is funding the construction of the proposed trail.

Build Alternative

Direct Effects

NPS would continue to own the portion of the proposed trail on NPS land as well as maintain that portion of the proposed trail. This trail extension adds 6,500 feet or 1.2 miles to the five miles of current trails at OCMU. The increased time and money to maintain this extension would be a direct impact to park operations; however, it would be minor in relation to the overall budget of the OCMU and the existing trail maintenance regime. The direct effects would be considered long-term in nature since they would last for the life of the trail.

Indirect Effects

No indirect effects (negligible impacts) on the park operations are expected as a result of the proposed project.

Cumulative Effects

The OCMU has approximately five miles of existing trails, a museum and other structures and facilities to maintain. Although the proposed trail is expected to add additional trail length to the existing trails within the park that would need to be maintained, the expected expenditure of time and money for maintenance has been researched and deemed to be minor in relation to the overall park budget. Therefore, no cumulative effects (negligible impacts) on park operations are expected to occur as a result of the interaction of the proposed project on the existing operations of the park.

Conclusion

Construction of the proposed project would require additional monies be available in the OCMU budget for maintenance of the trail and would required additional time from the OCMU staff to perform maintenance operations. The build alternative for the proposed project would have minor, long-term direct effects on park operations. These effects would not be considered adverse. No indirect or cumulative effects are expected to park operations as a result of the proposed project (negligible impacts).

No-Build Alternative

Direct Effects

Construction of the proposed trail extension would not occur and changes to park operations would not differ from existing conditions; therefore, there would be no direct effect (negligible impacts).

Indirect Effects

No indirect effects (negligible impacts) would occur to park operations as a result of not constructing the proposed project.

Cumulative Effects

Construction of the proposed project would not occur and therefore the proposed connection between the planned Otis Redding Loop Trail and the existing trail network within the OCMU would not be completed. It is not reasonable to assume that any cumulative effects to park operations could be attributed to the no-build alternative for the proposed project and given that there are no direct or indirect effects from the no-build alternative, there would be no cumulative effects (negligible impacts).

Conclusion

No direct, indirect, or cumulative effects (negligible impacts) to park operations would be expected as a result of not implementing the build alternative for the proposed project.

5. Soils

No federal laws pertain specifically to soils. However, Section 4.8 of NPS' 2006 *Management Policies* defines soils as integral to maintaining the park's natural systems (NPS, 2010b). According to the NRCS Bibb County Soil Survey, the soils in the project area are Congaree silt loam. Congaree silt loams are well-drained, deep soils (NRCS, 2002). BMPs would be implemented during construction, such as wetting down exposed soils or laying down straw to prevent erosion. Once the new trail is open to the public, users would be encouraged to remain on the trail in order to prevent erosion and compaction of soil. Furthermore, the trail material would minimize erosion from the pedestrian traffic. As such, the proposed project would likely cause negligible impacts to soils. No further assessment of these resources is required.

Build Alternative

Direct Effects

The proposed 6,500 foot trail extension would directly affect the soil due to the required earth moving activities and site prep associated with the construction of the trail and pedestrian bridge. Congaree soils are fluvial soils formed from the deposition of sediment and due to the projects location in an active floodplain; the soils are still actively forming due to occasional flooding. Soil disturbance would occur as a direct result of construction of the proposed project; however, between plans to follow existing grade for as much of the trail as possible and the fact that Congaree soils are still actively being formed; the direct effects would be minor, adverse, and likely short-term in nature.

Indirect Effects

Construction of the proposed project is not expected to induce any changes within the study area that could affect the park's soils. No indirect effects (negligible impacts) on the soils within the park are expected as a result of the proposed project.

Cumulative Effects

Construction of the proposed Otis Redding Loop Trail may occur during the same time-frame as the proposed project. The proposed project would eventually tie-in to the Otis Redding Loop Trail, which

is another proposed trail project that follows the Ocmulgee River floodplain. Due to location, project similarity, and similar construction types, impacts on soils for the two projects would be expected to be similar. No cumulative effects from interactions between the proposed project and the Otis Redding Loop Trail project or any other potential projects within the park would be expected to be significant. Therefore, no cumulative effects (negligible impacts) on soils are expected to occur.

Conclusion

Construction of the proposed project would require soil disturbance to occur. The build alternative for the proposed project would have minor, short-term direct effects on soils. These effects would not be considered adverse. No indirect or cumulative effects are expected to occur to the active floodplain soils as a result of the proposed project (negligible impacts).

No-Build Alternative

Direct Effects

Construction of the proposed trail extension would not occur and soil conditions would not differ from existing conditions; therefore, there would be no direct effect (negligible impacts).

Indirect Effects

No indirect effects (negligible impacts) would occur to soils as a result of not constructing the proposed project.

Cumulative Effects

Construction of the proposed project would not occur and therefore the proposed connection between the planned Otis Redding Loop Trail and the existing trail network within the OCMU would not be completed. It is not reasonable to assume that any cumulative effects to soils could be attributed to the no-build alternative for the proposed project and given that there are no direct or indirect effects from the no-build alternative, there would be no cumulative effects (negligible impacts).

Conclusion

No direct, indirect, or cumulative effects (negligible impacts) to park operations would be expected as a result of not implementing the build alternative for the proposed project.

6. Vegetation

Beyond the ESA, no federal laws address general vegetation. However, in Section 4.4 of NPS' 2006 *Management Policies* vegetation is defined as integral to maintaining the park's natural ecosystems (NPS, 2010b). Field surveys were conducted between April 29 and June 26, 2009. Approximately 90% of the project area is mixed hardwoods including hackberry (*Celtis occidentalis*), tree-of-heaven (*Ailanthus altissima*), box-elder (*Acer negundo*), American sycamore (*Plantanus occidentalis*), and river birch (*Betula nigra*), while the dominant understory species was Chinese privet (*Ligustrum sinense*). The remaining 10% of the project area is maintained grass and utility easement. Considering the high amount of invasive species within the mixed hardwood community and the proximity to heavily urbanized areas (e.g. I-16 and City of Macon), the habitats offered by the project area are of low quality from a natural community and wildlife perspective.

Build Alternative

Direct Effects

Vegetation would be disturbed or removed at the site during construction of the proposed project, but the same species occur nearby and the vegetation is of low quality from a natural community and wildlife perspective. Further, some of the removed vegetation would be replaced with native species and the increased impervious surface area would be negligible given the rest of OCMU. Direct effects are expected to occur; however, they are expected to be negligible in comparison to the overall vegetative community in the OCMU. Any alterations in vegetation would likely be minor, short-term, local and beneficial, due to the high amount of invasive plants and the overall low quality habitat the current vegetation provides.

Indirect Effects

Construction of the proposed trail project as mentioned above would require that some vegetation be removed during construction and that native vegetation would replace the removed vegetation post-construction. Visitors may introduce invasive species by walking off the trail between infested and not infested areas or arrive with infested equipment. NPS encourages people to stay on trails to help reduce the introduction and spread of invasive species. Given the heavy infestations of invasive species in the surrounding area, these possible pathways would be expected to result in indirect effects that would be considered minor, local, long-term, and adverse.

Cumulative Effects

Construction of the proposed Otis Redding Loop Trail may occur during the same time-frame as the proposed project. The proposed project would eventually tie-in to the Otis Redding Loop Trail, which is another proposed trail project that follows the Ocmulgee River floodplain. Due to location, project similarity, and similar construction types, impacts on vegetation for the two projects would be expected to be similar. No cumulative effects from interactions between the proposed project and the Otis Redding Loop Trail project or any other potential projects within the park would be expected to be significant. Therefore, cumulative effects on vegetation would be expected to be minor, local, long-term, and adverse due to increased pathways for invasive species infestations to occur.

Conclusion

Construction of the proposed project would require vegetative clearing to occur. The build alternative for the proposed project would have minor, short-term, local, beneficial direct effects on the vegetation within the project area. Indirect and cumulative effects are expected to be minor, long-term, local and adverse in nature.

No-Build Alternative

Direct Effects

Construction of the proposed trail extension would not occur and vegetative communities would not differ from existing conditions; therefore, there would be no direct effect (negligible impacts).

Indirect Effects

No indirect effects (negligible impacts) would occur to vegetation as a result of not constructing the proposed project.

Cumulative Effects

Construction of the proposed project would not occur and therefore the proposed connection between the planned Otis Redding Loop Trail and the existing trail network within the OCMU would not be completed. It is not reasonable to assume that any cumulative effects to vegetation could be attributed to the no-build alternative for the proposed project and given that there are no direct or indirect effects from the no-build alternative, there would be no cumulative effects (negligible impacts).

Conclusion

No direct, indirect, or cumulative effects (negligible impacts) to vegetation would be expected as a result of not implementing the build alternative for the proposed project.

7. Wildlife

Section 4.4 of NPS' 2006 *Management Policies* defines wildlife as an integral part of maintaining the park's natural ecosystems (NPS, 2010b). Given the urban nature of this project, especially the close proximity to I-16, there was little sign of wildlife during the field surveys between April 29 and June 26, 2009. Raccoon tracks were found along the edges of S1, S2, and the Ocmulgee River. A black racer (*Coluber constrictor*) was found near the edge of S1. There were some other areas that appeared to be utilized for deer beds; however, no deer were actually identified during the field work for the phase II ecology report. In consideration of the high amount of invasive species within the mixed hardwood

community and proximity to heavily urbanized areas (e.g. I-16 and City of Macon), the habitats offered by the project area are of low quality from a natural community and wildlife perspective.

Build Alternative

Direct Effects

The OCMU is located on a 702 acre tract of land bordering the Ocmulgee River. With little wildlife observed during the field study and the poor quality habitat of the small project area; impacts to wildlife would be negligible with the possibility of mobile wildlife moving to less disturbed areas within the OCMU during construction. Further, any mortality of less mobile species should not affect the viability of the species given the little sign of wildlife and small project area. Direct effects on wildlife would be negligible and short-term.

Indirect Effects

The proposed project occurs within a heavily used national park, surrounded by an urbanized area. No induced changes to the area surrounding the proposed project are expected to occur as a result of the proposed project which would affect wildlife. The alteration in vegetative communities could potentially be a benefit to wildlife in the area, but would likely be negligible due to the limited amount of area involved. No indirect effects (negligible impacts) are expected on wildlife as a result of the proposed project.

Cumulative Effects

Construction of the proposed Otis Redding Loop Trail may occur during the same time-frame as the proposed project. The proposed project would eventually tie-in to the Otis Redding Loop Trail, which is another proposed trail project that follows the Ocmulgee River floodplain. Due to location, project similarity, and similar construction types, impacts on wildlife for the two projects would be expected to be similar. No cumulative effects from interactions between the proposed project and the Otis Redding Loop Trail project or any other potential projects within the park would be expected to be significant. Therefore, no cumulative effects (negligible impacts) on wildlife are expected to occur.

Conclusion

Construction of the proposed project would alter the existing wildlife habitat due to vegetative clearing and the addition of the trail. The build alternative for the proposed project would have negligible, but possibly beneficial direct effects on the vegetation within the project area. These effects would not be considered adverse. Neither indirect or cumulative effects are expected to be significant as a result of the proposed project (negligible impacts).

No-Build Alternative

Direct Effects

Construction of the proposed trail extension would not occur and wildlife would not be affected; therefore, there would be no direct effect (negligible impacts).

Indirect Effects

No indirect effects (negligible impacts) would occur on wildlife as a result of not constructing the proposed project.

Cumulative Effects

Construction of the proposed project would not occur and therefore the proposed connection between the planned Otis Redding Loop Trail and the existing trail network within the OCMU would not be completed. It is not reasonable to assume that any cumulative effects on wildlife could be attributed to the no-build alternative for the proposed project and given that there are no direct or indirect effects from the no-build alternative, there would be no cumulative effects (negligible impacts).

Conclusion

No direct, indirect, or cumulative effects (negligible impacts) on wildlife would be expected as a result of not implementing the build alternative for the proposed project.

8. Short-term Uses versus Long-term Sustainability

NEPA regulations 40 CFR§1502.16 call for a discussion of whether an action would make use of resources in the short-term such that their long-term, sustainable use would be jeopardized. The no-build alternative is likely to continue to protect the cultural and historic resources of OCMU in the long-term. The build alternative is likely to offer more recreational opportunities for the OCMU visitors that would increase the appreciation for the site, and create a more sustainable use.

Build Alternative

Direct Effects

Construction of the proposed project would offer more recreational opportunities for the OCMU visitors, as well as providing greater accessibility to areas of the OCMU that were not publicly accessible previously. No direct effects (negligible impacts) on long-term sustainability would occur as a result of the construction of the proposed project.

Indirect Effects

With increased accessibility and greater recreational opportunities for the OCMU, construction of the proposed project could indirectly be beneficial over the long-term to the parks sustainability as a result of the potential for increased appreciation of the site, the amenities within the park, and its archaeological and historical resources. Conversely, increased traffic through an area rich in archaeological resources could be detrimental if not properly managed; however, due to the depth of sedimentation over these resources, they likely would not be affected by increased visitor use in the area. Indirect effects to the long-term sustainability would be expected to be primarily minor, long-term and beneficial.

Cumulative Effects

Construction of the proposed Otis Redding Loop trail may occur during the same time-frame as the proposed project. The proposed project would eventually tie-in to the Otis Redding Loop Trail, which is another proposed trail project that follows the Ocmulgee River floodplain. The Otis Redding Loop Trail is not located within the OCMU; however, it would provide greater accessibility and would increase the

function of the overall trail network, which would be a minor, long-term, beneficial cumulative effect on the long-term sustainability of the park.

Conclusion

Construction of the proposed project would likely be a benefit for the long-term sustainability of the park if properly managed. It would create no direct effects to sustainability, but would create minor, beneficial, long-term, indirect and cumulative effects to long-term sustainability.

No-Build Alternative

Direct Effects

Construction of the proposed trail extension would not occur and long-term sustainability of the OCMU would not be affected; therefore, there would be no direct effect (negligible impacts).

Indirect Effects

Construction of the proposed trail extension would not occur and long-term sustainability of the OCMU would not be affected. No indirect effects (negligible impacts) would occur to long-term sustainability of the OCMU as a result of not constructing the proposed project.

Cumulative Effects

Construction of the proposed project would not occur and therefore the proposed connection between the planned Otis Redding Loop Trail and the existing trail network within the OCMU would not be completed. It is not reasonable to assume that any cumulative effects to long-term-sustainability could be attributed to the no-build alternative for the proposed project and given that there are no direct or indirect effects from the no-build alternative, there would be no cumulative effects (negligible impacts).

Conclusion

No direct, indirect, or cumulative effects (negligible impacts) to long-term sustainability would be expected as a result of not implementing the build alternative for the proposed project.

H. Permits/Variances

1. U.S. Coast Guard Permit

A U.S. Coast Guard Permit is not required for this project because no waters under Coast Guard jurisdiction are involved.

2. Forest Service/USACE Land

The proposed project would not occur on United States Forest Service (USFS) or USACE owned properties.

3. Section 404

In accordance with the USACE Nationwide Permit Program, Regional conditions thereof, and the USACE Savannah District SOP, no compensatory mitigation is required for this project. This project is exempt from mitigation relating to the minor impacts to S1 (only jurisdictional USACE Water of the U.S. within project area) due to the pile supported nature of the bridge span and the minimal amount of streambank disturbance (12 linear feet) (See Section III(E)3:Waters of the U.S. for more details). In accordance USACE Savannah District Regional Condition A6, a pre-construction notification requesting the use of Nationwide Permit #18 for the minor S1 impact will be necessary and issuance needed prior to construction. No national or regional conditions of Nationwide Permit #18 require mitigation for these 12 linear feet of stream impact.

4. Tennessee Valley Authority

There is no Tennessee Valley Authority (TVA) land in the project area; therefore, no TVA permit would be required for the proposed project.

5. Stream Buffer Variance

The project necessitates the crossing of one stream that is considered a state water. The S1 crossing is a perennial, non-tidal, warm water stream. As S1 is a state water, the GEPD regulates activities within the 25-foot warm water vegetative buffer of S1; however given the nature of the project a buffer variance

will not be required under the regulation outlined in the Georgia Erosion and Sedimentation Act of 1975. Due to the project being for a "roadway drainage structure" (i.e., bridge) and no other portion of the project area requiring buffer zone impacts other than this crossing, the project is exempt from needing a buffer variance [O.C.G.A. § 12-7-6 (2009)].

6. Coastal Zone Management Coordination

Bibb County is not a coastal county, so no coastal zone management coordination is necessary.

7. NPDES Permit

The proposed project limits would exceed the 1 acre threshold, and would therefore require a NPDES permit prior to construction activities. Total acreage of the project will be noted on the construction drawings. The NPDES permit requirement has been included in the Environmental Commitments table (attached).

8. Special Use Permit

The trail would be maintained by NPS; therefore, upon completion of the NEPA process, a Special Use Permit would be issued by the park granting access for trail construction.

COORDINATION AND COMMENTS

During the early project development, a number of agencies, including local governments and local planning agencies, were contacted and asked for their comments on the proposed action. Copies of comments received from the responding agencies appear in Appendix A, Correspondence.

GDOT will advertise the availability of this environmental assessment. In addition, the NPS will publish an article about the proposed project in the OCMU newsletter. Any comments concerning this environmental assessment should be addressed to the following:

Mr. Glenn Bowman, P.E.	or	Mr. Rodney N. Barry, P.E.
State Environmental Administrator		Division Administrator
Georgia Department of Transportation		Federal Highway Administration
600 West Peachtree Street		Atlanta Federal Center
16th Floor		61 Forsyth Street, S.W.
Atlanta, GA 30308		Suite 17 T100
		Atlanta, GA 30303-3104

After review of comments received during the comment period, a decision will be made by the responsible officials concerning which alternative will be selected.

IV. LIST OF PREPARERS AND REVIEWERS[5]

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[5] This is a NPS requirement per DO 12.

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(USEPA, 2009b). United States Environmental Protection Agency. 3 June 2009. National Priorities List Sites in Georgia. Accessed at: http://www.epa.gov/superfund/sites/npl/ga.htm. September 21, 2009.

(Wheeler, 2010). Tori Wheeler, Project Engineer, Cranston Engineering Group, P.C. Personal Communication. *OHT: Walnut Creek.* August 18, 2010.

(Wheeler, 2009a). Tori Wheeler, Project Engineer, Cranston Engineering Group, P.C. Personal Communication. *Re: Requests for Information.* September 21, 2009.

(Wheeler, 2009b). Tori Wheeler, Project Engineer, Cranston Engineering Group, P.C. Personal Communication. *RE: Clarifications about the Project (CEG # 2008-0080).* August 4, 2009.

VI. GLOSSARY[6]

Alluvial – Sediment transported and deposited in a delta or riverbed by flowing water.

Alternative – A reasonable way to fix the identified problem or satisfy the stated need (40 CFR 1500.2).

Ambient Air – Any unconfined portion of the atmosphere; open air, surrounding air.

Anthropogenic – Human made

Archaeological Resources – Any material of human life or activities that is at least 100 years old, and that is of archaeological interest.

Area of Potential Effects (APE) – The geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties. The APE is influenced by the scale and nature of the undertaking and may be different for different kinds of effects caused by the undertaking.

Attainment Areas – An area that has been designated by the U.S. Environmental Protection Agency and the appropriate state air quality agency as not exceeding any of the National Ambient Air Quality Standards.

Best Management Practice (BMP) – Methods that have been determined to be the most effective, practical means of preventing or reducing pollution from nonpoint sources.

Bitumen – Mixture of flammable hydrogen and carbon compounds with other substances generally from coal or petroleum.

Brackish Wetlands – Wetlands where water has more salinity than fresh water, but not as much as seawater.

Contamination – Introduction into water, air, and soil of microorganisms, chemicals, toxic substances, wastes, or wastewater in a concentration that makes the medium unfit for its next intended use.

Criteria Pollutants – The Clean Air Act requires USEPA to set standards for six common air pollutants. These commonly found air pollutants (also known as "criteria pollutants") are found all over the United States. They are particle pollution (often referred to as particulate matter), ground-level ozone, carbon monoxide, sulfur oxides, nitrogen oxides, and lead.

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[6] This is a NPS requirement per DO 12. The glossary only contains technical terms.

Critical Habitat – A specific geographic area(s) that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection. Critical habitat may include an area that is not currently occupied by the species but that will be needed for its recovery.

Cultural Resources – Any building, site, district, structure, object, data, or other material significant in history, architecture, archeology, or culture. Cultural resources include: historic properties as defined in the National Historic Preservation Act; cultural items as defined in the Native American Graves Protection and Repatriation Act; archeological resources as defined in the Archeological Resources Protection Act; sacred sites as defined in Executive Order 13007, Protection and Accommodation of Access To "Indian Sacred Sites," to which access is provided under the American Indian Religious Freedom Act; and collections.

Cumulative Impacts – Impacts on the environment which result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions, regardless of which agency (Federal or non-Federal) or person undertakes such other actions; effects resulting from individually minor, but collectively significant, actions taking place over a period of time.

Direct Effects – Impacts that are caused by, and coincide in time and place, with the action

Ecosystem – A dynamic and interrelating complex of plant and animal communities and their associated non-living environment.

Encroachment – Expansion into an area not previously occupied.

Endangered Species – A species that is threatened with extinction throughout all or a significant portion of its range.

Environmental Assessment (EA) – A concise public document, prepared in compliance with the National Environmental Policy Act, that briefly discusses the purpose and need for an action, alternatives to such action, and provides sufficient evidence and analysis of the impacts to determine whether to prepare an Environmental Impact Statement or Finding of No Significant Impact (40 CFR 1508.9).

Environmental Justice – The confluence of social and environmental movements, which deals with the inequitable environmental burden born by groups such as racial minorities, women, or residents of developing nations.

Environmentally Preferred Alternative – The alternative that causes the least damage to the biological and physical environment; it also means the alternative which best protects, preservers, and enhances historic, cultural, and natural resources.

Executive Order (EO) – Official proclamation issued by the President that may set forth policy or direction or establish specific duties in connection with the execution of federal laws and programs.

Finding of No Significant Impact (FONSI) – A document prepared in compliance with the National Environmental Policy Act, supported by an environmental assessment, that briefly presents why a Federal action will have no significant effect on the human environment and for which an environmental impact statement, therefore, will not be prepared (40 CFR 1508.13).

Floodplain – The lowlands and relatively flat areas adjoining inland waters, including flood prone areas, which are inundated by a flood.

Fugitive Dust – Particulate matter composed of soil, uncontaminated from pollutants, resulting from industrial activity. Fugitive dust may include emissions from haul roads, wind erosion of exposed soil surfaces, and other activities in which soil is either moved or redistributed.

Habitat – The natural environment of a plant or animal. An animal's habitat includes the total environmental conditions for food, cover, and water within its home range.

Hardwood – A broad-leaved, deciduous tree as distinguished from a conifer. Trees belonging to the botanical group of angiospermae.

Hazardous Waste – A waste or combination of wastes which, because of its quantity, concentration, or physical, chemical, or infectious characteristics, may cause or significantly contribute to an increase in mortality or an increase in serious, irreversible illness, or pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

Historic Site – The site of a significant event, prehistoric or historic occupation or activity, or structure or landscape whether extant or vanished, where the site itself possesses historical, cultural, or archaeological value apart from the value of any existing structure or landscape (NPS-28, Cultural Resources Management Guideline).

Hydric – Relates to moisture. For example, hydric soils are soils that are so saturated with water that they have oxygen free zones.

Hydrologic Unit Code (HUC) – The eight digit code in the standardized watershed classification system by the United States Geological Survey.

Hydrology indicators – observed inundation, soil saturation, water marks, drift lines, sediment deposits, and drainage patterns in wetlands that indicate a site has a continued wetland hydrologic regime

Hydrophytes – Water loving plants.

Hydrophytic – Water loving

Impairment – is an impact that, in the professional judgment of the responsible NPS manager, would harm the integrity of park resources or values, including the opportunities that otherwise would be present for the enjoyment of those resources or values.

Impervious– Not permitting passage (such as a fluid) through its substance.

Indirect effects – Impacts that are caused by the action and are later in time but are still reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems including ecosystems.

Invasive Species – An alien (nonnative to the ecosystem) species whose introduction does or is likely to cause economic or environmental harm or harm to human health.

Loam – Soils make up of sand, silt, and clay in equal proportions

Metropolitan Planning Organizations – An agency created by federal law to provide local input for urban transportation planning and allocating federal transportation funds to cities with populations of greater than 50,000.

Minority – Individual(s) who are members of the following population groups: American Indian or Alaskan Native; Asian or Pacific Islander; African American, not of Hispanic origin; or Hispanic.

Minority Population – Identified where either the affected area's minority population exceeds 50 percent or the affected area's minority population percentage is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis.

Mitigation – Actions taken to improve site conditions by limiting, reducing or controlling adverse impacts to the environment.

National Ambient Air Quality Standards – Standards established on a State or Federal level that define the limits for airborne concentrations of designated "criteria" pollutants (e.g., nitrogen dioxide, sulfur dioxide, carbon monoxide, particulate matter, ozone, lead) to protect public health with an adequate margin of safety (primary standards) and to protect public welfare, including plant and animal life, visibility, and materials (secondary standards).

National Register of Historic Places (NRHP) – The comprehensive list of districts, sites, buildings, structures, and objects of national, regional, state, and local significance in American history, architecture, archaeology, engineering, and culture kept by the National Park Service under authority of the National Historic Preservation Act of 1966.

Native – A species that historically occurs in an area or one that was not introduced (brought) from another area.

Nonattainment Area – An area that has been designated by the U.S. Environmental Protection Agency and the appropriate state air quality agency as exceeding one or more National Ambient Air Quality Standards.

Particulate Matter/Particulates – Small particles in the air generally considered to be pollutants. These may include dust, dirt, soot, smoke, and liquid droplets. $PM_{2.5}$ is particulate matter that is less than 2.5 microns in diameter.

Perennial Stream – A stream that flows throughout the year.

Low-income – Per the Office of Management and Budget's Directive 14, the U.S. Census Bureau uses a set of money income thresholds that vary by family size and composition to detect who is poor. If a family's income is less than the threshold for that family, then that family, and every individual in it, is considered poor. Poverty thresholds do not vary geographically; however, they are updated annually for inflation with the Consumer Price Index. The official poverty definition counts money income before taxes and excludes capital gains and noncash benefits, such as housing, Medicaid, and food stamps.

Regional Development Center – A nonprofit that provides services to the member governments, such as consensus-building, creating partnership, and fiscal management.

Right-of-way – An easement or a privilege to pass over the land of another, whereby the holder of the easement acquires only a reasonable and common use of the property

Riparian Areas – Areas with 3-dimensional plant communities of interaction that include terrestrial and aquatic ecosystems. They extend down into the groundwater, up above the canopy, outward across the floodplain, up the near-slopes that drain to the water, laterally into the terrestrial ecosystem, and along the watercourse at a variable width.

Rookeries – A breeding place or colony of gregarious birds or animals

Runners – A slender stem with very long internodes, that arches down to the ground and propagates by producing roots and shoots at the nodes or tips.

Runoff – Non-infiltrating water entering a stream or other conveyance channel shortly after a rainfall.

Section 106 (§ 106) – This is the pre-project consultation to protect cultural resources with mainly the SHPO per National Historic Preservation Act.

Sediment – Any finely divided organic and/or mineral matter derived from rock or biological sources that have been transported and deposited by water or air.

Sedimentation – The process of depositing sediment from suspension in water.

Sensitive Receptor – An area defined as sensitive to noise, such as a hospital, residential area, school, outdoor theater, and protected wildlife species.

Shrub – A plant with persistent woody stems and relatively low growth form; usually produces several basal shoots as opposed to a single bole; differs from a tree by its low stature and not resembling a tree form.

Silt – Fine sediment suspended in stagnant water or carried by moving water that often accumulates on the bottom of rivers.

Sinuosity – A measurement of curves in a stream.

Soil Erosion – The removal and loss of soil by the action of water, ice, gravity, or wind.

Species – All organisms of a given kind; a group of plants or animals that breed together but are not bred successfully with organisms outside their group.

State Historic Preservation Officer (SHPO) – The official within each state, authorized by the state at the request of the Secretary of the Interior, to act as a liaison for purposes of implementing the National Historic Preservation Act.

Stream Buffer Variance – What is required if the 25-foot area around the state waters is encroached.

Stream Buffer Zone – A 25-foot area around streams to protect stream health.

Stream Gauge– A site along a stream where measurements of water surface elevation and/or volumetric discharge (flow) are made.

Threatened Species – A species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

Understory – The vegetative lower layer of a forest, which consists of non-woody plants, shrubs, and tree saplings.

Vegetative Buffer – An area of vegetation thick enough that it acts as a buffer to impacts.

Viewshed – Subunits of the landscape where the scene is contained by topography, similar to a watershed.

Wetlands – Areas that are inundated or saturated with surface or groundwater at a frequency and duration sufficient to support a prevalence of vegetation typically adapted for life in saturated soil, including swamps, marshes, bogs, and other similar areas.

Wetted – The ability of a liquid to maintain contact with a solid surface, resulting from intermolecular interactions when the two are brought together.

