

Draft Supplemental Environmental Assessment

# Autumn Woods Drainage Improvement Project

DeSoto County, Mississippi

FEMA-1604-DR-MS

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**FEMA**

**Federal Emergency Management Agency**  
**Department of Homeland Security**  
500 C Street, SW  
Washington, DC 20472

*This document was prepared by:*

**URS Group, Inc.**

10550 Richmond, Suite 155  
Houston, TX 77042

200 Orchard Ridge Drive, Suite 101  
Gaithersburg, MD 20878

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## Acronyms and Abbreviations

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APE	area of potential effects
BMP	Best Management Practice
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
E	Endangered
EA	Environmental Assessment
EIS	Environmental Impact Statement
EO	Executive Order
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FONSI	Finding of No Significant Impact
FPPA	Farmland Protection Policy Act
HMGP	Hazard Mitigation Grant Program
HPS	Historic Preservation Specialist
MDAH	Mississippi Department of Archives and History
MEMA	Mississippi Emergency Management Agency
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
RCP	Reinforced Concrete Pipe
SEA	Supplemental Environmental Assessment
SHPO	State Historic Preservation Office
SWPPP	Storm Water Pollution Prevention Plan
T	Threatened
THPO	Tribal Historic Preservation Office
U.S.	United States
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

## **SECTION ONE INTRODUCTION**

### **1.1 PROJECT AUTHORITY**

The City of Southaven, MS, has applied to the Federal Emergency Management Agency (FEMA) for assistance with the construction of the Autumn Woods Drainage Improvement Project under Hazard Mitigation Grant Program (HMGP) subapplication number HMGP 1604 MM#231. FEMA's HMGP provides grants to State and local governments to implement long-term hazard mitigation measures after a major disaster declaration. The purpose of the HMGP is to reduce the loss of life and property due to natural disasters and to enable mitigation measures to be implemented during the immediate recovery from a disaster. The HMGP is authorized under Section 404 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act. FEMA proposes to provide assistance for this project through the HMGP under Presidential Disaster Declaration FEMA-1604-DR-MS.

An Environmental Assessment (EA) for the Autumn Woods Drainage Improvement Project was finalized in February of 2010. The EA analyzed the potential environmental impacts of the proposed project and resulted in a Finding of No Significant Impact (FONSI). In a letter to the Mississippi Emergency Management Agency (MEMA), dated July 2, 2010, the City of Southaven requested several modifications to the original approved scope of work that are necessary to satisfy the overall objective of the Project's purpose and need. The modifications to the proposed project were determined to be substantial enough to warrant the preparation of this Supplemental EA.

In accordance with 44 Code of Federal Regulations (CFR) for FEMA, Subpart B, Agency Implementing Procedures, Part 10.9, this Supplemental Environmental Assessment (SEA) has been prepared pursuant to Section 102 of the National Environmental Policy Act (NEPA) of 1969, as implemented by the regulations promulgated by the President's Council on Environmental Quality (CEQ [40 CFR Parts 1500-1508]). This SEA hereby incorporates the Final EA (FEMA 2010) by reference, in accordance with 40 CFR Part 1508. 28. The purpose of the SEA is to analyze the potential environmental impacts of the modified proposed project, and to determine whether to prepare an Environmental Impact Statement (EIS) or a FONSI.

### **1.2 OVERVIEW**

This document is a supplement to the original EA prepared for the Autumn Woods Drainage Improvement Project. This document provides a description of the modified Proposed Action and describes the effects that the modified project would have on resources in the project area only if those effects differ from the effects expected to result from the original Proposed Action as described in the original EA. Resources for which the effects of the revised Proposed Action are expected to be similar in extent or magnitude to those expected from the original Proposed Action are not reiterated in this document, and include:

- Geology
- Groundwater
- Transportation

- Environmental Justice
- Air Quality
- Noise
- Hazardous Materials
- Safety
- Socioeconomic Resources

Resources expected to be affected differently by the modified project and which are analyzed in this document include:

- Soils
- Surface Water
- Floodplains
- Waters of the United States Including Wetlands
- Biological Resources
- Cultural Resources

Effects of the No Action Alternative on all resources are expected to be similar in extent and magnitude to those effects described in the original EA and are not reiterated in this document. However, the baseline conditions of the project area have changed since the original EA was finalized in March of 2010. The City has constructed Southaven Fire Station No. 2 at the corner of Swinnea Road and Rasco Road and realigned a portion of an unnamed tributary to Rocky Creek to the edge of the new fire station property. Under the No Action Alternative, severe storm events could cause stream bank erosion along this tributary, possibly undermining Swinnea Road and the fire station property.

