

DRAFT ENVIRONMENTAL ASSESSMENT
OF THE
POTENTIAL EFFECTS
OF
DECATUR UTILITIES
STRATFORD ROAD WASTEWATER LIFT STATION REPLACEMENT
TO
WHEELER NATIONAL WILDLIFE REFUGE

Prepared By:

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Decatur, Alabama

August 24, 2015

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I. PURPOSE AND NEED FOR ACTION

INTRODUCTION

The U.S. Fish and Wildlife Service (USFWS) proposes to grant a request from Decatur Utilities to expand the existing Stratford Road right-of-way for the replacement of the existing Stratford Road Wastewater Lift Station.

National wildlife refuges provide important habitat for native plants and many species of mammals, birds, fish, insects, amphibians, and reptiles. They also play a vital role in conserving threatened and endangered species. Refuges offer a wide variety of wildlife-dependent recreational opportunities and many have visitor centers, wildlife trails, and environmental education programs. Nationwide, about 35 million visitors annually hunt, fish, observe and photograph wildlife, or participate in educational and interpretive activities on refuges.

Current USFWS policy allows this proposed federal action in accordance with the National Wildlife Refuge System (NRWS) Administration Act (16 U.S.C. § 668dd(d)(1)(B)), and implementing regulations published at 50 CFR § 29.21.

PURPOSE AND NEED

The purpose of this Draft Environmental Assessment (EA) is to determine the potential effects of the proposed demolition of the existing Stratford Road Wastewater Lift Station and construction of a new wastewater lift station within Wheeler National Wildlife Refuge (Refuge) and measures to mitigate potential effects. Due to increased development and population growth in the area of influence, the existing lift station is currently at capacity and will not be capable of handling the amount of wastewater flow in the future.

BACKGROUND

The project area (Figure 1) is located on the Refuge in Section 34, Township 5 South, Range 4 West in Morgan County, Alabama.

PROPOSED ACTION

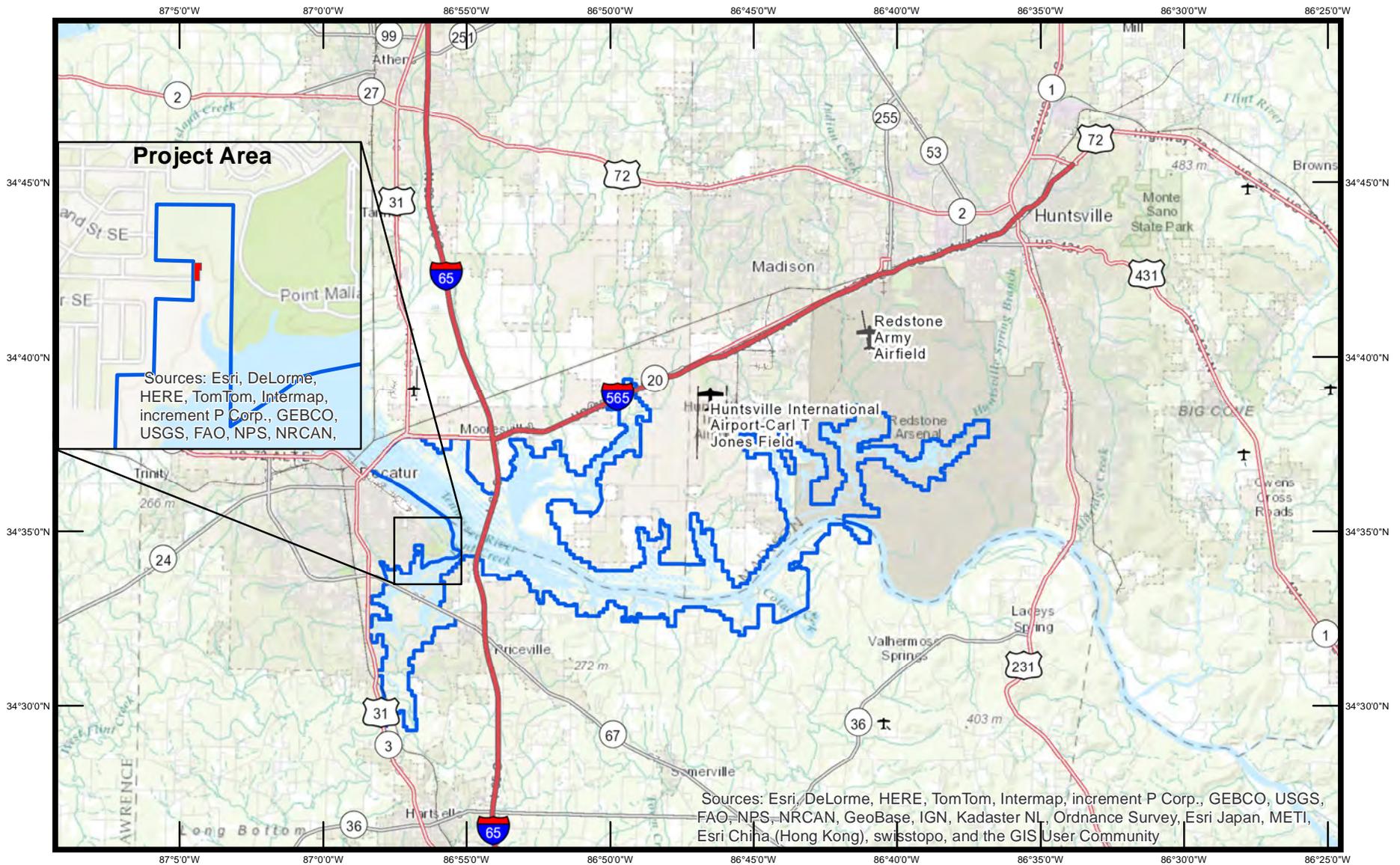
The project would involve expansion of the existing right-of-way for construction of a new, larger wastewater lift station adjacent to an existing lift station and, once completed and in operation, the existing lift station would be demolished and removed; all mechanical and electrical components, including pumps, valves, fittings, and conduit would be removed; all paving, concrete, sidewalks and fences would be removed; six inches of clean topsoil would be placed over previous impervious surfaces; and, all disturbed areas would be seeded and mulched. An approximate 62' x 34' above and below ground station housing wastewater pumps and electrical components, consisting of a concrete wet well for the pumps and a building to house the dry cell and electrical equipment, would be constructed. A paved access road from the end of Stratford Road to the lift station would be required.



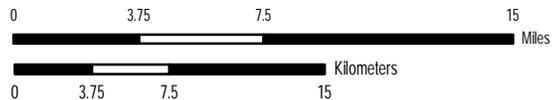
U.S. Fish & Wildlife Service

Figure 1. Wheeler National Wildlife Refuge Vicinity Map

Limestone, Madison, and Morgan Counties, Alabama



Produced at Wheeler NWR
 Decatur, Alabama
 MAP DATE: July 16, 2015
 BASEMAP:
 SOURCE:
 MERIDIAN: N/A
 FILE: Stratford Rd Pump Station.mxd



Legend

- Proposed ROW Easement
- Refuge Boundary



WEB MERCATOR (AUXILIARY SPHERE)
 WGS 84 2

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The project area is within 120 feet of an unnamed drainage canal that empties into Wheeler Reservoir approximately 600 feet downstream. Best Management Practices (BMPs), including the placement of silt fences around construction areas, will be used to limit erosion and prevent sedimentation into the canal and Wheeler Reservoir.

A 0.98-acre permanent right-of-way expansion across the Refuge would be required for construction and maintenance of the wastewater lift station and associated facilities. Within the proposed 0.98-acre right-of-way, approximately 0.12 forested acres would be cleared and maintained for: a 24" PVC sewer line connecting to the existing sewer line; a 4" PVC water line connecting to an existing gate valve; and a 18' x 350' asphalt access road.

COORDINATION AND CONSULTATION

Endangered, Threatened, and Candidate Species

Section 7 of the Endangered Species Act of 1973, as amended, requires the USFWS to evaluate the effects of any of its actions on federally-listed endangered, threatened and candidate species. An Intra-Service Section 7 Biological Evaluation has been developed by Wheeler NWR personnel and submitted to the Alabama Ecological Services Field Office (Alabama Field Office) for review. Results of this consultation are discussed in the Biological Environment Section.

Cultural Resources

Section 106 of the National Historic Preservation Act of 1966, as amended, and Section 14 of the Archaeological Resources Protection Act require the USFWS to evaluate the effects of any of its actions on cultural resources (e.g., historical, architectural, and archaeological) that are listed or eligible for listing in the National Register of Historic Places (NRHP). In accordance with these regulations, the USFWS has coordinated the review of this proposal with the Alabama State Historic Preservation Office. Additional information is provided in the Cultural Resources Section.

Regulatory Permits

A preliminary Section 26a permit application has been submitted by Decatur Utilities to the U.S. Army Corps of Engineers (USACE) and the Tennessee Valley Authority (TVA) for their review. The permit application has been classified as preliminary due to the lack of a final easement/right-of-way from the Refuge. The USACE and TVA require clearance letters from all affected agencies including the USFWS prior to their approval and subsequent issuance of a permit. At this time, clearance letters have not been provided and therefore the permit is in a pending status. Indications from the USACE are that the referenced permit application will likely be approved following USFWS project concurrence and easement agreement.

PUBLIC PARTICIPATION

Public Comments on the Draft Environmental Assessment

This Draft EA will be made available for public review and comment before preparation of the Final EA. An analysis of comments received during the 30-day public comment period will be included in the Final EA.

II. AFFECTED ENVIRONMENT

This chapter describes the environment that would be affected by the implementation of the alternatives. It is organized under the following three major topics: physical environment; biological environment; and, cultural resources. The affected area, which could potentially be impacted by the proposed action, is designated as the Project Area.

More detailed information about refuge environments can be found in the Wheeler National Wildlife Refuge Complex Comprehensive Conservation Plan which can be downloaded at:

<http://www.fws.gov/southeast/planning/CCP/WheelerFinalPg.html>

PHYSICAL ENVIRONMENT

This chapter describes the physical resources in the Project Area, including air quality and water quality.

Air Quality

The Clean Air Act of 1970, as amended, requires the U.S. Environmental Protection Agency (EPA) to implement air quality standards to protect public health and welfare. National Ambient Air Quality Standards (NAAQS) were established based on protecting health and preventing environmental and property damage. Primary sources of air pollutants are vehicle emissions, power plants, and industrial activities. These pollutants are monitored by a network of monitoring stations throughout each state and analyzed in order to better understand general air quality trends and to locate exceedances. The nearest air quality monitoring stations to the Project Area are located in Decatur, Alabama. Overall, air quality in Decatur is good, and the city is designated as an attainment area for all pollutants with EPA-established NAAQS. However, certain pollutants may occasionally approach or reach nonattainment levels due to stagnant weather conditions, wildfires, etc.

Water Quality

The Clean Water Act (CWA) of 1972, as amended, authorizes the EPA, in partnership with the states, to regulate discharges of pollutants into the waters of the United States and set quality standards for surface waters. Since its implementation almost 40 years ago, the CWA has

significantly improved water quality in the United States, primarily as a result of controlling municipal and industrial point source pollution. Point source pollution includes specific discharges from a factory or sewage treatment plant. Nonpoint source pollution (NPSP) comes from many sources and typically makes its way into waterbodies via surface runoff. It includes a range of materials, including fertilizers, oil, bacteria, road salt, sediment, and pesticides. NPSP is currently the largest cause of water quality degradation in the United States. NPSP within the area of influence of the Project Area results primarily from the use of fertilizers and pesticides on lawns and agricultural areas.

BIOLOGICAL ENVIRONMENT

This chapter describes the biological environment in the Project Area, including land cover and habitat, wildlife, and Federally listed threatened, endangered, and candidate species.

Land Cover and Habitat

Land cover and habitats within the Project Area are dominated by hardwoods and agricultural fields. A survey of the 0.98-acre proposed project area, conducted on April 29, 2015, determined that the area is comprised of approximately 0.68 acres of agriculture fields and 0.3 acres of second-growth hardwood and cedar along the western border of the project area. The forested border overstory is dominated by hackberry (*Celtis occidentalis*), eastern red cedar (*Juniperis virginiana*) and black cherry (*Prunus serotina*) with an understory of Chinese privet (*Ligustrum sinense*) and poison ivy (*Toxicodendron radicans*). Trees 3-5 inch dbh or greater are sparsely distributed and no snags or trees with exfoliating bark occur in the border.

A wetland delineation of the proposed project area was conducted in July of 2014 by Mid-South Testing, Inc., under contract to Pugh Wright McAnally, Inc., engineering consultant for Decatur Utilities. The wetland delineation documented that the project area contains not wetlands. Sampling indicated that required wetland hydrology, soil indicators or vegetation was not present.

A copy of the wetland delineation can be found in Appendix A of this report.