APPENDICES

APPENDIX A:

Early Coordination Correspondence

List of Recipients of Early Coordination Letters

Recipient Name	Title	Company Name 2	Company Name	Address Line 1	Address Line 2	City	State	ZIP Code
James Tillman	State Conservationist		USDA - Natural Resources Conservation Service	Robert G. Stephens Federal building	355 East Hancock Ave	Athens	GA	30601-2769
	Medical Officer		National Center for Environmental Health	4770 Buford Highway		Atlanta	GA	30341
Dara Ritter	Chief	Offices of Regional Services, Eastern Region	U.S. Geological Survey Environmental Affairs Program	12201 Sunrise Valley Drive	Mail Stop 150	Reston	VA	20192
A. Stanley Meiburg	Acting Regional Administrator		U.S. Environmental Protection Agency, Region Four	Atlanta Federal Center	100 Alabama ST S.W.	Atlanta	GA	30303-3104
Sandy Tucker		GA Ecological Services Field Office	U.S. Fish and Wildlife Service	West Park Center, Suite D	105 West Park Drive	Athens	GA	30306
Linda Poythress	Regional Environmental Officer	Regional Office of the Environment	U.S. Department of Housing and Urban Development	40 Marietta Street		Atlanta	GA	30303
Art Frederick	Acting Regional Director	Southeast Region	National Park Service	Building 1924	100 Alabama ST SW	Atlanta	GA	30303
Rick Hatten	Chief	Forestry Management	Georgia Forestry Commission	Box 819		Macon	GA	31298-4599
Vernon Ryle, III	Executive Director		Macon-Bibb County Planning and Zoning Commission	682 Cherry Street, Suite 1000		Macon	GA	31201
Samuel F. Hart, Sr.	Chairman		Bibb County Board of Commissioners	601 Mulberry Street, Suite 407		Macon	GA	31201
Bette-Lou Brown			Historic Macon Foundation	1083 Washington Avenue		Macon	GA	31201
James David			Ocmulgee National Monument	1207 Emery Highway		Macon	GA	31217
Ray Christman			Georgia Trust for Historic Preservation	1516 Peachtree Street NW		Atlanta	GA	30309
Kristina Harpst			Middle Georgia Regional Development Center	175-C Emery Highway		Macon	GA	31217
Lindsay Holliday			Caution Macon	360 Spring Street		Macon	GA	31201
Robert Reichert	Mayor		City of Macon	700 Poplar Street		Macon	GA	31201

Recipient Name	Title	Company Name 2	Company Name	Address Line 1	Address Line 2	City	State	ZIP Code
A. Todd Davison	Director	Flood Insurance & Mitigation Division	Federal Emergency Management Agency	3003 Chamblee-Tucker Road		Atlanta	GA	30341

Example Letter Sent

Cranston Engineering Group, P.C.
ENGINEERS - PLANNERS - SURVEYORS

452 ELLIS STREET, AUGUSTA, GEORGIA 30901
POST OFFICE BOX 2546, AUGUSTA, GEORGIA 30903
TELEPHONE 706-722-1588
FACSIMILE 706-722-8379
mail@cranstonengineering.com

THOMAS H. ROBERTSON, PE, AICP, RLS
JAMES B. CRANFORD, JR., PE
DENNIS J. WELCH, PE

J. CRAIG CRANSTON, PE, RLS
(RETIRED)

July 31, 2009

Ms. Sandy Tucker
Georgia Ecological Services Field Office
U.S. Fish and Wildlife Service
West Park Center, Suite D
105 West Park Drive
Athens, Georgia 30306

Re: Early Coordination Request for Project Number CSTEE-0008-00(986), Bibb County, P.I. No. 0008986 - Ocmulgee Heritage Trail: Walnut Creek Extension

Dear Ms. Tucker:

On behalf of the Georgia Department of Transportation, Ocmulgee Heritage Trail, LLC, and Macon-Bibb County, Cranston Engineering Group is in the beginning stages of project development for the above noted project. The proposal consists of an expansion from the proposed Otis Loop section of the Ocmulgee Heritage Trail to the Ocmulgee National Monument Park at Walnut Creek between Interstate-16 and the Ocmulgee River, which would serve to improve visitor access, recreation opportunities, and provide continuity in the trail system at the Ocmulgee National Monument. A small side loop near Walnut Creek and a construction access loop southeast of the railroad trestle will also be a part of the proposed expansion. The construction loop will be used to facilitate access over the drainage ditch located on the northern end of the project. A location map has been enclosed for your reference. This section of the trail will be built using Transportation Enhancement (TE) and local funds.

The trail will be 10 feet wide concrete or asphalt and will meander generally between 30 feet and 100 feet from the Ocmulgee River bank, not penetrating the 25-foot Stream Buffer. The proposed paved trail will end at the existing dirt trail in Ocmulgee National Park. There will be footbridges or culverts along the way to cross over natural drainage ways. A canopy is also proposed where the trail will cross under the Norfolk Southern Railroad trestle. Due to the sensitive nature of the Ocmulgee National Monument, construction will primarily be closely tied to existing grades.

The design for the project is being developed concurrently with environmental documentation and in compliance with applicable environmental laws and regulations. This process, developed by the Georgia Department of Transportation to make our projects responsive to social, economic, and environmental concerns, offers you the opportunity to identify site specific conditions to be addressed in the environmental assessment.

Please advise us of any known project area conditions of special concern. With your assistance, we can give these issues due consideration and integrate them into the development of the project alignment and design.

Your assistance is appreciated. If you have any questions or need additional information, please contact Melanie Nable at (404) 699-4436.

Sincerely,

CRANSTON ENGINEERING GROUP, P.C.

Tori Wheeler

Tori Wheeler

TFW /tfw/mm
Enclosure

cc: Melanie Nable, GDOT NEPA
Tom Queen, GDOT PM
Project File

Letter to NRCS

Cranston Engineering Group, P.C.
ENGINEERS - PLANNERS - SURVEYORS

452 ELLIS STREET, AUGUSTA, GEORGIA 30901
POST OFFICE BOX 2546, AUGUSTA, GEORGIA 30903
TELEPHONE 706-722-1588
FACSIMILE 706-722-8379
mail@cranstonengineering.com

THOMAS H. ROBERTSON, PE, AICP, RLS
JAMES B. CRANFORD, JR., PE
DENNIS J. WELCH, PE

J. CRAIG CRANSTON, PE, RLS
(RETIRED)

July 31, 2009

Mr. James Tillman
State Conservationist
USDA - Natural Resources Conservation Service
Robert G. Stephens Federal building
355 East Hancock Avenue
Athens, Georgia 30601-2769

Re: Early Coordination Request for Project Number CSTEE-0008-00(986), Bibb County, P.I. No. 0008986 - Ocmulgee Heritage Trail: Walnut Creek Extension

Dear Mr. Tillman:

On behalf of the Georgia Department of Transportation, Ocmulgee Heritage Trail, LLC, and Macon-Bibb County, Cranston Engineering Group is in the beginning stages of project development for the above noted project. We are requesting your determination regarding farmland impacts as defined in the National Farmland Protection Policy Act, 7 CFR Part 658. Please advise if we need to submit Form AD 1006 (Farmland Conversion Impact Rating). The proposal consists of an expansion from the proposed Otis Loop section of the Ocmulgee Heritage Trail to the Ocmulgee National Monument Park at Walnut Creek between Interstate-16 and the Ocmulgee River, which would serve to improve visitor access, recreation opportunities, and provide continuity in the trail system at the Ocmulgee National Monument. A small side loop near Walnut Creek and a construction access loop southeast of the railroad trestle will also be part of the proposed expansion. The construction loop will be used to facilitate access over the drainage ditch located on the northern end of the project. A location map has been enclosed for your reference. This section of the trail will be built using Transportation Enhancement (TE) and local funds.

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The design for the project is being developed concurrently with environmental documentation and in compliance with applicable environmental laws and regulations. This process, developed by the Georgia Department of Transportation to make our projects responsive to social, economic, and environmental concerns, offers you the opportunity to identify site specific conditions to be addressed in the environmental assessment.

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Sincerely,

CRANSTON ENGINEERING GROUP, P.C.

Tori Wheeler

TFW /tfw/mm
Enclosure

cc: Melanie Nable, GDOT NEPA
Tom Queen, GDOT PM
Project File

Letter to FEMA

Cranston Engineering Group, P.C.
ENGINEERS - PLANNERS - SURVEYORS

452 ELLIS STREET, AUGUSTA, GEORGIA 30901
POST OFFICE BOX 2546, AUGUSTA, GEORGIA 30903
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THOMAS H. ROBERTSON, PE, AICP, RLS
JAMES B. CRANFORD, JR., PE
DENNIS J. WELCH, PE

J. CRAIG CRANSTON, PE, RLS
(RETIRED)

July 31, 2009

Mr. A. Todd Davison
Director
Flood Insurance & Mitigation Division
Federal Emergency Management Agency
3003 Chamblee-Tucker Road
Atlanta, Georgia 30341

Re: Early Coordination Request for Project Number CSTEE-0008-00(986), Bibb County, P.I. No. 0008986 - Ocmulgee Heritage Trail: Walnut Creek Extension

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It is anticipated the proposed project will encroach upon regulatory floodplains or floodways. A floodplain map of the project has been enclosed for your convenience.

The design for the project is being developed concurrently with environmental documentation and in compliance with applicable environmental laws and regulations. This process, developed by the Georgia Department of Transportation to make our projects responsive to social, economic, and environmental concerns, offers you the opportunity to identify site specific conditions to be addressed in the environmental assessment.

Please advise us of any known project area conditions of special concern. With your assistance, we can give these issues due consideration and integrate them into the development of the project alignment and design. Your assistance is appreciated. If you have any questions or need additional information, please contact Melanie Nable at (404) 699-4436.

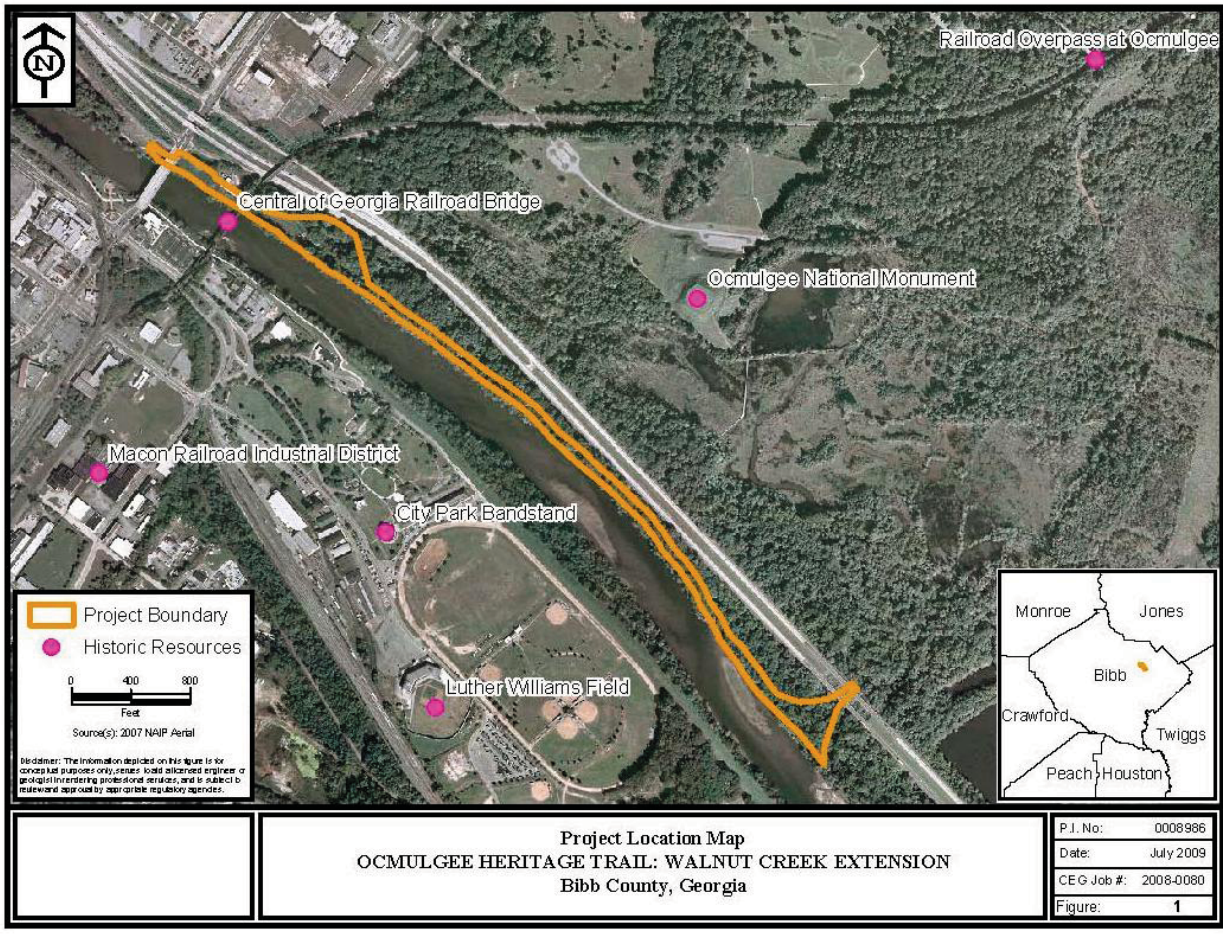
Sincerely,

CRANSTON ENGINEERING GROUP, P.C.

Tori Wheeler

TFW /tfw/mm
Enclosure

cc: Melanie Nable, GDOT NEPA
Tom Queen, GDOT PM
Project File



Project Location Map
OCMULGEE HERITAGE TRAIL: WALNUT CREEK EXTENSION
Bibb County, Georgia

P.I. No:	0008986
Date:	July 2009
CEG Job #:	2008-0080
Figure:	1

From: Nable, Melanie [mailto:mnable@dot.ga.gov]
Sent: Monday, August 31, 2009 5:04 PM
To: Tori Wheeler
Cc: pete_pattavina@fws.gov; Coppola, Christopher
Subject: Bibb Co. PI 0008986 - OHT

Tori,

Pete Pattavina from USFWS called in response to the early coordination letter that was sent for the subject project. He stated that there are two federally listed plant species that are endangered in Bibb County, the Relict trillium and the Fringed Campion. If habitat is available surveys would have to take place the last week in April. The Ocmulgee skullcap is also in that area, but it is a state listed species.

I know the ecology report was submitted to us recently from ESI; however, I don't have the contact name in from of me at the moment, so please pass this information on to them and consider it part of the official record. I'll make sure to pass this information to our ecologist once assigned.

If you have any questions, please let me know.

Thank you,

M

You can access the OEL Procedures manual through the link below:
http://wwwb.dot.ga.gov/dot/preconstruction/r-o-a-d-s/oel/html/index.html
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

Melanie Nable
NEPA
GDOT Office of Environment/Location
3993 Aviation Circle
Atlanta, GA 30336
404.699.4436 -- 404.699.4440 (f)
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

OBERT A.B. REICHERT
MAYOR

OFFICE OF THE MAYOR

City of Macon

700 POPLAR STREET
P.O. BOX 247
MACON, GEORGIA 31202-0247
(478) 751-7170
FAX (478) 751-2749

August 6, 2009

Ms. Tori Wheeler
Cranston Engineering Group, P. C.
452 Ellis Street
Augusta, Georgia 30901

RECEIVED
AUG 12 2009
Cranston Engineering Group, P.C.

Re: Early Coordination Request for Project
Number CSTEE-0008-00(986)
Bibb County, P. I. No. 0008986 – Ocmulgee
Heritage Trail: Walnut Creek Extension

Dear Ms. Wheeler:

I was pleased to receive your letter requesting that I advise you "of any known project area conditions of special concern" regarding the Ocmulgee Heritage Trail: Walnut Creek Extension. We do not have any concerns at this time.

Thank you for your letter. We are looking forward to the completion of this project.

Sincerely,

Robert A. B. Reichert
Mayor

RABR/ns

United States Department of Agriculture

NRCS

Natural Resources Conservation Service
355 East Hancock Avenue
Athens, GA 30601

August 28, 2009

Ms. Tori Wheeler
Cranston Engineering Group, P.C.
P. O. Box 2546
Augusta, Georgia 30903

Re: Early Coordination Request: for Project Number CSTEE-0008-00(986), Bibb County, P.I. No. 0008986 – Ocmulgee Heritage Trail: Walnut Creek Extension

Dear Ms. Wheeler:

This letter is in reference to your request for any known natural resource conditions of special concern for the project listed above. The following outlines our concerns with the proposed project with regards to farmland protection, and Natural Resources Conservation Service (NRCS) watershed dams and project easements.

Farmland Protection

The Farmland Protection Policy Act (FPPA) is intended to minimize the impact federal programs have on the unnecessary and irreversible conversion of farmland to nonagricultural uses. Projects are subject to FPPA requirements if they may irreversibly convert farmland (directly or indirectly) to nonagricultural use and are completed by a federal agency or with assistance from a federal agency. For the purpose of FPPA, farmland includes prime farmland, unique farmland, and land of statewide or local importance. Farmland subject to FPPA requirements does not have to be currently used for cropland. It can be forest land, pastureland, cropland, or other land, but not water or urban built-up land. It should be noted that the FPPA does not authorize the Federal Government to regulate the use of private or nonfederal land or, in any way, affect the property rights of owners.

NRCS uses a Land Evaluation and Site Assessment (LESA) system to establish a farmland conversion impact rating score on proposed sites of federally funded and assisted projects. This score is used as an indicator for the project sponsor to consider alternative sites if the potential adverse impacts on the farmland exceed the recommended allowable level. It is our understanding that the proposed project involves Federal funds or assistance, and thus would be subject to this assessment. However, this project is completely contained within a U.S. Bureau of the Census Urban Area. You need take no further action for FPPA purposes. The site is completely in an area that is subject to frequent flooding with brief durations at certain times a year. See attached map.

NRCS Watershed Dams

More than 50 years ago, the U.S. Department of Agriculture was authorized by Congress to help local communities with flood control and watershed protection through the Watershed Program (PL-534 Flood Control Act of 1944 and PL-566 Watershed Protection and Flood Prevention Act). As a result, local communities, with NRCS assistance, have constructed over 11,000 dams in 47 states since 1948. These dams were originally constructed for protection of farmlands from flooding impacts. In 2000, PL-566 was amended to provide NRCS authorization to assist communities with rehabilitation of their aging dams. The legislation authorizes NRCS to work with local communities and watershed project sponsors to address public health and safety concerns and potential environmental impacts of aging dams.

We have reviewed our records and have determined that there are no NRCS watershed dams downstream or in the vicinity of this project.

NRCS Easements

NRCS easements relate to our Wetland Reserve Program and the Farm and Ranch Land Protection Program. We have reviewed our records and have determined that there are no such easements within the vicinity of the proposed project that would be impacted.

NRCS appreciates this opportunity to comment. If you have questions or need any additional information, please contact Dan Wallace of my staff at (706) 546-2244.

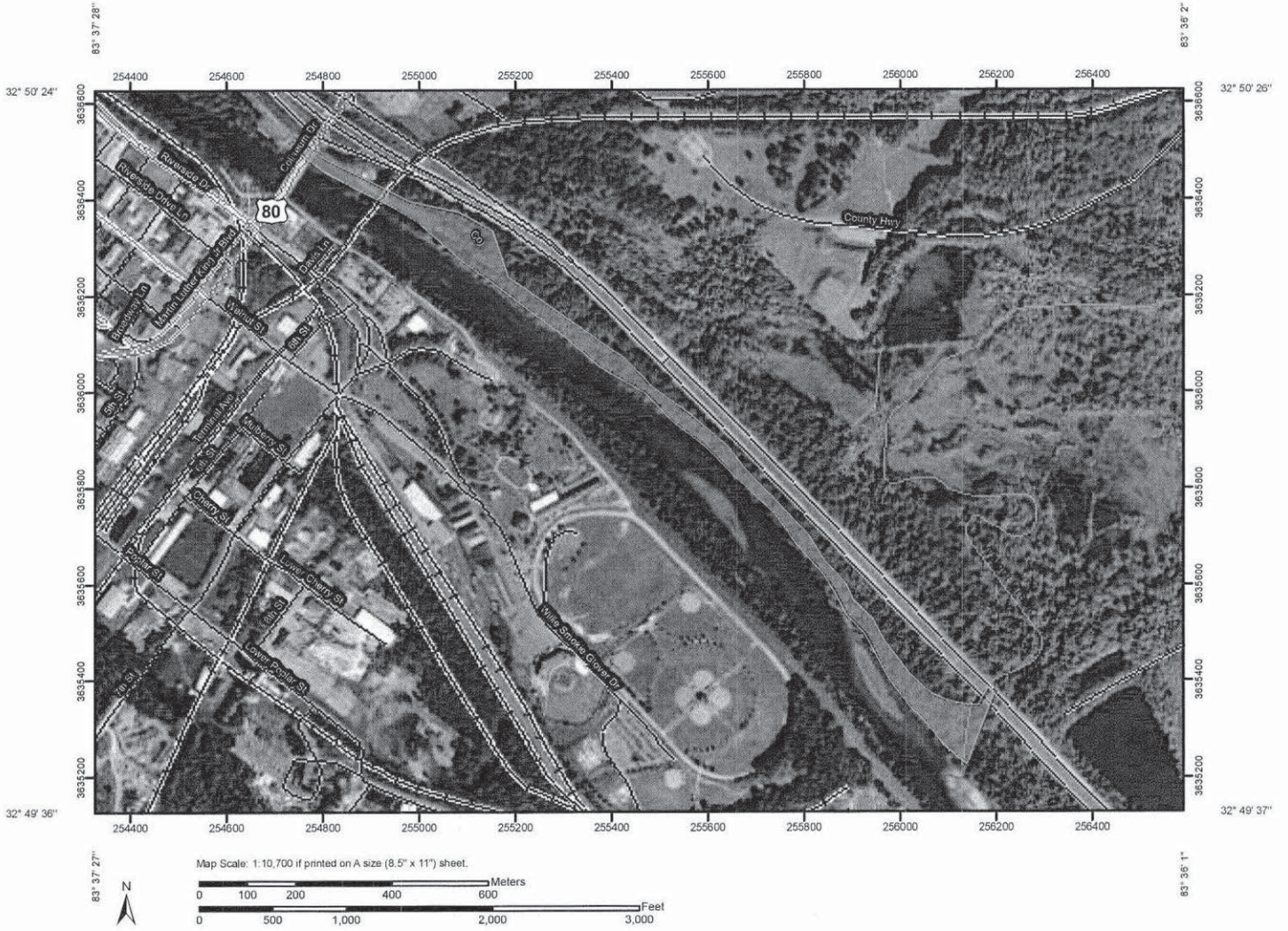
Sincerely,

JAMES E. TILLMAN, SR.
State Conservationist

Enclosures

cc: Natasha Brown, Assistant State Conservationist (FO), NRCS, Americus, Georgia
Ray Jones, District Conservationist, NRCS, Fort Valley, Georgia

Farmland Classification—Bibb County, Georgia



USDA Natural Resources Conservation Service

Web Soil Survey
National Cooperative Soil Survey

8/25/2009
Page 1 of 3

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Units

Soil Ratings
- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if subsoiled, completely removing the root inhibiting soil layer
- Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Prime farmland if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance
- Farmland of local importance
- Farmland of unique importance
- Not rated or not available

Political Features
- Cities

Federal Land
- National Park Service

Water Features
- Oceans
- Streams and Canals

Transportation
- Rails
- US Routes
- Major Roads
- Local Roads

MAP INFORMATION

Map Scale: 1:10,700 if printed on A size (8.5" × 11") sheet.

The soil surveys that comprise your AOI were mapped at 1:20,000.

Please rely on the bar scale on each map sheet for accurate map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: UTM Zone 17N NAD83

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Bibb County, Georgia
Survey Area Data: Version 5, Dec 22, 2006

Date(s) aerial images were photographed: 9/15/2007; 10/20/2007

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Farmland Classification

Farmland Classification— Summary by Map Unit — Bibb County, Georgia				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Co	Congaree silt loam	All areas are prime farmland	18.2	100.0%
Totals for Area of Interest			**18.2**	**100.0%**

Description

Farmland classification identifies map units as prime farmland, farmland of statewide importance, farmland of local importance, or unique farmland. It identifies the location and extent of the soils that are best suited to food, feed, fiber, forage, and oilseed crops. NRCS policy and procedures on prime and unique farmlands are published in the "Federal Register," Vol. 43, No. 21, January 31, 1978.

Rating Options

Aggregation Method: No Aggregation Necessary

Tie-break Rule: Lower

Water Features

This table gives estimates of various soil water features. The estimates are used in land use planning that involves engineering considerations.

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The four hydrologic soil groups are:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas.

Surface runoff refers to the loss of water from an area by flow over the land surface. Surface runoff classes are based on slope, climate, and vegetative cover. The concept indicates relative runoff for very specific conditions. It is assumed that the surface of the soil is bare and that the retention of surface water resulting from irregularities in the ground surface is minimal. The classes are negligible, very low, low, medium, high, and very high.

The *months* in the table indicate the portion of the year in which a water table, ponding, and/or flooding is most likely to be a concern.

Water table refers to a saturated zone in the soil. The water features table indicates, by month, depth to the top (*upper limit*) and base (*lower limit*) of the saturated zone in most years. Estimates of the upper and lower limits are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors or mottles (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table.

Ponding is standing water in a closed depression. Unless a drainage system is installed, the water is removed only by percolation, transpiration, or evaporation. The table indicates *surface water depth* and the *duration* and *frequency* of ponding. Duration is expressed as *very brief* if less than 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, rare, occasional, and frequent. *None* means that ponding is not probable; *rare* that it is unlikely but possible under unusual weather conditions (the chance of ponding is nearly 0 percent to 5 percent in any year); *occasional* that it occurs, on the average, once or less in 2 years (the chance of ponding is 5 to 50 percent in any year); and *frequent* that it occurs, on the average, more than once in 2 years (the chance of ponding is more than 50 percent in any year).

Flooding is the temporary inundation of an area caused by overflowing streams, by runoff from adjacent slopes, or by tides. Water standing for short periods after rainfall or snowmelt is not considered flooding, and water standing in swamps and marshes is considered ponding rather than flooding.

Duration and *frequency* are estimated. Duration is expressed as *extremely brief* if 0.1 hour to 4 hours, *very brief* if 4 hours to 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, very rare, rare, occasional, frequent, and very frequent. *None* means that flooding is not probable; *very rare* that it is very unlikely but possible under extremely unusual weather conditions (the chance of flooding is less than 1 percent in any year); *rare* that it is unlikely but possible under unusual weather conditions (the chance of flooding is 1 to 5 percent in any year); *occasional* that it occurs infrequently under normal weather conditions (the chance of flooding is 5 to 50 percent in any year); *frequent* that it is likely to occur often under normal weather conditions (the chance of flooding is more than 50 percent in any year but is less than 50 percent in all months in any year); and *very frequent* that it is likely to occur very often under normal weather conditions (the chance of flooding is more than 50 percent in all months of any year).

The information is based on evidence in the soil profile, namely thin strata of gravel, sand, silt, or clay deposited by floodwater; irregular decrease in organic matter content with increasing depth; and little or no horizon development.

Also considered are local information about the extent and levels of flooding and the relation of each soil on the landscape to historic floods. Information on the extent of flooding based on soil data is less specific than that provided by detailed engineering surveys that delineate flood-prone areas at specific flood frequency levels.

Report—Water Features

Water Features– Bibb County, Georgia										
Map unit symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface depth	Duration	Frequency	Duration	Frequency
				Ft	*Ft*	*Ft*				
Co—Congaree silt loam										
Congaree	B	—	January	2.5-4.0	>6.0	—	—	None	Brief	Frequent
	B	—	February	2.5-4.0	>6.0	—	—	None	Brief	Frequent
	B	—	March	2.5-4.0	>6.0	—	—	None	Brief	Frequent
	B	—	April	2.5-4.0	>6.0	—	—	None	Brief	Frequent
	B	—	November	2.5-4.0	>6.0	—	—	None	Brief	Frequent
	B	—	December	2.5-4.0	>6.0	—	—	None	Brief	Frequent

Data Source Information

Soil Survey Area: Bibb County, Georgia
Survey Area Data: Version 5, Dec 22, 2006

Middle Georgia Regional Commission
175 Emery Highway, Suite C • Macon, Georgia 31217 • (478) 751-6160 • FAX (478) 751-6517 • www.middlegeorgiarc.org

Tom McMichael, Chairman

Ralph Nix, Executive Director

RECEIVED

AUG 0 5 2009

Cranston Engineering Group, P.C.

August 4, 2009

Ms. Tori Wheeler
Cranston Engineering Group, P.C.
452 Ellis Street
Augusta, GA 30901

RE: Early Coordination Request for Project Number CSTEE-0008-00(986), Bibb County, P.I. No. 0008986 – Ocmulgee Heritage Trail: Walnut Creek Extension

Dear Ms Wheeler:

On August 4, 2009, the Middle Georgia Regional Commission received the Early Coordination Request letter dated July 31, 2009 regarding DOT P.I. No. 0008986 in Bibb County. In keeping with the allotted thirty (30) day review timeframe, the Middle Georgia Regional Commission offers the following comments.

Our office completed a review and examination of the documents provided, proposed project site, and the Area of Potential Effect (APE). The focus of our evaluation was based on cultural resources and any potential impact the proposed project would have on historic properties listed on or eligible for listing on the National Register of Historic Places (NRHP).

According to our files, the historic resources identified on the Project Location Map are the only resources within the project APE that are either listed in or eligible for listing in the NRHP.

The opportunity to comment on this project is greatly appreciated. Please contact me if I can be of further assistance at (478)751-6160 or kharpst@mg-rc.org.

Sincerely,

Kristina A. Harpst, AICP
Historic Preservation Planner

spg

Cranston Engineering Group, P.C.
ENGINEERS - PLANNERS - SURVEYORS

452 ELLIS STREET, AUGUSTA, GEORGIA 30901
POST OFFICE BOX 2546, AUGUSTA, GEORGIA 30903
TELEPHONE 706-722-1588
FACSIMILE 706-722-8379
mail@cranstonengineering.com

RECORD OF DISCUSSION

DATE 8/24/09 **AM** 8:30 **PM** _____

WITH Brian McCallum **OF** USGS

	IN PERSON	PHONE NUMBER	770-903-9127
	LOCAL PHONE		
X	LONG DISTANCE	CALL DURATION	15 MIN.

JOB NUMBER 2008-0080 **TITLE** OHT: Walnut Creek Extension

DESCRIPTION

Brian called in response to the early notification letters sent out for this project on July 31, 2009. He had been forwarded the letter that was sent to Dara Ritter in the Virginia office. Their only concern with the project area is the stream bank gauge for the Ocmulgee River that is on the Otis Redding Bridge. I assured Mr. McCallum that there should be no impact to the bridge therefore no impact should be expected to the stream gauge. He asked to be kept abreast of any design changes that may arise so that USGS can stay informed. His contact info is below:

Brian McCallum
USGS
770-903-9127
bemccall@usgs.gov

COPIES TO:
Brian McCallum, USGS
Melanie Nable, GDOT NEPA
Meghan Morse, Mangi Environmental
Project File

Cranston Engineering Group, P.C.