### 1.3 PROJECT LOCATION

The City of Southaven is a semi-rural/urban community located in the north-central portion of DeSoto County in northwestern Mississippi, approximately 15 miles south of Memphis, TN. The proposed project is primarily associated with the Autumn Woods subdivision, located at the intersection of Rasco and Swinnea Roads in the City of Southaven, MS (Figure 1, Appendix A). Additional work is proposed to the north of Autumn Woods in and adjacent to the Greenbrook Subdivision and to the southeast of Autumn Woods in an unnamed tributary to Rocky Creek.

### 1.4 PROJECT DESCRIPTION

The proposed project would provide for an improved stormwater drainage system for the Autumn Woods subdivision and channel improvements to a creek to mitigate flood hazards in the vicinity of the subdivision. Proposed improvements include enlarging and expanding the existing Autumn Woods drainage system, constructing two new detention ponds, and re-aligning an unnamed tributary to Rocky Creek to protect an adjacent fire station from stream bank erosion and a roadway from floodwater undermining during severe storm events.

### 1.5 PURPOSE AND NEED

The objective of FEMA's HMGP is to assist communities in recovering from damage caused by severe storm events and natural disasters. The purpose of the proposed action alternative presented in this SEA is to mitigate the flood hazard to residential properties and public infrastructure in and adjacent to the Autumn Woods subdivision. In addition, the recent construction of Southaven Fire Station No. 2 and extension of Rasco Road to the east of Swinnea Road resulted in the channelization of a portion of the Rocky Creek tributary to maintain a drainage way for areas north of Rasco Road to Rocky Creek. Additional modifications to the tributary are now needed to protect the fire station and Swinnea Road from erosion along the banks of the tributary.

## **SECTION TWO PROPOSED ACTION**

This section describes the revised Proposed Action Alternative considered in addressing the purpose and need stated in Section 1.5. As discussed in Section 1.2, no additional discussion of the No Action Alternative is provided.

Under the Proposed Action Alternative, the City of Southaven would construct the following modifications to the original approved scope of work that are necessary to satisfy the overall objective of the Project's purpose and need. Modifications to the original scope of work include the following:

- **Autumn Woods Drainage and Discharge Modifications** – The original scope of work included the installation of two 700-foot-long storm drainage pipes along Autumn Woods Drive and Long Branch Drive, which would have extended southwest across Rasco Road into Rocky Creek. The revised scope includes the installation of approximately 800 feet and 1,000 feet of reinforced concrete pipe (RCP) along Autumn Woods Drive and Long Branch Drive, respectively. In addition, approximately 240 feet of RCP would be installed along Acorn Cove; this RCP would tie in to the Long Branch Drive drainage line. The Autumn Woods Drive and Long Branch Drive pipes would extend southwest across Rasco Road where they would discharge to outfall structures adjacent to Rocky Creek. Construction of the outfall structures for the Autumn Woods Drive and Long Branch Drive drainage lines would include the excavation of two 4-foot-wide open drainage ditches, approximately 300 feet and 120 feet long, respectively, which would extend and discharge to Rocky Creek. Rip-rap would be installed at the drainage line outlets to minimize erosion within the drainage ditches. In addition to the new construction, proposed improvements to the existing Autumn Woods drainage system include the repair of rusted or damaged portions of the existing corrugated metal drainage pipes, and the plugging and filling of sections of the drainage system that will no longer be utilized.
- **Detention Pond Redesign** – The original proposed Swinnea Road detention pond design would be modified from a single detention pond to two shallower detention ponds to reduce the overall depth of excavation on the site. The single detention pond was originally designed to retain a 100-year storm event. A 3-hour duration storm event was selected as the design event, which is similar to the flooding event of August 2005. The overall detention pond volume was reduced from the original 64 acre-feet to approximately 52 acre-feet. A small, existing man-made pond located onsite would be drained and filled, allowing for all excavated material from construction of the two new detention ponds to be placed on the project site. Use of the pond for detention was considered impractical, as the pond does not provide for adequate capacity; and its location on the eastern portion would require significant modifications to collect and convey stormwater towards the proposed detention pond discharge at Swinnea Road.
- **Detention Pond Discharge** – The originally proposed 60- to 72-inch discharge pipe along Swinnea Road would be removed from consideration; instead, the detention pond discharge would be redirected to the storm drainage infrastructure in the Autumn Woods subdivision. The proposed improvements to the Autumn Woods subdivision drainage pipes would provide sufficient capacity to convey the stormwater from the detention pond to Rocky Creek.