Wildlife

The Refuge provides habitat for the State's largest waterfowl and Sandhill Crane wintering populations and a diversity of birds, mammals, fishes, reptiles, amphibians, plants and other species.

Federally Listed Endangered, Threatened, and Candidate Species

Thirteen Federally-listed species have been documented on the Refuge. Of those 13, the spring pygmy sunfish (*Elassoma alabamae*), Anthony's river snail (*Athearnia anthonyi*), armored snail (*Pyrgulopsis pachyta*) and slender campeloma (*Campeloma decampi*) occur well upstream or in tributaries emptying to the Tennessee River from the north and are not considered in this analysis.

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The following nine species are considered in this analysis:

Gray Bat	<i>Myotis grisescens</i>	Endangered
Indiana Bat	<i>Myotis sodalis</i>	Endangered
Northern Long-eared Bat	<i>Myotis septentrionalis</i>	Threatened
Pink Mucket Pearlymussel	<i>Lampsilis abrupta</i>	Endangered
Rough Pigtoe	<i>Pleurobema plenum</i>	Endangered
Sheepnose	<i>Plethobasus cyphus</i>	Endangered
Spectaclecase	<i>Cumberlandia monodonta</i>	Endangered
Snuffbox	<i>Epioblasma triquetra</i>	Endangered
Whooping Crane	<i>Grus americana</i>	Endangered

An Intra-Service Section 7 Biological Evaluation documenting potential impacts of proposed project activities on listed species and/or their habitat and mitigation measures to limit those potential impacts was developed by Wheeler NWR personnel. The evaluation proposed that the project was not likely to adversely affect any listed, proposed, candidate species or designated or proposed critical habitat. The evaluation was submitted to the Alabama Ecological Services Field Office (Alabama Field Office) on April 15, 2015, for review.

The Alabama Field Office concurred that the project is not likely to adversely affect any listed, proposed, candidate species or designated or proposed critical habitat and provided the following additional comments:

“Gray, Indiana and northern long-eared bats are not likely to use the project area because it is not preferred foraging habitat. While the unnamed drainage canal within 120 feet of the project area may contain foraging habitat, the use of Best Management Practices should mitigate impacts to the canal. Whooping Cranes are known to forage in refuge agricultural habitats. However, visual and telemetry monitoring of Whooping Cranes over the past 5+ years has documented no use of the field where the proposed lift station would be located. Aquatic species are unlikely to be impacted by construction activities with the use of BMPs. Listed snails occur upstream of the project area and mussels occur in the Tennessee River where project impacts are not expected to occur.”

A copy of the Intra-Service Section 7 Biological Evaluation can be found in Appendix B of this report.

CULTURAL RESOURCES

A Phase 1 Cultural Resource Survey of the proposed project area was conducted in 2013-2014 by Tennessee Valley Archaeological Research under contract to Pugh Wright McAnally, Inc., engineering consultant for Decatur Utilities. The survey was reviewed by Richard Kanaski, U.S. Fish and Wildlife Service Southeast Regional Historic Preservation Officer and Regional Archaeologist, who determined the project would have “no effect” on Refuge historic properties. Consultation with the Alabama Historical Commission and relevant Tribes was initiated pursuant to Section 106 of the National Historic Preservation Act and in a December 23, 2014, letter, the

Deputy State Historic Preservation Officer (SHPO) determined "...that project activities will not affect any cultural resources eligible for or listed in the National Register of Historical Places."

A copy of the cultural resource survey and SHPO letter can be found in Appendix C of this report.

III. ALTERNATIVES, INCLUDING THE PROPOSED ACTION

INTRODUCTION

This chapter presents the alternatives for placement of the new wastewater lift station, including the proposed action that the USFWS believes best meets the outlined purpose.

Under the National Environmental Policy Act (NEPA), the USFWS developed and evaluated a reasonable range of alternatives. The proposed action defines what the USFWS would do or recommend, but could not implement without considering other reasonable, environmentally sensitive alternatives. Other reasonable alternatives to the proposed action that could also be viewed as fulfilling the proposed purposes of the refuge are described in this EA, thereby offering the USFWS and the reviewing public an opportunity to consider a range of reasonable alternatives for the proposed action, and thus fulfilling one of the key tenets of NEPA.

FORMULATING ALTERNATIVES

The USFWS developed and evaluated a reasonable range of alternatives. According to the USFWS, reasonable alternatives would include those that help achieve the missions of the USFWS and Refuge System; support the purposes for which the refuge was established, and its vision and goals; and respond to issues identified during the planning process.

In addition to the No Action Alternative and Alternative B, two other alternatives were evaluated during the early planning process but, were not further considered under this assessment (Figure 2). These two preliminary alternatives were based on alternate sites for construction of the new lift station and are described in the following two paragraphs.

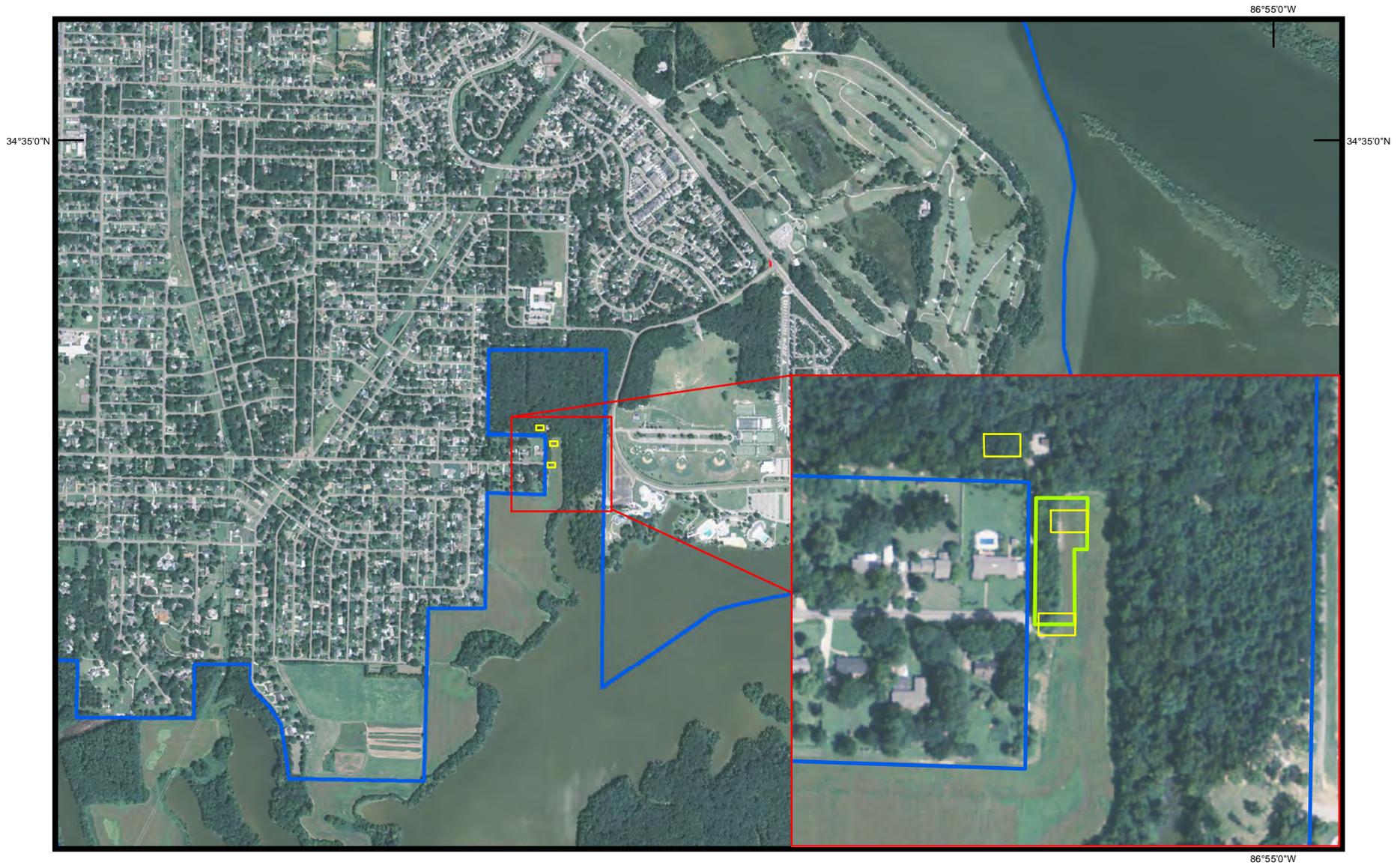
Western Location – A 0.5 acre right-of-way expansion to the west of the existing lift station for construction and maintenance of the new wastewater lift station and associated facilities. The area is currently forested and expansion would require clearing and maintenance of all forested habitats within the project area over the life of the project. This preliminary alternative was not pursued because of the unacceptable loss of forested habitat.

Southern Location – A 0.5 acre right-of-way expansion at the terminus of Stratford Road SE to the south of the existing lift station for construction and maintenance of the new wastewater lift station and associated facilities. Approximately 0.4 acres of the project area is currently in agricultural production. Approximately 0.1 acres is forested and would require clearing and maintenance over the life of the project. This preliminary alternative was not pursued because of a combination of the loss of forested habitat, the need to develop an alternate access point for

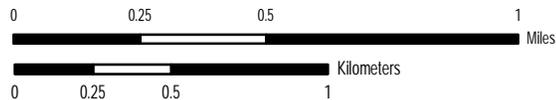


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Figure 2. Alternatives Considered for Construction Site of Stratford Road Wastewater Lift Station Morgan County, Alabama



Produced at Wheeler NWR
 Decatur, Alabama
 MAP DATE: July 16, 2015
 BASEMAP:
 SOURCE:
 MERIDIAN: N/A
 FILE: Stratford Rd Pump Station Alternatives.mxd



Legend

-  Refuge Boundary
-  Alternative Lift Station Locations
-  Proposed ROW Easement



WEB MERCATOR (AUXILIARY SPHERE)
WGS 84

refuge use and resulting loss of additional forested habitat, the proximity of a residential area, and the need for increased security because of ease of public access.

DESCRIPTION OF ALTERNATIVES

Alternative A: No Action

Under the No Action alternative, the USFWS would not authorize expansion of the existing right-of-way.

Alternative B: Proposed Action

Alternative B identifies a 0.98 acre right-of-way expansion to the east of the existing lift station into predominantly agricultural field. The 0.98-acre permanent right-of-way expansion across the Refuge would be required for construction and maintenance of the new wastewater lift station and associated facilities. Within the proposed 0.98-acre right-of-way, approximately 0.12 forested acres would be cleared and maintained for: a 24” PVC sewer line connecting to the existing sewer line; a 4” PVC water line connecting to an existing gate valve; and a 18’ x 350’ asphalt access road.

SUMMARY

The USFWS believes that the proposed action (Alternative B) represents the best method for protecting Refuge resources while allowing for the replacement of a lift station, constructed in 1964, that is currently at capacity and will not be capable of handling the amount of wastewater flow in the future due to increased development and population growth in the area of influence.

IV. ENVIRONMENTAL CONSEQUENCES

This chapter analyzes and discusses the potential environmental effects of the two alternatives on the resources outlined in Chapter II.

The potential effects of the two alternatives, both positive and negative, were identified.

The potential effects of the two alternatives were identified and placed into one of the following categories, where possible:

- None – no impacts expected.
- Minimal – impacts are not expected to be measurable, or are too small to cause any discernible degradation to the environment.
- Minor – impacts would be measureable, but not substantial, because the impacted system is capable of absorbing the change.
- Moderate – impacts would be measureable, but could be reduced through appropriate mitigation.

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- Major – impacts would be measurable and individually or cumulatively significant; an Environmental Impact Statement would be required to analyze these impacts.

The environmental effects analyzed include those that would be direct, short-term, indirect, long-term, and cumulative.

Alternative A: No Action

Under this alternative, the USFWS would take no action to expand the existing right-of-way easement.

Effects on the Physical Environment

Air Quality

Beneficial

Benefits to air quality are not expected under the No Action alternative.

Adverse

No decrease in air quality below current conditions is expected under the No Action Alternative.

Water Quality

Beneficial

Benefits to water quality are not expected under the No Action alternative.

Adverse

No decrease in water quality below current conditions is expected under the No Action Alternative.

Effects on the Biological Environment

Habitats

Beneficial

Current habitat conditions will continue and benefits to habitat are not expected under the No Action alternative.

Adverse

Current habitat conditions will continue and adverse impacts habitat are not expected under the No Action alternative.

Wildlife

Beneficial

Benefits to wildlife are not expected under the No Action alternative.

Adverse

No decrease in conditions supporting current wildlife is expected under the No Action alternative.

Federally Listed Endangered, Threatened, and Candidate Species

Beneficial

Current conditions will continue and benefits to listed and candidate species are not expected under the No Action alternative.

Adverse

No decrease in conditions supporting current listed and candidate species is expected under the No Action alternative.