Tori Wheeler, Project Engineer

By: Tori Wheeler

Chris Clark, Commissioner
Dan Forster, Director

Georgia Department of Natural Resources
Wildlife Resources Division
Nongame Conservation Section
2065 U.S. Highway 278, S.E., Social Circle, Georgia 30025-4743
(770) 918 6411

April 29, 2009

Stuart Bryan, Senior Scientist I
Environmental Services, Inc.
204 West St. Julian Street, Third Floor
Savannah, GA 31401

Subject: **Known occurrences of natural communities, plants and animals of highest priority conservation status on or near OHT Walnut Creek, ESI Project # ES08069.00, Bibb County, Georgia**

Dear Mr. Bryan:

This is in response to your request of March 23, 2009. According to our records, within a three-mile radius of the project site there are the following Natural Heritage Database occurrences:

GA *Corynorhinus rafinesquii* (Rafinesque's Big-eared Bat) approx. 1.0 mi. NE of site
Desmognathus auriculatus (Southern Dusky Salamander) approx. 2.0 mi. SE of site
Micropterus cataractae (Shoal Bass) on site in the Ocmulgee River
GA *Sarracenia flava* (Yellow Flytrap) approx. 2.5 mi. E of site
GA *Sarracenia rubra* (Sweet Pitcherplant) approx. 2.5 mi. E of site
Ursus americanus floridanus (Florida Black Bear) approx. 2.0 mi. S of site
Greenspace [Bibb County] approx. 1.0 mi. N of site
Greenspace [Bibb County] approx. 2.0 mi. W of site
Ocmulgee National Monument [National Park Service] less than 0.1 mi. NE of site
Ocmulgee River [High Priority Stream] on site

* Entries above proceeded by "US" indicates species with federal status in Georgia (Protected or Candidate). Species that are federally protected in Georgia are also state protected; "GA" indicates Georgia protected species.

Recommendations:

We have a record of *Micropterus cataractae* (Shoal Bass) on site in the Ocmulgee River. In the future, please submit project descriptions with your request for threatened and endangered species information. This will allow us to make more specific recommendations for the projects proposed at each site and allow us to adequately assess the threats to species of concern. Thanks for your cooperation.

In order to protect aquatic habitats and water quality, we recommend that all machinery be kept out of the river during construction any construction. We urge you to use stringent erosion control practices during construction activities. Further, we strongly advocate leaving vegetation intact within 100 feet of creeks, which will reduce inputs of sediments, assist with maintaining riverbank integrity, and provide shade and habitat for aquatic species. We realize that some trees may have to be removed, but recommend that shrubs and ground vegetation be left in place.

IR 12444

Please keep in mind that this project occurs on the Ocmulgee River, a high priority stream. As part of an effort to develop a comprehensive wildlife conservation strategy for the state of Georgia, the Wildlife Resources division has developed and mapped a list of streams that are important to the protection or restoration of rare aquatic species and aquatic communities. High priority waters and their surrounding watersheds are a high priority for a broad array of conservation activities, but do not receive any additional legal protections. We now have GIS ESRI shapefiles of GA high priority waters available on our website (http://www.georgiawildlife.com/content/displaycontent.asp?txtDocument=89&txtPage=13). Please contact the Georgia Natural Heritage Program if you would like additional information on high priority waters.

Data Available on the Nongame Conservation Section Website

By visiting the Nongame Conservation Section Website you can view the highest priority species and natural community information by Quarter Quad, County and HUC8 Watershed. To access this information, please visit our GA Rare Species and Natural Community Information page at: http://georgiawildlife.dnr.state.ga.us/content/displaycontent.asp?txtDocument=89

An ESRI shape file of our highest priority species and natural community data by quarter quad and county is also available. It can be downloaded from: http://georgiawildlife.dnr.state.ga.us/assets/documents/gnhp/gnhpds.zip

Disclaimer:

Please keep in mind the limitations of our database. The data collected by the Nongame Conservation Section comes from a variety of sources, including museum and herbarium records, literature, and reports from individuals and organizations, as well as field surveys by our staff biologists. In most cases the information is not the result of a recent on-site survey by our staff. Many areas of Georgia have never been surveyed thoroughly. Therefore, the Nongame Conservation Section can only occasionally provide definitive information on the presence or absence of rare species on a given site. Our files are updated constantly as new information is received. **Thus, information provided by our program represents the existing data in our files at the time of the request and should not be considered a final statement on the species or area under consideration.**

If you know of populations of highest priority species that are not in our database, please fill out the appropriate data collection form and send it to our office. Forms can be obtained through our web site (http://www.georgiawildlife.com) or by contacting our office. If I can be of further assistance, please let me know.

Sincerely,

Katrina Morris
Environmental Review Coordinator

IR 12444

Stuart Bryan

From: Jim Ozier [Jim.Ozier@dnr.state.ga.us]
Sent: Tuesday, March 24, 2009 4:00 PM
To: Stuart Bryan
Subject: Re: Project site review

Stuart, bald eagles probably forage within 3 miles of the project area along the river and at the brick ponds to the south, but there are no known nor suspected nests within 3 miles, nor any occupied red-cockaded woodpecker habitat within 3 miles.

<<<<<<><><><><>>>>>>
Jim Ozier, Program Manager
Forsyth Office, Rum Creek WMA
Nongame Conservation Section
Wildlife Resources Division
Georgia Department of Natural Resources
116 Rum Creek Drive
Forsyth, Georgia 31029-6518
478-994-1438, 478-993-3050 fax

Wild about wildlife? Sign up for "Georgia Wild," DNR's free e-newsletter at:
http://www.georgiawildlife.com/enewsletters.aspx

>>> "Stuart Bryan" <sbryan@ESINC.CC> 3/23/2009 11:00:17 am >>>
Mr, Ozier,

We are working on a project directly adjacent to the Ocmulgee River in Macon. The project area terminates at the convergence of the Ocmulgee and Walnut Creek (maps attached location, and topo). Through this notification we respectfully request that you review your files and provide ESI with any information regarding the known presence of bald eagles, and RCW on or within 3 miles of the proposed project area.
Thank you for your time and let me know if you need additional information.

Approximate coordinates for project start and end:

Start

32o 50'21.52"N

83o 37'13.25"W

End

32o 49'42.25"N

83o 36'19.17"W

Thanks

Stuart Bryan

Senior Scientist

Environmental Services, Inc.

Brandon Smith

From: Jim Ozier [Jim.Ozier@dnr.state.ga.us]
Sent: Friday, August 27, 2010 9:33 AM
To: Brandon Smith
Subject: Re: Bald eagle

Brandon, the nearest known bald eagle nest is 6.5 miles SSE of your point.

Jim

>>> "Brandon Smith" <bsmith@ESINC.CC> 8/26/2010 10:50 am >>>
I have a project in Bibb County, across the river from downtown that is DOT funded. I know already that the nearest known bald eagle nest is beyond 3 miles, but DOT wants the actual distance to the nearest nest regardless of distance. Could you provide me with the nearest known nest from the below location.

latitude 32.834163 and longitude -83.611277

Thanks.

.

Brandon Smith | Senior Project Manager

413 East Liberty Street | Savannah, Georgia 31401

912-236-4711 Phone | 912-236-3668 Fax | 912-596-3743 Cell

ESI Website <http://www.environmentalservicesinc.com/> | Read ESI News <http://www.esinc.cc/media-room/newsletters> | Follow Us on Twitter <http://twitter.com/ESIGreenNews> | ESI Green News Blog <http://www.esinc.cc/blog>

APPENDIX B:

Correspondence

From: Steven_M_Wright@nps.gov [mailto:Steven_M_Wright@nps.gov]
Sent: Thursday, January 27, 2011 8:51 AM
To: Hart Bruce
Cc: Jim_David@nps.gov
Subject: RE: Ocmulgee Heritage Trail: Walnut Creek Extension

Bruce,

Due to the low level of anticipated controversy, a hearing or public meeting will not be necessary. In cases similar to this we issue a scoping newsletter and press release in a major newspaper along with the typical regulatory agency scoping letters. Attached are two examples we recently issued.

Steve

Steven M. Wright
National Park Service
Southeast Regional Office
Planning & Compliance Division
(404) 507-5710
(678) 428-8982 cell
(404) 562-3257 fax

(See attached file: draft_CARI news release_03june2010 - SER Comments 6-07-10.doc)

(See attached file: CARI Newsletter - Final.pdf)

"Bruce Hartbhart@keagroup.com

ToSteven_M_Wright@nps.gov 01/26/2011 03:19 PM <TEProjects@maai.net>
Subject RE: Ocmulgee Heritage Trail: Walnut Creek Extension

Steven,

We will add the appropriate detail of the NPS wetlands to the EA. As we are moving forward with the development of the EA, I wanted to inquire if NPS has a preferred public outreach mechanism for this project. As I indicated below, previously Anita Barnett had indicated that NPS would not require a public hearing but that the EA would need to be made available to the public for review. One of the possibilities for public involvement that had been floated was the publication of a project article in the Ocmulgee National Monument's newsletter. If NPS feels this is appropriate, I will coordinate with the design consultant to develop an article for publication.

Thanks,

Bruce Hart
Ecology Group Leader
Kennedy Engineering & Associates Group LLC
678-904-8591 x26 Office
678-904-8596 Fax
bhart@keagroup.com

GEORGIA
DEPARTMENT OF NATURAL RESOURCES

HISTORIC PRESERVATION DIVISION

CHRIS CLARK
COMMISSIONER

DR. DAVID CRASS
ACTING DIVISION DIRECTOR

April 29, 2010

Glenn Bowman, PE
State Environmental Administrator
Attn: Jonathan Cox
Georgia Department of Transportation
One Georgia Center
600 West Peachtree Street, NW
16th Floor
Atlanta, Georgia 30308

RE: Transportation Enhancement Project
Ocmulgee Heritage Trail – Walnut Creek Extension
Bibb County, Georgia
CSTEE 0008-00 (986): PI 0008986: TE 090811-001

Dear Mr. Bowman:

The Historic Preservation Division (HPD) has reviewed the Historic Resources Survey Report submitted to our office concerning the proposed Ocmulgee Heritage Trail – Walnut Creek Extension project in Bibb County, Georgia, as referenced above. Our comments are offered to advise on the effects of this undertaking for compliance with Section 106 of the National Historic Preservation Act of 1966, as amended.

Based on the information provided, it appears that no historic or archaeological resources are located within the proposed project's Area of Potential Effects (APE) due to a survey of the project area. However, should it be decided that a bridge will be necessary for completion of the trail; additional testing may be required to determine if bridge footing placement will have any impact on the deeply buried archaeological site.

Please refer to project number TE 090811-001in any future correspondence concerning this project. If we may be of further assistance, please contact Dean Baker, Transportation Enhancements Reviewer, at 404-657-1043 or dean_baker@dnr.state.ga.us.

Sincerely,

Richard Cloues
Deputy State Historic Preservation Officer

RC:db
cc: Rodney N. Barry (Attn: Chetna Dixon)
Elaine Armster, Office of Program Delivery (Attn: Kelvin Mullins)
Melanie Nable, GDOT Office of Environmental Services
Tom Queen, District 3 Planning and Programming Engineer
Allison Slocum, River Valley Regional Commission
Linda Cooks, Moreland Altobelli and Assoc.

254 WASHINGTON STREET, SW | GROUND LEVEL | ATLANTA, GEORGIA 30334
404.656.2840 | FAX 404.657.1368 | WWW.GASHPO.ORG

Tori Wheeler

From: Jim_David@nps.gov
Sent: Wednesday, November 04, 2009 4:13 PM
To: mnable@dot.ga.gov
Cc: Scott Williams; Larry Mills; Tori Wheeler
Subject: Re: OHT Walnut Creek (CEG #2008-0080)

We have reviewed the History Report for the Walnut Creek project and have no comments. We felt the document was fine as written.

Jim David
Superintendent
Ocmulgee National Monument
Phone 478-752-8257 ex 211
Fax 478-752-8259
jim_david@nps.gov

DEPARTMENT OF TRANSPORTATION

STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

FILE PI# 008986 **OFFICE** Environment/Location

DATE April 30, 2010

FROM **Environmental Services, Inc.**

TO Files

SUBJECT GDOT Project **CSTEE-0008-00(986)**, Bibb County;
P.I. # 0008986 and HP #:
Finding of No Historic Properties Affected.

Attached is the Finding of No Historic Properties Affected document for the subject project. This finding fulfills the Department's responsibilities under Section 106 of the National Historic Preservation Act (NHPA) of 1966 and subsequent amendments **OR** the Georgia Environmental Policy Act (GEPA) for historic districts, buildings, structures or objects. A report which fulfills the Department's responsibilities under Section 106 for archaeological sites will be submitted separately.

___/

cc: Rodney N. Barry, P.E., FHWA, w/attachment (Attn: Jennifer Giersch **OR** Michele Lindberg **OR** Chetna Dixon **OR** Kelly Wade)
David Crass, Deputy SHPO, w/attachment
Regional Commission, w/attachment
ANY OTHER CONSULTING PARTY, w/attachment
Willard Steele, Seminole Tribe of Florida, w/attachment

CONCUR: _____ for **DATE:** 6-15-10
David Crass, Deputy SHPO

CONCUR: _____ **DATE:** _____
Name: _____ Title: _____
National Park Service

cc: Melanie Nable, GDOT NEPA
Consultant
Project Manager

GEORGIA
DEPARTMENT OF NATURAL RESOURCES
HISTORIC PRESERVATION DIVISION

CHRIS CLARK
COMMISSIONER

DR. DAVID CRASS
ACTING DIVISION DIRECTOR

December 18, 2009

Glenn Bowman, PE
State Environmental Administrator
Attn: Jonathan Cox
Georgia Department of Transportation
One Georgia Center
600 West Peachtree Street, NW
16th Floor
Atlanta, Georgia 30308

RE: Transportation Enhancement Project
Ocmulgee Heritage Trail – Walnut Creek Extension
Bibb County, Georgia
CSTEE 0008-00 (986): PI 0008986: TE 090811-001

Dear Mr. Bowman:

The Historic Preservation Division (HPD) has reviewed the archaeological survey report submitted to our office concerning the proposed Ocmulgee Heritage Trail -- Walnut Creek Extension project in Bibb County, Georgia, as referenced above. Our comments are offered to advise on the effects of this undertaking for compliance with Section 106 of the National Historic Preservation Act of 1966, as amended.

Based on the information provided, it appears that no archaeological resources are located within the proposed project's Area of Potential Effects (APE) due to a survey of the project area. However, should it be decided that a bridge will be necessary for completion of the trail; additional testing may be required to determine if bridge footing placement will have any impact on the deeply buried archaeological site.

Please refer to project number TE 090811-001in any future correspondence concerning this project. If we may be of further assistance, please contact Ryan Kennedy, Review Archaeologist, at 404-651-6433 or ryan.kennedy@dnr.state.ga.us or Dean Baker, Architectural Review Officer, at 404-657-1043 or dean_baker@dnr.state.ga.us.

Sincerely,

for Karen Radum-Cl

Richard Cloues
Deputy State Historic Preservation Officer

RC:db
cc: Rodney N. Barry (Attn: Chetna Dixon)
Elaine Armster, Office of Program Delivery (Attn: Kelvin Mullins)
Tom Queen, District 3 Planning and Programming Engineer
Allison Slocum, River Valley Regional Commission
Linda Cooks, Moreland Altobelli and Assoc.

254 WASHINGTON STREET, SW | GROUND LEVEL | ATLANTA, GEORGIA 30334
404.656.2840 | FAX 404.657.1368 | WWW.GASHPO.ORG

From: Scott Williams
To: Tori Wheeler;
Subject: FW: Heritage Trail Archeological Report
Date: Thursday, August 06, 2009 11:50:02 AM
Attachments: trip report redacted.pdf

See attached and let's discuss.

Thanks,

D. Scott Williams, P.E.
Design Group Manager

Cranston Engineering Group, P.C.
452 Ellis Street – Augusta, Georgia 30901
Phone: 706-722-1588
Fax: 706-722-8379
www.cranstonengineering.com

-----Original Message-----
From: Guy_LaChine@nps.gov [mailto:Guy_LaChine@nps.gov]
Sent: Thursday, August 06, 2009 10:29 AM
To: Scott Williams
Cc: Jim_David@nps.gov; Lonnie_Davis@nps.gov; DCLARK@OUTOFTHESKY.COM
Subject: Heritage Trail Archeological Report

Attached please find the report of NPS Archeologists regarding the construction of the Heritage Trail within the Ocmulgee National Monument.
Please note that if the project does include the proposed pedestrian bridge over the small stream, NPS requests a review opportunity of all engineering design/ drawings. Assuming that footers go no deeper then five and a half feet, there are no archeological issues.

(See attached file: trip report redacted.pdf)

Guy L. LaChine
Chief Ranger
Ocmulgee National Monument
1207 Emery Highway
Macon, GA 31217
478-752-8257 x213
FAX 752-8259

From: Scott Williams
To: Tori Wheeler;
Subject: FW: Ocmulgee Heritage Trail
Date: Monday, August 03, 2009 3:26:46 PM

D. Scott Williams, P.E.
Design Group Manager

Cranston Engineering Group, P.C.
452 Ellis Street – Augusta, Georgia 30901
Phone: 706-722-1588
Fax: 706-722-8379
www.cranstonengineering.com

-----Original Message-----
From: Scott Williams
Sent: Thursday, July 23, 2009 10:19 AM
To: guy_lachine@nps.gov
Cc: Scott Williams
Subject: FW: Ocmulgee Heritage Trail

Guy,

Please see the email below that we discussed on Tuesday concerning the depth of the footings for the pedestrian bridge associated with the Walnut Creek Trail. If you should have any questions or need anything further, let me know.

Thanks,

D. Scott Williams, P.E.
Design Group Manager
Cranston Engineering Group, P.C.
452 Ellis Street – Augusta, Georgia 30901
Phone: 706-722-1588
Fax: 706-722-8379
www.cranstonengineering.com

-----Original Message-----
From: Scott Williams
Sent: Thursday, July 10, 2008 3:39 PM
To: Steven_Kidd@nps.gov
Subject: RE: Ocmulgee Heritage Trail

Steven,

After speaking with our structural engineer further, the depth of the footing will be more like 4-5' deep instead of 6-8'. The original number I gave you was from the bridge deck not the ground elevation. Please take this into consideration on the estimate which your are sending.

Thanks,

D. Scott Williams, P.E.
Project Engineer
Cranston Engineering Group, P.C.
452 Ellis Street – Augusta, Georgia 30901
Phone: 706-722-1588
Fax: 706-722-8379
www.cranstonengineering.com

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-----Original Message-----
From: Steven_Kidd@nps.gov [mailto:Steven_Kidd@nps.gov]
Sent: Monday, June 30, 2008 1:07 PM
To: Scott Williams
Subject: Ocmulgee Heritage Trail

Hi Scott,

Thank you for the information regarding the footers for the bridge. One other question that I forgot to raise was the centerline of the proposed trail. Would you guys consider the bushhogged corridor that currently exists the actual route of the proposed trail? If not do you anticipate deviating from the cut trail considerably? Thank you for your time in this matter.

Steve

R. Steven Kidd
Section 106 Compliance
Southeast Archeological Center
Tallahassee, Florida 32310
(850)-580-3011 x141

From:	Pomfret, Jim
To:	"Lenor Bromberg"
Subject:	FW: 106 Consultation for GDOT Project CSTEE-0008-00(986), P.I. No. 0008986
Date:	Wednesday, October 17, 2012 9:51:05 AM
Attachments:	0008986 CR NHPAaddendum 2012.08.17.pdf 0007650 ARCH SFNF 2008.05.13.pdf 0008986, Bibb, Approved Concept Report 7.29.10.pdf PI0008986 ARCH NPS archeo report 2010.03.25.pdf 0007636 CR 106Notification 2008.01.18.pdf PI 0008986 Hist NHPA 2010.05.13.pdf 0007636 ARCH SHPO 2008.07.18.pdf 0007636 ARCH Ph1SHPO 2008.07.08.pdf

fyi

Jim Pomfret
Archaeology Team Leader
Georgia Department of Transportation
Office of Environmental Services
600 West Peachtree Street, NW
Atlanta, GA 30308
Phone: 404.631.1256
Cell: 404.314.0669
Fax: 404.631.1916

From: Pomfret, Jim
Sent: Tuesday, August 21, 2012 4:39 PM
To: 'Emman Spain'; Sam Alexander; Eddie LaGrone; Robert Deere Jr.; Thomas Yahola; Anne Mullins (annemullins@semtribe.com); Elliott York; 'alisonswing@semtribe.com'; rthrower@pci-nsn.gov; Charles Coleman (chascoleman@prodigy.net); aqttcultural@yahoo.com; Richard Allen (Richard-Allen@cherokee.org); John Zachary (johnjzachary@me.com); Tiger Hobia (tigerhobia@yahoo.com); Natalie Harjo (harjo.n@sno-nsn.gov)
Cc: Chetna.Dixon@dot.gov; 'TEProjects@maai.net'; Peek, Tyler
Subject: 106 Consultation for GDOT Project CSTEE-0008-00(986), P.I. No. 0008986

Dear Tribal Partners,

On behalf of the Federal Highway Administration Georgia Division (FHWA), in keeping with a government-to-government relationship, I am forwarding Section 106 documentation for the above project. Project CSTEE-0008-00(986), P.I. No. 0008986 would construct an extension to the existing Ocmulgee Heritage Trail in Macon, Georgia. The proposed project would be built using Transportation Enhancement and local funds and would extend the current Ocmulgee Heritage Trail from Walnut Creek to the Otis Redding Bridge (concept attached). The trail would be 6,500 feet long, 10-foot wide concrete, asphalt, or gravel, and will meander generally 30-100 feet from the Ocmulgee River bank. The trail would consist of 1.5-2 inches of asphalt over 4-6 inches graded aggregate base. Due to the sensitivity of the Ocmulgee National Monument, construction will primarily be tied to existing grades, minimizing areas of cut and fill. Approximately one mile of the project would be on Ocmulgee National Monument (National Park Service [NPS]) and approximately 0.25 mile would be on City of Macon and Norfolk Southern Railroad Company property. The portion of the project within the Ocmulgee National Monument is also within the Ocmulgee Old Fields Traditional Cultural Property (TCP) boundary.

The project was fully surveyed for archaeological resources in 2008 and 2009. The Otis Redding Loop portion of the trail (non-NPS portion) was surveyed in 2008 under GDOT PI Nos. 0007636 and 0007650. The Section 106 Notification from 2008, under PI No. 0007636 was sent on January 18, 2008 (attached). In July 2008, the draft report was sent to you, SHPO, and all consulting parties. A Short Form for Negative Findings (attached) was included in the report as an appendix and under PI No. 0007650. The transmittal letters associated with this portion of the project are attached.

In 2009 project PI No. 0008986 was developed as a Transportation Enhancement project to include both the Otis Redding Loop as well as an extension through NPS property to Walnut Creek. The NPS conducted their own archaeological survey of the portion of trail on their property. This report (attached) was concurred with by SHPO (attached), however it was never sent to the tribes for review and comment.

In 2009 a No Historic Properties Affected document (attached) was also submitted to SHPO and covered the entire project corridor (PI Nos. 0007636, 0007650, and 0008969). While this document identified five historic properties listed on the National Register of Historic Places (NRHP), it failed to mention the NRHP eligible Ocmulgee Old Fields TCP. Due to this omission, an addendum No Historic Properties Affected document is being submitted for review (draft attached).

The FHWA and GDOT look forward to continued consultation with you on the above project and we believe you should now have all required documentation associated with PI No. 0008986. Please review the enclosed Section 106 documentation and provide comments or concerns you may have with regard to the information contained therein. Your continued consultation in this project is appreciated. If you have any questions concerning the enclosed material or need additional information please contact the GDOT Tribal Liaison, Jim Pomfret at 404.631.1256 or jpomfret@dot.ga.gov .

Jim Pomfret
Archaeology Team Leader
Georgia Department of Transportation
Office of Environmental Services
600 West Peachtree Street, NW
Atlanta, GA 30308
Phone: 404.631.1256
Cell: 404.314.0669
Fax: 404.631.1916

From: Pomfret, Jim
To: "Lenor Bromberg"
Subject: FW: 106 Consultation for GDOT Project CSTEE-0008-00(986), P.I. No. 0008986
Date: Wednesday, October 17, 2012 9:54:05 AM

Jim Pomfret
Archaeology Team Leader
Georgia Department of Transportation
Office of Environmental Services
600 West Peachtree Street, NW
Atlanta, GA 30308
Phone: 404.631.1256
Cell: 404.314.0669
Fax: 404.631.1916

From: Richard Allen [mailto:Richard-Allen@cherokee.org]
Sent: Friday, September 14, 2012 5:19 PM
To: Pomfret, Jim; 'Emman Spain'; Sam Alexander; Eddie LaGrone; Robert Deere Jr.; Thomas Yahola; Anne Mullins (annemullins@semtribe.com); Elliott York; 'alisonswing@semtribe.com'; rthrower@pci-nsn.gov; Charles Coleman (chascoleman@prodigy.net); aqttcultural@yahoo.com; John Zachary (johnjzachary@me.com); Tiger Hobia (tigerhobia@yahoo.com); Natalie Harjo (harjo.n@sno-nsn.gov)
Cc: Chetna.Dixon@dot.gov; 'TEProjects@maai.net'; Peek, Tyler
Subject: RE: 106 Consultation for GDOT Project CSTEE-0008-00(986), P.I. No. 0008986

Jim,

The Cherokee Nation defers to the Muscogee and Seminole Nations regarding this project.

Thank you,

Dr. Richard L. Allen
Policy Analyst
NAGPRA/Section 106 Contact
Cherokee Nation
P.O. Box 948
Tahlequah, Oklahoma 74465
(918) 453-5466 (office)
(918) 822-2707 (cell)
(918) 458-5898 (fax)

From: Pomfret, Jim [mailto:jpomfret@dot.ga.gov]
Sent: Tuesday, August 21, 2012 3:39 PM
To: 'Emman Spain'; Sam Alexander; Eddie LaGrone; Robert Deere Jr.; Thomas Yahola; Anne Mullins (annemullins@semtribe.com); Elliott York; 'alisonswing@semtribe.com'; rthrower@pci-nsn.gov; Charles Coleman (chascoleman@prodigy.net); aqttcultural@yahoo.com; Richard Allen; John Zachary (johnjzachary@me.com); Tiger Hobia (tigerhobia@yahoo.com); Natalie Harjo (harjo.n@sno-nsn.gov)
Cc: Chetna.Dixon@dot.gov; 'TEProjects@maai.net'; Peek, Tyler
Subject: 106 Consultation for GDOT Project CSTEE-0008-00(986), P.I. No. 0008986

Dear Tribal Partners,

On behalf of the Federal Highway Administration Georgia Division (FHWA), in keeping with a government-to-government relationship, I am forwarding Section 106 documentation for the above project. Project CSTEE-0008-00(986), P.I. No. 0008986 would construct an extension to the existing Ocmulgee Heritage Trail in Macon, Georgia. The proposed project would be built using Transportation Enhancement and local funds and would extend the current Ocmulgee Heritage Trail from Walnut Creek to the Otis Redding Bridge (concept attached). The trail would be 6,500 feet long, 10-foot wide concrete, asphalt, or gravel, and will meander generally 30-100 feet from the Ocmulgee River bank. The trail would consist of 1.5-2 inches of asphalt over 4-6 inches graded aggregate base. Due to the sensitivity of the Ocmulgee National Monument, construction will primarily be tied to existing grades, minimizing areas of cut and fill. Approximately one mile of the project would be on Ocmulgee National Monument (National Park Service [NPS]) and approximately 0.25 mile would be on City of Macon and Norfolk Southern Railroad Company property. The portion of the project within the Ocmulgee National Monument is also within the Ocmulgee Old Fields Traditional Cultural Property (TCP) boundary.

The project was fully surveyed for archaeological resources in 2008 and 2009. The Otis Redding Loop portion of the trail (non-NPS portion) was surveyed in 2008 under GDOT PI Nos. 0007636 and 0007650. The Section 106 Notification from 2008, under PI No. 0007636 was sent on January 18, 2008 (attached). In July 2008, the draft report was sent to you, SHPO, and all consulting parties. A Short Form for Negative Findings (attached) was included in the report as an appendix and under PI No. 0007650. The transmittal letters associated with this portion of the project are attached.

In 2009 project PI No. 0008986 was developed as a Transportation Enhancement project to include both the Otis Redding Loop as well as an extension through NPS property to Walnut Creek. The NPS conducted their own archaeological survey of the portion of trail on their property. This report (attached) was concurred with by SHPO (attached), however it was never sent to the tribes for review and comment.

In 2009 a No Historic Properties Affected document (attached) was also submitted to SHPO and covered the entire project corridor (PI Nos. 0007636, 0007650, and 0008969). While this document identified five historic properties listed on the National Register of Historic Places (NRHP), it failed to mention the NRHP eligible Ocmulgee Old Fields TCP. Due to this omission, an addendum No Historic Properties Affected document is being submitted for review (draft attached).

The FHWA and GDOT look forward to continued consultation with you on the above project and we believe you should now have all required documentation associated with PI No. 0008986. Please review the enclosed Section 106 documentation and provide comments or concerns you may have with regard to the information contained therein. Your continued consultation in this project is appreciated. If you have any questions concerning the enclosed material or need additional information please contact the GDOT Tribal Liaison, Jim Pomfret at 404.631.1256 or jpomfret@dot.ga.gov .