- **Greenbrook Subdivision Discharge** – To retain enough water upstream of the Autumn Woods Subdivision, additional drainage improvements would be required to modify the storm drainage system in the Greenbrook Subdivision. The discharge pipe from the Greenbrook Subdivision would be modified to convey the majority of this subdivision’s stormwater to the proposed detention ponds. Without such improvements, the existing detention pond at Gators Drive would overtop during a 100-year storm event, resulting in the potential for additional flooding in the Autumn Woods Subdivision.
- **Re-alignment and bank stabilization of the Rocky Creek Tributary** – The original scope of work proposed minor creek improvements and bank stabilization activities, including the installation of rip-rap, to minimize erosion and scouring within Rocky Creek. Additional modifications are now proposed to protect the newly constructed adjacent fire station from stream bank erosion, as well as Swinnea Road, from undermining. The revised project would relocate approximately 410 feet of the tributary approximately 50 feet south, aligning the tributary with the Swinnea Road culvert (Figure 2, Appendix A). The proposed re-alignment would construct an 8-foot-wide flat bottom channel with 2:1 side slopes. Material excavated to construct the new channel would be used to fill the existing channel. Rip-rap would be installed along approximately 600 feet of the realigned channel for armoring.

Preliminary construction drawings for the proposed detention pond site and Rocky Creek tributary re-alignment are provided in Appendix B.

### SECTION THREE    AFFECTED ENVIRONMENT AND IMPACTS

The following information is intended to supplement the information contained in the original EA (FEMA 2010). All information regarding resources, local and regional requirements, and project features outlined in the original EA remain the same. Environmental factors for which the effects of the revised Proposed Action are expected to be similar in extent or magnitude to those expected from the originally Proposed Action are not reiterated in this document. Environmental factors expected to be affected differently by the modified project are analyzed in this section and summarized in the table below.

The following table summarizes the potential impacts of the Proposed Action Alternative and conditions or mitigation measures to offset those impacts.

Affected Environment	Impacts	Mitigation
Soils	Excavation activities associated with the realignment of the channel, modification and expansion of the Autumn Woods and Greenbrook drainage systems, and construction of the open ditch outfall structures would result in an increase in the total volume of soil disturbance and displacement; however, impacts to soils for this portion of the project would be minor and short-term, consistent with impacts discussed in the original EA.	A Stormwater Pollution Prevention Plan (SWPPP) must be prepared prior to construction.  Implementation of appropriate best management practices (BMPs) would be required at the construction locations, including the installation of silt fences and the revegetation of soils.
Surface Water	Impacts to Rocky Creek resulting from stormwater discharge from the proposed outfall structures are consistent with the original EA.  Additional minor, short-term impacts to downstream surface waters during construction of the stream realignment and pond drainage are anticipated.	A National Pollutant Discharge Elimination System (NPDES) permit has been issued for the proposed project that requires the preparation of a SWPPP prior to construction. Appropriate BMPs, such as installing silt fences and revegetating bare soils, would minimize runoff.  EPA recommends the use of natural stream channel design techniques for the proposed stream channel re-alignment and bank stabilization of the Rocky Creek tributary.
Floodplains	Floodplain impacts related to the proposed outfall structures and detention basins are consistent with the original EA. The proposed channel realignment is located within the 100-year floodplain and the floodway, but is not anticipated to negatively impact the floodplain.	None.