Effects on Cultural Resources

Beneficial

Current conditions will continue and benefits to cultural resources are not expected under the No Action alternative.

Adverse

No decrease in conditions supporting current cultural resources is expected under the No Action alternative.

Alternative B: Proposed Action

Under this alternative, the USFWS would approve the expansion of the existing right-of-way easement for construction of a new lift station.

Effects on the Physical Environment

Air Quality

Beneficial

Benefits to air quality are not expected under the Proposed Action alternative.

Adverse

Minimal adverse impacts to air quality would be expected due to construction activities. Dust generated during clearing and construction could contribute to short-term increases in air particulates. The use of BMPs such as wetting construction areas could limit dust production.

Water Quality

Beneficial

Benefits to water quality are not expected under the Proposed Action alternative.

Adverse

Minor short-term adverse water quality impacts from increased erosion and sedimentation during construction activities would be expected. The use of BMPs, such as silt fencing around construction areas, and restricting construction activities during and immediately after rainfall events could limit water quality impacts.

Minimal long-term adverse water quality impacts from routine grounds maintenance such as the use of herbicides to control vegetation could be expected. The use of chemicals on lands within the project area will require annual submission of Pesticide Use Proposals (PUPs) to the USFWS for chemicals proposed for use. These PUPs will be reviewed by USFWS personnel and, if approved, will contain measures such as maintenance of vegetated buffers, application rates, timing of application, etc. These measures would be expected to limit water quality impacts.

Effects on the Biological Environment

Habitats

Beneficial

Habitat benefits are not expected under the Proposed Action alternative.

Adverse

Minor short-term adverse impacts resulting from the loss of forested habitats due to construction of the new facility would be expected.

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Minimal long-term adverse impacts to habitats within the project area would be expected during the life of the project. Construction of the new facility would result in the permanent loss of approximately 0.12 acres of forested habitat and 0.68 acres of farmland. Once the new lift station is in operation, the existing lift station will be demolished and approximately 0.1 acres of forested habitat will be restored, resulting in a net loss of approximately 0.02 acres of forested habitat within the project area.

Wildlife

Beneficial

Wildlife benefits are not expected under the Proposed Action alternative.

Adverse

Minimal short-term adverse impacts to wildlife resulting from disturbance during construction could be expected.

Minimal long-term adverse impacts to wildlife within the project area would mirror those associated with habitat and would be expected during the life of the project. Loss of 0.12 acres of habitat available to wildlife during construction of the new facility and restoration of approximately 0.1 acres of wildlife habitat once the existing lift station is demolished would result in a net loss of approximately 0.02 acres of available forested habitat supporting wildlife within the project area.

Federally Listed Endangered, Threatened, and Candidate Species

Beneficial

Benefits to listed species are not expected under the Proposed Action alternative.

Adverse

None to minimal adverse impacts to listed species would be expected within and adjacent to the project area. An Intra-Service Section 7 Biological Evaluation documenting potential impacts of proposed project activities on listed species and/or their habitat and mitigation measures to limit those potential impacts determined that project activities were not likely to adversely affect any listed, proposed, candidate species or designated or proposed critical habitat.

Effects on Cultural Resources

Beneficial

Benefits to cultural resources are not expected under the Proposed Action alternative.

Adverse

No adverse impacts to cultural resources are expected. A Phase 1 Cultural Resource Survey of the proposed project area was conducted and reviewed by the USFWS Southeast Regional Historic Preservation Officer and Regional Archaeologist, who determined the project would have no effect on Refuge historic properties. Consultation with the Alabama Historical Commission and relevant Tribes was initiated and the SHPO determined that project activities will not affect any cultural resources eligible for or listed in the National Register of Historical Places.

If artifacts or archaeological features are encountered during project construction, work will cease and the Refuge Manager, USFWS Southeast Regional Historic Preservation Officer and Regional Archaeologist, and SHPO will be notified immediately and consultation will be re-initiated.

Cumulative Effects

According to the Council on Environmental Quality's NEPA implementing regulations in 40 CFR 1508.7, a "cumulative impact" is defined as an impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency (federal or nonfederal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

Physical Resources

Some minimal and minor impacts on physical resources are expected under each of the two alternatives, but none of these are anticipated to be cumulatively significant. Cumulative effects on individual physical resource categories are discussed below.

Air Quality

Alternative A is not expected to have cumulative adverse impacts on air quality because local conditions would not change. Alternative B would likely contribute to a negligible acceleration of poor air quality but would probably minimally impact air quality over the long term. Some short-term, local deterioration in air quality could be expected from air emissions of equipment used during construction activities.

Water Quality

Alternative A is not expected to result in adverse cumulative effects on water quality because local conditions would not change. Alternative B is likely to have minimal adverse cumulative effects to water quality. The use of best management practices, such as silt screening, during construction would mitigate water quality effects.

Biological Resources

Effects of Habitat Loss

Alternative A is not expected to result in adverse cumulative effects on water quality because local conditions would not change. Minimal adverse cumulative effects to forested habitat would occur under Alternative B. Construction and maintenance of the new facility would result in the loss of approximately 0.12 acres of native forest habitat. Once the new lift station is in operation, the existing lift station would be demolished and approximately 0.1 acres of forested habitat would be restored, resulting in a net loss of approximately 0.02 acres of refuge forested habitat.

Cultural Resources

Alternative A is not expected to result in adverse cumulative effects on cultural resources because local conditions would not change. Alternative B is not expected to result in cumulative effects. A Phase 1 Cultural Resource Survey of the proposed project area was conducted and reviewed by the USFWS Southeast Regional Historic Preservation Officer and Regional Archaeologist, who determined the project would have no effect on Refuge historic properties. Consultation with the Alabama Historical Commission and relevant Tribes was initiated and the SHPO determined that project activities will not affect any cultural resources eligible for or listed in the National Register of Historical Places.

Unavoidable Adverse Effects

Unavoidable adverse effects are the effects of those actions that could cause significant harm to the human environment and that cannot be avoided, even with mitigation measures. Some minor, localized unavoidable adverse effects would occur. Under Alternative B there would be, for example, localized adverse effects of constructing the new lift station and associated facilities and the loss of agricultural lands and forested habitat. However, none of these effects rises to the level of significance. Some would be mitigated, and there would be no significant unavoidable adverse impacts under the Proposed Action.

Relationship between Short-Term Uses of the Human Environment and Enhancement of Long-Term Productivity

The Proposed Action alternative would be expected to diminish the long-term productivity and sustainability of natural resources in the project area. Demolition of the existing lift station and restoration of forested habitat in the area would diminish the loss of long-term productivity resulting from construction of the new lift station.

Potential Irreversible and Irrecoverable Commitments of Resources

Neither action alternative would have a long-term effect on potential irreversible and irretrievable commitments of federal financial resources.

Environmental Justice

Executive Order 12898, “Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations”, requires that federal agencies consider as part of their action, any disproportionately high and adverse human health or environmental effects to minority and low income populations. Federal agencies are required to ensure that these potential effects are identified and addressed. The communities surrounding the project area are relatively homogenous, as minority groups do not represent a substantial portion of the affected community. No differential impacts based on minority status would therefore be anticipated under either of the alternatives.

Summary

Based on the nature of the project, the location of the site and the current land use, the Proposed Action would not have any significant effects on the quality of the human environment including public health and safety and because no wetlands occur within the project area, the action is not expected to have any significant adverse effects on the area’s wetlands and floodplains, pursuant to Executive Orders 11990 and 11988.

Implementation of the Proposed Action would not involve any highly uncertain, unique, unknown, or controversial effects on the human environment; would not establish a precedent for future actions with significant effects; nor, would it represent a decision in principle about a future consideration. No cumulatively significant impacts on the environment would be anticipated.

In addition, the action would not significantly affect any unique characteristics of the geographic area, such as historical or cultural resources or ecologically critical areas. The action would not significantly affect any site listed in or eligible for listing in the National Register of Historic Places, nor would it cause loss or destruction of significant scientific, cultural, or historic resources. The area's cultural resources would be protected under the regulations of the National Historic Preservation Act of 1966, as amended; the Archaeological Resources Protection Act; and the Advisory Council on Historic Preservation (36 CFR 800). The Alabama Historic Preservation Office would be contacted whenever any future project activities have the potential to affect cultural resource sites.

Recommendation

The USFWS recommends Alternative B as the Proposed Action.

APPENDIX A

WETLAND DELINEATION REPORT



MID-SOUTH TESTING, INC.

2220 BELTLINE ROAD, DECATUR, ALABAMA 35601
PHONE 256-351-7900 * FAX 256-350-9507

July 16, 2014

Mr. Nathan Tomberlin
Pugh, Wright, & McAnally
1740 5th Avenue S.E.
Decatur, AL 35602

RE: Wetland Delineation for Proposed Decatur Utilities Lift Station Site on Stratford Road in Decatur, Morgan County, Alabama
MST No. 12261

Dear Mr. Tomberlin:

Mid-South Testing, Inc. (MST) has completed the wetland delineation efforts for the subject project site. Based on the information contained in this report, the subject site referenced above does not contain any wetlands. This is based on our data gathered during this delineation that indicates this site does not contain the required hydrology, soil indicators or vegetation. However, the site does contain facultative vegetation which are plants with a similar likelihood (estimated probability 33% to 67%) of occurring in both wetlands and non-wetlands environments, and is mapped to contain a soil type (Ooltewah) that is partially hydric.

Initially we performed preliminary data gathering and synthesis. This is comprised of research and review of current and historical information such as USGS quadrangle maps, National Wetland Inventory Mapping, Soil Survey, Environmental Impact Assessments, documents and maps from State, county or local governments, remote sensing, and USGS land use and land cover maps. Based on the information contained in these preliminary efforts, it was determined that a routine determination was in order for this site. According to a soil survey of the area in which this site is located, three soil series types are found within the boundary of the proposed site improvements. These are Monongahela, Holston and Ooltewah. The Ooltewah is listed as a partially hydric soil type. Monongahela and Holston Soils are non-hydric. According to the Soil Survey mapping for this site, the Ooltewah soils comprise approximately 1/3 of the site area along the eastern boundary.

Considering the information in the preliminary data, the size of the area and the boundary location, we divided the site into three different areas based on the soil survey map, and incidentally, three plant communities. Although the three plant communities are comprised of the same specimen types, their concentration and dominance was different in each area. We gathered field data from each of the three sampling points.

MID-SOUTH TESTING, INC.

Our field data gathering consisted of a soil boring at each sample location for soils and hydrology information, and evaluation of each vegetative stratum. The field data was recorded on the attached "Wetland Determination Data Forms". Also, attached are the maps and documents used in this delineation. The sample points depicted on the site map are approximate. We did not perform a survey location of the sample point locations. During the performance of the soil borings no saturation was observed. Soils were well drained with moderate moisture content. The soil characteristics observed were consistent with the characteristics of the Holston Soil Series in all three soil borings. The soil boundaries depicted on the attached soil map are in accurate to some degree, which is not uncommon. Vegetation in all three areas were predominantly FACU with some FAC.

Please let me know if you have any questions, or if we may assist you further. You can reach me in our office at 256-351-7900.

Respectfully Submitted,



Sean P. Boyd
Project Manager

Cc: Project file 12261

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Stratford Road Lift Station City/County: Decatur/Morgan Sampling Date: 07/10/14
 Applicant/Owner: Decatur Utilities State: AL Sampling Point: SP-1
 Investigator(s): Sean Boyd (Mid-South Testing, Inc.) Section, Township, Range: Sec. 34, T5S, R4W
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): 2
 Subregion (LRR or MLRA): N 128 (MLRA) Lat: N34° 34' 26.2" Long: W86° 56' 38.5" Datum: WGS84
 Soil Map Unit Name: Holston (mapped as Monongahela) NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation Soil or Hydrology naturally problematic? (if needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Sample point is within a historical agricultural row crop field. Vegetation for this sample point is represented by plants observed within the adjacent woodland approximately 20 feet to the north.	

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION – Use scientific names of plants.