Jim Pomfret

United States Department of the Interior

NATIONAL PARK SERVICE
Southeast Regional Office
Atlanta Federal Center
1924 Building
100 Alabama St., S.W.
Atlanta, Georgia 30303

IN REPLY REFER TO:

SER-PC

APR 2 9 2011

Mr. Rodney Barry
Division Administrator
Federal Highway Administration
61 Forsyth Street, SW
Suite 17T100
Atlanta, Georgia 30303

Dear Mr. Barry:

As requested, the National Park Service (NPS), Southeast Regional Office (SERO) has reviewed the proposed Ocmulgee Heritage Trail, Walnut Creek Extension, CSTEE-0008-00(986), P.I. Number 0008986, located in Bibb County, Georgia, as detailed in Georgia Department of Transportations' (GDOT) correspondence dated April 1, 2011. The NPS SERO offers the following comments for your consideration:

General Comments

We welcome this opportunity to cooperate with the Federal Highway Administration (FHWA) and the GDOT in evaluating the proposed Ocmulgee Heritage Trail, Walnut Creek Extension project. The Walnut Creek Extension would begin approximately 950 feet east of the Otis Redding Bridge at the future terminus of the Otis Redding Loop and would terminate approximately 670 feet from the intersection of Walnut Creek and the Ocmulgee River. The total length of the proposed trail is approximately 6,500 feet. The Walnut Creek Extension would serve to improve visitor access and recreational opportunities by providing continuity in the Ocmulgee National Monument (OCMU) trail system.

Section 4(f) Comments

The proposed project would convert approximately 52,800 square feet (1.21 acres) of the property within the boundaries of the OCMU to a multi-use trail. Through subsequent correspondence with the NPS OCMU Superintendent, mitigation requirements have been tentatively agreed to. We have also received assurances that this project will comply with the National Environmental Policy Act, Section 106 of the National Historic Preservation Act,

Section 7 under the Endangered Species Act, Section 176(c) of the Clean Air Act, and Section 4(f) of the Department of Transportation Act.

Summary Comments

As a result, the NPS concurs that this project meets the impact criteria and associated determination requirements for a Section 4(f) *de minimis* finding in accordance with the Safe, Accountable, Flexible, Efficient, Transportation Equity Act as the proposed transportation use of the Section 4(f) resource, including consideration of impact avoidance, minimization, and mitigation or enhancement measures; does not adversely affect the activities, features, and attributes that qualify the resource for protection under Section 4(f).

The NPS has a continuing interest in working with the FHWA and GDOT to ensure that project impacts to resources of concern to NPS are adequately addressed. For continued consultation and coordination with the issues concerning the subject Section 4(f) resources, please contact Jim David, Superintendent, Ocmulgee National Monument, at 478-752-8257, extension 211.

Sincerely,

for David Vela
Regional Director
Southeast Region

Vance C. Smith, Jr., Commissioner

GEORGIA DEPARTMENT OF TRANSPORTATION
One Georgia Center, 600 West Peachtree Street, NW
Atlanta, Georgia 30308
Telephone: (404) 631-1000

December 21, 2009

Mr. Rodney N. Barry, P.E., Division Administrator
Federal Highway Administration
Atlanta Federal Center
61 Forsyth Street, S.W., 17th Floor
Atlanta, Georgia 30303-3104
Attention: Chetna Dixon

Re: Coordination for Phase I Ecology Assessment; GDOT Project CSTEE-0008-00(986), Bibb County, PI # 0008986; Ocmulgee Heritage Trail – Walnut Creek Extension

Dear Mr. Barry:

Please find attached the Phase I Ecology Assessment for the referenced project. The proposed project would consist of the construction of Ocmulgee Heritage Trail (OHT) – Walnut Creek Extension. This section of the OHT is intended to connect the proposed Otis Loop Trail section with a trail located in the Ocmulgee National Monument Park. The trail would be 10-ft wide and built of concrete. It would be located in the Upper Ocmulgee River watershed (HUC 03070103). Because the majority of the project falls on National Park Service (NPS) land, wetlands were delineated according the NPS definition as well as according to the US Army Corps of Engineers (Corps) definition.

The attached report describes the following findings with regard to ecological resources:

- Project area is dominated by hardwood forest, but also contains small areas of maintained grass and utility easement.
- Two wetlands are present within the project corridor according to the NPS definition; neither one of these is jurisdictional according to the Corps.
- One stream is present within the project corridor and two streams are adjacent to the project corridor, but outside the proposed project limits.
- Although biological effect determinations are not made in Phase I Ecology Assessments, the report indicates that habitat is not present for the federally endangered red-cockaded woodpecker, wood stork, green pitcher plant, relict trillium; nor is habitat present for the sweet pitcher plant (state endangered), yellow flytrap (state rare); habitat is present for the fringed campion (federally endangered), but no individuals were observed on surveys conducted during the flowering period; habitat is present for Rafinesque's big-eared bat (state rare).

This Phase I report is being provided for your information and files. Quantified impacts to Waters of the US and biological effect determinations will be provided in the Phase II Ecology Assessment. At that time, concurrence on biological effect determinations will be requested under Section 7 of the Endangered Species Act. If you have any questions or need additional information, please contact Doug Chamblin at 404-631-1447 or Lisa Westberry at 404-631-1772.

Sincerely,

Glenn Bowman, P.E.
State Environment/Location Engineer

GB/RJW/hdc
Attachments

Cc: Brandon F. Smith, Environmental Services, Inc.
Leigh Priestley, GDOT Environmental Compliance Bureau
Kelvin Mullins, GDOT Project Manager

Vance C. Smith, Jr., Commissioner

GEORGIA DEPARTMENT OF TRANSPORTATION

One Georgia Center, 600 West Peachtree Street, NW
Atlanta, Georgia 30308
Telephone: (404) 631-1000

November 5, 2010

Mr. Rodney N. Barry, P.E.
Division Administrator
Federal Highway Administration
Atlanta Federal Center
61 Forsyth Street, S.W., Suite 17th Floor
Atlanta, Georgia 30303-3104

ATTN: Chetna Dixon

Re: Ecology Transmittal, GDOT Project CSTEE-0008-00(986), Bibb County, P.I. No. 0008986, Ocmulgee Heritage Trail: Walnut Creek Extension

Dear Mr. Barry:

Please find attached the ecology report for the above referenced project. GDOT Project #CSTEE-0008-00(986) would consist of the construction of the Ocmulgee Heritage Trail (OHT): Walnut Creek Extension. This section of the OHT is intended to connect the proposed Otis Loop Trail section with a trail located in the Ocmulgee National Monument Park. The 10-foot wide trail would extend for 6,500 feet in length and would be constructed of either concrete, asphalt or gravel, dependent on budget limitations. The approximate midpoint of the project is located at latitude 32.834163° N and -83.611277° W. The project is located in the Upper Ocmulgee watershed (HUC 03070103). Because the majority of the trail lies on National Park Service (NPS) land, wetlands were delineated according to the NPS regulations. In addition, jurisdictional waters of the US were delineated according to the US Army Corps of Engineers (USACE) Wetlands Delineation Manual.

The attached report describes the following findings:

- The project would utilize a bridge structure in order to cross one unnamed perennial stream, resulting in minor impacts (12 linear feet) as a result of bridge footers being placed below the top of bank. A Clean Water Act Section 404 pre-construction notification (PCN) would be required under Regional Condition A6 due to the location of the project on NPS land. Additionally, the project's impacts would be within the allowable thresholds for a Section 404 Nationwide Permit 18, which would be sought in the PCN;
- The project would place a culvert in a NPS Wetland (W1) in order to cross the feature, resulting in 350 square feet of temporary construction impacts and 350 square feet of permanent impacts for a total of 700 square feet of wetland impacts. Based on the NPS's concurrence of the identification of this feature as a NPS wetland, NPS wetland impacts would be excepted from mitigation under the guidance set forth in the National Park Service Procedural Manual #77-1: Wetland Protection; February 2008;
- There would be one stream buffer encroachment, however, since it would be for the construction of a bridge structure over one unnamed perennial stream, this would be exempt from requiring a stream buffer variance under provisions set forth in the Georgia Erosion and Sedimentation Act of 1975 for "roadway drainage structures";

- Under the Endangered Species Act of 1973 (ESA), the project would have no effect on any federal threatened or endangered species, or federal candidate species;
- Under the Migratory Bird Treaty Act, the project would have no significant impact on interior dwelling species, nor any nesting habitat related to bridges or culverts as the four bridges and one culvert identified are either not affected by the project or outside of the area of potential impacts;
- Under the Bald and Golden Eagle Protection Act, the project would have no effect on the bald eagle.

The most current listings of threatened and endangered species were used during the ecology survey. The Department respectfully requests concurrence of the no effects determination.

Thank you for your attention to this matter. If you should have any questions or need additional information, feel free to contact Rich Williams at (404) 631-1084

Sincerely,

Glenn Bowman, P.E.
State Environmental Administrator

GB/RJW/bh
Attachment

From: Chetna.Dixon@dot.gov [mailto:Chetna.Dixon@dot.gov]
Sent: Wednesday, November 24, 2010 7:21 AM
To: Chamblin, Douglas; Westberry, Lisa; Pete_Pattavina@fws.gov; Williams, Rich
Cc: Chetna.Dixon@dot.gov
Subject: No Effect Determination: CSTEE-0008-00(8986), PI 0008986-Ocmulgee Heritage Trail-Walnut Creek Extension

GDOT is pursuing the above referenced project. The proposed project would consist of connecting the proposed Otis Redding Loop Trail Loop section with a trail located in the Ocmulgee National Monument Park. Based on the information presented in the September 2010 Ecology Assessment, FHWA has determined that the proposed action would have no effect upon federally listed species for Bibb County, Georgia. If you have any comments or questions, please advise.

Thanks-

Chetna P. Dixon

Environmental Coordinator

FHWA-GA Division

61 Forsyth Street, Suite 17T100

Atlanta, GA 30303

404.562.3655 (phone)

404.562.3703 (fax)

email: Chetna.Dixon@dot.gov

www.keagroup.com

From: Steven_M_Wright@nps.gov [mailto:Steven_M_Wright@nps.gov]
Sent: Tuesday, January 25, 2011 2:07 PM
To: Hart Bruce
Cc: rwilliams@dot.ga.gov; Chetna.Dixon@fhwa.dot.gov; Jim_David@nps.gov
Subject: Re: Ocmulgee Heritage Trail: Walnut Creek Extension

Bruce,

A review was conducted of the Ecology Assessment Phase I and Phase II Reports dated November 5, 2009, and September, 2010, respectively; for compliance with the National Park Service's (NPS) Director's Order 77-1, Wetland Protection. Based on the information provided in these reports, we concur that the project will be an excepted action and therefore excepted from NPS Wetlands Statement of Findings and related compensation requirements.

We request that the NPS wetlands discussion in the Phase II report be incorporated into the Environmental Assessment for the subject project to meet our obligations under Executive Order 11990, Protection of Wetlands.

If you have any additional questions, please contact me at 404-507-5710.

Steven M. Wright
National Park Service
Southeast Regional Office
Planning & Compliance Division
(404) 507-5710
(404) 562-3257 fax

Vance C. Smith, Jr., Commissioner

GEORGIA DEPARTMENT OF TRANSPORTATION

One Georgia Center, 600 West Peachtree Street, NW
Atlanta, Georgia 30308
Telephone: (404) 631-1000

January 4, 2011

Mr. Steven Wright
National Park Service
100 Alabama Street
1924 Building
Atlanta, Georgia 30303

Re: Ecology Assessment Phase I and Phase II Report Transmittal, GDOT Project CSTEE-0008-00(986), Bibb County, P.I. No. 0008986, Ocmulgee Heritage Trail: Walnut Creek Extension

Dear Mr. Wright:

Please find attached the two ecology reports for the above referenced project. GDOT Project #CSTEE-0008-00(986) would consist of the construction of the Ocmulgee Heritage Trail (OHT): Walnut Creek Extension. This section of the OHT is intended to connect the proposed Otis Loop Trail section with a trail located in the Ocmulgee National Monument Park. The 10-foot wide trail would extend for 6,500 feet in length and would be constructed of concrete, asphalt or gravel, dependent on budget limitations. The approximate midpoint of the project is located at latitude 32.834163° N and 83.611277° W. The project is located in the Upper Ocmulgee watershed (HUC 03070103). Because the majority of the trail lies on National Park Service (NPS) land, wetlands were delineated according to the NPS regulations. In addition, jurisdictional waters of the US were delineated according to the US Army Corps of Engineers (USACE) Wetlands Delineation Manual.

The attached Phase II Ecology Assessment report describes the following findings:

- The project would utilize a bridge structure in order to cross one unnamed perennial stream, resulting in minor impacts (12 linear feet) as a result of bridge footers being placed below the top of bank. A Clean Water Act Section 404 pre-construction notification (PCN) would be required under Regional Condition A6 due to the location of the project on NPS land. Additionally, the project's impacts would be within the allowable thresholds for a Section 404 Nationwide Permit 18, which would be sought in the PCN;
- The project would place a culvert in a NPS Wetland (W1) in order to cross the feature, resulting in 350 square feet of temporary construction impacts and 350 square feet of permanent impacts for a total of 700 square feet of wetland impacts. Based on the NPS's concurrence of the identification of this feature as a NPS wetland, NPS wetland impacts would be excepted from mitigation under the guidance set forth in the National Park Service Procedural Manual #77-1: Wetland Protection; February 2008;
- There would be one stream buffer encroachment, however, since it would be for the construction of a bridge structure over one unnamed perennial stream, this would be exempt from requiring a stream buffer variance under provisions set forth in the Georgia Erosion and Sedimentation Act of 1975 for "roadway drainage structures";
- Under the Endangered Species Act of 1973 (ESA), the project would have no effect on any federal threatened or endangered species, or federal candidate species;

- Under the Migratory Bird Treaty Act, the project would have no significant impact on interior dwelling species, nor any nesting habitat related to bridges or culverts as the four bridges and one culvert identified are either not affected by the project or outside of the area of potential impacts;
- Under the Bald and Golden Eagle Protection Act, the project would have no effect on the bald eagle.

The most current listings of threatened and endangered species were used during the ecology survey.

The Georgia Department of Transportation (Department) respectfully requests NPS concurrence of the wetlands delineated according to NPS regulations. In addition, the Department requests NPS concurrence that the proposed impacts to NPS W1 would not require mitigation under the guidance set forth in the National Park Service Procedural Manual #77-1: Wetland Protection; February 2008.

Thank you for your attention to this matter. If you should have any questions or need additional information, feel free to contact Doug Chamblin at (404) 631-1447 or Rich Williams at (404) 631-1084.

Sincerely,

Glenn Bowman, P.E.
State Environmental Administrator

GB/RJW/bh
Attachment

cc: Rodney Barry, P.E., FHWA (Attn: Chetna Dixon)

From: Mark McClain
To: "Brandon Smith"
Cc: "Tori Wheeler"; Hart Bruce; "Tish Stultz"; "Regina Schuster"; "Jeanne Kerney"
Subject: RE: Bibb PI# 0008986 Ecology Addendum Approval
Date: Monday, June 20, 2011 12:45:36 PM
Attachments: image001.png

Hello Brandon and Bruce,

For clarification, the approval is for the Ecology Addendum only.

Mark

From: Mark McClain [mailto:mmcclain@maai.net]
Sent: Monday, June 13, 2011 11:57 AM
To: 'Brandon Smith'; 'teprojects@maai.net'
Cc: 'Tori Wheeler'; 'Bruce Hart'
Subject: RE: Bibb PI# 0008986

Hello Brandon and Bruce,

The Addendum for the Bibb 8986 Ocmulgee Heritage Trail: Walnut Creek Extension project has been approved by GDOT and forwarded to FHWA for their review and approval. If you have any questions, please do not hesitate to contact me. Thank you.

Mark

From: Brandon Smith [mailto:bsmith@ESINC.CC]
Sent: Friday, June 10, 2011 10:07 AM
To: teprojects@maai.net
Cc: mmcclain@maai.net; Tori Wheeler; Bruce Hart
Subject: Bibb PI# 0008986

Please find attached the Ecology Phase II addendum, QAQC form, and FHWA transmittal letter for your review and use. This package has been reviewed by Bruce Hart of KEA Group. Thanks let me know if you require any modifications.

ENVIRONMENTAL SERVICES, INC.
Brandon Smith | Senior Manager / Asst. Vice President

PLEASE NOTE OUR NEW ADDRESS, EFFECTIVE MONDAY, JANUARY 30, 2011:
Mailing Address - P.O. Box 2383, Savannah, GA 31402
Physical/Shipping Address - 131 Hutchinson Island Road, Suite 100, Savannah, GA 31421

912-236-4711 Phone | 912-236-3668 Fax | 912-596-3743 Cell

ESI Website | Read ESI News | FollowUs on Twitter | ESI Green News Blog

PHASE II: ECOLOGY ADDENDUM

CSTEE-0008-00(986)
BIBB COUNTY
OCMULGEE HERITAGE TRAIL IMPROVEMENTS
WALNUT CREEK EXTENSION
P.I. #0008986

PREPARED BY:
ENVIRONMENTAL SERVICES, INC. (ESI)
PO BOX 2383
SAVANNAH, GEORGIA 31402

JUNE 10, 2011

PREPARED BY:_____
BRANDON F. SMITH, ESI

REVIEWED BY:_____

Introduction

The Phase II Ecology Report for CSTEE-0008-00(986), BIBB COUNTY, P.I. NO. 0008986 was prepared in September 2010 and subsequently transmitted to the Federal Highway Administration (FHWA) in November 2010 and to the National Park Service (NPS) in January 2011. The below summarized clarification for Fish and Wildlife Coordination Act (FWCA) need, or lack thereof, serves as an addendum to the September 2010 Phase II Ecology Report. All other information including project design plans, outlined within the September 2010 Phase II Ecology Report remains valid. This addendum serves only to specifically state FWCA coordination needs necessitated by the project with the U.S. Fish and Wildlife Service (USFWS).

Project Description

The Walnut Creek Extension project is the second phase of the Ocmulgee Heritage Trail (OHT) improvements located between Otis Redding Bridge and the Ocmulgee National Monument Park (ONMP), adjacent to the northeast bank of the Ocmulgee River, in the eastern part of the City of Macon, Bibb County, Georgia. The Walnut Creek Extension would begin approximately 950 feet east of the Otis Redding Bridge at the future terminus of the Otis Redding Loop Trail and would terminate approximately 670 feet from the intersection of Walnut Creek and the Ocmulgee River. The total length of the proposed trail is approximately 6,500 feet. The OHT is a riverside trail and park system designed to provide a recreational resource within a setting suitable to enjoy the natural and culturally significant surroundings. This section of the OHT is intended to connect the proposed Otis Loop Trail section with a trail located in the ONMP.

FWCA Coordination

The FWCA provides the basic authority for the USFWS's involvement in evaluating impacts to fish and wildlife from proposed water resource development projects. It requires that fish and wildlife resources receive equal consideration to other project features. It also requires Federal agencies (i.e., NPS and FHWA) that construct, license or permit water resource development projects to first consult with the Service (and the National Marine Fisheries Service in some instances) and State fish and wildlife agency regarding the impacts on fish and wildlife resources and measures to mitigate these impacts.

Stream 1 (S1) is a low quality, warm water, unnamed perennial stream that is primarily fed by storm water conveyance structures associated with Interstate 16 and other upstream developments. S1 flows directly into the Ocmulgee River in the northern portion of the project. The proposed project includes a pedestrian bridge that would cross over S1. Coordination under the FWCA is not required for this stream as the proposed bridge construction would result in channel loss less than 100 feet.

Stream-2 (S2): S2 is the Ocmulgee River and is located just outside and to the southwest of the limits of study; however given its proximity to the project it is described

and included in the Phase II report. The Ocmulgee River is a warm water, perennial and traditionally navigable water (TNW) by USACE standards. S2 is the receiving water for the above referenced onsite S1. The proposed project does not propose any impacts to the waterway or its' associated 25' riparian buffer. Coordination under the FWCA is not required for this stream as no impacts are proposed.

Stream-3 (S3): S3 is Walnut Creek and is located just outside and to the southeast of the southeastern most project study area terminus. However, given its proximity to the project it is described and included in the Phase II report. Walnut Creek is a warm water, perennial stream by USACE standards and could be considered a TNW during normal to above normal flow periods. S2 is the receiving water for S3. The proposed project does not propose any impacts to the waterway or its' associated 25' riparian buffer. Coordination under the FWCA is not required for this stream as no impacts are proposed.

Bibb County
Engineering Department

DAVID P. FORTSON, P.E.
COUNTY ENGINEER

F. CHARLES BROOKS, P.E., R.L.S.
ENGINEER IV

WM. KEITH BRASWELL, R.L.S.
ENGINEER III

780 THIRD STREET
MACON, GEORGIA 31201
PHONE: 478-621-6660
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www.co.bibb.ga.us

JEFFERY D. SMITH, E.I.T., C.P.E.S.C.
ENGINEER III

WILLIAM C. CAUSEY, R.L.S.
ENGINEER III

JAMES L. JOHNSON, E.I.T.
ENGINEER III

DANNY TAVAKOL
ENGINEER II

February 13, 2013

Mitchell B. Murchison
Cranston Engineering Group, P.C.
452 Ellis Street
Augusta, Georgia 30901

RE: Hydraulic and Hydrological Study for OHT - Walnut Creek
Proposed pedestrian bridge

Dear Mr. Murchison,

Bibb County hereby concurs with the findings of the hydrology/hydraulic study of the effects resulting from the construction of the project referenced above. We understand the findings of the study indicate there will be no significant rise in the existing base flood elevation of Walnut Creek, within Bibb County.

Please let me know if you have any questions regarding this matter.

Sincerely,

Charles Brooks, P.E., R.L.S.
Engineer IV

Cc: Chairman Sam Hart

Cranston Engineering Group, P.C.
ENGINEERS - PLANNERS - SURVEYORS

452 ELLIS STREET, AUGUSTA, GEORGIA 30901
POST OFFICE BOX 2546, AUGUSTA, GEORGIA 30903
TELEPHONE 706-722-1588
FACSIMILE 706-722-8379
mail@cranstonengineering.com

MEMORANDUM

TO: File (CEG # 2008-0080)

FROM: D. Scott Williams

DATE: November 21, 2011

SUBJ: Ocmulgee Heritage Trail: Walnut Creek Extension; Bibb PI 0008986; CEG# 2008-0080

A survey of the corridor for this project has identified a transverse crossing of the 100-year floodplain associated with the Ocmulgee River. The proposed project is entirely within the 100-year floodplain.

The proposed project would involve activities in the regulatory floodplains of the Ocmulgee River. These activities are defined as the construction of approximately 1.2 miles of trail, a footbridge, and a culvert. Construction of the project could require the placement of a negligible amount of fill material, in the floodplain, but the project would primarily be closely tied to existing grades. The project would be designed to have negligible effect on the floodplain. Procedures for Coordinating Highway Encroachments on Floodplains with the Federal Emergency Management Agency (FEMA) are being followed, and the Bibb County Engineering Department (local floodplain management) is aware of the project. This project will involve coordination with Bibb County Engineering Department and possibly FEMA in order to obtain a No-Rise Certificate. Again, this coordination will follow "Procedures for Coordinating Highway Encroachment on Floodplains."

Cranston Engineering Group has begun coordination on this floodplain issue and will be completing a quantitative evaluation in the future. With negligible alteration of existing grades, it is the engineer's opinion that the project would not represent a substantial risk to life or property; it would not have a substantial impact on natural and beneficial floodplain values; it would not support incompatible floodplain development; and it would not interrupt or terminate a transportation facility that is needed for emergency vehicles or provides a community's only evacuation route, as the project is in an undeveloped area along the Ocmulgee River, mostly within a national park.

FEMA "NO RISE" CERTIFICATION

FOR

OHT - WALNUT CREEK

BIBB COUNTY, GEORGIA

Prepared for

City of Macon
Parks and Recreation Department
150 Willie Smokey Glover Drive
Macon, Georgia 31201

Prepared by

Cranston Engineering Group, P.C.
ENGINEERS - PLANNERS - SURVEYORS

452 ELLIS STREET, AUGUSTA, GEORGIA 30901
POST OFFICE BOX 2546, AUGUSTA, GEORGIA 30903
TELEPHONE 706-722-1588
FACSIMILE 706-722-8379
mail@cranstonengineering.com

December 11, 2012

2008-0080

ENGINEERING "NO-RISE" CERTIFICATION

This is to certify that I am a duly qualified engineer licensed to practice in the State of Georgia.

It is to further certify that the attached technical data supports the fact that proposed improvements within the 100-year floodplain associated with the OHT Walnut Creek project, will not increase the 100-year flood elevations, floodway elevations and floodway widths on the Ocmulgee River, Bibb County, Georgia at published sections in the Flood Insurance Study for Bibb County, Georgia dated April 2, 2007 and will not increase the 100-year flood elevations, floodway elevations, and floodway widths at unpublished cross-sections in the vicinity of the proposed development.

12/11/2012
(Date)

(Signature)

PROFESSIONAL ENGINEER
(Title)

SEAL:

452 ELLIS STREET
(Address)

AUGUSTA GA 30901
(City) (State) (Zip Code)

706-722-1588
(Phone)

To model the hydraulic effect of the proposed fill within the floodway, the original HEC-2 runs were obtained from the FEMA archives. This archived data was input into HEC-2 and the output was checked against the published FIS profiles dated April 2, 2007 and the Floodway Data tables. The existing data was checked and re-checked with no input errors found, but the results data for sections 16.5 and 16.6 calculated different from the published results. The proposed improvements will be located between sections 'H' and 'I' as identified in the published profiles for the Ocmulgee River. This portion of the HEC-2 model was used as a basis for the corrected effective model and the proposed conditions model.

It is widely known that field cross-sections and topographical information was not easily obtainable for the original hydraulic runs of the majority of the studied rivers and creeks. A significant portion of this information was gathered using the best available information including USGS Quadrangle maps and other forms of data. Therefore, new and updated cross-sections were generated using topographical information obtained from field survey information and Bibb County GIS data where needed. Existing cross-sections 14, 15, 16, 16.5, and 16.6 are sections in the HEC-2 model. Section 16 corresponds to 'H' on the profile and 16.5 corresponds to 'I'. These two sections were updated with new topography and kept at approximately the same river location. The reach length distances were updated based on scaled distances from the published FEMA FIRM maps for these and adjacent sections. Section 16.3 represents the location of the proposed pedestrian bridge. The bridge was modeled as a section of fill within the 16.3 cross-section.

After input of the new information the results from HEC-2 for the 100 and 500-year storm events are considered to be actual condition elevations and are the points of comparison for the proposed conditions.

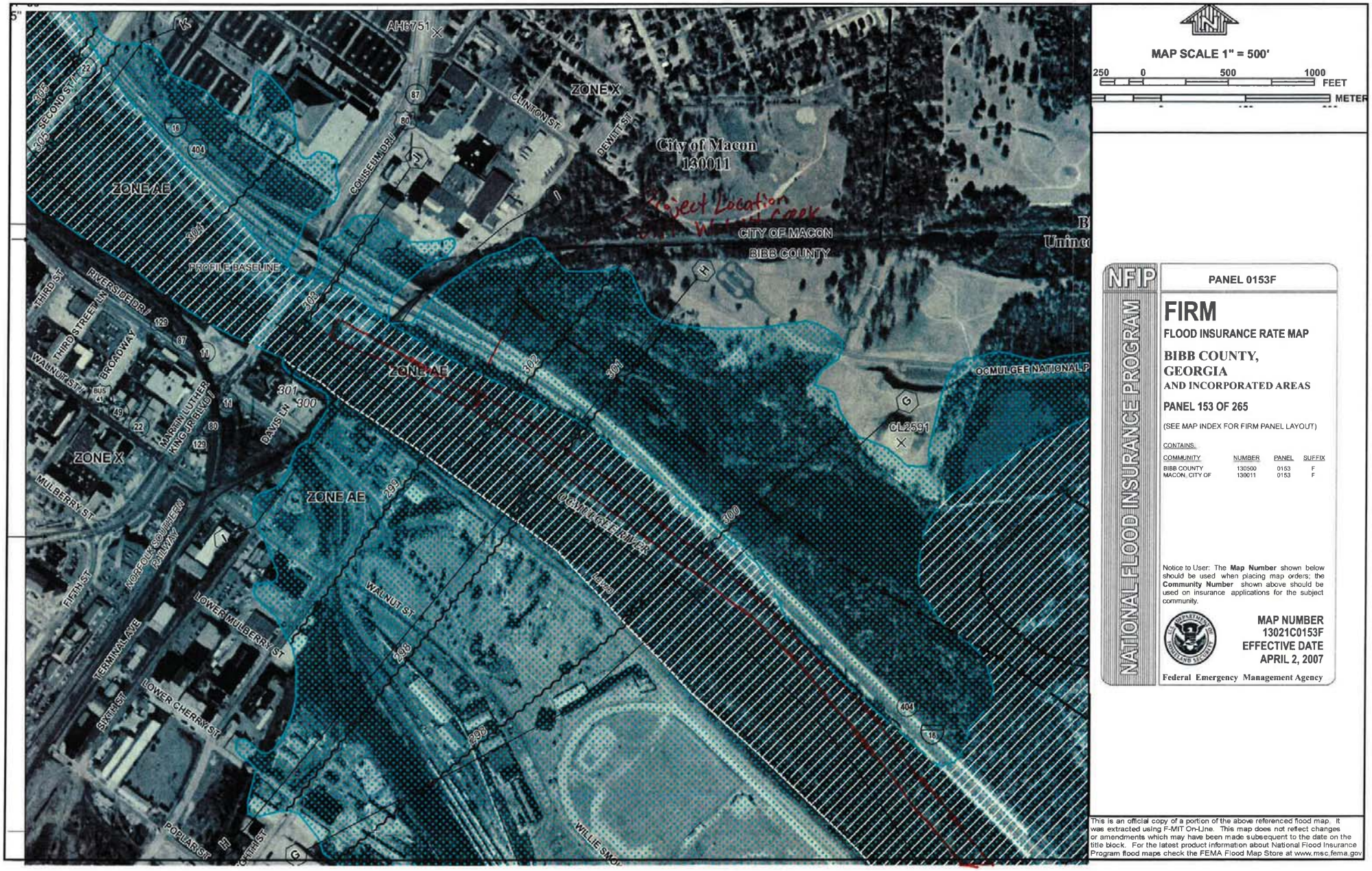
The proposed improvements are located within the regulated floodway of the Ocmulgee River. Due to regulations on the improvements within this regulated area, the proposed improvements can not create a rise greater than 0.1 foot in the 100-year WSEL or an increase in floodway width of more than 1 foot. The pedestrian bridge was modeled in Section 16.3 as inundated fill. It was done this way knowing that it would be inundated by approximately 10 feet during the 100-year storm event and the open areas would be negligible. Table 1 shows the WSEL comparison between actual field conditions and the proposed conditions for the 100-year storm event.