## Affected Environment and Impacts

Affected Environment	Impacts	Mitigation
Waters of the United States Including Wetlands	Impacts related to construction of outfall structures and placement of in-stream riprap in Rocky Creek are consistent with the original EA. Additional impacts will result from the Rocky Creek tributary realignment. No wetland impacts are anticipated.	Proposed construction activities must comply with all regional, general, and special conditions for U.S. Army Corps of Engineers (USACE) Nationwide Permits 7 and 43 (Outfall Structures and Associated Intake Structures and Stormwater Management Facilities).
Biological Resources/ Threatened and Endangered Species	Impacts to biological resources resulting from detention pond and outfall structure construction are consistent with the original EA. Construction of the Rocky Creek tributary realignment is anticipated to result in the short-term displacement of motile aquatic organisms and mortality of sessile organism in the project area. Additional short-term impacts to downstream aquatic organisms may occur due to increased sedimentation. No impacts to any federally protected species are anticipated.	Appropriate BMPs would be implemented during construction to limit the downstream transport of sediment.
Cultural Resources	No impacts to archaeological or cultural resources are anticipated.	If during the course of work, archaeological artifacts (prehistoric or historic) or human remains are discovered, the applicant shall stop work in the vicinity of the discovery and take all reasonable measures to avoid or minimize harm to the finds. The applicant shall inform their HMGP contacts in FEMA, who will in turn contact FEMA Historic Preservation Staff. Work will not proceed until FEMA Historic Preservation Staff has completed consultation with the SHPO and all interested Native American Indian Tribes.

### 3.1 SOILS

Physiography and soils for the expanded project area would be consistent with those discussed in the original EA. As part of the preparation of the original EA, a consultation letter was sent to the Natural Resources Conservation Service (NRCS) on July 20, 2009, requesting that the agency review the proposed project and provide comments. In a response letter, dated July 30, 2009, the agency stated that the original project was located within the city limits and does not require a Farmland Protection Policy Act (FPPA) determination. The revised scope of work does not expand the project beyond city limits; therefore, no additional NRCS coordination is required.

Proposed Action Alternative – Under the Proposed Action Alternative, excavation activities associated with the realignment of the channel, modification and expansion of the Autumn Woods and Greenbrook drainage systems, and construction of the open ditch outfall structures would result in an increase in the total volume of soil disturbance and displacement; however impacts to soils for this portion of the project would be minor and short term, consistent with impacts discussed in the original EA. Approximately 2,100 cubic yards of material would be excavated during the construction of the channel re-alignment and used to backfill the existing channel. The revised detention pond design reduces the overall capacity and soil excavation from 64 to 52 acre-feet, a reduction of approximately 20,000 cubic yards of material. The pond redesign also allows for all excavated material from construction of the detention ponds and drainage improvements to be placed on the site of the proposed detention ponds.

The applicant obtained an NPDES permit from MDEQ on July 7, 2010 (Appendix C). The permit requires the applicant to prepare a SWPPP prior to construction; this SWPPP must include BMPs to minimize erosion of soils from the construction area and reduce offsite sediment transport.

### 3.2 WATER RESOURCES

#### 3.2.1 Surface Water

The information regarding local water resources, local and regional water quality, and project location remain as described in the original EA. The revised project extends the project footprint to include approximately 410 feet of the Rocky Creek tributary, east of Swinnea Road. In addition, the revised project would drain and fill a pond located on the proposed detention pond site with excavated material from construction. A URS site visit on February 1, 2010, identified the pond as man-made and non-vegetated, with no apparent hydrologic connection to any stream channel or other waterbody.

Proposed Action Alternative – Under the Proposed Action Alternative, impacts to surface water quality in Rocky Creek resulting from discharges at the Autumn Woods drainage system outfall structures will be consistent with those discussed in the original EA. Drainage of the man-made pond on the proposed detention pond site would result in a temporary increase in storm water discharge into Rocky Creek. Additional impacts to surface water quality will result from the proposed realignment of the Rocky Creek tributary, primarily due to erosion and sedimentation. The proposed project will likely increase the downstream transport of sediment to Rocky Creek. Impacts to water quality resulting from the channel realignment are anticipated during the construction period. Channel stabilization measures, including the placement of riprap in the constructed channel, should mitigate erosion and the downstream transport of sediment after the construction period.