Sampling Point: SP-1

<u>Tree Stratum</u> (Plot sizes: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. <u>Liquidambar Styraciflua</u>	<u>40</u>	<u>yes</u>	<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)	
2. <u>Celtis Occidentalis</u>	<u>30</u>	<u>yes</u>	<u>FACU</u>	Total Number of Dominant Species Across All Strata: <u>5</u> (B)	
3. <u>Juniperus Virginiana</u>	<u>10</u>	<u>yes</u>	<u>FACU</u>	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>40</u> (A/B)	
4. _____	_____	_____	_____	Prevalence Index worksheet:	
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
<u>80</u> = Total Cover				Total % Cover of: _____ Multiply by: _____	
<u>Sapling Stratum</u> (_____)				OBL species _____ x 1 = _____	
1. _____	_____	_____	_____	FACW species _____ x 2 = _____	
2. _____	_____	_____	_____	FAC species <u>45</u> x 3 = <u>135</u>	
3. _____	_____	_____	_____	FACU species <u>90</u> x 4 = <u>360</u>	
4. _____	_____	_____	_____	UPL species _____ x 5 = _____	
5. _____	_____	_____	_____	Column Totals: <u>135</u> (A) <u>495</u> (B)	
6. _____	_____	_____	_____	Prevalence Index = B/A = <u>3.67</u>	
7. _____	_____	_____	_____	Hydrophytic Vegetation Indicators:	
<u>Shrub Stratum</u> (<u>10' radius</u>)					
_____ = Total Cover					
1. <u>Ligustrum Sinense</u>	<u>50</u>	<u>yes</u>	<u>FACU</u>	<input type="checkbox"/> Dominance Test is >50%	
2. _____	_____	_____	_____	<input type="checkbox"/> Prevalence Index is ≤3.0 ¹	
3. _____	_____	_____	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
4. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present.	
5. _____	_____	_____	_____		
6. _____	_____	_____	_____	Definitions of Vegetation Strata:	
7. _____	_____	_____	_____		
<u>Herb Stratum</u> (_____)					
<u>50</u> = Total Cover					
1. _____	_____	_____	_____		Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
2. _____	_____	_____	_____		Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
3. _____	_____	_____	_____		Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
4. _____	_____	_____	_____		Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.
5. _____	_____	_____	_____		Woody vine – All woody vines, regardless of height.
6. _____	_____	_____	_____		Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>
7. _____	_____	_____	_____		
<u>Woody Vine Stratum</u> (<u>30' radius</u>)					
_____ = Total Cover					
1. <u>Toxicodendron Radicans</u>	<u>5</u>	<u>yes</u>	<u>FAC</u>		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
<u>5</u> = Total Cover					
Remarks: (If observed, list morphological adaptations below).					

SOIL

Sampling Point: SP-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	10 YR 5/3	100					L	
8-18	10 YR 5/6	100					L	
18-24	10 YR 5/6	100					CL	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Organic Bodies (A6) (LRR P, T, U)
- 5 cm Mucky Mineral (A7) (LRR P, T, U)
- Muck Presence (A8) (LRR U)
- 1 cm Muck (A9) (LRR P, T)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Coast Prairie Redox (A16) (MLRA 150A)
- Sandy Mucky Mineral (S1) (LRR O, S)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR P, S, T, U)

- Polyvalue Below Surface (S8) (LRR S, T, U)
- Thin Dark Surface (S9) (LRR S, T, U)
- Loamy Mucky Mineral (F1) (LRR O)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Marl (F10) (LRR U)
- Depleted Ochric (F11) (MLRA 151)
- Iron-Manganese Masses (F12) (LRR O, P, T)
- Umbric Surface (F13) (LRR P, T, U)
- Delta Ochric (F17) (MLRA 151)
- Reduced Vertic (F18) (MLRA 150A, 150B)
- Piedmont Floodplain Soils (F19) (MLRA 149A)
- Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (LRR O)
- 2 cm Muck (A10) (LRR S)
- Reduced Vertic (F18) (outside MLRA 150A,B)
- Piedmont Floodplain Soils (F19) (LRR P, S, T)
- Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12) (LRR T, U)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes _____ No

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Stratford Road Lift Station City/County: Decatur/Morgan Sampling Date: 07/10/14
 Applicant/Owner: Decatur Utilities State: AL Sampling Point: SP-2
 Investigator(s): Sean Boyd (Mid-South Testing, Inc.) Section, Township, Range: Sec. 34, T5S, R4W
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): 2
 Subregion (LRR or MLRA): N 128 (MLRA) Lat: N34° 34' 25.3" Long: W86° 56' 37.9" Datum: WGS84
 Soil Map Unit Name: Holston (mapped as Ooitewah) NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Sample point is within a historical agricultural row crop field. Vegetation for this sample point is represented by plants observed within the adjacent woodline approximately 20 feet to the east.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION – Use scientific names of plants.

Sampling Point: SP-2

<u>Tree Stratum</u> (Plot sizes: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Liquidambar Styraciflua</u>	<u>30</u>	<u>yes</u>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
2. <u>Celtis Occidentalis</u>	<u>50</u>	<u>yes</u>	<u>FACU</u>	
3. <u>Juniperus Virginiana</u>	<u>20</u>	<u>yes</u>	<u>FACU</u>	
4. _____				
5. _____				
6. _____				
7. _____				
<u>80</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species <u>45</u> x 3 = <u>135</u> FACU species <u>120</u> x 4 = <u>480</u> UPL species _____ x 5 = _____ Column Totals: <u>165</u> (A) <u>615</u> (B) Prevalence Index = B/A = <u>3.73</u>
<u>Sapling Stratum</u> (_____)				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
_____ = Total Cover				
<u>Shrub Stratum</u> (<u>10' radius</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
1. <u>Ligustrum Sinense</u>	<u>50</u>	<u>yes</u>	<u>FACU</u>	
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
_____ = Total Cover				
<u>Herb Stratum</u> (_____)				Definitions of Vegetation Strata: Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height. Woody vine – All woody vines, regardless of height.
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
12. _____				
_____ = Total Cover				
<u>Woody Vine Stratum</u> (<u>30' radius</u>)				Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>
1. <u>Toxicodendron Radicans</u>	<u>5</u>	<u>yes</u>	<u>FAC</u>	
2. <u>Lonicera Japonica</u>	<u>10</u>	<u>yes</u>	<u>FAC</u>	
3. _____				
4. _____				
5. _____				
<u>15</u> = Total Cover				

Remarks: (If observed, list morphological adaptations below).

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Stratford Road Lift Station City/County: Decatur/Morgan Sampling Date: 07/10/14
 Applicant/Owner: Decatur Utilities State: AL Sampling Point: SP-3
 Investigator(s): Sean Boyd (Mid-South Testing, Inc.) Section, Township, Range: Sec. 34, T5S, R4W
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): 2
 Subregion (LRR or MLRA): N 128 (MLRA) Lat: N34° 34' 23.5" Long: W86° 56' 39.4" Datum: WGS84
 Soil Map Unit Name: Holston NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Sample point is within a historical agricultural row crop field. Vegetation for this sample point is represented by plants observed within the adjacent woodline approximately 5 feet to the west.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION – Use scientific names of plants.

Sampling Point: SP-3

<u>Tree Stratum</u> (Plot sizes: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Juniperus Virginiana</u>	<u>60</u>	<u>yes</u>	<u>FACU</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>25</u> (A/B)
2. <u>Celtis Occidentalis</u>	<u>40</u>	<u>yes</u>	<u>FACU</u>	
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
<u>100</u> = Total Cover				
<u>Sapling Stratum</u> (_____)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species <u>10</u> x 3 = <u>30</u> FACU species <u>150</u> x 4 = <u>600</u> UPL species _____ x 5 = _____ Column Totals: <u>160</u> (A) <u>630</u> (B) Prevalence Index = B/A = <u>3.94</u>
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
_____ = Total Cover				
<u>Shrub Stratum</u> (<u>10' radius</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present.
1. <u>Ligustrum Sinense</u>	<u>50</u>	<u>yes</u>	<u>FACU</u>	
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
_____ = Total Cover				
<u>Herb Stratum</u> (_____)				Definitions of Vegetation Strata: Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height. Woody vine – All woody vines, regardless of height. Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>
1. _____	<u>50</u>			
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
12. _____				
_____ = Total Cover				
<u>Woody Vine Stratum</u> (<u>30' radius</u>)				
1. <u>Toxicodendron Radicans</u>	<u>10</u>	<u>yes</u>	<u>FAC</u>	
2. _____				
3. _____				
4. _____				
5. _____				
<u>10</u> = Total Cover				
Remarks: (If observed, list morphological adaptations below).				



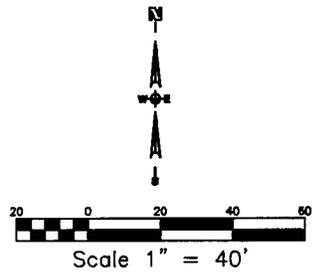
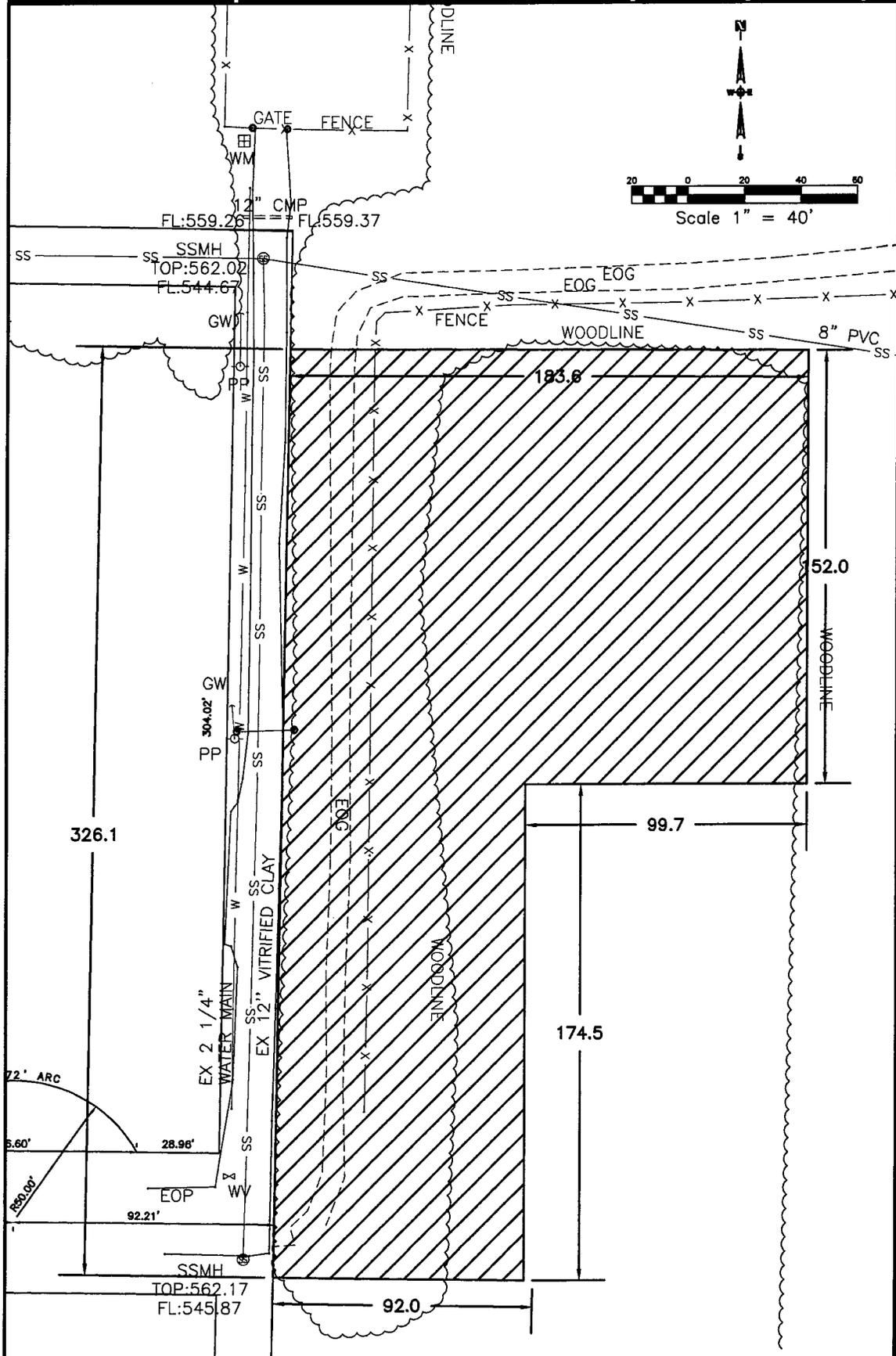
JOB NUMBER
 500-00
 SHEET NUMBER
 C000

Date: mm/dd/yyyy
 Drawn By: XXX
 Approved By: XXX
 Scale: 1"=100'

CLIENT NAME
 JOB NAME
 JOB LOCATION
 SECTION, TOWNSHIP, RANGE
 CITY, COUNTY, STATE
 OVERALL

REVISIONS		
Rev#	Description	Date
5		
4		
3		
2		
1		

**PUGH WRIGHT
 MCANALLY**
 CIVIL ENGINEERS
310 28 AVENUE NE - PO BOX 2419 - DICKENSVILLE, AL 36527
 Pugh Wright McAnally, Inc. www.pughwrightmcanally.com



STRATFORD ROAD LIFT STATION LAND ACQUISITION -- DECATUR UTILITIES -- STRATFORD ROAD, SOUTH EAST DECATUR

DRAWING DATE: 07-07-14 | DRAWN BY: RDH | APPROVED BY: RWH | JOB No. D-96-14 | SCALE: 1"=40' | PAGE 2 OF 2



MID-SOUTH TESTING INC. 2220 BELTLINE ROAD SW, DECATUR ALABAMA, 35601

Sheet 1 of 1	Title	WETLAND STUDY SITE MAP	Scale: NTS	Project No: 12261
	Project	D.U. STRATFORD RD. LIFT STATION	Date: 07/14/14	Cad name: SITE_SKETCH
			Drawn By: SPB	File: dwg 31

Soil Map—Morgan County, Alabama



Map Scale: 1:592 if printed on A portrait (8.5" x 11") sheet.