The regulatory floodway is generated by the HEC-2 program through the implementation of user input encroachments. The previous method used to set the encroachments was Method 4 which allows the user to set a maximum target rise in the WSEL and uses equal conveyance for each overbank. Method 4 was also used for the proposed conditions in this model and the results comparison can be seen in Table 1 below.

Table 1

	Corrected Effective Model			Proposed Model		
X-Section ID	Natural WSEL	Floodway WSEL	Floodway Width	Natural WSEL	Floodway WSEL	Floodway Width
14.0 (F)	297.06	297.06	783.80	297.06	297.06	783.80
15.0 (G)	300.21	300.55	426.89	300.21	300.55	426.89
16.0 (H)	301.72	302.13	2624.08	301.72	302.13	2624.08
16.3	301.94	302.46	678.90	301.92	302.41	678.74
16.5 (I)	301.72	302.25	386.07	301.75	302.25	386.08
16.6	302.16	302.76	419.81	302.19	302.76	419.82

Note: HEC 2 Output from 100-YR Flow Calculations
(All Elevations are shown in NGVD 1929)



This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

Keith Golden, P.E., Commissioner

DEPARTMENT OF TRANSPORTATION

One Georgia Center, 600 West Peachtree Street, NW
Atlanta, Georgia 30308
Telephone: (404) 631-1000

May 1, 2012

Mr. Rodney N. Barry, P.E.
Division Administrator
Federal Highway Administration
Atlanta Federal Center
61 Forsyth Street, S.W.
Suite 17 T100
Atlanta, Georgia 30303-3104

ATTN: Chetna Dixon

Dear Mr. Barry:

Re: Project CSTEE-0008-00(986), Bibb County, Ocmulgee Heritage Trail – Walnut Creek Extension

Dear Mr. Barry:

Please find enclosed the revised air assessment for the above referenced project. These are being sent to you for your information and files.

Should you need further information, please contact Keisha Jackson at (404) 631-1160 or Amber Phillips at (404) 631-1117.

Sincerely,

Glenn Bowman, P.E.
State Environmental Administrator

GB/kj/rs
Enclosures

cc: Elaine Armster (letter only)
General File (letter, report)
Project File (letter, report)
Reading File (letter only)

AIR QUALITY IMPACT ASSESSMENT ADDENDUM
CSTEE-0008-00(986), BIBB COUNTY
OCMULGEE HERITAGE TRAIL – WALNUT CREEK EXTENSION
PI # 0008986
September 2011

Introduction

The Clean Air Act section 176(c) requires that Federal transportation projects are consistent with state air quality goals, found in the State Implementation Plan (SIP). The process to ensure this consistency is called Transportation Conformity. Conformity to the SIP means that transportation activities will not cause new violations of the national ambient air quality standards (NAAQS), worsen existing violations of the standards, or delay timely attainment of the relevant standard.

Transportation conformity is required for Federal transportation projects in areas that have been designated by the U.S. Environmental Protection Agency (EPA) as not meeting the NAAQS. These areas are called nonattainment areas if they currently do not meet air quality standards or maintenance areas if they have previously violated air quality standards, but currently meet them and have an approved maintenance plan. On January 5, 2005, The US EPA designated a 20+ county metro Atlanta non-attainment area for fine particular matter, called $PM_{2.5}$. This designation became effective on April 5, 2005, 90 days after EPA's published action in the Federal Register. Transportation Conformity for the $PM_{2.5}$ standards applies as of April 5, 2006, after the one year grace period provided by the Clean Air Act. Metropolitan $PM_{2.5}$ nonattainment areas are now required to have a transportation improvement program (TIP) and long range transportation plan (LRTP) that conforms to the $PM_{2.5}$ standard.

In addition to $PM_{2.5}$ assessments, Mobile Source Air Toxics (MSAT) assessments are required statewide for most federal transportation projects. Based on the example projects defined in the FHWA guidance "*Interim Guidance Update on Mobile Source Air Toxic Analysis in NEPA Documents*," dated September 30, 2009, the construction of a multi-use trail would be classified as a project with *No Meaningful MSAT Impact*.

Project Description

The proposed project would construct a 10-foot wide concrete or asphalt trail approximately 6,500 feet long within the Ocmulgee Heritage Trail (OHT). OHT is a riverside trail and park system owned by the NPS and located approximately 1 mile southeast of Macon, Georgia. The purpose of this phase of the trail system is to extend the trail from the proposed Otis Loop section of the Ocmulgee Heritage Trail to connect with existing trails of the Ocmulgee National Monument. The proposed project would require no right-of-way or easement.

Air Assessment Addendum
Project CSTEE-0008-00(986), Bibb County
PI No. 0008986
September 2011

Air Quality Assessment

Ozone

This project is in an area where the State Implementation Plan contains transportation control measures. The Clean Air Act requires Transportation Plans and Transportation Improvement Programs in areas not meeting the National Ambient Air Quality Standards to conform to the emissions budget of the State Implementation Plan for air quality. The FY 2012-2015 TIP is the current adopted plan for the Atlanta region showing the region's highest transportation priorities. It was adopted by the Macon-Bibb County Planning and Zoning Commission (MBCPZC) on June 1, 2011 and was approved by US DOT on June 30, 2011.

This project is identified in the Macon MBCPZC Fiscal Year 2012-2015 TIP by reference number MCN-TEA-1 with PI # as "Lump Sum".

Carbon Monoxide (CO)

The project was evaluated for the potential to result in increased CO concentrations in the project area. Based on project type it has been determined that this project would not increase traffic congestion or increase idle emissions and CO concentrations therefore the project is consistent with state and federal air quality goals for CO.

$PM_{2.5}$ Qualitative Analysis

This project has been evaluated by an interagency group consisting of FHWA, EPA, EPD and the MPO and was found to be exempt from the PM2.5 hot spot requirements on June 12, 2009. Documentation and correspondence are included in Attachment 1.

Mobile Source Air Toxics

The purpose of this project is to construct a multi-use paved trail. This project has been determined to generate minimal air quality impacts for CAA 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 MOBILE6.2 model forecasts a combined reduction of 72 percent in the total annual emission rate for the priority MSAT from 1999 to 2050 while vehicle-miles of travel are projected to increase by 145 percent. This will both reduce the background level of MSAT as well as the possibility of even minor MSAT emissions from this project.

Incomplete or unavailable information for project-specific MSAT health impacts analysis

In FHWA's view, information is incomplete or unavailable to credibly predict the project-specific health impacts due to changes in MSAT emissions associated with a proposed set of highway alternatives. The outcome of such an assessment, adverse or not, would be influenced more by the uncertainty introduced into the process through assumption and speculation rather than any genuine insight into the actual health impacts directly attributable to MSAT exposure associated with a proposed action.

The U.S. Environmental Protection Agency (EPA) is responsible for protecting the public health and welfare from any known or anticipated effect of an air pollutant. They are the lead authority for administering the Clean Air Act and its amendments and have specific statutory obligations with respect to hazardous air pollutants and MSAT. The EPA is in the continual process of assessing human health effects, exposures, and risks posed by air pollutants. They maintain the Integrated Risk Information System (IRIS), which is "a compilation of electronic reports on specific substances found in the environment and their potential to cause human health effects" (EPA, http://www.epa.gov/ncea/iris/index.html). Each report contains assessments of non-cancerous and cancerous effects for individual compounds and quantitative estimates of risk levels from lifetime oral and inhalation exposures with uncertainty spanning perhaps an order of magnitude.

Other organizations are also active in the research and analyses of the human health effects of MSAT, including the Health Effects Institute (HEI). Two HEI studies are summarized in Appendix D of FHWA's Interim Guidance Update on Mobile source Air Toxic Analysis in NEPA Documents. Among the adverse health effects linked to MSAT compounds at high exposures are cancer in humans in occupational settings; cancer in animals; and irritation to the respiratory tract, including the exacerbation of asthma. Less obvious is the adverse human health effects of MSAT compounds at current environmental concentrations (HEI, http://pubs.healtheffects.org/view.php?id=282) or in the future as vehicle emissions substantially decrease (HEI, http://pubs.healtheffects.org/view.php?id=306).

The methodologies for forecasting health impacts include emissions modeling; dispersion modeling; exposure modeling; and then final determination of health impacts - each step in the process building on the model predictions obtained in the previous step. All are encumbered by technical shortcomings or uncertain science that prevents a more complete differentiation of the MSAT health impacts among a set of project alternatives. These difficulties are magnified for lifetime (i.e., 70 year) assessments, particularly because unsupportable assumptions would have to be made regarding changes in travel patterns and vehicle technology (which affects emissions rates) over that time frame, since such information is unavailable. The results produced by the EPA's MOBILE6.2 model, the California EPA's Emfac2007 model, and the EPA's DraftMOVES2009 model in forecasting MSAT emissions are highly inconsistent. Indications from the development of the MOVES model are that MOBILE6.2 significantly underestimates diesel particulate matter (PM) emissions and significantly overestimates benzene emissions.

Regarding air dispersion modeling, an extensive evaluation of EPA's guideline CAL3QHC model was conducted in an NCHRP study (http://www.epa.gov/scram001/dispersion_alt.htm#hyroad), which documents poor model performance at ten sites across the country - three where intensive monitoring was conducted plus an additional seven with less intensive monitoring. The study indicates a bias of the CAL3QHC model to overestimate concentrations near highly congested intersections and underestimate concentrations near uncongested intersections. The consequence of this is a tendency to overstate the air quality benefits of mitigating congestion at intersections. Such poor model performance is less difficult to manage for demonstrating compliance with National Ambient Air Quality Standards for relatively short time frames than it is for forecasting individual exposure over an entire lifetime, especially given that some information needed for estimating 70-year lifetime exposure is unavailable. It is particularly difficult to reliably forecast MSAT exposure near roadways, and to determine the portion of time that people are actually exposed at a specific location.

There are considerable uncertainties associated with the existing estimates of toxicity of the various MSAT, because of factors such as low-dose extrapolation and translation of occupational exposure data to the general population, a concern expressed by HEI (http://pubs.healtheffects.org/view.php?id=282). As a result, there is no national consensus on air dose-response values assumed to protect the public health and welfare for MSAT compounds, and in particular for diesel PM. The EPA (http://www.epa.gov/risk/basicinformation.htm#g) and the HEI (http://pubs.healtheffects.org/getfile.php?u=395) have not established a basis for quantitative risk assessment of diesel PM in ambient settings.

There is also the lack of a national consensus on an acceptable level of risk. The current context is the process used by the EPA as provided by the Clean Air Act to determine whether more stringent controls are required in order to provide an ample margin of safety to protect public health or to prevent an adverse environmental effect for industrial sources subject to the maximum achievable control technology standards, such as benzene emissions from refineries. The decision framework is a two-step process. The first step requires EPA to determine a "safe" or "acceptable" level of risk due to emissions from a source, which is generally no greater than approximately 100 in a million. Additional factors are considered in the second step, the goal of which is to maximize the number of people with risks less than 1 in a million due to emissions from a source. The results of this statutory two-step process do not guarantee that cancer risks from exposure to air toxics are less than 1 in a million; in some cases, the residual risk determination could result in maximum individual cancer risks that are as high as approximately 100 in a million. In a June 2008 decision, the U.S. Court of Appeals for the District of Columbia Circuit upheld EPA's approach to addressing risk in its two step decision framework. Information is incomplete or unavailable to establish that even the largest of highway projects would result in levels of risk greater than safe or acceptable.

Because of the limitations in the methodologies for forecasting health impacts described, any predicted difference in health impacts between alternatives is likely to be much smaller than the

uncertainties associated with predicting the impacts. Consequently, the results of such assessments would not be useful to decision makers, who would need to weigh this information against project benefits, such as reducing traffic congestion, accident rates, and fatalities plus improved access for emergency response, that are better suited for quantitative analysis.

Construction

All phases of construction operations would temporarily contribute to air pollution. Particulates would increase slightly in the corridor as dust from construction collects in the air surrounding the project. The construction equipment would also produce slight amounts of exhaust emissions. The Rules and Regulations for Air Quality Control outlined in Chapter 391-3-1, Rules of Georgia Department of Natural Resources' Environmental Protection Division, would be followed during the construction of the project. These include covering earth-moving trucks to keep dust levels down, watering haul roads, and refraining from open burning, except as may be permitted by local regulations.

The EPA has listed a number of approved diesel retrofit technologies; many of these can be deployed as emissions mitigation measures for equipment used in construction. This listing can be found at: www.epa.gov/otaq/retrofit/retroverifiedlist.htm.

Conclusion

This project was evaluated for its consistency with state and federal air quality goals, including CO, Ozone, $PM_{2.5}$ and MSATs as part of this assessment. Results indicated that the project is consistent with the State Implementation Plan for the attainment of clean air quality in Georgia and is in compliance with both state and federal air quality standards.

TRANSPORTATION IMPROVEMENT PROGRAM

FISCAL YEARS 2012 – 2015

FOR THE

MACON AREA TRANSPORTATION STUDY

PREPARED BY:

MACON-BIBB COUNTY PLANNING AND ZONING COMMISSION

KEN NORTH, PLANNER

IN COOPERATION WITH

FEDERAL HIGHWAY ADMINISTRATION
FEDERAL TRANSIT ADMINISTRATION
GEORGIA DEPARTMENT OF TRANSPORTATION

June 2011

PROJECT NAME :	TRANSPORTATION ENHANCEMENTS				*PROJECT #:*	
PROJECT DESCRIPTION:	LUMP SUM				*P.I. NOS:*	LUMP SUM
					TIP#:	MCN-TEA-1
					COUNTY:	BIBB
LENGTH (MI)	*# OF LANES-EXISTING:*			N/A	*PLANNED:*	N/A
TRAFFIC VT\OLUMES (ADT)	N/A		*(2008)*	N/A	*(2035)*	
LOCAL RD. #	*ST./US. #*				*FUNDING*	L220
COMMENTS/REMARKS:						

PROJECT PHASE	*$ SOURCE*	*FY 12*	*FY 13*	*FY 14*	*FY 15*	*TOTAL*
PRELIMINARY ENGR. (000'S)		$0	$0	$0	$0	$0
RIGHT-OF-WAY (000'S)		$0	$0	$0	$0	$0
CONSTRUCTION (000'S)	FED./LOCAL	$489	$489	$489	$489	$1,956
PROJECT COST (000'S)		**$489**	**$489**	**$489**	**$489**	**$1,956**
FEDERAL COST (000'S)		$391	$391	$391	$391	$1,564
STATE COST (000'S)		$0	$0	$0	$0	$0
LOCAL COST (000'S)		$98	$98	$98	$98	$392

DOT DISTRICT	*3*	*CONGRESSIONALN DIST:*		*8*	*RDC* MG
Fund 1 For P I 1:		Fund 2 For P I 2:			Fund 3 For P I 3:
		PROJECT LOCATION			

NO MAP AVAILABLE

From: Hester, Michael [mhester@dot.ga.gov]
Sent: Friday, June 12, 2009 10:59 AM
To: Tori Wheeler
Cc: Nable, Melanie
Subject: FW: PM Determination, Exempt projects, Atlanta, Chattanooga and Macon
Attachments: PM 2.5 Exempt Sheet_6-1-09.xls

-----Original Message-----
From: Wood.Amanetta@epamail.epa.gov [mailto:Wood.Amanetta@epamail.epa.gov]
Sent: Friday, June 12, 2009 10:54 AM
To: Kelly.Wade@dot.gov
Cc: adh@adem.state.al.us; Heath, Andrew; Alan.Jones@state.tn.us;
andrew.edwards@dot.gov;
angela.midgett@state.tn.us; annette.eason@dot.state.ga.us; Cook, Cora; Wilkinson,
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syamala@hallcounty.org; Kassa Jr., Tamrat; Mitchell, Ulysses;
Victor.Otero@dot.gov;
vryle@co.bibb.ga.us; Crawford, Zanda M
Subject: Re: PM Determination, Exempt projects, Atlanta, Chattanooga and Macon

Hello Kelly,
Thanks for sending this for our review. We have completed our review and agree
that these
project(s) appear to be exempt per 93.126 or 93.128 of the Transportation
Conformity Rule and
thus are exempt from PM 2.5 hotspot requirements.

Amanetta Wood, Environmental Scientist
U.S. Environmental Protection Agency, Region 4 Air, Pesticides and Toxics
Management Division
61 Forsyth Street, S.W.
Atlanta, Georgia 30303
Email: wood.amanetta@epa.gov
Phone: (404) 562-9025
Fax: (404) 562-9019

<Kelly.Wade@dot.
gov>
To

Hello Interagency Members,

FHWA, GA Division has determined that the following project is exempt from PM 2.5 Hot Spot requirements.

<<PM 2.5 Exempt Sheet_6-1-09.xls>>

Please review and provide comments back by COB 6/26/09.

If no comments are received from your agency, consensus with this determination will be assumed. Thanks in advance for responding quickly.

Kelly Wade

Environmental Specialist

Federal Highway Administration

61 Forsyth Street, SW

Suite 17T100

Atlanta, GA 30303

Phone: 404-562-3584

Fax: 404-562-3703

Kelly.Wade@fhwa.dot.gov(See attached file: PM 2.5 Exempt Sheet_6-1-09.xls)

Help GDOT serve you better. Visit http://www.howsmyservice.dot.ga.gov and rate the service you received from Team GDOT.

PM 2.5 Exempt Projects 6-1-2009

County	Project #	P.I. #	MPO	Proj. Mgr.	NEPA	Project Status (Document Type & Approval Date)	Let Date	Project Description	Conformity Exempt Status (40 CFR 93.126 or CFR 93.128
Bibb	CSTEE-0008-00(986)	8986	Macon Non-Attainment Area	Tom Queen	Melanie Nable	Environmental Assessment in progress	Not Scheduled	Section of trail to connect to and extend the Ocmulgee Heritage Trail. The trail will stretch from the proposed Otis Loop section to the Ocmulgee National Monument Park between Interstate 16 and the Ocmulgee River. The trail will be approximately 10 feet wide concrete or asphalt and approximately 5,900 feet long.	Exempt
Fulton	CSTEE-0009-00(059)	0009059	Atlanta Non-Attainment Area	Carleton Fisher	Cindy Treadway	EA/FONSI approved under PI 751300 & 751310 on June 13, 2005.	Local Let	Abernathy Road Linear Greenspace Park consists of the construction of a linear park which would include a multi-use trail along both sides of Abernathy Road, playground facilities, landscape improvements, seating and pedestrian and security lighting.	Exempt
Gwinnett	CSSTP-0006-00(837), STP00-000E-00(195), CSSTP-0006-00(837), and CSHPP-007-00(617)	171344, 171562, 0006837, and 0007617	Atlanta Non-Attainment Area	Neil Kantner	Laura Rish	Reevaluation	Local let	The Western Gwinnett Bikeway project would construct a 10-foot wide bikeway/pedestrian trail on the west side of Peachtree Industrial Boulevard from the intersection of Peachtree Industrial Boulevard and Summerchase Drive to the intersection of Peachtree Industrial Boulevard and Rogers Bridge. The proposed project would be designed in accordance with the current Americans with Disabilities Act (ADA) requirements.The typical section would maintain the existing roadway facility and add a paved 10-foot wide bike/ped trail on the west side of Peachtree Industrial Boulevard, either behind existing curb and gutter or 15 feet from the edge of pavement where curb and gutter does not exist. All construction would take place within the existing right-of-way for Peachtree Industrial Boulevard. Right-of-way width along Peachtree Industrial Boulevard varies between150 and 200 feet. PI 171344 was original found exempt with limits from the intersection of Peachtree Industrial Boulevard (PIB) and Summerchase Drive to Howells Ferry Road. It now extends along PIB from Howell Ferry Road to Pleasant Hill Road. PI 171562 now covers the section of roadway from Summerchase Drive to Howell Ferry Road. PI Numbers 0006837 and 0007617 will cover the project from Pleasant Hill Road to Rogers Bridge Road.	Exempt
Walker	CSSTP000900328	0009328	Chattanooga Non-Attainment Area	NA	Alexis John	Construction	May-09	The installation of approximately 3 miles of new sidewalks and installation of sidewalk accessibility ramps at existing sidewalks located within the City of Chickamauga, Georgia city limits.	Exempt

Noise Screening Assessment for Type III Projects
OCMULGEE HERITAGE TRAIL – WALNUT CREEK EXTENSION
Bibb County
PI 0008986

September 2011

Introduction

In compliance with *23 USC Section 109(h) and (i), the Federal Highway Administration (FHWA)* established guidelines for the assessment of highway traffic-generated noise. These guidelines, published as *Part 772 of Title 23* of the *Code of Federal Regulations* (23 CFR 772), provide procedures to be followed in conducting noise analyses that will protect the public health and welfare. In accordance with the Noise Control Act of 1972, coordination of this regulation with the Environmental Protection Agency has been completed. Further, *Highway Traffic Noise: Analysis and Abatement Guidance* (Guidance) was issued in July 2010 (revised January 2011) by the FHWA.

Purpose

The purpose of this memo is to demonstrate that this project meets the definition of a Type III project and does not require a noise study or abatement of highway noise impacts.

Type I – A federal-aid project that generally adds capacity or Significantly alters the horizontal or vertical alignment.

Type II – A federal-aid project to abate noise on an existing facility. Georgia does not have a Type II program.

Type III – A federal or federal-aid highway project that does not meet the classifications of a Type I or Type II project. Type III projects do not require the preparation of a noise study or abatement of highway noise impacts.

Project Description

The proposed project would construct a 10-foot wide concrete or asphalt trail approximately 6,500 feet long within the Ocmulgee Heritage Trail (OHT). OHT is a riverside trail and park system owned by the NPS and located approximately 1 mile southeast of Macon, Georgia. The purpose of this phase of the trail system is to extend the trail from the proposed Otis Loop section of the Ocmulgee Heritage Trail to connect with existing trails of the Ocmulgee National Monument. The proposed project would require no right-of-way or easement (see Project Location Map).

Type III Project Determination

If any portion of a project is determined to be a Type I project as defined in the Guidance, then the entire project area as defined in the NEPA document is a Type I project. Therefore, if any of the criteria below can be selected, the proposed project is a Type I project and thus is subject to a noise analysis

☐ The construction of a highway on new location

The physical alteration of an existing highway where there is either:

☐ Substantial Horizontal Alteration. A project that halves the distance between the traffic noise source and the closest receptor between the existing condition to the future build condition; or,

☐ Substantial Vertical Alteration. A project that removes shielding therefore exposing the line-of-sight between the receptor and the traffic noise source. This is done by either altering the vertical alignment of the highway or by altering the topography between the highway traffic noise source and the receptor

☐ The addition of a through-traffic lane(s). This includes the addition of a through-traffic lane that functions as a (high occupancy vehicle (HOV) lane, High-Occupancy Toll (HOT) lane, bus lane, or truck climbing lane

☐ The addition of an auxiliary lane, except for when the auxiliary lane is a turn lane

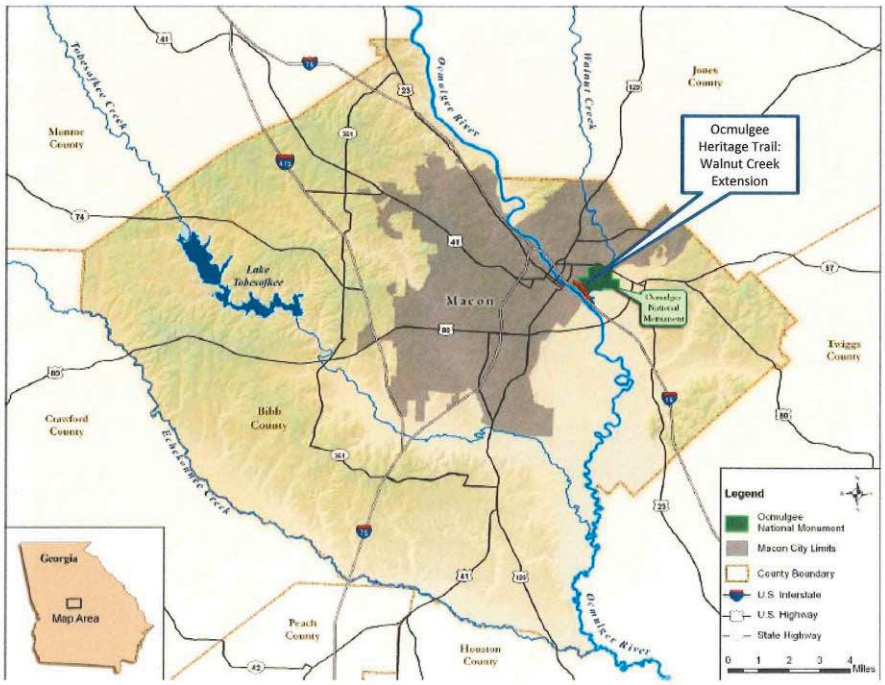
☐ The addition or relocation of interchange lanes or ramps added to a quadrant to complete an existing partial interchange

☐ Restriping existing pavement for the purpose of adding a through-traffic lane or an auxiliary lane, except for when the auxiliary lane is a turn lane

☐ The addition of a new or substantial alteration of a weigh station, rest stop, ride-share lot or toll plaza.

Conclusion

Since none of the above conditions for a Type I project were met, the subject project meets the criteria for a Type III project established in 23 CFR 772. Therefore, the project requires no analysis for highway traffic noise impacts. If changes to the proposed project result in reclassification to a Type I project, a noise analysis will be required.



Source: *ESRI*

Project Location Map	Ocmulgee Heritage Trail: Walnut Creek Extension CSTEE-0008-00(986), P.I. No. 0008986

Cranston Engineering Group, P.C.
ENGINEERS - PLANNERS - SURVEYORS

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JAMES B. CRANFORD, JR., PE
DENNIS J. WELCH, PE
D. SCOTT WILLIAMS, PE

August 30, 2012
Revised September 14, 2012

Ms. Carla Benton-Hooks
Transportation Environmental Planner
Georgia Department of Transportation
Office of Environmental Services
One Georgia Center, 600 West Peachtree Street, NW
16th Floor
Atlanta, Georgia 30308

Re: OHT: Amerson Waterworks Park, Bibb County
Project No. CSHPP-0007-00(636)
PI No. 0007636
Our File No. 2007-0023

Dear Ms. Benton-Hooks:

This letter is in response to the Federal Highway Administration's (FHWA) review comments on the draft Environmental Reevaluation dated August 23, 2012. We have taken all comments received under consideration and have made changes where necessary. The revisions to the document are outlined below and numbered in accordance with the original comment. Also, for your reference we have included a copy of the original comments.

1. Greensheets: Please provide a status D1 and D3.
The Greensheets have been updated to include the current status D1 and D3.

2. Greensheets: Please provide a copy of documentation of coordination with various agencies regarding the No-Rise Certification. Please submit a copy of the hydraulic/hydrology study for review.
A copy of both the hydraulic/hydrology study and the Bibb County Engineering Department (Local Issuing Authority) concurrence letter are now included in Attachment 6 – Reference Material.

3. The document indicates construction is scheduled for 2012. Please verify the timeframe that construction. Please provide documentation (e.g., copy of the TIP sheet) demonstration the year the project is programmed.
A copy of the latest TIP sheets is now included in Attachment 6 – Reference Material.

4. The document and the concept report indicate portions of the proposed project will be constructed with compacted gravel (e.g., nature trail). It appears that the project as

proposed may not meet the full intent of the Americans with Disabilities Act (ADA) requirements. Budget constraints do not justify constructing facilities that may not comply with ADA requirements. Please schedule a meeting or conference call with us to discuss further.

The compacted gravel trails have been designed to meet the intent of the ADA draft guidelines for such facilities as covered in the *Draft Final Accessibility Guidelines for Outdoor Developed Areas* dated October 19, 2009 by the United States Access Board and the *Designing Sidewalks and Trails for Access* publication obtained from FHWA website. The draft guidelines document by the US Access Board has not been formally adopted, but it is the best available guidelines for such facilities. We have included the applicable sections of these documents in Attachment 6 – Reference Material. Links to the complete documents are included below.

***Draft Final Accessibility Guidelines for Outdoor Developed Areas*:**
http://www.access-board.gov/outdoor/draft-final.htm

***Designing Sidewalks and Trails for Access*:**
http://www.fhwa.dot.gov/environment/bicycle_pedestrian/publications/sidewalk2/pdf.cfm

In addition to these guidance documents we have also included in Attachment 6 a copy of our gravel trail detail, which will be used for the subject trails, and the applicable section from GDOT Specification Section 800 which covers the size requirements for #89 stone. This detail and material will provide for a firm, stable, and slip resistant surface in accordance with the *Designing Sidewalks and Trails for Access* publication. Reference pages 15-7 through 15-11 provided.

5. The document indicates the project now incorporates the River Overlook Project (PI 0008950). Please advise if the appropriate environmental studies were completed on PI 0008950. If so, please provide copies of the studies and associated concurrence correspondence. In addition, if an environmental document was prepared for PI 0008950, please submit a copy for review.

Environmental impacts for the River Overlook Project (PI 0008950), which is located completely within the project limits of Amerson Water Works Park, were assessed under P.I. 0007636. The CE for P.I. 0007636 failed to describe the Overlook project because it was scheduled to be constructed with separate funding under a different, though as yet unidentified, P.I number (subsequent to the CE approval, the project was assigned P.I. 0008950). Although the Overlook Project is not mentioned in the approved CE, OES (NEPA) has checked the project files for P.I. 0007636 and confirmed that it is identified in all of the original special study reports. Section VII of the CE Reevaluation has been revised to explain the above.