The applicant obtained NPDES permit coverage for the revised project from MDEQ on July 7, 2010 (Appendix C). The permit requires the applicant to prepare a SWPPP prior to construction; this SWPPP must include BMPs to minimize erosion of soils from the construction area and reduce offsite sediment transport.

A consultation letter requesting review of the revised scope of work was sent to EPA on November 1, 2010. In a response letter on November 29, 2010, EPA restated its conditions

regarding BMPs and impacts to impaired waters on the Mississippi 303(d) list, as provided in the original EA. In addition, EPA recommends the use of natural stream channel design techniques for the proposed stream channel realignment and bank stabilization of the Rocky Creek tributary.

### 3.2.2 Floodplains

Executive Order (EO) 11988 (Floodplain Management) requires Federal agencies to avoid direct or indirect support of development within the 100-year floodplain whenever there is a practicable alternative. Consistent with EO 11988, FIRMs were examined during the preparation of this SEA. The majority of the proposed project areas, including the Autumn Woods subdivision and the detention pond site, are located in Flood Zone X, outside both the 100-year and 500-year flood zones (Map Number 28033C0076G, FEMA 2007). Rocky Creek and its unnamed tributary are located in Flood Zone AE, within the 100-year floodplain or within the floodway (Map Number 28033C0076G, FEMA 2007).

An agency consultation letter dated August 30, 2010, was submitted by Neel-Schaffer, Project Engineer, to the City of Southaven's Floodplain Administrator requesting a project review and no-rise certificate for the proposed channel re-alignment. A No-Rise Certification was issued for the project on September 2, 2010 (Appendix C).

Proposed Action Alternative – Under the Proposed Action Alternative, impacts to the floodplain resulting from the construction of the Autumn Woods drainage system outfall structures are consistent with the original EA. The Rocky Creek tributary realignment will require additional work in the floodplain and floodway; however, the work is not anticipated to have any additional impacts to the floodplain. In accordance with EO 11988, FEMA's Eight-Step Planning Process for Floodplain Management was completed to identify, minimize, and mitigate floodplain impacts (Appendix D).

### 3.2.3 Waters of the United States Including Wetlands

Information regarding the Mississippi Coastal Zone, waters of the United States including wetlands, regulatory authority and requirements, and project location remain as described in the original EA. The revised project extends the project footprint to include work within the Greenbrook subdivision and within approximately 410-feet of a previously channelized portion of the Rocky Creek tributary, east of Swinnea Road. In addition, construction of the outfall structures for the Autumn Woods Drive and Long Branch Drive drainage lines would include the excavation of two 4-foot-wide open drainage ditches, approximately 300 feet and 120 feet long, respectively, which would extend and discharge to Rocky Creek. Rip-rap would be installed at the drainage line outlets to minimize erosion within the drainage ditches.

The U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) identifies no wetlands within or adjacent to the proposed channel corridor or outfall locations (USFWS 2010). In addition, recent aerial imagery of the project area shows that the expanded project area and the adjacent land to the east have been previously grubbed and graded for proposed land development and the construction of the Rasco Road extension east of Swinnea Road. Site conditions were confirmed during a URS site visit on February 1, 2010.

An agency response letter, dated July 1, 2010, from the USACE Memphis District to Neel-Schaffer, Project Engineer, stated the USACE's preliminary jurisdictional determination was that

Rocky Creek and its unnamed tributary are considered waters of the United States. The USACE further stated that the proposed project meets the criteria of both Nationwide Permit 7 (Outfall Structures and Maintenance) and 43 (Stormwater Management Facilities). If all regional, general, and special conditions cannot be met, an individual permit may be required (Appendix C).

Proposed Action Alternative – Under the Proposed Action Alternative, the construction of the Autumn Woods drainage system outfall structures and the Rocky Creek tributary realignment would impact waters of the U.S. and would be authorized under Nationwide Permits 7 and 43. The City would be required to submit a “Certificate of Compliance” within 30 days of the completion of the project to the USACE Memphis District.