0 5 10 20 30 Meters

0 25 50 100 150 Feet

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N WGS84



Natural Resources
Conservation Service

Web Soil Survey
National Cooperative Soil Survey

7/16/2014
Page 1 of 3

MAP LEGEND

- | | | |
|--|--|---|
| Area of Interest (AOI) |  Area of Interest (AOI) |  Spoil Area |
| Soils |  Soil Map Unit Polygons |  Stony Spot |
| |  Soil Map Unit Lines |  Very Stony Spot |
| |  Soil Map Unit Points |  Wet Spot |
| Special Point Features | |  Other |
|  Blowout | |  Special Line Features |
|  Borrow Pit | | Water Features |
|  Clay Spot | |  Streams and Canals |
|  Closed Depression | | Transportation |
|  Gravel Pit | |  Rails |
|  Gravelly Spot | |  Interstate Highways |
|  Landfill | |  US Routes |
|  Lava Flow | |  Major Roads |
|  Marsh or swamp | |  Local Roads |
|  Mine or Quarry | | Background |
|  Miscellaneous Water | |  Aerial Photography |
|  Perennial Water | | |
|  Rock Outcrop | | |
|  Saline Spot | | |
|  Sandy Spot | | |
|  Severely Eroded Spot | | |
|  Sinkhole | | |
|  Slide or Slip | | |
|  Sodic Spot | | |

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

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

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

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

Soil Survey Area: Morgan County, Alabama
 Survey Area Data: Version 7, Dec 20, 2013

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Nov 12, 2010—Jun 30, 2011

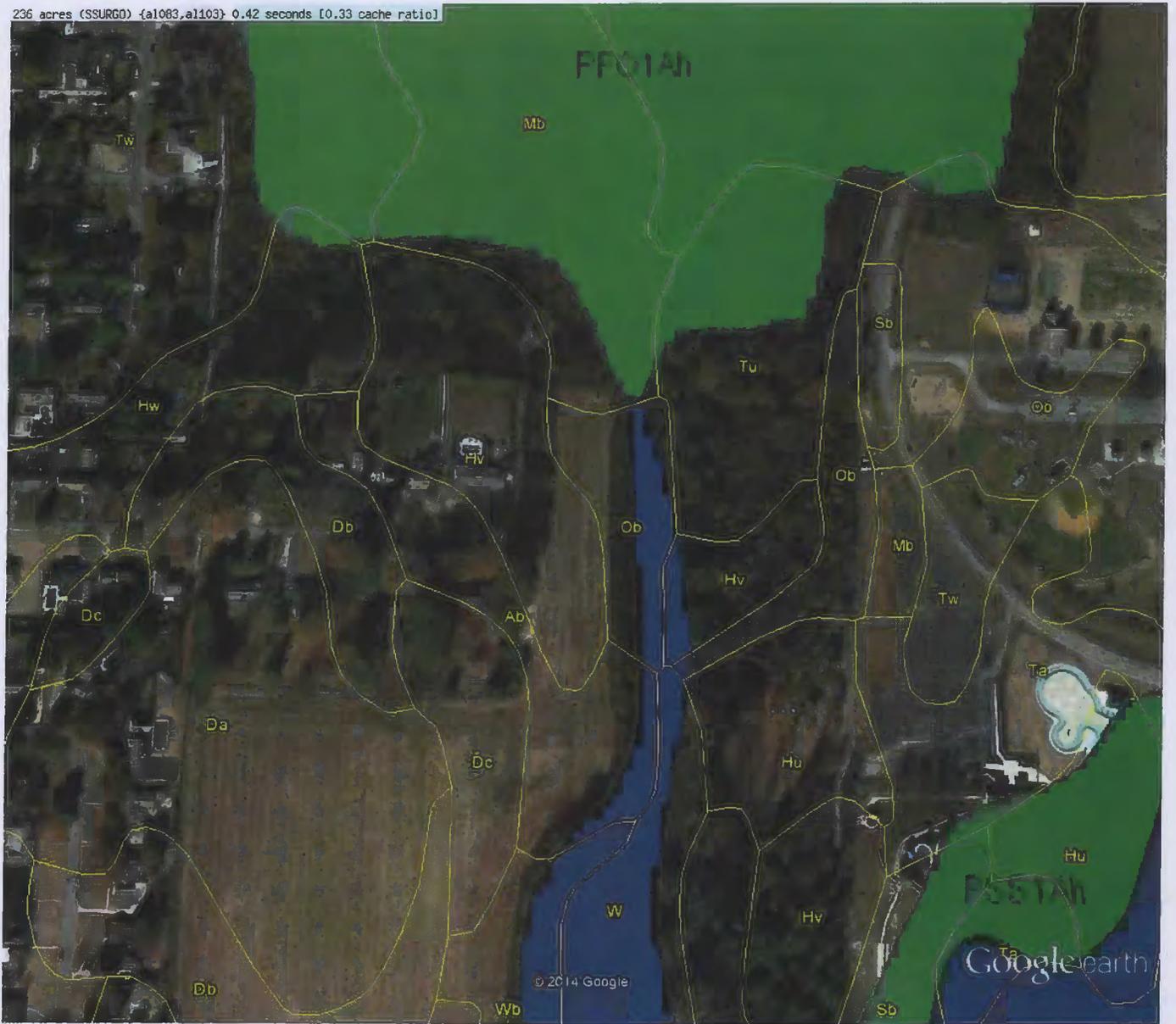
The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Morgan County, Alabama (AL103)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Hv	Holston fine sandy loam, level	0.8	54.2%
Mb	Monongahela fine sandy loam	0.1	8.1%
Ob	Ooltewah silt loam	0.5	37.7%
Totals for Area of Interest		1.4	100.0%



236 acres (SSURGO) {a1083,a1103} 0.42 seconds [0.33 cache ratio]



Google earth



APPENDIX B

INTRA-SERVICE SECTION 7 BIOLOGICAL EVALUATION

2015-I-0505

RECEIVED
APR 15 2015
BY:.....

April, 2015

**REGION 4
INTRA-SERVICE SECTION 7 BIOLOGICAL EVALUATION FORM**

Originating Person: Dwight Cooley

Telephone Number: 256-353-7243, extension 23 **E-Mail:** dwight_cooley@fws.gov

Date: April 15, 2015

PROJECT NAME: Stratford Road Wastewater Lift Station Replacement

I. Service Program:

- Ecological Services
- Federal Aid
 - Clean Vessel Act
 - Coastal Wetlands
 - Endangered Species Section 6
 - Partners for Fish and Wildlife
 - Sport Fish Restoration
 - Wildlife Restoration
- Fisheries
- Refuges/Wildlife

II. State/Agency: Alabama/U.S. Fish and Wildlife Service.

III. Station Name: Wheeler National Wildlife Refuge.

IV. Description of Proposed Action:

Decatur Utilities has requested expansion of an existing right-of-way in order to construct a new wastewater lift station near the terminus of Stratford Road SE in Decatur, Alabama. The new lift station would replace an existing lift station constructed in 1964. Due to increased development and population growth in the area of influence, the existing lift station is at capacity and no longer able to handle the amount of wastewater flow. The existing lift station must remain in operation until a new lift station is constructed. Consequently, the existing right-of-way is not large enough to accommodate both stations.

During early planning, three options for the site of the proposed new lift station were considered. Figure 1 depicts general locations and sizes of the area required for construction of the new lift station, exclusive of associated facilities. Option 2 was selected because it would be located in an existing agricultural field, requiring the clearing and maintenance of the smallest amount of forested habitat, while providing needed facility security.

The project would involve the construction of a new, larger wastewater lift station adjacent to an existing lift station and, once completed and in operation, the existing lift station would be demolished and removed; all mechanical and electrical components, including pumps, valves, fittings, and conduit would be removed; all paving, concrete, sidewalks and fences would be removed; six inches of clean topsoil would be placed over previous impervious surfaces; and, all disturbed areas would be seeded and mulched. An approximate 62' x 34' above and below ground station housing wastewater pumps and electrical components, consisting of a concrete wet well for the pumps and a building to house the dry



Google earth feet 800 meters 200

Figure 1. Options Considered for Construction Site of Stratford Road Wastewater Lift Station

April, 2015

electrical equipment, would be constructed in an agricultural field. A paved access road from the end of Stratford Road to the lift station would be required.

The project area is within 120 feet of an unnamed drainage canal that empties into Wheeler Reservoir approximately 600 feet downstream. Best Management Practices (BMPs), including the placement of silt fences around construction areas, will be used to limit erosion and prevent sedimentation into the canal and Wheeler Reservoir.

A 0.98-acre permanent right-of-way across Wheeler NWR would be required for construction and maintenance of the wastewater lift station and associated facilities. Within the proposed 0.98 acre right-of-way, approximately 0.12 forested acres would be cleared and maintained for: a 24" PVC sewer line connecting to the existing sewer line; a 4" PVC water line connecting to an existing gate valve; and a 18' x 350' asphalt access road (Figure 2).

We are consulting with you to determine if you agree that issuance of a right-of-way permit for the construction of a wastewater lift station is not likely to adversely affect listed species.

V. Pertinent Species and Habitat:

Include species/habitat occurrence map: Maps of known rare species sites on and in the vicinity of the refuge, with the possible exception of the northern long-eared bat (NLEB), have been sent to the ALFO previously or your office already has these locations. Mobile bat acoustic survey data, which includes the NLEB, has been provided to the ALFO

A. Complete the following table:

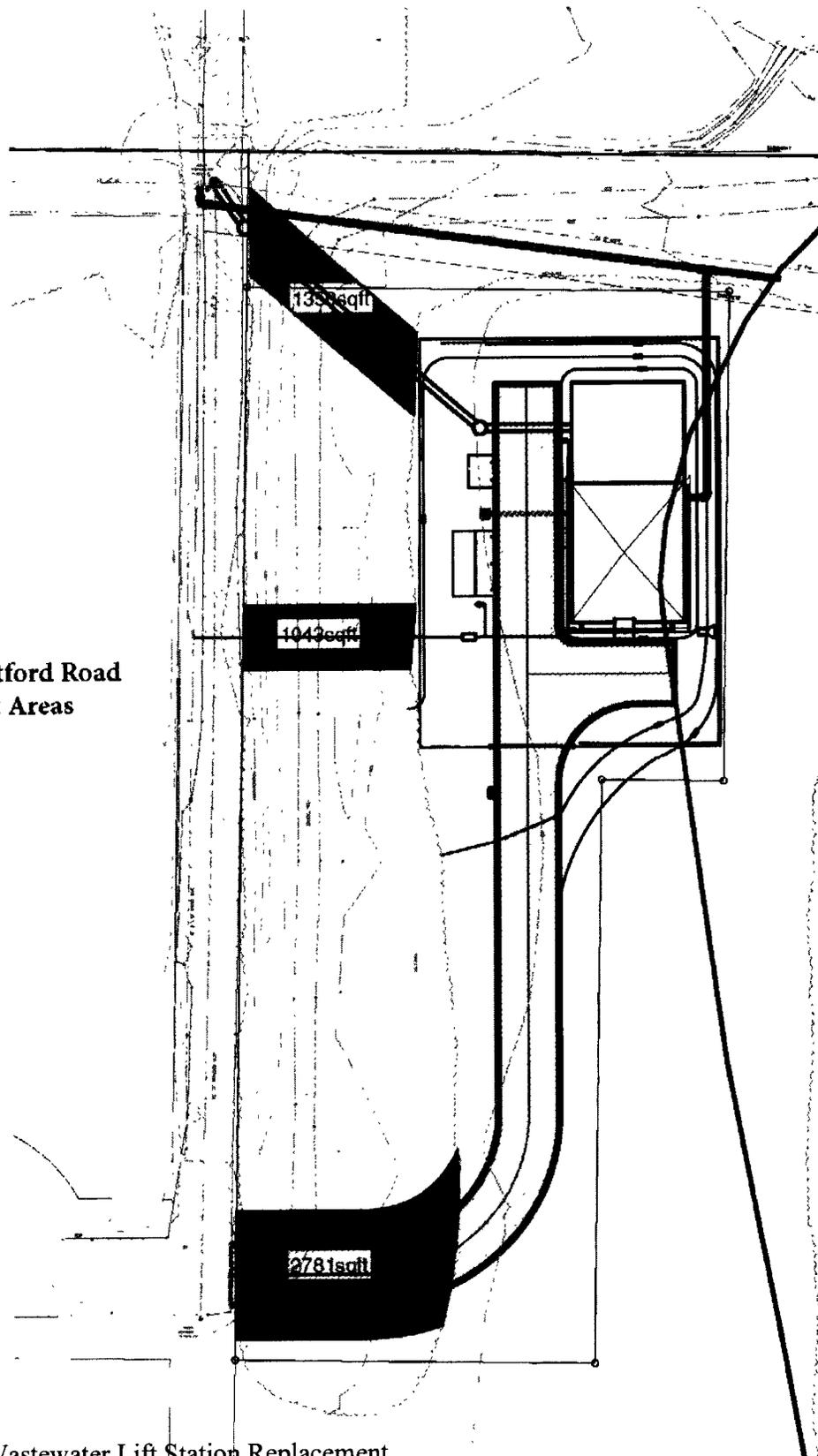
SPECIES/CRITICAL HABITAT	STATUS ¹
Gray Bat (<i>Myotis grisescens</i>)	E
Indiana Bat (<i>Myotis sodalis</i>)	E
Northern Long-eared Bat (<i>Myotis septentrionalis</i>)	T
Whooping Crane (<i>Grus americana</i>)	E
Pink Mucket Pearlymussel (<i>Lampsilis abrupta</i>)	E
Rough Pigtoe (<i>Pleurobema plenum</i>)	E
Sheepnose (<i>Plethobasus cyphus</i>)	E
Spectaclecase (<i>Cumberlandia monodonta</i>)	E
Snuffbox (<i>Epioblasma triquetra</i>)	E