6. Page 2 of 5: Waters of U.S/State Waters-Please include a table disclosing previous impacts and current impacts.

An impact table covering both existing and proposed impacts has been added to Page 2 of 6.

7. Page of 2 of 5: The document states, "The final design incorporated the step design alternative which resulted in fewer impacts." Please advise how the canoe launch will be accessible to all.

Based on the nature of the feature (a canoe/tubing launch/take-out) and the site conditions, providing ADA access at this location is not feasible. The take-out is located at the confluences of the Ocmulgee River and Bowman Creek. At this location, as is the case throughout the park, the banks of the river are extremely

steep, and the differential height from the top to bottom is 20 feet. In order to provide ADA access, a 270' ramp would be required. Due to the site constraints, construction of such a ramp is not feasible and would alter the nature of the setting and purpose of the facility.

8. Page 3 of 5: Floodplains: Please disclose the amount of floodplains that will be impacted by the proposed project.
A discussion concerning the impacts to the floodplains including the total floodplain area located within the project limits has been added to Page 3 of 6.

9. Attachment 3: Please include a copy of the FHWA's email to U.S. Fish and Wildlife Service initiating FWCA. In addition, please include a copy of FHWA's email regarding the ESA determination.
Copies of the FHWA emails to U.S. Fish and Wildlife Service initiating FWCA and regarding the ESA determination are included in the revised reevaluation. A brief discussion of the process was added under the "Protected Species" section on page 3 of 6 of the Effect Evaluation.

10. Public Involvement: Was there a transcript of the public meeting? If so, please provide for review.
This was an informal public information meeting which was not required, and no official transcript was produced.

We believe we have sufficiently addressed all comments from FHWA. If you should have any questions regarding our responses or need anything further, please do not hesitate to contact our office.

Sincerely,

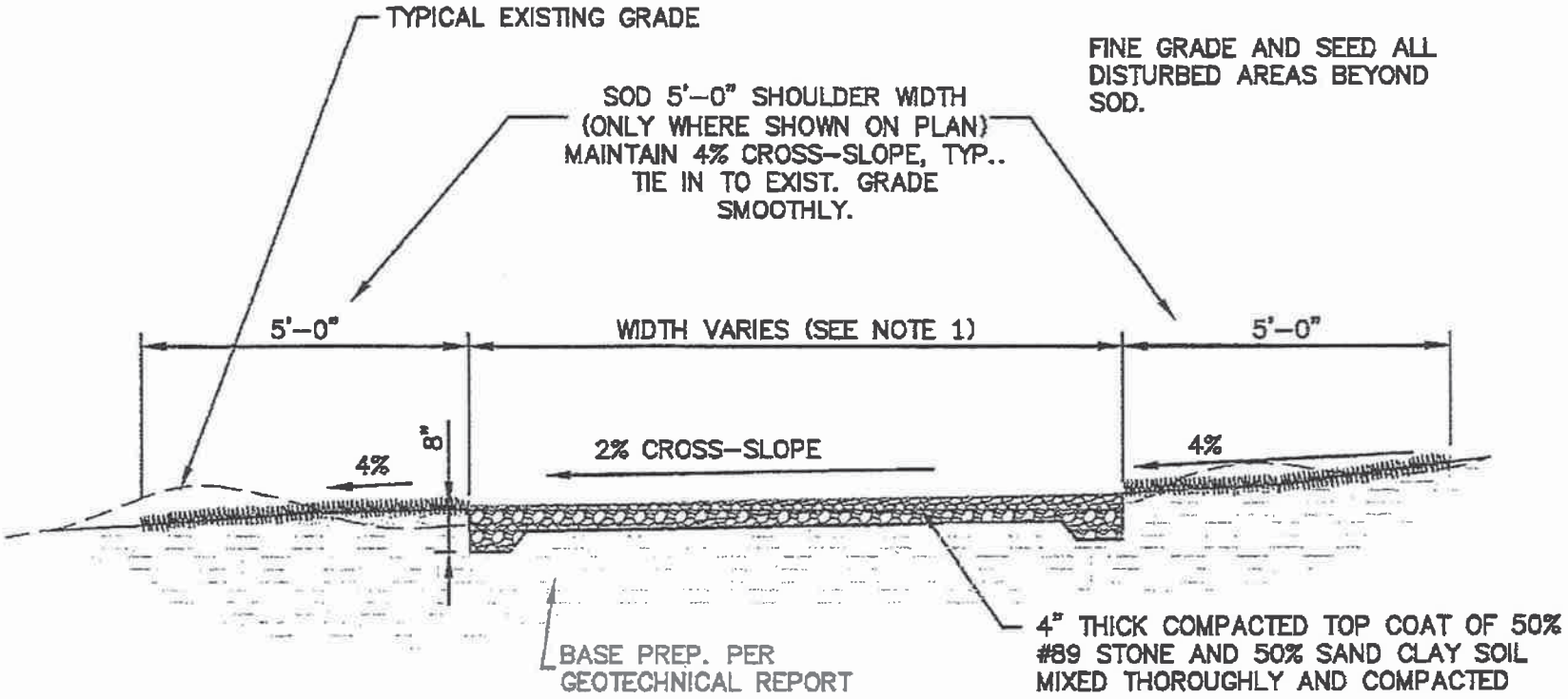
CRANSTON ENGINEERING GROUP, P.C.

D. Scott Williams

D. Scott Williams, PE

DSW/tdj

G:\AA-CORRESPONDENCE\2007\2007-0023 - Ocmulgee Trail - General Consultation 2007\Environmental Reevaluation\Environmental Reevaluation 9-14-12\20070023_2012-9-14_Revised FHWA Comment Response.doc



1. WIDTH VARIES, SEE ROAD, TRAIL, PARKING LOT – TYPICAL SECTION INFORMATION TABLE (THIS SHEET).

GRAVEL TRAIL - TYPICAL SECTION #5

N.T.S.

Text of Draft Final Accessibility Guidelines

AMERICANS WITH DISABILITIES ACT AND ARCHITECTURAL BARRIERS ACT ACCESSIBILITY GUIDELINES

ABA CHAPTER 1: APPLICATION AND ADMINISTRATION

Add new defined terms to F106.5 as follows:

F106.5 Defined Terms

Camping Facility. A *site*, or portion of a *site*, developed for outdoor recreational purposes that contains *camping units*.

Camping Unit. An outdoor *space* in *camping facilities* used for camping that contains *outdoor constructed features*, parking *spaces* for recreational vehicles or other vehicles, tent pads or tent platforms, or camp shelters.

Outdoor Constructed Features. Picnic tables, fire rings, grills, fireplaces, wood stoves, trash and recycling receptacles, water hydrants, utility and sewage hookups, outdoor rinsing showers, benches, telescopes, and periscopes provided at outdoor recreation *facilities*.

Picnic Facility. A *site*, or portion of a *site*, developed for outdoor recreational purposes that contains *picnic units*.

Picnic Unit. An outdoor *space* in *picnic facilities* used for picnicking that contains *outdoor constructed features*.

Trail. A pedestrian route developed primarily for outdoor recreational purposes. A pedestrian route developed primarily to connect elements, spaces, or facilities within a site is not a trail.

Trailhead. An outdoor *space* developed to serve as an access point to a *trail*. The junction of two or more *trails*, where no other access point is provided to the *trails*, is not a *trailhead*.

Viewing Area. An outdoor *space* developed for viewing a landscape or point of interest such as a mountain range, a valley, or a waterfall.

Amend the following existing defined terms in F106.5 to remove the examples:

F106.5 Defined Terms

Circulation Path. An exterior or interior way of passage provided for pedestrian travel.

Walk. An exterior prepared surface for pedestrian use.

1017 Trails

1017.1 General. *Trails* shall comply with 1017.

EXCEPTIONS: 1. Where an entity determines that a condition in 1019 does not permit full compliance with a specific requirement in 1017 on a portion of a trail, that portion of the *trail* shall comply with the specific requirement to the maximum extent feasible. The entity shall document the basis for the determination, and shall maintain the documentation with the records for the construction or *alteration* project.

2. Where an entity determines that it is impracticable for an entire *trail* to comply with 1017, the *trail* shall not be required to comply with 1017. The entity shall document the basis for the determination, and shall maintain the documentation with the records for the construction or *alteration* project.

Advisory 1017.1 General Exception 1. *Exception 1 can be applied to specific requirements in 1017 on a portion of a trail where full compliance with the requirement cannot be achieved due to any of the conditions in 1019.*

Advisory 1017.1 General Exception 2. *An entity should first apply Exception 1 to determine the portions of a trail where full compliance with the specific requirements in 1017 cannot be achieved. An entity should then evaluate the entire trail, taking into account the portions of the trial that can and cannot fully comply with the requirements in 1017 and the extent of compliance where full compliance cannot be achieved to determine whether it would be impracticable for the entire trail to comply with 1017. The determination is made on a case-by-case basis.*

1017.2 Surface. The surface of *trails* and their related passing *spaces* and resting intervals shall be firm and stable.

Advisory 1017.2 Surface. *A stable surface remains unchanged by applied force so that when the force is removed, the surface returns to its original condition. A firm surface resists deformation by indentations.*

1017.3 Clear Tread Width. The clear tread width of *trails* shall be 36 inches (915 mm) minimum.

EXCEPTION: The clear tread width shall be permitted to be reduced to 32 inches (815 mm) minimum for a length of 24 inches (610 mm) maximum provided that reduced width segments are separated by segments that are 48 inches (1220 mm) long minimum and 36 inches (915 mm) wide minimum.

1017.4 Passing Spaces. *Trails* with a clear tread width less than 60 inches (1525 mm) shall provide passing *spaces* complying with 1017.4 at intervals of 1000 feet (300 m) maximum. Where the full length of the *trail* does not comply with 1017, the last passing *space* shall be located at the end of the *trail* segment complying with 1017. Passing *spaces* and resting intervals shall be permitted to overlap.

Advisory 1017.4 Passing Spaces. Entities should consider providing either a 60 inches (1525 mm) minimum clear tread width, or passing spaces at shorter intervals if the clear tread width is less than 60 inches (1525 mm), where a trail is:

- *Heavily used;*
- *A boardwalk; or*
- *Not at the same level as the ground surface adjoining the trail.*

Where the full length of the trail does not comply with 1017, placing the last passing space at the end of the trail segment complying with 1017 enables a person using a wheelchair to turn around and exit the trail.

1017.4.1 Size. The passing *space* shall be either:

1. A *space* 60 inches (1525 mm) minimum by 60 inches (1525 mm) minimum; or
2. The intersection of two *trails* providing a T-shaped *space* complying with 304.3.2 where the base and the arms of the T-shaped *space* extend 48 inches (1220 mm) minimum beyond the intersection. Vertical alignment at the intersection of the *trails* that form the T-shaped *space* shall be nominally planar.

1017.5 Obstacles. Tread obstacles on *trails* and their related passing *spaces* and resting intervals shall comply with 1017.5.

1017.5.1 Concrete, Asphalt, or Boards. Where the surface is concrete, asphalt, or boards, tread obstacles shall not exceed ½ inch (13 mm) in height measured vertically to the highest point.

1017.5.2 Other Surfaces. Where the surface is other than specified in 1017.4.1, tread obstacles shall not exceed 2 inches (50 mm) in height measured vertically to the highest point.

***Advisory 1017.5 Tread Obstacles.** The vertical alignment of joints in concrete, asphalt, or board surfaces can be tread obstacles. Natural features, such as tree roots and rocks, within the trail tread can also be tread obstacles. Where possible, tread obstacles should be separated by a distance of 48 inches (1220 mm) minimum so persons who use wheelchairs can maneuver around the obstacles.*

1017.6 Openings. Openings in the surface of *trails* and their related passing *spaces* and resting intervals shall comply with 302.3.

EXCEPTION: Openings shall be permitted to be to be a size that does not permit passage of a ¾ inch (19 mm) sphere where openings that do not permit the passage of a ½ inch (6.4 mm) sphere cannot be provided due to the conditions in 1019.

1017.7 Slopes. The slopes of *trails* shall comply with 1017.7.

1017.7.1 Running Slope. No more than 30 percent of the total length of a *trail* shall have a *running slope* steeper than 1:12. The *running slope* of any segment of a *trail* shall not be steeper than 1:8. Where the *running slope* of a segment of a *trail* is steeper than

1:20, the maximum length of the segment shall be in accordance with Table 1017.7.1, and a resting interval complying with 1017.8 shall be provided at each end of the segment.

Table 1017.7.1 Running Slope and Resting Intervals

Running Slope of Trail Segment		Maximum Length of Segment
Steeper than	But not Steeper than	
1:20	1:12	200 feet (61 m)
1:12	1:10	30 feet (9 m)
1:10	1:8	10 feet (3050 mm)

Advisory 1017.7.1 Running Slope. *Running slope can also be expressed as a percentage (grade).*

1017.7.2 Cross Slope. The *cross slope* shall comply with 1017.6.2.

1017.7.2.1 Concrete, Asphalt, or Boards. Where the surface is concrete, asphalt, or boards, the *cross slope* shall not be steeper than 1:48.

1017.7.2.2 Other Surfaces. Where the surface is other than specified in 1017.7.2.1, the *cross slope* on other surfaces shall not be steeper than 1:20.

1017.8 Resting Intervals. Resting intervals shall comply with 1017.8.

1017.8.1 Length. The resting interval length shall be 60 inches (1525 mm) long minimum.

1017.8.2 Width. Where resting intervals are provided within the *trail* tread, resting intervals shall be at least as wide as the widest segment of the *trail* tread leading to the resting interval. Where resting intervals are provided adjacent to the *trail* tread, the resting interval clear width shall be 36 inches (915 mm) minimum.

1017.8.3 Slope. Resting intervals shall have a slope complying with 1017.8.3.

1017.8.3.1 Concrete, Asphalt, or Boards. Where the surface is concrete, asphalt, or boards, the slope shall not be steeper than 1:48 in any direction.

1017.8.3.2 Other Surfaces. Where the surface is other than specified in 1017.8.3.1, the slope on other surfaces shall not be steeper than 1:20 in any direction.

1017.8.4 Turning Space. Where resting intervals are provided adjacent to the *trail* tread, a turning *space* complying with 304.3.2 shall be provided. Vertical alignment between the *trail* tread, turning *space*, and resting interval shall be nominally planar.

Designing Sidewalks and Trails for Access

Part I of II: Review of Existing Guidelines and Practices

Program Manager:

Barbara McMillen

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Date:

July 1999

Notice:

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Designing Sidewalks and Trails for Access

Part I of II: Review of Existing Guidelines and Practices

Acknowledgement: *Julie Kirschbaum was the project coordinator for this report, and for the last two years, has focused on the development of this document.*

15 Recreation Trail Design

such as equestrians, who may have specific needs;

- Providing sufficient separation for users traveling at different speeds. For example, if volume and space permits, bicyclists and pedestrians should have different lanes or areas;
- Providing the necessary amenities for all trail users. For example, bicyclists require bicycle parking or lockers, equestrians require hitching posts and water troughs, and off highway vehicle (OHV) users require a testing circle or "landing" at the trailhead to determine if their equipment is operating correctly; and
- Considering the needs of people with disabilities within all of the user groups that are permitted on the trail. For example, individuals with disabilities may use a hand cycle or tricycle design that may not be compatible with some bicycle parking or lockers of limited width. Similarly, an individual who uses a wheelchair may ride a horse but may be unable to dismount in order to go around or under obstacles.

15.4 Trail surfaces

In many situations, the condition of the surface is the most important factor in determining how easily a person with a disability can travel along a recreation trail. Surfaces that are very soft or filled with obstacles are difficult for all trail users and often exclude people with disabilities. The accessibility of the trail surface is determined by a variety of factors including:

- Surface material;
- Surface firmness and stability;
- Surface slip resistance;
- Changes in level and tread obstacles; and
- Size and design of openings.

15 Recreation Trail Design

15.4.1 Surface material

There are various surface materials that can be used in outdoor environments. Recreation trail surfaces are most commonly composed of naturally occurring materials such as packed soil, grass, or rock. Some trails may use crushed stone or native soils mixed with soil stabilizing agents. However, surfaces ranging from concrete to sand may be used depending on the designated user types, the anticipated volume of traffic, the climate, and the conditions in the surrounding environment. High use trails passing through developed areas or fragile environments are commonly surfaced with asphalt, concrete, or soils mixed with stabilizing agents to maximize the longevity of the trail surface, minimize the maintenance requirements, and limit the environmental impact of the trail.

Selection of a trail surface material should be based on the type of user groups, the distance of the trail, the type of setting or experience desired, and the characteristics of the natural environment. The surfacing material on the trail significantly affects which user groups will be capable of negotiating the terrain. Soft surfaces, such as dry sand or pea gravel, are more difficult for all users to negotiate and present particular hazards for those using wheeled devices including road bicycles, walkers, and wheelchairs not designed for rugged terrain. In contrast, other users, such as equestrians, joggers, and some people who walk with assistive devices, prefer surfaces that are not paved or very hard. Ultimately, trail designers must consider the needs of users in conjunction with the local conditions in order to determine the most appropriate surface material(s) for a trail.

15.4.2 Surface firmness, stability, and slip resistance

The firmness, stability, and slip resistance of the trail surface affects all users, but it is particularly important for people using mobility devices such as canes, crutches, wheelchairs or walkers.

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- **Firmness** is the degree to which the surface resists deformation by indentation when, in this case, a person walks or wheels across it. A firm surface would not compress significantly under the forces exerted as a person walks or wheels on it.

- **Stability** is the degree to which the surface remains unchanged by contaminants or applied force, so when the contaminant or force is removed, the surface returns to its original condition. A stable surface would not be significantly altered by a person walking or maneuvering a wheelchair on it.

- **Slip resistance** is based on the frictional force necessary to permit a person to ambulate without slipping. A slip resistant surface does not allow a shoe heel, wheelchair tires, or a crutch tip to slip when ambulating on the surface.

All recreation trails should be surfaced with a material that is firm and stable. When a person walks or wheels across a surface that is not firm and stable, energy that would normally cause forward motion instead deforms or displaces the surface, so the energy is lost through slipping. Providing a firm and stable surface does not mean that only paved trails are acceptable. Crushed stone or fines, packed soil, and other natural materials can provide surfaces that are firm and stable (Table 15-1). To provide a firm and stable surface, the base material should be laid over a geotextile fabric to prevent vegetation growth. The base material must be compacted with the correct moisture content similar to the preparation of a roadbed. Finally, the proper trail surfacing material should be used. Depending on the distribution of particle sizes and the clay content of the material, a surface stabilizer may be needed to create a firm and stable surface.

Providing a slip resistant surface is also desirable, although not always possible to achieve on recreation trails. Brushed concrete and asphalt are slip resistant under dry conditions. Many soil

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Table 15-1. Firmness, Stability, and Slip Resistance for a Variety of Common Trail Surfacing Materials

Surface Material	Firmness	Stability	Slip Resistance (dry conditions)
Asphalt	firm	stable	slip resistant
Concrete	firm	stable	slip resistant*
Soil with Stabilizer	firm	stable	slip resistant
Packed Soil without Stabilizer	firm	stable	not slip resistant
Soil with High Organic Content	soft	unstable	not slip resistant
Crushed rock (3/4" minus) with Stabilizer	firm	stable	slip resistant
Crushed rock without Stabilizer	firm	stable	not slip resistant
Wood Planks	firm	stable	slip resistant
Engineered Wood Fibers that	moderately	moderately	not slip
comply with ASTM F1951	firm	stable	resistant
Grass or Vegetative Ground Cover	moderately firm	moderately stable	not slip resistant
Engineered Wood Fibers that do not comply with ASTM F1951	soft	unstable	not slip resistant
Wood Chips (bark, cedar, generic)	moderately firm to soft	moderately stable to unstable	not slip resistant
Pea Gravel or 1-1/2" Minus Aggregate	soft	unstable	not slip resistant
Sand	soft	unstable	not slip resistant

*A broom finish significantly improves the slip resistance of concrete.

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Chapter

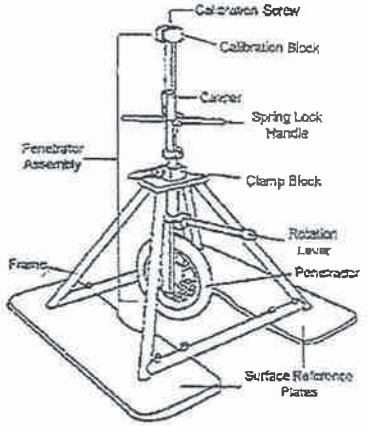

Figure 15-4. A rotational penetrometer is a portable measurement device for determining firmness and stability of trail surfaces.

Figure 15-5. This rotational penetrometer is testing the firmness and stability of sand.

stabilization products that are mixed with natural surfacing materials will also create a surface that is slip resistant under typical weather conditions. The U.S. Access Board (1994a) Technical Bulletin #4 addresses slip resistance in further detail.

If a firm and stable surface cannot be provided throughout the trail, the following recommendations should be considered for short distances:

- For travel over a very limited distance [less than 0.16 km (0.1 miles)] on a relatively level trail (less than 5 percent slope), a moderately firm surface may be used; and
- For travel that is primarily linear [less than 0.8 km (0.5 miles) in length], and relatively level (less than 5 percent slope), a firm but moderately stable surface may be used.

Until recently, there was not a simple, objective method for measuring trail surface firmness and stability in the field. To address this issue, the National Institutes of Health funded a research project to develop a portable surface measurement tool. This device, the rotational penetrometer, measures surface firmness by pressing an indenter into the surface with a specified amount of force and recording the amount of displacement into the surface.

The device measures the stability of the surface by then rotating the indenter back and forth while the force is applied and recording the total amount of displacement of the indenter into the surface. The U.S. Access Board funded additional research to determine the physiological effects of surface firmness and stability on trail users. The studies led to recommendations for an objective definition of trail surface firmness (Table 15-2) and stability (Table 15-3) (Axelson, P.W. & Chesney, D., 1999). For more information about the rotational penetrometer, contact Beneficial Designs, Inc.

Ideally, all surfaces should be firm and stable under most weather conditions.

TABLE 800.1 - SIZES OF COARSE AGGREGATES

SIZE NO	NOMINAL SIZE SQUARE OPENINGS		AMOUNTS FINER THAN EACH LABORATORY SIEVE (SQUARE OPENINGS). %. BY WEIGHT										
	(1)	mm	2 ½"	2"	1 ½"	1"	¾"	½"	3/8"	No. 4	No. 8	No- 16	No. 50
			63 mm	50 mm	37.5mm	25 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36mm	1.18 mm	300 µm
3	2-1	50 - 25	100	90-100	35-70	00-15	—	00-5	—	—	—	—	—
357	2-No. 4	50 - 4.75	100	95-100	—	35-70	—	10-30	—	00-5	—	—	—
4	1 ½ -3/4	37.5 - 19	—	100	90-100	20-55	00-15	—	00-5	—	—	—	—
467	1 ½- No. 4	37.5 - 4.75	—	100	95-100	—	35-70	—	10-30	00-5	—	—	—
5	1-1/2	25 – 12.5	—	—	100	90-100	20-55	00-10	00-5	—	—	—	—
56	1-3/8	25 – 9.5	—	—	100	90-100	40-75	15-35	00-15	00-5	—	—	—
57	1-No. 4	25 – 4.75	—	—	100	95-100	—	25-60	—	00-10	00-5	—	—
6	¾-3/8	19 – 9.5	—	—	—	100	90-100	20-55	00-15	00-5	—	—	—
67	¾-No. 4	19 – 4.75	—	—	—	100	90-100	—	20-55	00-10	00-5	—	—
68	¾-No. 8	19 –2.36	—	—	—	100	90-100	—	30-65	05-25	00-10	0-5	—
7	½-No. 4	12.5 – 4.75	—	—	—	—	100	90-100	40-70	00-15	00-5	—	—
78	½-No. 8	12.5 – 2.36	—	—	—	—	100	90-100	40-75	05-25	00-10	0-5	—
8	3/8-No. 8	9.5 – 2.36	—	—	—	—	—	100	85-100	10-40	0-10	0-5	—
89	3/8-No. 16	9.5 – 1.18	—	—	—	—	—	90-100	90-100	20-55	—	0-10	0-5
9	No. 4-No. 16	4.75 – 1.18	—	—	—	—	—	—	100	85-100	10-40	0-10	0-5

(1) In inches, except where otherwise indicated. Numbered sieves are those of the United States Standard Sieve Series.

Section 209—Subgrade Construction

209.1 General Description

This work includes placing, mixing, compacting, and shaping the top 6 in (150 mm) or the Plan-indicated thickness of the roadbed in both excavation and embankment areas.

This work also includes subgrade stabilization, select material subgrade, and shoulder stabilization.

209.1.01 Definitions

General Provisions 101 through 150.

209.1.02 Related References

A. Standard Specifications

Section 109—Measurement and Payment

Section 412—Bituminous Prime

Section 803—Stabilizer Aggregate

Section 810—Roadway Materials

Section 815—Graded Aggregate

B. Referenced Documents

GDT 7

GDT 20

GDT 21

GDT 24a

GDT 24b

GDT 59

GDT 67

209.1.03 Submittals

General Provisions 101 through 150.

209.2 Materials

A. Subgrade Materials

If the Plans do not show the source of material for subgrade, the Engineer will direct the Contractor according to the Specifications, or implement a Supplemental Agreement to ensure a satisfactory subgrade.

If the existing roadway excavation or borrow materials are not suitable or available for stabilizing the subgrade, use the quantity of stabilizer materials defined below in Subsection 209.2.B.

B. Subgrade Stabilizer Materials

Material	Section
Type I Stabilizer Aggregate	803.2.01
Type II Stabilizer Aggregate	803.2.02

Material	Section
Class IIB3 or Better Soil	810.2.01.A.1
Type III Stabilizer Aggregate	803.2.03
Type IV Stabilizer Sand	803.2.04

C. Select Material Subgrade

Material	Section
Class IIB3 or Better Soil	810.2.01.A.1
Graded Aggregate	815

D. Shoulder Stabilization

Material	Section
Shoulder Stabilization	803.2.02, Type II

209.2.01 Delivery, Storage, and Handling

General Provisions 101 through 150.

209.3 Construction Requirements

209.3.01 Personnel

General Provisions 101 through 150.

209.3.02 Equipment

General Provisions 101 through 150.

209.3.03 Preparation

General Provisions 101 through 150.

209.3.04 Fabrication

General Provisions 101 through 150.

209.3.05 Construction

A. Subgrade Construction

Construct subgrade as follows:

1. Plow, harrow, and mix the entire surface of the in-place subgrade to a depth of at least 6 in (150 mm).
2. After thoroughly mixing the material, bring the subgrade to Plan line and grade and compact it to 100 percent of the maximum laboratory dry density.
3. If the subgrade needs to be stabilized, or if a subsequent contract provides for base construction, do not apply density requirement at this stage.

   If a subsequent Contract provides for base construction, eliminate mixing and compact the in-place subgrade to 95 percent of the laboratory maximum dry density.
4. Ensure that the subgrade can firmly support construction equipment before placing subsequent layers of base and paving materials. The subgrade must support construction equipment without excessive movement regardless of compaction.

5. Rework unstable areas of subgrade to a moisture content that will provide stability and compaction. The Engineer may direct the Contractor to proof roll the subgrade with a loaded dump truck.
6. Compact the subgrade using a sheepsfoot roller.

   Where the subgrade soils are predominantly sands, the Engineer may permit the use of vibratory rollers.

B. Subgrade Stabilization

Construct a stabilized subgrade according to Plans or as directed:

1. Undercut and dispose of the amount of subgrade material that will be displaced with the aggregate or selected material according to the Engineer's direction.
2. Leave material off the subgrade in fill sections requiring stabilization.
3. Place the amount of material specified in Subsection 209.2.B. on the subgrade as specified on the Plans or established by the Engineer.
4. Thoroughly incorporate the material into the existing subgrade to a depth of 6 in (150 mm), or as indicated on the Plans. Plow, disk, harrow, blade, and then mix with rotary tillers until the mixture is uniform and homogeneous throughout the depth to be stabilized.
5. Finish the stabilized subgrade to the Plan line, grade, and cross-section. Compact it to 100 percent of the maximum laboratory dry density as defined in Subsection 209.3.06.

   Plant mixing is permitted as an alternative to the mixed-in-place method.
6. Eliminate the mixing and scarifying method before compaction in undercut areas where Type III Stabilizer Aggregates are specified, unless otherwise specified by the Engineer.

C. Select Materials Subgrade

Place select materials as follows:

1. Place a uniform blanket of select material consisting of Class I or II soil or graded aggregate on the prepared subgrade (according to Plan dimensions or as directed by the Engineer).
2. Use the select material reserved from the grading or borrow operations. If material is not available through this source, obtain it from other sources.
3. Finish and compact the material according to Subsection 209.3.05.A.

D. Shoulder Stabilization

Stabilize the shoulder as follows:

1. Spread the stabilizer aggregate at the rate and to the dimensions indicated on the Plans.
2. Mix the aggregate with the in-place shoulder material thoroughly to the Plan depth.
3. Compact the area thoroughly and finish it to Plan dimensions.
4. Prime the stabilized area according to Section 412 when a paving course is required on the shoulders.

E. Finishing Subgrade

When finishing subgrade use the following procedure:

1. Leave the underlying subgrade in cuts and fills low enough to accommodate the additional material when the work requires either subgrade stabilization, select material subgrade, or stabilization for shoulders.
2. Test short sections in curb and gutter areas might be necessary to obtain the proper elevation.
3. Blade the surface of the completed subgrade to a smooth and uniform texture.

209.3.06 Quality Acceptance

The Department will test representative samples of compacted material to determine the laboratory maximum dry density using GDT 7, GDT 24a, or GDT 67 as applicable.

The Department will determine in-place density of the compacted subgrade according to GDT 20, GDT 21, or GDT 59, as applicable.

Ensure that the centerline profile conforms to the established elevations with an acceptable tolerance of ±0.5 in (±13 mm). The acceptable tolerance under a template conforming to the designated cross section shall be ±0.25 in (±6 mm).