### 3.3 BIOLOGICAL RESOURCES

This section describes potential effects of the expanded project on wildlife and aquatic species and associated habitat that are present within the project area. A list of federally-listed threatened and endangered species with the potential to occur in the project area was obtained in the original EA and evaluated for the supplement. The USFWS lists the following federally endangered (E) and threatened (T) species for DeSoto County, MS (USFWS 2008).

Common Name	Scientific Name	Status
Least tern	<i>Sterna antillarum</i>	E
Pallid sturgeon	<i>Scaphirhynchus albus</i>	E
Fat pocketbook	<i>Potamilus capax</i>	E
Source: U.S. Fish and Wildlife Service		

A consultation letter, dated July 20, 2009, was submitted to the USFWS requesting agency review and comments regarding the original scope of work. In a response dated July 22, 2009, USFWS indicated that there are no federally listed endangered, threatened, or candidate species present.

The expanded project footprint includes lands that have been previously converted for residential and commercial development or are located within existing road and utility easements. The proposed channel re-alignment corridor and the adjacent land to the east have been previously grubbed and graded for proposed land development. The existing Rocky Creek tributary was realigned and channelized during construction of the Rasco Road extension east of Swinnea Road and Southaven Fire Station No. 2. Areas not converted by construction were revegetated with grasses and low-lying plants. Due to the disturbed nature of these areas, no suitable habitats for endangered and threatened species are likely to be affected. Additionally, none of these areas are likely to provide habitat for animals requiring forested or wetland areas.

Proposed Action Alternative – Under the Proposed Action Alternative, no impacts to threatened or endangered species are anticipated. During construction activities to realign the Rocky Creek tributary, fish and other motile organisms would be displaced from the affected channel. Sessile organisms, or those with limited mobility, including mollusks, insects, and other invertebrates, that inhabit the stream channel may not survive. It is likely that the populations of these

organisms would survive in upstream and downstream portions of the channel and would recolonize the new channel upon its completion. Organisms inhabiting Rocky Creek downstream of the proposed channel realignment may be negatively affected due to increased sedimentation during the construction period. A consultation letter describing the revised project was sent to USFWS on November 1, 2010 for review (Appendix C). No response has been received to date.

### 3.4 CULTURAL RESOURCES

Consistent with Section 106 of the NHPA, as amended, and implemented by 36 CFR Part 800, a FEMA Historic Preservation Specialist, qualified under the Secretary of the Interior's Professional Qualification Standards (36 CFR Part 61), conducted an assessment of the revised project's potential to affect historic properties.

FEMA concluded that the original project would have no impact on historic properties and made a determination of No Historic Properties Affected. In a response dated July 27, 2009, MDAH concurred that the original project would have no effect to historic resources and stated that the agency has no objection with the proposed undertaking. As the expanded project footprint does not modify the Area of Potential Effect (APE) for archeology or aboveground historic properties of the original project, FEMA's re-evaluation was limited to potential archeological impacts from the construction of the Autumn Woods drainage system outfall structures and the Rocky Creek tributary realignment. FEMA conducted a desktop review based on topographic mapping, aerial imagery, and information gathered from the Mississippi Department of Archives and History (MDAH) online site database and survey files.

Pursuant to the 2008 HMGP Programmatic Agreement, FEMA has determined that the revised project is exempt from further Section 106 review per Stipulation IV.E(2)(a) - Projects where the footprint will substantially be restricted to previously disturbed soils, will not impact previously recorded archaeological sites, and a qualified FEMA Historic Preservation Specialist (HPS) has made an in-office determination that the project area has only a low to moderate potential for possessing archaeological resources.

The proposed project area has been significantly disturbed and presents a low probability for intact cultural resources. The existing Rocky Creek tributary was previously realigned and channelized during construction of the Rasco Road extension east of Swinnea Road and Southaven Fire Station No. 2. The proposed channel re-alignment corridor and the adjacent land east has been previously grubbed and graded for proposed land development. MDAH site maps were checked and revealed that two cultural resource surveys (95-263, 04-083) have been conducted adjacent to the APE. Findings for both surveys were negative for cultural resources.