¹STATUS: E=endangered, T=threatened, PE=proposed endangered, PT=proposed threatened, CH=critical habitat, PCH=proposed critical habitat, C=candidate species

VI. Location (attach map):

A. Ecoregion Number and Name: 28 Tennessee/Cumberland River.

B. County and State: Morgan, Alabama.



**Figure 2. Stratford Road
Cleared Forest Areas**

April, 2015

C. Section, township, and range (or latitude and longitude): 34°34'26.00" N
-86°56'38.70" W

D. Distance (miles) and direction to nearest town: The project area lies on Wheeler NWR, adjacent to the city limits of Decatur, Alabama, approximately 3.1 miles southeast of downtown Decatur and 1.25 miles northeast of Wheeler NWR Headquarters.

E. Species/habitat occurrence: See maps and information and other information sent to the ALFO previously.

VII. Determination of Effects:

A. Explanation of effects of the action on species and critical habitats in item V. B (attach additional pages as needed):

SPECIES/ CRITICAL HABITAT	IMPACTS TO SPECIES/CRITICAL HABITAT
Gray Bat (<i>Myotis grisescens</i>)	None expected due to actions noted in Section B below.
Indiana Bat (<i>Myotis sodalist</i>)	None expected due to actions noted in Section B below.
Northern Long-eared Bat (<i>Myotis septentrionalis</i>)	None expected due to actions noted in Section B below.
Whooping Crane (<i>Grus americana</i>)	None expected due to actions noted in Section B below.
Pink Mucket Pearlymussel (<i>Lampsilis abrupta</i>)	None expected due to actions noted in Section B below.
Rough Pigtoe (<i>Pleurobema plenum</i>)	None expected due to actions noted in Section B below.
Sheepnose (<i>Plethobasus cyphus</i>)	None expected due to actions noted in Section B below.
Spectaclecase (<i>Cumberlandia monodonta</i>)	None expected due to actions noted in Section B below.
Snuffbox (<i>Epioblasma triquetra</i>)	None expected due to actions noted in Section B below.

B. Explanation of actions to be implemented to reduce adverse effects:

SPECIES/ CRITICAL HABITAT	ACTIONS TO MITIGATE/MINIMIZE IMPACTS
Gray Bat (<i>Myotis grisescens</i>)	We will incorporate comments from ES/RO.
Indiana Bat (<i>Myotis sodalist</i>)	We will incorporate comments from ES/RO.
Northern Long-eared Bat (<i>Myotis septentrionalis</i>)	We will incorporate comments from ES/RO.
Whooping Crane (<i>Grus americana</i>)	We will incorporate comments from ES/RO.
Pink Mucket Pearlymussel (<i>Lampsilis abrupta</i>)	We will incorporate comments from ES/RO.
Rough Pigtoe (<i>Pleurobema plenum</i>)	We will incorporate comments from ES/RO.
Sheepsnose (<i>Plethobasus cyphus</i>)	We will incorporate comments from ES/RO.
Spectaclecase (<i>Cumberlandia monodonta</i>)	We will incorporate comments from ES/RO.
Snuffbox (<i>Epioblasma triquetra</i>)	We will incorporate comments from ES/RO.

April, 2015

- BMPs, including the placement of silt fences around construction areas, will be used to limit erosion and prevent sedimentation into the canal and Wheeler Reservoir.
- We will incorporate appropriate comments from the ALFO to insure this action is unlikely to adversely affect listed species. If new information reveals that the effects of the action may affect listed species or critical habitat in a manner or to an extent not previously considered; or the action is modified in a manner causing effects to listed species or critical habitat not previously considered; or if a species is listed or critical habitat designated that may be affected by the action, we will reinitiate informal consultation.

VIII. Effect Determination and Response Requested:

SPECIES/ CRITICAL HABITAT	DETERMINATION			RESPONSE REQUESTED
	NE	NA	AA	
Gray Bat (<i>Myotis grisescens</i>)		X		Concurrence
Indiana Bat (<i>Myotis sodalist</i>)		X		Concurrence
Northern Long-eared Bat (<i>Myotis septentrionalis</i>)		X		Concurrence
Whooping Crane (<i>Grus americana</i>)		X		Concurrence
Pink Mucket Pearlymussel (<i>Lampsilis abrupta</i>)		X		Concurrence
Rough Pigtoe (<i>Pleurobema plenum</i>)		X		Concurrence
Sheepsnose (<i>Plethobasus cyphus</i>)		X		Concurrence
Spectaclecase (<i>Cumberlandia monodonta</i>)		X		Concurrence
Snuffbox (<i>Epioblasma triquetra</i>)		X		Concurrence

⁴DETERMINATION/RESPONSE REQUESTED:

NE = no effect. This determination is appropriate when the proposed action will not directly, indirectly, or cumulatively impact, either positively or negatively, any listed, proposed, candidate species or designated/proposed critical habitat. Response Requested is optional but a "Concurrence" is recommended for a complete Administrative Record.

NA = not likely to adversely affect. This determination is appropriate when the proposed action is not likely to adversely impact any listed, proposed, candidate species or designated/proposed critical habitat or there may be beneficial effects to these resources. Response Requested is a "Concurrence".

AA = likely to adversely affect. This determination is appropriate when the proposed action is likely to adversely impact any listed, proposed, candidate species or designated/proposed critical habitat. Response Requested for listed species is "Formal Consultation". Response Requested for proposed or candidate species is "Conference".



 Signature

April 15, 2015

 Date

Project Leader

 Title

Wheeler NWR

 Originating Office

April, 2015

IX. Reviewing Ecological Services Office Evaluation:

- A. Concurrence X Nonconcurrency _____
- B. Formal consultation required _____
- C. Conference required _____
- D. Informal conference required _____
- E. Remarks (attach additional pages as needed):

William Pearson
 Signature

5/1/15
 Date

Field Supervisor
 Title

Madama Field Office
 Office

Additional Comments

Gray, Indiana and northern long-eared bats are not likely to use the project area because it is not preferred foraging habitat. While the unnamed drainage canal within 120 feet of the project area may contain foraging habitat, the use of Best Management Practices should mitigate impacts to the canal. Whooping Cranes are known to forage in refuge agricultural habitats. However, visual and telemetry monitoring of Whooping Cranes over the past 5+ years has documented no use of the field where the proposed lift station would be located. Aquatic species are unlikely to be impacted by construction activities with the use of BMPs. Listed snails occur upstream of the project area and mussels occur in the Tennessee River where project impacts are not expected to occur.

APPENDIX C

PHASE I CULTURAL RESOURCE SURVEY
AND
STATE HISTORIC PRESERVATION OFFICER LETTER

A PHASE I CULTURAL
RESOURCE SURVEY FOR A
PROPOSED PROPERTY EASEMENT IN
DECATUR, MORGAN COUNTY, ALABAMA



Tennessee
Valley
Archaeological
Research

**A PHASE I CULTURAL
RESOURCE SURVEY FOR A
PROPOSED PROPERTY EASEMENT IN
DECATUR, MORGAN COUNTY, ALABAMA**

by

Laura Cannon, Ted Karpynec, and Travis Rael

Prepared for:

Pugh Wright McAnally Civil Engineers
1740 5th Avenue, Southeast
Post Office Box 2419
Decatur, Alabama 35602

Prepared by:

Tennessee Valley Archaeological Research
2211 Seminole Drive, Suite 302
Huntsville, Alabama 35805

J. Rocco de Gregory
Principal Investigator

November 2013

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INTRODUCTION

Under contract with Pugh Wright McAnally Civil Engineers, Inc., Tennessee Valley Archaeological Research (TVAR) completed a Phase I cultural resource survey for a proposed road easement acquisition in the Wheeler National Wildlife Refuge Complex just east of Stratford Road in the city of Decatur, Morgan County, Alabama (Figure 1). The purpose of this Phase I survey was to identify and document cultural resources within the area of potential effect (APE) and evaluate each resource's eligibility status for the National Register of Historic Places (NRHP). The archaeological APE consisted of a 0.3 hectare (0.74 acre) survey tract. The architectural APE consisted of a 0.8 km (0.5 mi.) radius surrounding the archaeological APE. The archaeological APE is located in Township 05S, Range 04W, Sections 27 and 34, as shown on the USGS 1982 Decatur 7.5 minute topographic quadrangle. Archaeological investigations were conducted November 5, 2013. Field investigations were supervised by Laura Cannon with James Roncki as a crew member. Architectural investigations were supervised by Ted Karpynec. Laboratory analysis was supervised by Travis Rael. Field and laboratory procedures were executed under the direction of Rocco de Gregory, Principal Investigator. All work performed by TVAR was in compliance with Section 106 of the National Historic Preservation Act (as amended) and its implementing regulations at 36 CFR § 800.

During the course of investigations, 20 potential shovel test locations were visited. Of these, four yielded artifacts, nine did not contain cultural material, and seven were not excavated due to environmental or anthropogenic factors that made excavation at these locations impractical. One previously unrecorded archaeological site, 1MG1041, and one isolated find were identified as a result of these investigations. 1MG1041 is recommended as not eligible for inclusion in the NRHP. No previously undocumented architectural resources were identified for inclusion in the NRHP. Therefore, it is in the opinion of TVAR that no significant cultural resources will be adversely impacted by the proposed road easement acquisition.

ENVIRONMENTAL SETTING

The project location is situated in the northwest portion of Morgan County, just north of Flint Creek. It is found within the Tennessee Valley district of the Highland Rim section of the Interior Low Plateaus physiographic province (Figure 2). Johnston (1930) characterizes the Tennessee Valley district as a plateau of moderate relief with elevations ranging from 600 to 800 ft (183 to 244 m). A chert belt lies to the north, and a limestone plain runs along the Tennessee River (Sapp and Emplincourt 1975). The current project area lies within the Tuscumbia Limestone geologic formation, which consists of light-gray limestone, varying bioclastic crinoidal limestone, and a scatter of light-gray chert nodules and concretions (Figure 3).