Have the Department test the maximum dry density using methods according to Subsection 209.3.05.A. When base construction is not in the same Contract, the tolerances may be 1 in (25 mm), 0.5 in (13 mm), and 95 percent respectively.

209.3.07 Contractor Warranty and Maintenance

General Provisions 101 through 150.

209.4 Measurement

A. Subgrade Construction and Finishing Subgrade

The Department will make no separate measurement or payment for the work described in this Section.

B. Subgrade Stabilization

Subgrade stabilization materials, as defined in Subsection 209.3.05.B is measured by the ton (megagram), cubic yard (meter), or square yard (meter) of the specified thickness if none of the existing Roadway Excavation and/or Borrow Materials are suitable and available for stabilizing the subgrade.

C. Select Material Subgrade

Select materials, conforming to Subsection 209.3.05.C are measured by the cubic yard (meter) in the hauling vehicle, per ton (megagram) according to Subsection 109.01, or by the square yard (meter) of the specified thickness when roadway excavation and/or borrow materials are not available or suitable for this Item.

D. Shoulder Stabilization

Shoulder stabilization is measured by the cubic yard (meter) or ton (megagram) as specified in Subsection 209.4.B.

209.4.01 Limits

General Provisions 101 through 150.

209.5 Payment

A. Subgrade Construction

The Department will make no separate payment for subgrade construction or for finishing subgrade.

B. Subgrade Stabilization

Subgrade stabilization complete and accepted according to Subsection 209.3.05.B will be paid for at the Contract Unit Price per cubic yard (meter), per ton (megagram), or per square yard (meter). This price is full compensation for furnishing the materials, hauling, placing, mixing, compacting, and finishing the stabilized subgrade.

C. Select Material Subgrade

Select material complete, accepted, and measured according to Subsection 209.4.C will be paid for at the Contract Unit Price per cubic yard (meter), per ton (megagram), or per square yard (meter). This price is full compensation for furnishing the material where required, hauling, placing, mixing, compacting and finishing the select material subgrade.

D. Shoulder Stabilization

This item will be measured by Subsection 209.4.B. and paid for according to Subsection 209.5.B. This item also includes furnishing and applying bituminous prime.

Payment will be made under:

Item No. 209	Stabilizer materials (class), (type), (thickness)	Per ton (megagram), cubic yard (meter), or square yard (meter)
Item No. 209	Select material subgrade (class), (type), (thickness)	Per ton (megagram), cubic yard (meter), or square yard (meter)
Item No. 209	Stabilizer aggregate for shoulders	Per ton (megagram), or cubic yard (meter)

209.5.01 Adjustments

General Provisions 101 through 150.

Section 803—Stabilizer Aggregate

803.1 General Description

This section includes the requirements for stabilizer aggregate, Types I through III, and Type IV stabilizer sand.

803.1.01 Related References

A. Standard Specifications

Section 800—Coarse Aggregate

B. Referenced Documents

AASHTO T 27

AASHTO T 96

GDT 63

803.2 Materials

803.2.01 Type I Stabilizer

A. Requirements

Use the appropriate type, class, and grade of stabilizer aggregate.

Use material of uniform quality that meets the requirements of Section 800, Class A or B aggregate. Crushed concrete may be used provided it meets the requirements of Section 800 that are applicable to Group 2 aggregates. Ensure the material meets the following gradation:

Sieve Size	% Passing by Weight
1-1/2 in (37.5 mm)	100
1 in (25 mm)	80-100
No. 8 (2.36 mm)	0-5

B. Fabrication

General Provisions 101 through 150.

C. Acceptance

Use the following test:

Test	Method
Sieve analysis	AASHTO T 27

D. Materials Warranty

General Provisions 101 through 150.

803.2.02 Type II Stabilizer Aggregate

A. Requirements

Use material that meets the requirements of Section 800, Class A or B aggregate. Crushed concrete may be used provided it meets the requirements of Section 800 that are applicable to Group 2 aggregates.

The aggregate shall:

- Not contain overburden soil or disintegrated rock
- Have a sand equivalent value of at least 20 for material passing the No. 10 (2 mm) sieve
- Meet these gradation requirements:

Sieve Size	% Passing by Weight
2 in (50 mm)	100
1-1/2 in (37.5 mm)	95-100

Sieve Size	% Passing by Weight
No. 10 (2 mm)	15-45
No. 200 (75 µm)	0-12

B. Fabrication

General Provisions 101 through 150.

C. Acceptance

Test type II stabilizer as follows:

Test	Method
Sieve analysis	AASHTO T 27
Sand equivalent	GDT 63

D. Materials Warranty

General Provisions 101 through 150.

803.2.03 Type III Stabilizer Aggregate

A. Requirements

Use material that meets the requirements of Section 800, Class A or B aggregate. Crushed concrete may be used provided it meets the requirements of Section 800 that are applicable to Group 2 aggregates.

Ensure the stabilizer aggregate does not contain soil or decomposed rock and that the Sand Equivalent value of the material passing the No. 10 sieve is not less than 20.

The aggregate shall meet these gradation requirements:

Sieve Size	% Passing by Weight
6 in (150 mm)	100
2 in (50 mm)	25-75
No. 10 (2 mm)	15-35

B. Fabrication

General Provisions 101 through 150.

C. Acceptance

Test Type III stabilizer as follows:

Test	Method
Sieve analysis	AASHTO T 27
Percent wear	AASHTO T 96

D. Materials Warranty

General Provisions 101 through 150.

803.2.04 Type IV Stabilizer Sand

A. Requirements

Make Type IV stabilizer sand from either natural sand, manufactured sand, or any combination of natural and manufactured sands.

1. If using manufactured sand, make the sand from Class A or B crushed stone, gravel, slag, or synthetic aggregate that meets Section 800requirements.
2. Type IV stabilizer sand shall have a sand equivalent of at least 35 for material passing the No. 10 (2 mm) sieve and shall also meet these gradation requirements.

Sieve Size	% Passing by Weight
No. 10 (2 mm)	60-100

No. 60 (250 µm)	5-40
No. 200 (75 µm)	0-20

B. Fabrication

General Provisions 101 through 150.

C. Acceptance

Test Type IV stabilizer as follows:

Test	Method
Sieve analysis	AASHTO T 27
Sand equivalent	GDT 63

D. Materials Warranty

General Provisions 101 through 150.

Section 800—Coarse Aggregate

800.1 General Description

This section includes requirements for coarse aggregate. All aggregate shall be the specified type, class, and grade, and shall meet the requirements for the intended use.

800.1.01 Related References

A. Standard Specifications

Section 424—Bituminous Surface Treatment

B. Referenced Documents

AASHTO	ASTM	
T 11	C 277	C 295
T 27	C 289	C 586
T 96	C 294	E 30
T 104		G 23

GDT 104

GDT 129

GDT 133

QPL 2

800.2 Materials

800.2.01 Coarse Aggregate

A. Requirements

The Contractor shall use the type, group, class, and grade of coarse aggregate specified. For coarse aggregate sources, see QPL 2.

1. Coarse Aggregate Types

Type	Characteristics
Crushed stone	Sound, durable rock particles.
Gravel	Sound, durable rock without damaging coatings.
Air-cooled blast furnace slag	Sound, durable particles with uniform density and quality, or other slags that have a good service record. Dry slag shall weigh at least 70 lb/ft³ (1120 kg/m³) compacted and shall contain less than 30% glassy particles by weight. Do not use slag as aggregate for Portland cement concrete.
Synthetic aggregate	Sound, durable, expanded clay, shale, or other manufactured product.

2. Coarse Aggregate Groups
   a. Group I: Limestone, dolomite, marble, or any combination thereof. Ensure Group I aggregates meet the abrasion requirement for Class A stone when used in Portland cement concrete of any type or class.
   b. Group II: Slag, gravel, granitic and gneissic rocks, quartzite, synthetic aggregate, or any combination thereof.
3. Classes

   Aggregates are classified by physical properties that determine how they are used.
   a. Do not blend aggregates that meet abrasion requirements with aggregates that do not meet requirements.
   b. "Class A" and "Class B" aggregate used in Portland cement concrete, asphaltic concrete, and bituminous surface treatment shall meet these limits:

Percent Wear AASHTO T 96 ("B" Grading)		
	Class A	Class B
Group I Aggregates	0-40	41-55
Group II Aggregates	0-50	51-60

c. "Class B" aggregates used in all applications other than Portland cement concrete, asphaltic concrete, or bituminous surface treatment shall meet these limits:

Percent Wear AASHTO T 96 ("B" Grading)	
	Class B
Group I Aggregates	41-55
Group II Aggregates	51-65

4. Soundness

Test coarse aggregate used in Portland cement concrete, bituminous surfaces, bituminous bases, aggregate bases, or surface treatment with five alternations of the magnesium sulfate soundness test.

a. Use aggregate with a weight loss of less than 15 percent.

b. The 15 percent soundness loss for a Class "CS" concrete is waived if it has a 5-year service record.

c. If the material meets all the requirements except for the 15 percent soundness requirement, the material may be used in Zones 3 and 4 (see Subsection 424.3.05, "Construction Requirements") under the following conditions:

1) The aggregate in bituminous courses and in all types and classes of Portland cement concrete construction, except as stated in Group I, has a satisfactory five-year service record under similar service and exposure.

2) The Engineer's investigation shows that it equals or exceeds the quality of approved aggregate (in cases where the material's uniformity changes at the source, or does not have a five-year service record).

5. Grades

Use coarse aggregate that is well graded within the limits and sizes specified in Table 800.1.

6. Detrimental Substances

a. Detrimental substances include shale, weathered or decomposed rock, friable particles, or any substance that may be detrimental for the use intended..

b. Do not use any aggregate that can cause a deleterious reaction.

c. Do not use aggregates that contain Chrysotile (defined as fibrous serpentinite) as a temporary or permanent unbound surfacing for roads, nor as stabilizer for soil used as subgrade, base, or surface course.

d. Detrimental substances shall not exceed the following limits:

1) For Portland Cement Concrete:

Substance	Max % Allowed
Mica schist—Materials defined in ASTM C 294 as phyllite or schist. Use GDT 104 to analyze these materials.	5
Materials that pass the No. 200 (75 µm) sieve.	1.5
Flat and elongated pieces (with lengths more than five times the average thickness).	10
Sulphur content computed as sulfide sulphur (for bridge-type structures)—If the sulphur content exceeds 0.01%, do not use the aggregate unless it passes a petrographic analysis and a weathering test equivalent to 6 months or more of exposure.	0.01
Other local detrimental substances. (Any Combination)	2.0
NOTE: Do not use aggregate in Portland Cement concrete that is capable of producing a deleterious reaction when combined with Portland Cement.	

2) For Asphaltic Concrete:

Substance	Max. % Allowed
Mica schist—Materials defined in ASTM C 294 as phyllite or schist. Use GDT 104 to analyze these materials. (Use this requirement for Interstate Construction only.)	10
Flat or elongated particles (with lengths more than five times the average thickness).	10
Glassy particles (slag).	30
Other local detrimental substances. (Any combination)	2.0

3) For Bituminous Surface Treatment:

Substance	Max. % Allowed
Mica schist—Materials defined in ASTM C 294 as phyllite or schist. Use GDT 104 to analyze these materials.	10
Material finer than No. 200 (75 µm) sieve. #5 Stone #6 Stone #7 Stone #89 Stone	 0.5 0.7 0.7 1.0
Flat and elongated particles (with lengths more than five times the average thickness).	10
Glassy particles (slag).	30
Other local detrimental substances. (Any combination)	2

e. Ensure that gravel used in asphaltic concrete and bituminous surface treatment meets the following additional requirements:

- Consists of siliceous particles.
- A minimum of 85%, by count, of the material retained on the No. 4 (4.75 mm) sieve has one or more fractured faces.
- The fracture is for the approximate average diameter or thickness of the particle.

B. Fabrication

General Provisions 101 through 150.

C. Acceptance

Test as follows:

Test	Method
Material that passes the No. 200 (75 µm) sieve	AASHTO T 11
Sulphur content	ASTM E 30, Leco method
Weathering	ASTM G 23
Petrographic analysis	ASTM C 295
Soundness (magnesium sulfate)	AASHTO T 104
Percent wear	AASHTO T 96
Aggregate gradation	AASHTO T 27
Reactivity	ASTM C 227, C 289, and C 586
Schist or phyllite	GDT 104
Flat and elongated particles	GDT 129
Friable Particles	GDT 133

D. Materials Warranty

General Provisions 101 through 150.

TABLE 800.1 - SIZES OF COARSE AGGREGATES

SIZE NO	NOMINAL SIZE SQUARE OPENINGS		AMOUNTS FINER THAN EACH LABORATORY SIEVE (SQUARE OPENINGS), %, BY WEIGHT										
	(1)	mm	2 ½"	2"	1 ½"	1"	¾"	½"	3/8"	No. 4	No. 8	No- 16	No. 50
			63 mm	50 mm	37.5mm	25 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36mm	1.18 mm	300 µm
3	2-1	50 - 25	100	90-100	35-70	00-15	—	00-5	—	—	—	—	—
357	2-No. 4	50 - 4.75	100	95-100	—	35-70	—	10-30	—	00-5	—	—	—
4	1 ½ -3/4	37.5 - 19	—	100	90-100	20-55	00-15	—	00-5	—	—	—	—
467	1 ½- No. 4	37.5 - 4.75	—	100	95-100	—	35-70	—	10-30	00-5	—	—	—
5	1-1/2	25 – 12.5	—	—	100	90-100	20-55	00-10	00-5	—	—	—	—
56	1-3/8	25 – 9.5	—	—	100	90-100	40-75	15-35	00-15	00-5	—	—	—
57	1-No. 4	25 – 4.75	—	—	100	95-100	—	25-60	—	00-10	00-5	—	—
6	¾-3/8	19 – 9.5	—	—	—	100	90-100	20-55	00-15	00-5	—	—	—
67	¾-No. 4	19 – 4.75	—	—	—	100	90-100	—	20-55	00-10	00-5	—	—
68	¾-No. 8	19 -2.36	—	—	—	100	90-100	—	30-65	05-25	00-10	0-5	—
7	½-No. 4	12.5 – 4.75	—	—	—	—	100	90-100	40-70	00-15	00-5	—	—
78	½-No. 8	12.5 – 2.36	—	—	—	—	100	90-100	40-75	05-25	00-10	0-5	—
8	3/8-No. 8	9.5 – 2.36	—	—	—	—	—	100	85-100	10-40	0-10	0-5	—
89	3/8-No. 16	9.5 – 1.18	—	—	—	—	—	—	90-100	20-55	—	0-10	0-5
9	No. 4-No. 16	4.75 – 1.18	—	—	—	—	—	—	100	85-100	10-40	0-10	0-5

(1) In inches, except where otherwise indicated. Numbered sieves are those of the United States Standard Sieve Series.

APPENDIX C:
Concept Report

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

TE PROJECT CONCEPT REPORT

GDOT Project Number: CSTEE-0008-00(986)

GDOT P.I. Number: 0008986

FEDERAL FUNDS: $600,000.00 MATCHING FUNDS: $150,000.00

FISCAL YEAR PROPOSED: 2010

PROJECT SPONSOR: City of Macon

CONTACT PERSON: Ben Hamrick, Business Manager, Macon-Bibb County Parks & Recreation, 478-751-9286

Date of Report: January 22, 2010

The undersigned have reviewed the concept report:

Date	State Environmental/Location Engineer
Date	State Traffic Engineer
2/25/10	David B. Mullen
Date	District Engineer
Date	State Transportation Planning Administrator
	N/A
Date	State Bridge Engineer

This project concept is contained in the Regional Transportation Program (RTP) and/or in the State Transportation Improvement Program (STIP). The concept as presented herein and submitted for approval is consistent with that which is included in the RTP and/or STIP.

(Information copies have been provided to the following offices: Engineering Services, Maintenance, Road Design, Urban Design, Bridge Design, and Right-of-Way. Their comments are welcomed.)

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

TE PROJECT CONCEPT REPORT

GDOT Project Number: CSTEE-0008-00(986)

GDOT P.I. Number: 0008986

FEDERAL FUNDS: $600,000.00 MATCHING FUNDS: $150,000.00

FISCAL YEAR PROPOSED: 2010

PROJECT SPONSOR: City of Macon

CONTACT PERSON: Ben Hamrick, Business Manager, Macon-Bibb County Parks & Recreation, 478-751-9286

Date of Report: January 22, 2010

The undersigned have reviewed the concept report:

Date	State Environmental/Location Engineer
Date	State Traffic Engineer
Date	District Engineer
2-16-2010 Date	Angela J. Alexander State Transportation Planning Administrator
Date	N/A State Bridge Engineer

This project concept is contained in the Regional Transportation Program (RTP) and/or in the State Transportation Improvement Program (STIP). The concept as presented herein and submitted for approval is consistent with that which is included in the RTP and/or STIP.

(Information copies have been provided to the following offices: Engineering Services, Maintenance, Road Design, Urban Design, Bridge Design, and Right-of-Way. Their comments are welcomed.)

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

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GDOT Project Number: CSTEE-0008-00(986)

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FEDERAL FUNDS: $600,000.00 MATCHING FUNDS: $150,000.00

FISCAL YEAR PROPOSED: 2010

PROJECT SPONSOR: City of Macon

CONTACT PERSON: Ben Hamrick, Business Manager, Macon-Bibb County Parks & Recreation, 478-751-9286

Date of Report: January 22, 2010

The undersigned have reviewed the concept report:

2/15/2010 _____
Date State Environmental/Location Engineer

_____ _____
Date State Traffic Engineer

_____ _____
Date District Engineer

_____ _____
Date State Transportation Planning Administrator

_____ N/A
Date State Bridge Engineer

This project concept is contained in the Regional Transportation Program (RTP) and/or in the State Transportation Improvement Program (STIP). The concept as presented herein and submitted for approval is consistent with that which is included in the RTP and/or STIP.
(Information copies have been provided to the following offices: Engineering Services, Maintenance, Road Design, Urban Design, Bridge Design, and Right-of-Way. Their comments are welcomed.)

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

TE PROJECT CONCEPT REPORT

GDOT Project Number: CSTEE-0008-00(986)

GDOT P.I. Number: 0008986

FEDERAL FUNDS: $600,000.00 MATCHING FUNDS: $150,000.00

FISCAL YEAR PROPOSED: 2010

PROJECT SPONSOR: City of Macon

CONTACT PERSON: Ben Hamrick, Business Manager, Macon-Bibb County Parks & Recreation, 478-751-9286

Date of Report: January 22, 2010

The undersigned have reviewed the concept report:

Date	State Environmental/Location Engineer
2-19-10 Date	Kathment A Zahul for State Traffic Engineer
Date	District Engineer
Date	State Transportation Planning Administrator
Date	N/A State Bridge Engineer

This project concept is contained in the Regional Transportation Program (RTP) and/or in the State Transportation Improvement Program (STIP). The concept as presented herein and submitted for approval is consistent with that which is included in the RTP and/or STIP.
(Information copies have been provided to the following offices: Engineering Services, Maintenance, Road Design, Urban Design, Bridge Design, and Right-of-Way. Their comments are welcomed.)

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

TE PROJECT CONCEPT REPORT

GDOT Project Number: CSTEE-0008-00(986)

GDOT P.I. Number: 0008986

FEDERAL FUNDS: $600,000.00 MATCHING FUNDS: $150,000.00

FISCAL YEAR PROPOSED: 2010

PROJECT SPONSOR: City of Macon

CONTACT PERSON: Ben Hamrick, Business Manager, Macon-Bibb County Parks & Recreation, 478-751-9286

Date of Report: January 22, 2010

The undersigned have reviewed the concept report:

Date	State Environmental/Location Engineer
Date	State Traffic Engineer
Date	District Engineer
Date	State Transportation Planning Administrator
Date	State Bridge Engineer

This project concept is contained in the Regional Transportation Program (RTP) and/or in the State Transportation Improvement Program (STIP). The concept as presented herein and submitted for approval is consistent with that which is included in the RTP and/or STIP.
(Information copies have been provided to the following offices: Engineering Services, Maintenance, Road Design, Urban Design, Bridge Design, and Right-of-Way. Their comments are welcomed.)

TE PROJECT COMMON NAME:

Ocmulgee Heritage Trail - Walnut Creek Extension

TE PROJECT LOCATION:

Located in Macon, Georgia, between the Ocmulgee River and Interstate 16

TE PROJECT CONCEPT *[DESCRIPTION]:*

The project is to be built using Transportation Enhancement and local funds and is called the Ocmulgee Heritage Trail, Otis Redding Bridge to Walnut Creek, which will extend south between Interstate 16 and the Ocmulgee River to Walnut Creek, where it can connect to existing trails of the Ocmulgee National Monument.

PROPOSED TYPICAL SECTION:

The trail will be approximately 6,500 feet long, 10'-wide concrete, asphalt, or gravel and will meander generally between 30' and 100' from the river bank and will not penetrate the 25' Stream Buffer. Current budget limitations dictate that the trail be composed of asphalt, but if the budget changes in the future the trail material may change as well. The trail will consist of 1.5-2" of asphalt over a 4-6" graded aggregate base. There will be footbridges or culverts along the way to cross over natural drainage ways. Due to the sensitive area of Ocmulgee National Monument, construction will primarily be closely tied to existing grades, minimizing areas of cut and fill, and per guidelines established by the Environmental Assessment report. The project will conform to the requirements of the Americans with Disabilities Act (ADA).

MAJOR STRUCTURES:

None

PERMITS REQUIRED:

NPDES

LEVEL OF ENVIRONMENTAL ANALYSIS:

Environment Assessment per National Park Service requirements

SECTION 4(f)/SECTION 106 INVOLVEMENT:

Although the proposed project would occur on National Park lands, there would be no substantial impairment of the current activities, features, or attributes that would qualify the area for protection under Section 4(f), and there would be no substantial indirect effects to the resource. Therefore, no Section 4(f) Evaluation is required.

OTHER KNOWN OR SUSPECTED ENVIRONMENTAL ISSUES:

N/A

LEVEL OF PUBLIC INVOLVEMENT:

N/A

DESIGN STANDARDS TO BE USED:

AASHTO, GDOT and ADA

DESIGN VARIANCES REQUIRED:

Design Variances to omit shoulders on footbridge and omit shoulders on path under canopy

OTHER GDOT PROJECTS IN IMMEDIATE VICINITY OF TE PROJECT:

None

CONCEPT TEAM MEETING HELD AND PERSONS PRESENT:

N/A

FIELD REVIEW HELD:

To be held after environmental report approved

RAILROAD INVOLVEMENT:

The proposed trail passes under a Norfolk Southern Railroad trestle towards the beginning of the trail. The crossing will be handled in a manner similar to the same type of crossing that was installed on the opposite side of the Ocmulgee River under TE project PI 0000122, Ocmulgee Heritage Trail: Gateway Trail. The railroad canopy, as detailed on sheet 2 in the attachments, will be installed to protect trail pedestrians from objects that may fall from the tracks overhead. The canopy will be on a track system to allow for temporary removal for maintenance purposes.

UTILITIES:

This property is owned by the City of Macon and the Department of the Interior. However, there are existing utility easements to Georgia Power and Macon Water Authority on the City of Macon property. These utilities will remain intact and coordination with the utilities will be for easement encroachment purposes. The GA Power line crosses the proposed trail approximately perpendicular and crosses the river. The Macon Water line is a sewer line that runs generally parallel but not adjacent to the proposed trail. Contacts for utilities are as follows:

GA Power:	Max Shoupe	478-784-5827
Macon Water Authority:	Tony Rojas	478-464-5622

COMMENTS: None

ATTACHMENTS:

Project Area Map, Project Layout, Existing and Proposed Typical Sections, Cost Estimate

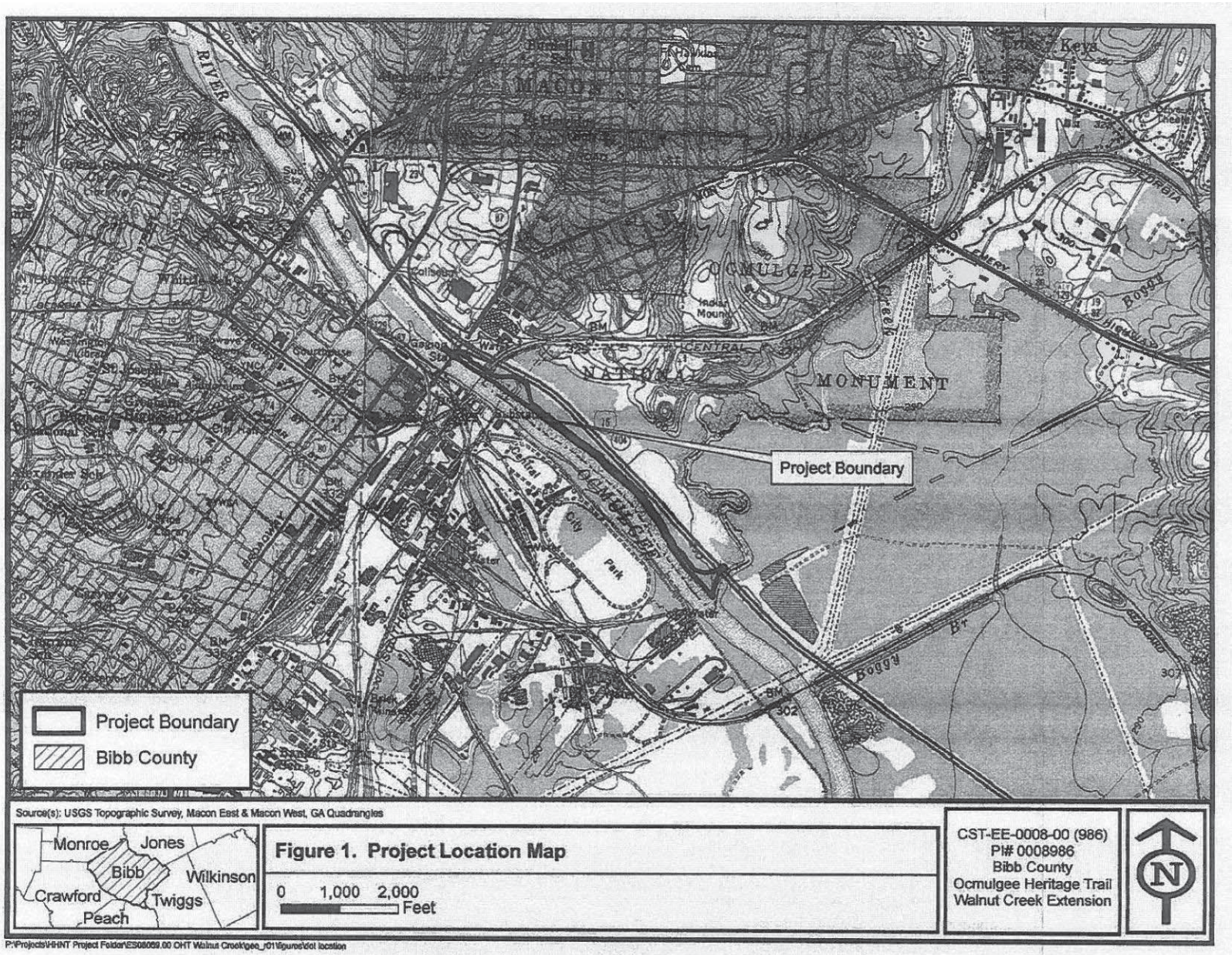
Ocmulgee Heritage Trail - Walnut Creek Extension

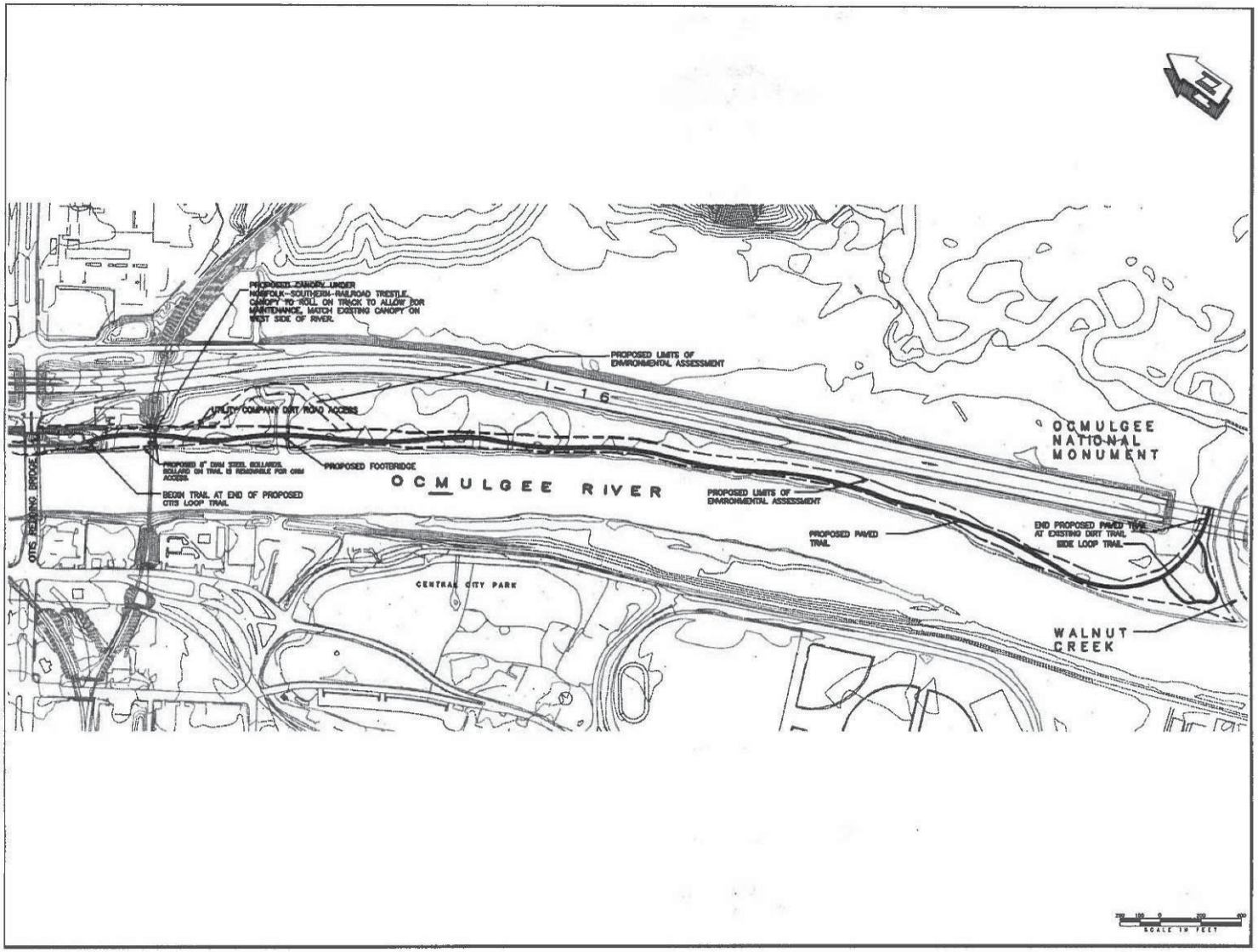
Preliminary Cost Estimate, CSTEE-0008-00(986), P.I.#0008986

January 22, 2010

ITEM	QTY	UNIT	SIZE	UNIT PRICE	TOTAL
HARDSCAPE					
General Conditions	Lump Sum				$ 100,000.00
Misc. Work, Site Clean-up	Lump Sum				$ 25,000.00
Grading/Drainage	Lump Sum				$ 125,000.00
Asphalt Walkway	6,125	SY	1 1/2" - 2" Asphalt with 4"-6" base	$ 40.00	$ 245,000.00
Canopy and Bollards	Lump Sum				$ 45,000.00
Footbridges	Lump Sum				$ 120,000.00
LANDSCAPE					
Understory Privet Removal					$ 60,000.00
Sod					$ 26,000.00
Seeding					$ 3,750.00

Total **$ 749,750.00**


MACON
OCMULGEE
NATIONAL
CENTRAL
MONUMENT
Project Boundary
Project Boundary
Bibb County
Source(s): USGS Topographic Survey, Macon East & Macon West, GA Quadrangles
Monroe
Jones
Bibb
Wilkinson
Crawford
Twiggs
Peach
Figure 1. Project Location Map
0 1,000 2,000
Feet
CST-EE-0008-00 (986)
PI# 0008986
Bibb County
Ocmulgee Heritage Trail
Walnut Creek Extension
N
P:\Projects\HHNT Project Folder\ES08069.00 OHT Walnut Creek\gee_r01\figures\dot location



Ocmulgee Engineering Group, P.C.