Proposed Action Alternative – Under the Proposed Action Alternative, the proposed project is not anticipated to have any impact on historic properties. If during the course of work, archaeological artifacts (prehistoric or historic) or human remains are discovered, the applicant shall stop work in the vicinity of the discovery and take all reasonable measures to avoid or minimize harm to the finds. The applicant shall inform their HMGP contacts in FEMA, who will in turn contact FEMA Historic Preservation Staff. Work will not proceed until FEMA Historic Preservation Staff has completed consultation with the SHPO and all interested Native American Indian Tribes.

## **SECTION FOUR CUMULATIVE IMPACTS**

According to CEQ regulations, cumulative impacts represent 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 (40 CFR 1508.7).” In accordance with NEPA and to the extent reasonable and practical, this SEA considered the combined effect of the Proposed Action Alternative and other actions occurring or proposed in the vicinity of the proposed project site.

Rasco Road was recently extended to the east of Swinnea Road and associated commercial/residential construction is underway east of the fire station. If these additional construction activities take place adjacent to, and concurrently with the Autumn Woods Drainage Improvement Project, there would be cumulative, temporary impacts to air quality, noise, traffic, and surface waters in the project vicinity. Development of residential and commercial properties east of Swinnea Road will result in an increase in impervious surfaces resulting in an increase in stormwater runoff into Rocky Creek; however, no impact to the floodplain or drainage capacity of Rocky Creek is anticipated. As the adjacent land east of the project area has been previously grubbed and graded for proposed land development, no cumulative impacts to biological resources or wetlands are anticipated. No other cumulative impacts are anticipated.

**SECTION FIVE PUBLIC INVOLVEMENT**

FEMA is the lead Federal agency for conducting the NEPA compliance process for the Autumn Woods Drainage Improvements in the City of Southaven, DeSoto County, MS. It is the goal of the lead agency to expedite the preparation and review of NEPA documents and to be responsive to the needs of the community and the purpose and need of the proposed action while meeting the intent of NEPA and complying with all NEPA provisions.

The City of Southaven notified the public of the availability of the original EA through the publication of a public notice in the *DeSoto Times-Tribune* on November 5 and November 10, 2009. No comments were received from the public.

The City of Southaven will notify the public of the availability of the draft SEA through publication of a public notice in the *DeSoto Times-Tribune*. FEMA will conduct an expedited public comment period commencing on the initial publication date of the public notice and ending after 15 days.

### **SECTION SIX      AGENCY COORDINATION AND PERMITS**

The following agencies and organizations were contacted by letter requesting project review during the preparation of this SEA. The responses received to date are included in Appendix C.

- U.S. Environmental Protection Agency, Region 4 Office, Water Management Division
- U.S. Fish and Wildlife Service, Jackson, Mississippi Ecological Services Field Office
- Mississippi Department of Environmental Quality, Office of Pollution Control, Environmental Permits Division

In accordance with applicable local, State, and Federal regulations, the applicant would be responsible for acquiring any necessary permits prior to commencing construction at the proposed project site.

## **SECTION SEVEN CONCLUSIONS**

The Autumn Woods Drainage Improvement Project SEA evaluated potentially significant resources that could be impacted with the addition and expansion of the project area assessed in the original EA. The evaluation resulted in no identification of significant impacts associated with the resources of Soils, Surface Waters, Floodplains, Waters of the U.S. including Wetlands, Biological Resources and Cultural Resources. Additional short-term, minor impacts to soils, surface waters, and biological resources are anticipated from construction of the Autumn Woods drainage system outfall structures and the Rocky Creek tributary realignment. All short-term impacts require measures to minimize and mitigate the effect on the proposed project site and surrounding areas.

**SECTION EIGHT REFERENCES**

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**SECTION NINE LIST OF PREPARERS**

**Michael Grisham**

Environmental Liaison Officer  
Federal Emergency Management Agency  
Mississippi Transitional Recovery Office  
Biloxi, MS

**Brian Mehok, CFM**

Project Manager  
URS Group, Inc.  
Houston, TX

**Jeff Pollock**

Environmental Scientist  
URS Group, Inc.  
Houston, TX

**Angela Chaisson**

Senior NEPA Specialist  
URS Group, Inc.  
Gaithersburg, MD