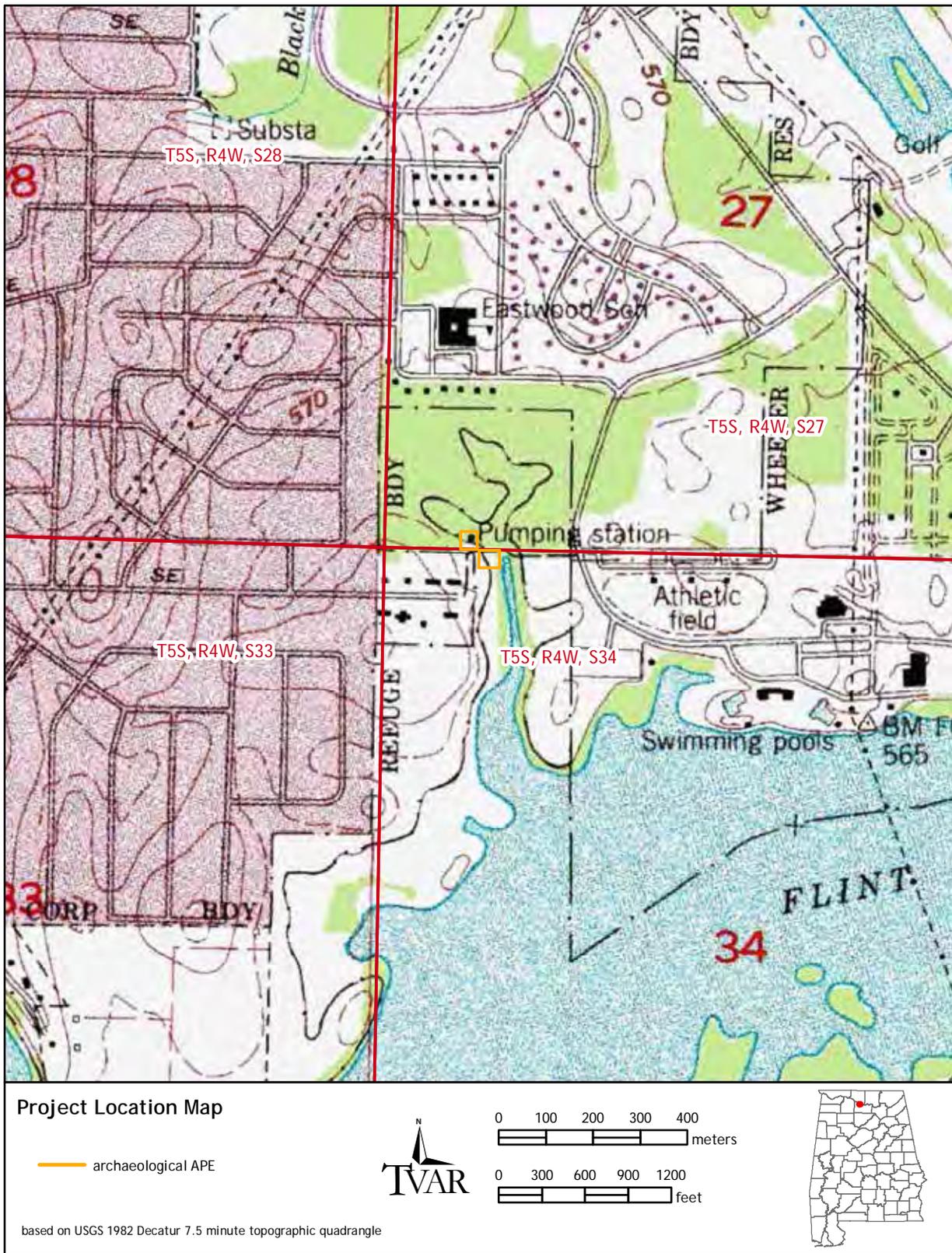


Figure 1. Project location map.

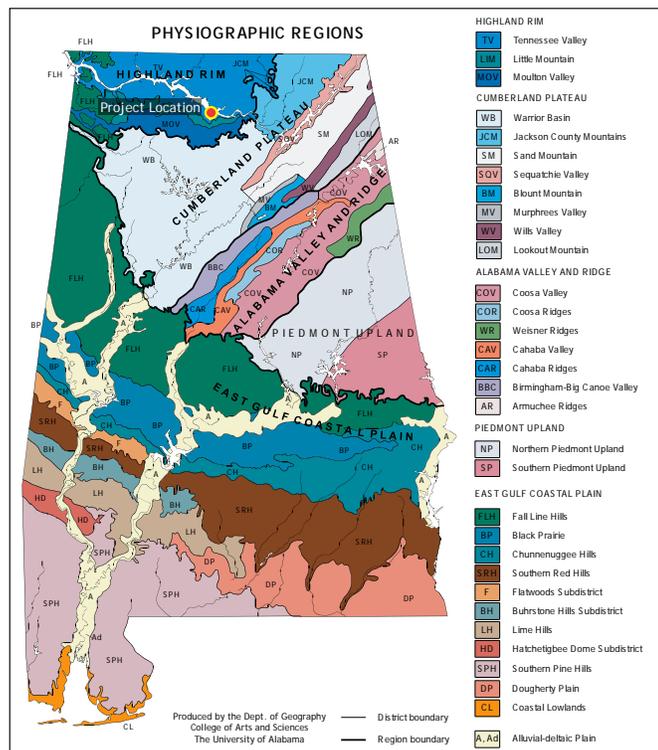


Figure 2. Physiographic regions of Alabama.

The natural vegetation surrounding the project area is an oak-hickory forest (Figure 4). Covering a large part of the central Midwestern section of the United States, this well-developed forest type is found in the north-central and northwestern areas of Alabama. Species typical of this forest type include white oak, red oak, southern red oak, black oak, shagbark hickory, mockernut, pignut, basswood, winged elm, and black walnut (Thomas 1973:17). Currently, vegetation within the project area is a young forest with undergrowth consisting of vines, briars, and shrubs. Although some native vegetation remains in the immediate project vicinity, the area surrounding the project area has been significantly impacted by agricultural, commercial, and residential development.

BACKGROUND RESEARCH

Document and cartographic research was conducted to identify previously recorded cultural resources within the architectural APE and develop a historical context for the area. Numerous cartographic and ethnographic databases were referenced, including the Alabama Online Cultural Resources Database; Alabama State Site File (ASSF); Bureau of Land Management, General Land Office (BLM, GLO) land patent database; National Register of Historic Places (NRHP); Natural Resources Conservation Service (NRCS), Web Soil Survey; University of Alabama Historical Map Archive; Alabama Register of Landmarks and Heritage; the Alabama Historical Commission Cemetery Register; and the Cemetery Register of the Alabama Cemetery Preservation Alliance. While the background research should not be considered exhaustive, several sources were referenced for land use data within and immediately surrounding the project area.

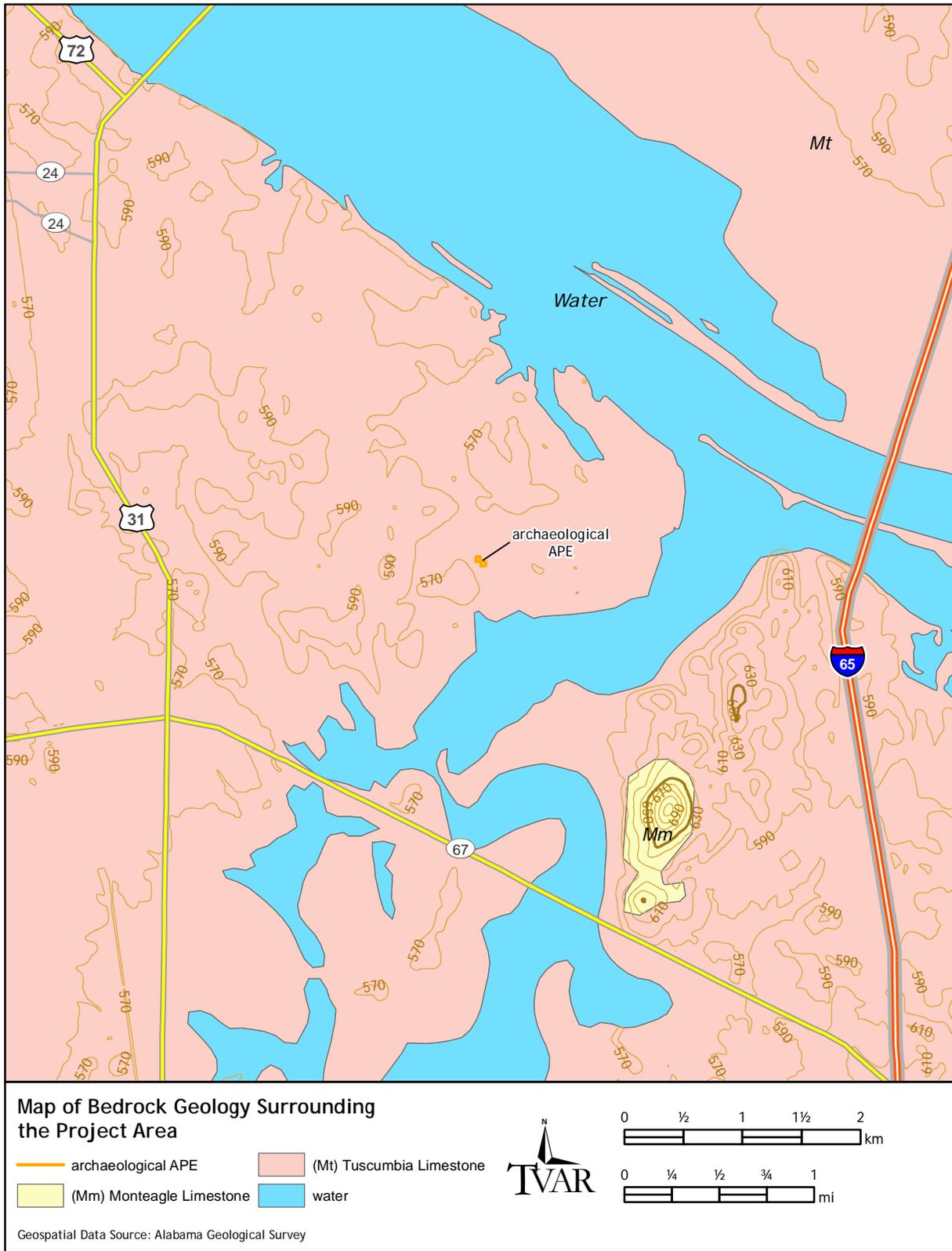


Figure 3. Map of geology within the project area.

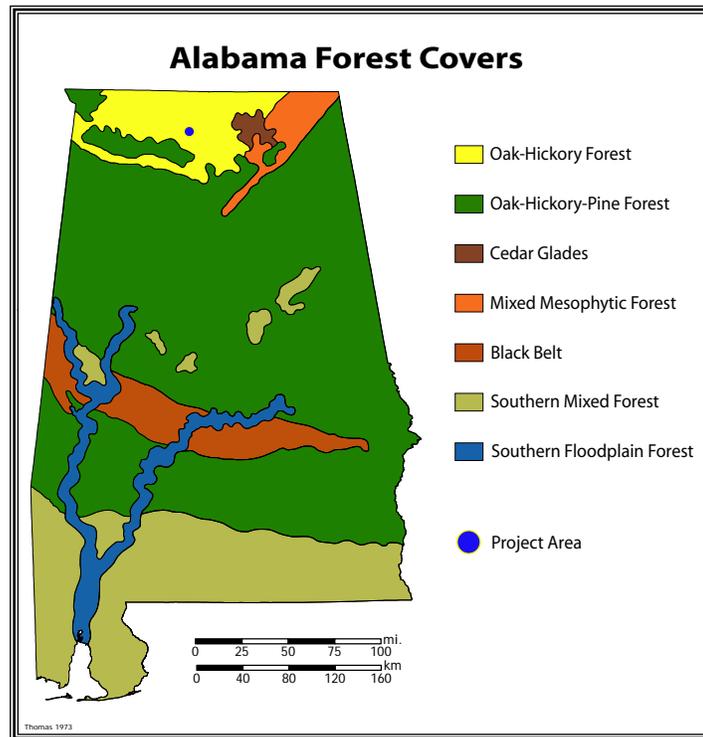


Figure 4. Forest cover of Alabama.

A search of the online list and spacial database for the National Register of Historic Places revealed 17 NRHP listed properties in Morgan County, Alabama. None of those properties are located within the architectural APE (National Park Service 2013a). Additionally, a search performed of the online database for the Alabama Register of Landmarks and Heritage listed 30 properties within Morgan County. None were located within the architectural APE (Alabama Historical Commission 2013).

A search of BLM, GLO (2013) land patent records revealed that the original land patent for the portion of the archaeological APE located in Section 27 was issued to Henry W. Rhodes in 1833. The portion of the archaeological APE that is located in Section 34 was issued to the State of Alabama in 1926. A search for additional information regarding Henry W. Rhodes revealed that he operated a ferry that crossed the Tennessee River at the present-day location of Rhodes Ferry Park (Stephens Chapter 2013).

The project location lies within an archaeologically sensitive area of the Tennessee Valley where prehistoric sites, ranging from the Paleoindian to Mississippian periods, are found. The project vicinity has been in use by Euro-Americans since the mid-nineteenth century. Morgan County, originally named Cotaco County, was established in 1818 by the Alabama Territorial Legislature. It became a county within the State of Alabama, which joined the Union in 1819. The city of Decatur was incorporated in 1826 and later became the county seat (Remington 2010). By 1840, the population totaled 9,841, with "whites 6,580, slaves 3,216, free col'd 45" (Haskel and Smith 1844: 429). Cotton was the major crop, with 7,381,274 bushels produced that year.

Table 1. Previous cultural resource surveys.

NADB	Title	Client	Institution	Author
4061308	A Cultural Resources Reconnaissance Survey of a Proposed Sewer Line Replacement near Flint Creek in Decatur, Morgan County, Alabama	Decatur Utilities	University of Alabama	Gage, Matthew D.
4066599	Cultural Resources Survey for the Calpine-Morgan Project in Advance of Structure Refurbishment along Existing Transmission Lines in Lauderdale, Limestone, Madison, and Morgan Counties, Alabama	Tennessee Valley Authority	TRC, Inc.	D'Angelo, James J., Ted Karpynec, and Michael J. Wild

A search of the Alabama Online Cultural Resources Database revealed that two previously recorded archaeological sites are found within a half mile (0.8 km) of the archaeological APE: 1MG256 and 1MG780 (Figure 5). Both sites consist of artifact scatters with unknown aboriginal affiliations, and neither site was recommended as eligible into the NRHP. Site 1MG256 is now inundated by Flint Creek. The ASSF database also indicated that two cultural resource surveys have occurred within the background study area (Table 1), but neither of these lie within the archaeological APE.