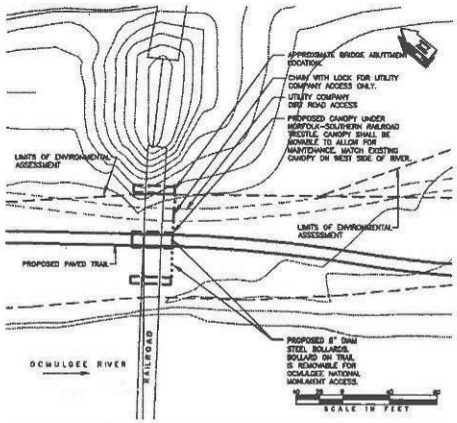
NO.	DATE	REASON DESCRIPTION

Ocmulgee Heritage Trail: Walnut Creek Extension
PI # 0008986

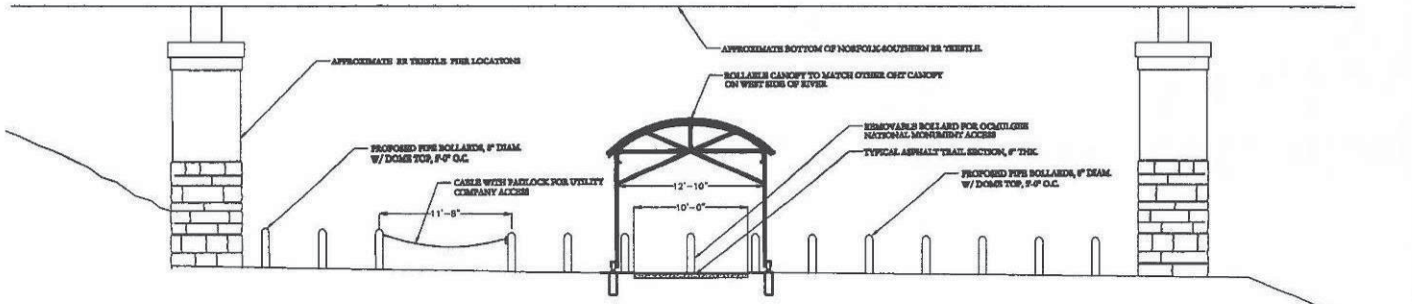
OVERALL CONCEPT PLAN

DRAWN	RSA
CHECKED	TFW
APPROVED	DSW
DATE	JANUARY 22, 2010
SCALE	AS SHOWN
JOB No.	2008-0080

DRAWING NUMBER
1



PLAN AT PROPOSED CANOPY AT RAILROAD TRESTLE



PROPOSED SECTION @ CANOPY AND BOLLARDS AT NORFOLK-SOUTHERN nts

Cranston Engineering Group, P.C.

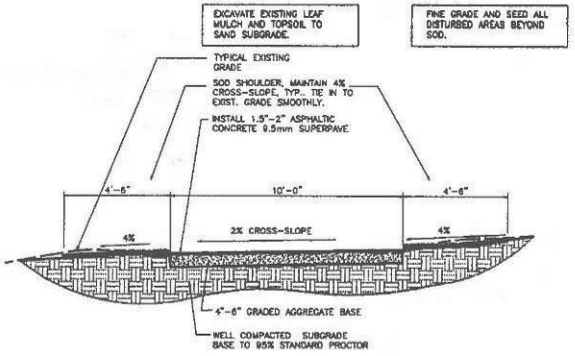
REVISION DESCRIPTION

Ocmulgee Heritage Trail: Walnut Creek Extension
PI # 0008986

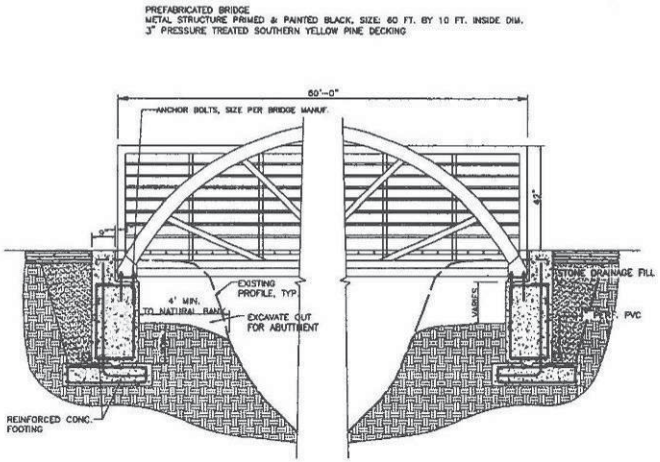
PLAN & SECTIONS

DRAWN	CSA
CHECKED	TFW
APPROVED	DSW
DATE	JANUARY 22, 2010
SCALE	AS SHOWN
JOB No.	2008-0080

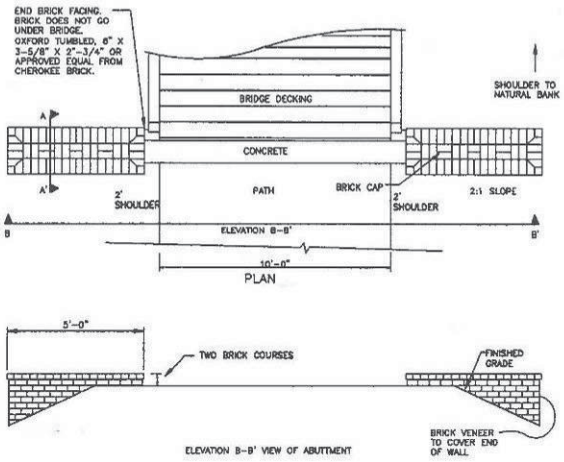
DRAWING NUMBER
2



1 ASPHALT TRAIL TYPICAL SECTION
NOT TO SCALE



2 TYPICAL BRIDGE DETAIL
NOT TO SCALE



Cranston Engineering Group, P.C.

REVISION DESCRIPTION

Ocmulgee Heritage Trail:
Walnut Creek Extension
PI # 0008986

TYPICAL SECTIONS

DRAWN	GSA
CHECKED	TPF
APPROVED	DSF
DATE	JANUARY 22, 2010
SCALE	AS SHOWN
JOB No.	2005-0080

DRAWING NUMBER
3

Vance C. Smith, Jr., Commissioner

GEORGIA DEPARTMENT OF TRANSPORTATION
One Georgia Center, 600 West Peachtree Street, NW
Atlanta, Georgia 30308
Telephone: (404) 631-1000

FILE P.I. No. 0008986
CSTEE-0008-00(986) Bibb
Ocmulgee Trail

OFFICE Thomaston

DATE February 25, 2010

FROM Bill Rountree

TO Brent Story (Concept Reports)
W/Attachments

SUBJECT **Signed Concept Cover Sheet W/Comments**

We have reviewed the concept report on the above project and concur with the recommendation for approval with the comments listed below:

Kerry Gore, District Three Utilities Engineer:

On the above project, we anticipate no utility conflicts except for the easements issue mentioned in the report. However, we cannot finalize this statement until we see developed plans.

Mike England, District Three Traffic Engineer:

We concur with the scope of the project as described within the report. We will provide further comment as plans are developed for impacts and or requirements for access to state right-of-way.

APPENDIX D:
Agency Coordination Meeting Notes

Sign-In Sheet
Environmental Permitting Kickoff Meeting

08-080

NAME	ORGANIZATION	PHONE	E-MAIL
Scott Williams	Cranston Engineering Group	(706) 772-1588	dswilliams@cranstonengineering.com
Melanie Nable	GDOT/OEL	404.699.4436	mnable@dot.ga.gov
Jim David	NPS-Ocmulgee NM	478.752-8257x11	jim_david@nps.gov
~~Steven M. Wright~~	~~NPS/ [illegible]~~	~~404-562-3124, x11~~	~~steven_m_wright@nps.gov~~
Tom Queen	GDOT	7066466982	tqueen@dot.ga.gov
David Clark	Newton N	478-230-9155	dclark@outofthosky.com
Katy Allen	FHWA	404-562-3657	katy.allen@fhwa.dot.gov
Ben Hamrick	Cobb & Macon Parks & Recreation	478-951-9286	ben.hamrick@macon.ga.us

Sign-In Sheet
Environmental Permitting Kickoff Meeting 08-080

NAME	ORGANIZATION	PHONE	E-MAIL
Bill Hodges	Ocmulgee Heritage Trail Tech Comm.	478-743-7175	HodgesWMF@AOL.com
Bill Causey	City of Macon Public Works Dept.	478-751-9257	bill.causey@macon.ga.us
Jim Mangi	Mangi Environmental	703 760 480/x222	jmangi@mangi.com
Jen Karanian	Mangi Environmental	703-760-4801 x230	jkaranian@mangi.com

OCMULGEE HERITAGE TRAIL
ENVIRONMENTAL ASSESSMENT (EA) KICKOFF MEETING

March 4, 2008

Introduction (see sign-in sheet)

- Primary purpose of meeting is to address the environmental documentation relationship between National Park Service (NPS) and Georgia Department of Transportation (GDOT).

- Can one combined document serve the project needs?

    - GDOT is the lead agency, so it should be handled like a GDOT EA but include additional NPS requirements and have an additional signature line.
    - From NPS perspective, it just needs to meet Director's Order (DO) 12 requirements.
    - Also needs to address wetland protection (DO 77-1) and impairment of resources. Wetlands determinations will need to be based on the NPS Guidelines of a single criteria being present instead of the typical three as the Corps and GDOT require.
    - Threatened or endangered species assessment will need to cover both Federal and State listed species in accordance with NPS requirements.
    - Public involvement:
        - DOT always has public involvement, whereas NPS sometimes just publishes an announcement.
        - This project probably won't be controversial and will only require one combined public hearing/open house after the draft EA is approved. No separate scoping open house will be done. All present agreed with this path forward.
    - Special studies:
        - Ecology, archaeology and history will be required by the GDOT.
        - NPS would require that information in the EA (summarize the special studies).
        - NPS does not wish to review the special studies
        - Studies will be submitted separately and will not be included in the EA. NPS will be copied on final drafts of special studies. Melanie Nable of GDOT will handle this coordination.
        - Steven Wright of NPS will provide Melanie Nable of GDOT with any NPS requirements/guidelines for the special studies.
    - Section 4(f):
        - Depends on who's going to maintain the trail once it's built - It will be NPS property.
        - In the past, FHWA has constructed and NPS has maintained - no 4(f) required.
        - It was agreed by all parties present that no Section 4(f) would be required.

- This project will be funded as a "TE" project (no longer "HPP") - should make it a little easier (still federal dollars, doesn't affect much).

- This project will now have its own separate PI #, not PI# 0007636.

- NPS environmental screening form topics: something the NPS provides that would help with the EA (used by NPS as checklist). Steven Wright of NPS will provide this document to Melanie Nable of GDOT. Melanie will provide FHWA with a copy of this document.

- Almost the entire project area is owned by NPS (after railroad), a small portion near the Otis Redding Bridge is owned by a combination of Agencies - Macon Water Authority, Georgia Power Company, and Norfolk Southern Railroad.

- Archaeological data:

    - NPS consultants have done some testing in the past; archaeological site seems to be 20-30 ft below the surface. Steven Wright of NPS will provide Melanie Nable of GDOT with copies of any existing reports for this area. Melanie will also research any other GDOT studies which may have been completed as part of I-16 for this area.
    - Research existing data and talk to SHPO, additional field work may not be required.
    - Not much ground disturbance taking place. Minimal grading within 1-2 feet of surface plus the footings for pedestrian bridge.

- NPS General Management Plan (GMP) is from the 1960s, not useful.

- Construction easements were discussed , and it was determined that no easements would be required for access during construction.

- A sub-section shall be added to EA which discusses both indirect and cumulative effects of the project.

- NPS will require a minimum of three weeks to review the draft EA before it is sent out to the public.

- Section 106 Early Notification/Coordination letter will be completed using GDOT standard formats.

- Ecology early coordination will also be required.

GDOT Project CSTEE-0008-00(986)
Bibb County, PI. NO. 0008986

OHT - Walnut Creek Ext. (within NPS property)

Please print

Name	Affiliation	Email
Mike Ford	Ocmulgee Heritage Trail	CMFN@AOL.com
Tori Wheeler	Cranston Engineering Group	twheeler@cranstonengineering.com
Ben Hamrick	City of Macon P&R	ben.hamrick@maconbibbparks.com
Blake Lisenby	Counsel, Ocm. Her. Trail	blisenby@sell-melton.com
Scott Williams	Cranston Engineering Group	dswilliams@cranstonengineering.com
Guy Lachine	NPS Ocmulgee NM	guy-lachine@nps.gov
Anita Barnett	SERO NPS	Anita_Barnett@nps.gov
Brian Smart	MAMA TE Program	bsmart@maai.net
Chris Kingsbury	MA/TE	ckingsbury@maai.net
Melanie Nable	GDOT/NEPA	mnable@dot.ga.gov
Jonathan Cox	GDOT/NEPA	jocox@dot.ga.gov
Chetna Dikon	FHWA	Chetna.Dikon@fhwa.dot.gov
Kelvin Mullins	GDOT Program Delivery	Kemullins@dot.ga.gov

OCMULGEE HERITAGE TRAIL: WALNUT CREEK EXTENSION
CSTEE-0008-00(986); BIBB PI # 0008986
REINTRODUCTION MEETING MINUTES

May 12, 2010 - 10:00 am
GDOT Office of Environmental Services
Atlanta, Georgia

- Introductions – See sign-in sheet attached
- Project Overview
    - An overview of the entire Ocmulgee Heritage Trail system was provided as well as the concept for this phase.
    - The overall trail system is maintained for the most part by the City of Macon or their contractor – Ocmulgee Heritage Trail, LLC. The portion of the trail proposed to be constructed on Ocmulgee National Monument property will be maintained by the local NPS.
    - This proposed phase is approximately 6,500 linear feet of asphalt trail between Interstate 16 and the Ocmulgee River in Macon, GA.
    - Most of the property for this phase is on National Park Service property (Ocmulgee National Monument), which begins approximately at the Norfolk Southern Railroad. The remainder is owned by the City of Macon and Norfolk Southern Railroad.
    - National Park Service requires and EA for projects on their property, otherwise a Categorical Exclusion would have been the appropriate level of documentation for this project.
- Project History
    - Project Kick-off Meeting – March 4, 2008
- Concept Report
    - Approved 3/12/10
    - Design Deviation Statement filed 3/31/10
- Special Studies
    - Air Assessment – Approved 8/11/09
        - Send copies of this to NPS with Draft EA if not before.

- Noise Assessment – Approved 6/16/09
  - Send copies of this to NPS with Draft EA if not before.
- Archaeological Survey Report – SHPO Concurrence 12/18/09
  - No archaeological impacts as determined by SEAC based on depths of disturbance as proposed.
- Phase I Ecology Assessment – Approved 12/21/09
  - NPS needs a copy of the Phase I ecology assessment.
  - A Phase II ecology assessment will be required for this project.
  - Ecological Impacts (2 NPS wetlands and 1 stream) have a potential to be exempt from DO-77-1 and -2, but Anita feels that they probably won't qualify for NPA exemption due to the fact that the trail is paved.
  - Impacts must be reviewed by the Water Resources Division of the National Park Service.
- Historic Resources Survey Report – Approved 3/18/10 (FHWA email)
  4/29/10 (SHPO letter)
  - NPS has no concerns with Section 4(f).
  - No Historic Properties Affected document – resubmitted 4/29/10
    - NPS has concern that it is not "no historic property affected", it should be "no historic property adversely affected". May possibly need to change to Assessment of Effects instead of NHPA document, but will wait for review to determine.
    - If it is determined that an AOE is needed in lieu of the NHPA, then contact should be made with Tommy Jones in the regional NPS office to obtain a template.

- Environmental Assessment
  - Draft EA (First Draft at 90% complete)
    - The draft EA will be submitted to Moreland Altobelli once completed, who will then submit to GDOT/FHWA. FHWA will send to NPS for review.
    - Threshold and intensity definitions need to be discussed with National Park Service before DEA is finalized.

        - A conference call will be set up to discuss formatting and language of the draft EA.
        - GDOT signs the DEA, but NS does not. NPS does however sign the FONSI.
    - The draft EA will be released publicly after it has been approved by all review parties.
        - National Park Service does not require a public hearing, it just needs to be made available to the public for review in certain areas (website, local libraries, newsletter to park "friends", copies at ONMU, area GDOT office, etc).
        - GDOT is on board with this route as this project is considered an amenity and it would possibly be a waste of time to have someone set up at an open house if there is no controversy.
        - Parties involved will reconvene at later date to coordinate details on this.

- Right-of-Way (Memorandum of Understanding between NewTown Macon and National Park Service/Department of the Interior)
    - Not sure what route will be appropriate for this project concerning right-of-way. May possibly require highway easement deed or just a special use permit.
    - No matter what route is found to be appropriate, no action can be taken on ROW until after FONSI is approved and signed.
- Cooperating Agency documentation has been sent by NPS to FHWA.
- Once bridge plans are completed they should be sent to MAAI so that they can be submitted to GDOT bridge office.
- Plan is to have design plans in for review by approximately April 2011.

OCMULGEE HERITAGE TRAIL: WALNUT CREEK EXTENSION
CSTEE-0008-00(986); BIBB PI # 0008986
CONFERENCE CALL MINUTES

May 19, 2010 - 9:00 am

- The following parties attended this conference call:
    - National Park Service (Anita Barnett & Guy Lachine)
    - Georgia Department of Transportation (Jonathan Cox, Ruthie Jones, Kelvin Mullins, Elaine Armster)
    - Federal Highway Administration (Chetna Dixon & Michele Lindberg)
    - Moreland Altobelli & Associates (Chris Kingsbury & Brian Smart)
    - Mangi Environmental (Meghan Morse)
    - Cranston Engineering Group, PC (Scott Williams & Tori Wheeler)
- Environmental Assessment Document
    - The methodology section has been included in table form.
    - The following thresholds have been defined: negligible, mild, moderate – definitions have been taken from other NPS projects and altered to fit this one.
    - Meghan will go back and apply some "lessons learned" from the Kennesaw project she worked on with Anita to this EA.
    - Meghan will be emailing the threshold definitions to Anita for review.
    - Anita would like to see "beneficial" and "adverse" added to the definitions.
    - Anita stressed that while the "No Historic Properties Affected" document is fine, it needs to be clear in the EA that a historic property is affected, just not in an adverse manner.
    - Impairment statements have been included in the EA.
    - The FONSI will be a joint document, in the same manner as the EA.
- Ecology Issues
    - Anita has asked about the wetlands exception possibility around NPS but has not received an answer yet.

  - Anita still feels that the exception will not be granted because of the trail material and maintenance.
  - Cranston may contact Anita directly to discuss mitigation when it's time.

- Right-of-Way Issues
  - Anita is waiting on someone within NPS to advise on the ROW issue.
  - Normally FHWA doesn't typically approve special-use permits because it has to be for the life of the trail, trail needs to be open at all times.
  - Guy stated that the intention was that the trail would only be used during daylight hours, but the gate will not be closed at night unless problems arise.

- A question was raised about the life of the project. FHWA will look into this and coordinate with Kelvin & Elaine. The life of the project should also be mentioned in the DEA once determined.

MEETING NOTES (FINAL)
CSTEE-0008-00(986)
County: Bibb
P.I. No. 0008986
Ocmulgee Heritage Trail – Walnut Creek Extension

Date: April 5, 2012

Location/Time: GDOT OES/9:00 AM – 9:50 AM

Attendees:

Name	Company	Phone	E-Mail
Chetna Dixon	FHWA	404-562-3655	Chetna.dixon@dot.gov
Michele Palicka	FHWA	404-562-3703	Michele.palicka@dot.gov
Tyler Peek	GDOT/OPD	706-646-6668	tpeek@dot.ga.gov
Ruthie Jones	GDOT/ROW	404-657-8476	rujones@dot.ga.gov
Jeanne Kerney	MAAI	770-263-5945	jkerney@maai.net
Jonathan Cox	GDOT/OES	404-631-1197	jocox@dot.ga.gov
Bruce Hart	KEA Group	678-904-8591 x26	bhart@keagroup.com

The following were items discussed at the meeting:

- Jonathan Cox started the meeting with a request for introductions.
- Jonathan stated that the Draft EA had been reviewed by FHWA (Chetna Dixon) with comments provided in 2011. He indicated that it was his understanding that most of the comments had been addressed with the exception of FHWA's request for additional detail about the right-of-way (ROW)/right-of-entry (ROE) for the FHWA TE-funded trail construction within the boundary of the NPS Ocmulgee National Monument (ONM).
- Jeanne Kerney described the coordination that has occurred among GDOT OES/OPD/ROW, MAAI, NPS, and FHWA in order to provide documentation that for FHWA and NPS ROE.
- Jeanne Kerney stated that the project design firm met with the project sponsor, City of Macon, and NPS ONM personnel in early March 2012 about another project. During that meeting, NPS inquired about the ROE status of this project. The outcome of that meeting was a commitment by NPS ONM that they would coordinate with other NPS staff to obtain the documentation required by FHWA to address the ROE issue.
- Jeanne and Michele Palicka discussed coordination leading up to a meeting with NPS to discuss the ROE issue; NPS did not attend this meeting, however. Michele corresponded with the NPS ROW specialist; the NPS contact indicated that no additional coordination was needed based on previous coordination that had occurred.
    - FHWA will coordinate with NPS at the time the Draft EA is submitted to FHWA for review.
- Discussion followed with Michele and Chetna stating that FHWA requires assurance that NPS will operate the trail at least as long as the FHWA "lifespan" threshold of 20 years; this could be accomplished by using a Special Use Permit (SUP). Michele indicated that GDOT would need to determine the appropriate type of permit for GDOT's adequate rights. GDOT will make the determination of adequate rights and discuss the matter with FHWA.
- Jonathan state that two points of demonstration are needed:
    - Demonstration that GDOT and FHWA have coordinated with NPS on the ROE issue.
    - Demonstration from NPS that the trail will remain open for at least as long as FHWA "lifespan" threshold
- Chetna did not forward the Draft EA to NPS for review based on FHWA's review of the document in late summer 2011 (and the basis for FHWA comments in a letter dated September 20, 2011). Bruce Hart stated that the Draft EA has been revised based on the comments with the exception of the ROE issue. Chetna stated that she will review the revised Draft EA. When FHWA has completed their review of the Draft EA, she will transmit the document to NPS with a letter to NPS clarifying the current status of the ROE and requesting additional coordination between FHWA and NPS. Chetna inquired about the current environmental schedule and if it has accommodated time spans for NPS review. Tyler and Jeanne confirmed that the current schedule includes NPS review; therefore, Chetna requested that this schedule be forwarded to her so she can request matching review time spans from NPS (attached are notes from a meeting held 1/16/12; the notes include the DEA/FONSI schedule).

- Jeanne informed the group the project is scheduled for let in March 2014; this schedule was based on receiving a Finding of No Significant Impact (FONSI) determination by June 2013. Chetna stated that schedule is still reasonable.
- There being no additional comments or questions the meeting was concluded.

Action Items:

- The revised Draft EA, with the ROE issue outstanding, will be transmitted to Jonathan by Friday, April 13.
- The current environmental schedule will be sent to Chetna for her preparation of the Draft EA transmittal letter to NPS (see attached notes from meeting held 1/16/12).
- FHWA Georgia Division will contact FHWA-HQ to determine if other TE funds are being spent on NPS land.
- FHWA will coordinate with NPS at the time the Draft EA is transmitted to FHWA for review.
- GDOT will make the determination of adequate rights and discuss the matter with FHWA.
- Upon FHWA approval of the Draft EA, Chetna will transmit the Draft EA to NPS for review and request continued coordination with NPS on the ROE.

This is my understanding of items discussed and decisions reached. Please contact me if there are changes or additions.

Submitted by,

KENNEDY ENGINEERING & ASSOCIATES GROUP

Bruce Hart

Attachment

TELECONFERENCE MEETING NOTES (FINAL)
CSTEE-0008-00(986)
County: Bibb
P.I. No. 0008986
Ocmulgee Heritage Trail – Walnut Creek Extension

Date: April 12, 2012

Location/Time: Teleconference/9:00 AM – 9:15 AM

Attendees:

Name	Company	Phone	E-Mail
Chetna Dixon	FHWA	404-562-3655	Chetna.dixon@dot.gov
Jeanne Kerney	MAAI	770-263-5945	jkerney@maai.net
Jonathan Cox	GDOT/OES	404-631-1197	jocox@dot.ga.gov
Bruce Hart	KEA Group	678-904-8591 x26	bhart@keagroup.com

The following were items discussed at the meeting:

- Chetna Dixon indicated that she wanted to clarify the FHWA requirements for FEMA no-rise certification coordination based on her review of the minutes from the 1/16/12 meeting between MAAI and KEA Group. These minutes were provided to the participants of the FHWA/GDOT project meeting held on 4/5/12.
- Chetna described the process of the no-rise certification relative to the advancement of the Draft EA and Final EA/FONSI. Analysis regarding impacts to floodplains should determine and disclose the appropriate documentation (e.g., no rise certificate, CLOMR, or LOMR) needed in the Draft EA. However, the Final EA/FONSI must disclose the appropriate documentation needed (e.g. no rise certification, CLOMR, LOMR) as well as the evaluation of practical alternatives that had been evaluated and a discussion of what types of impacts to the floodplain would occur if the project was constructed.
- Bruce Hart noted that Cranston Engineering, the project engineer of record, has prepared a memorandum stating the project is located within the 100-year floodplain of the Ocmulgee River and that the project would involve activities within the regulatory floodway of the Ocmulgee River. The memorandum concludes that coordination has begun to obtain a no-rise certification and that the quantitative evaluation will be prepared in the future. Bruce also described that this memorandum is attached to the Draft EA as supporting documentation to the floodplains discussion within the Draft EA. Chetna stated that this type of documentation is adequate for the Draft EA and reiterated that disclosure of appropriate documentation (no-rise certification, CLOMR, or LOMR) will be required for the Final EA/FONSI.
- Chetna stated that FEMA mapping may have changed in this area and that this recent update should be relayed to Cranston Engineering as they evaluate impacts to floodplains. Chetna noted a project that she has been involved with in which the design had to be modified to accommodate the current mapping as the previous design used outdated information.
- Chetna described a floodplain/transportation training that was held recently in Atlanta and suggested that Bruce contact Mike Murdoch with GDOT OES, who attended the training. Chetna noted that the training provided updates on the current regulations as well as the use of appropriate language relative to the current regulations (23 CFR 650.113).
- Chetna reiterated that the Final EA/FONSI should include a discussion of the practical alternates that were evaluated in determining impacts to floodplains.
- There being no additional comments or questions the meeting was concluded.

Action Items:

- Convey to Cranston Engineering the recent changes to FEMA maps that may have occurred within the project area.
- Bruce to contact Mike Murdoch and discuss the floodplain/transportation training relative to the no-rise certification for this project.
    - Bruce spoke with Mike on 4/12/12 about the training. Mike indicated that the current regulations require a no-rise certification for both floodway and floodplain such that the proposed project would not increase the Base Flood Elevation greater than one foot. Mike was unaware of any specific language requirements or changes to language templates regarding the new regulations.

Bibb County, P.I. No. 0008986
Teleconference Meeting – April 12, 2012
Notes -- Final

This is my understanding of items discussed and decisions reached. Please contact me if there are changes or additions.

Submitted by,

KENNEDY ENGINEERING & ASSOCIATES GROUP

Bruce Hart