INVESTIGATION OF ARCHAEOLOGICAL RESOURCES

This archaeological survey was conducted in accordance with procedural standards established by the Secretary of the Interior (NPS 1983) and the Alabama Historical Commission (2006). Field investigations were performed in early November, 2013. All locations visited within and near the survey area were recorded using a field computer which includes a global positioning system (GPS) receiver and specialized data-capturing software tailored to archaeological surveying. The combination of hardware and software provides for real time data acquisition and visualization while furnishing important information to the field crews, i.e., the locations of archaeological sites, environmental features, and survey boundaries. Using software developed by TVAR, detailed information, such as soil descriptions, artifact locations, landscape features, and photographic information, was recorded at the time of observation and linked via geographic coordinates.

Archaeological site reconnaissance performed during the survey included visual inspection of all exposed ground surfaces in the APE and subsurface shovel testing in undisturbed areas where visual inspection was impeded by ground cover. Shovel tests were generally performed at 30 m intervals within the APE. A standard shovel test consisted of a 30 cm (11.8 in.) diameter, cylindrical hole excavated to the depth of the underlying sterile subsoil. Test soils were passed through a ¼-inch hardware mesh to recover cultural materials. When artifacts were encountered, a 10-m testing interval was implemented in order to determine the spatial extent of the artifact scatter within the boundaries

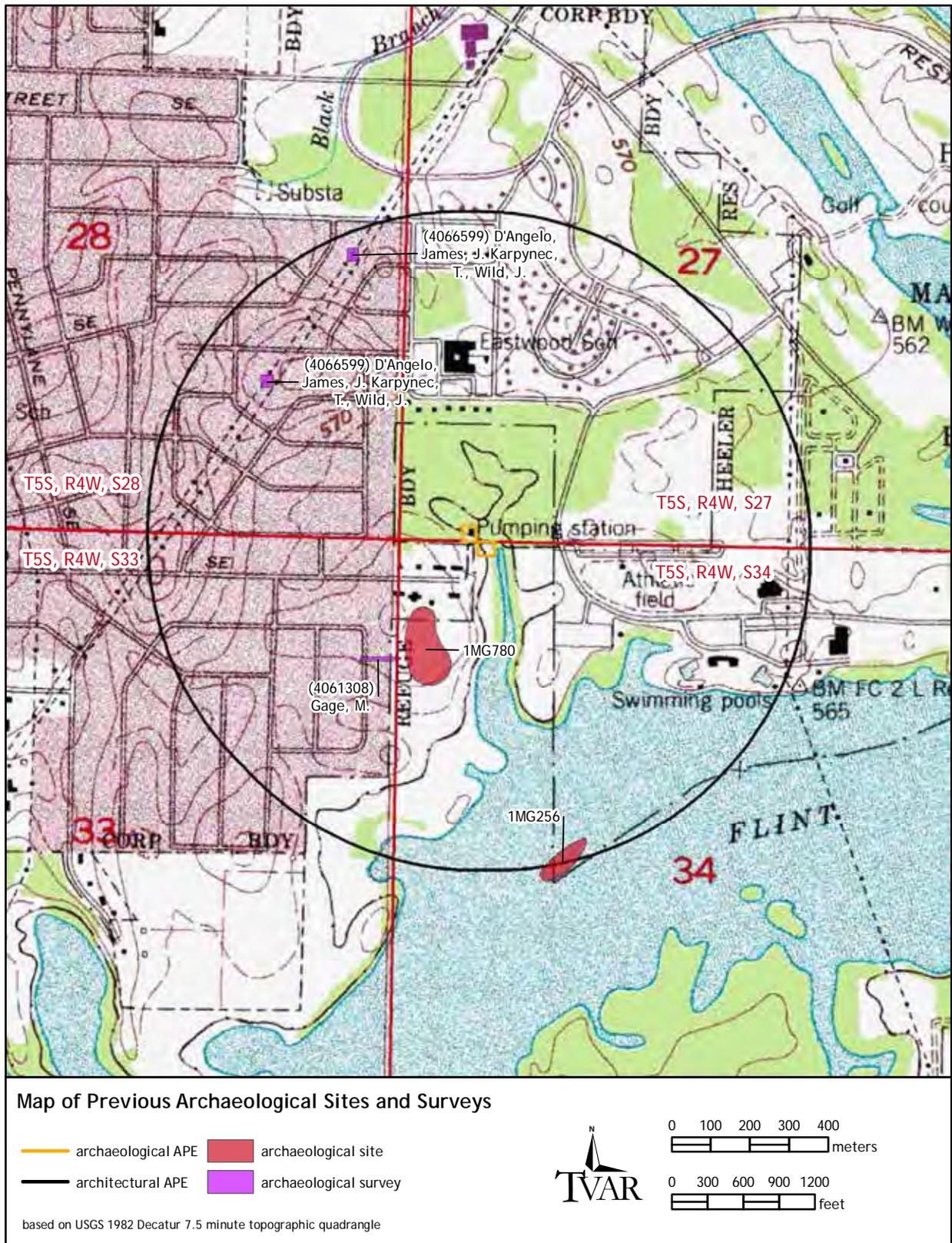


Figure 5. Map of previous surveys and previously recorded cultural resources.

of the APE. Shovel testing at 10 m intervals was conducted in an opportunistic manner depending upon the orientation of landforms and APE boundaries. Close interval shovel testing continued until two sequential negative tests were completed, close interval tests reached a boundary, or environmental conditions (e.g., slope, erosion, and man-made disturbance) negated further testing. In locations where environmental conditions prevented testing, a no dig point was recorded.

ARCHAEOLOGICAL SURVEY RESULTS

The project area has been disturbed by previous road construction, underground and above-ground utilities, residential developments, and agriculture. During the course of investigations, 20 potential shovel test locations were visited. Of these, four yielded artifacts, nine contained no cultural material, and seven were not excavated due to the environmental conditions mentioned above. One previously unrecorded site, 1MG1041, and one isolated find were identified as a result of these investigations. Locations of shovel tests, the newly recorded site, and surface collections are provided in Figure 6. Additionally, Appendix A provides an enumeration of shovel tests, and Appendix B includes the state site form for the newly recorded site.



Figure 6. Shovel test map.



Figure 7. Photograph of 1MG1041, facing west.

1MG1041

Site 1MG1041 is a prehistoric and historic artifact scatter located within a floodplain (Figures 7-8). The site is 460 m (1509 ft.) northwest of Flint Creek, which has been flooded by the Wheeler Reservoir since 1936 (Tennessee Valley Authority 2013). The site encompasses portions of an agricultural field, a recreational trail, and an artificial drainage, and covers an area of approximately 330 m². Only a small portion of the land within the boundary remains undisturbed. The soils in this area consist of the Monongahela fine sandy loam complex, which is described as well drained and found on slopes up to 6 percent (Natural Resources Conservation Service 2013). Typical site stratigraphy consisted of two strata: a 10-cm thick yellowish brown (10YR 5/4) silty clay loam overlying a yellowish brown (10YR 5/6) silty clay.

A total of six shovel tests were conducted across the site, three of which yielded artifacts. A total of five artifacts were recovered from these tests, including one piece of chipped-stone debitage, two pieces of clear container glass, a piece of slag, and a brick fragment. Artifacts were recovered from a maximum depth of 30 cm below the surface with a concentration in the upper 12 cm across the site.

Examination of the USGS 1936 Decatur 7.5 minute topographic quadrangle indicates that two structures stood approximately 100 m (328 ft.) and 150 m (492 ft.) west of the site. They were depicted along an unnamed road that appears to now be the recreational trail that runs east to west through this portion of the Wheeler National Wildlife Refuge Complex. The structures are not depicted on the 1937 Alabama Highway Department map of Morgan County, nor the USGS 1950 Decatur 7.5 minute topographic quadrangle. It is unlikely that this site is directly associated with these historic structures. Artifacts excavated from 1MG1041 are listed below.

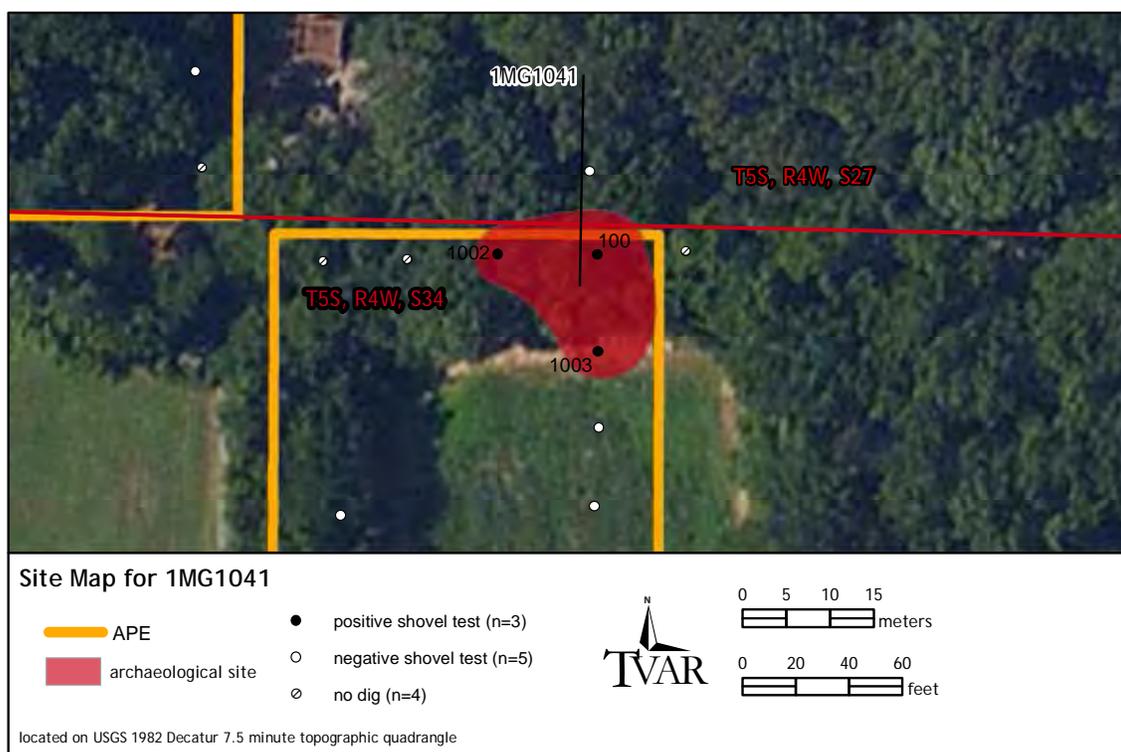


Figure 8. 1MG1041 site map.

- Shovel Test 100 (0-12 cmbs)
 - 1 0.29 g 1/4-inch debitage, chert (undifferentiated)
 - 1 0.34 g clear container glass
- Shovel Test 1002 (10-30 cmbs)
 - 1 0.2 g clear container glass
 - 1 0.63 g slag
- Shovel Test 1003 (0-12 cmbs)
 - 1 0.86 g brick fragment

The artifacts recovered from 1MG1041 indicate the presence of prehistoric and historic components. The prehistoric component is indicated by the presence of one piece of lithic debitage, which is not diagnostic of a specific period or cultural affiliation. The historic component consisted of two pieces of clear container glass, one piece of slag, and a brick fragment. The presence of clear container glass suggests a historic component dating between the mid-nineteenth century and present day. It is likely that 1MG1041 extends beyond the APE to the west and east, but the surrounding area is approximately 95 percent disturbed. Due to the paucity of artifacts and lack of architectural structure remains, this site has little research potential beyond the findings of this Phase I survey and therefore is not considered eligible for inclusion in the NRHP.



Figure 9. Photograph of isolated find, facing northeast.

ISOLATED FIND

A single isolated find was encountered during the current survey. This was located approximately 5 m (16.4 ft.) north of the current pumping station (Figure 9). Two pieces of clear container glass were recovered from the initial positive shovel test; however, no additional cultural material was recovered from subsequent delineation shovel testing, and a scatter of modern garbage was observed in close proximity to the pumping station.

Shovel Test 106 (0-15 cmbs)
2 1.45 g clear container glass

MATERIALS RECOVERED

Following the fieldwork portion of this Phase I survey, all field notes, maps, artifacts, photo logs, and electronic data were transported to TVAR's laboratory in Huntsville, Alabama. Prior to artifact analysis, all recovered materials were thoroughly washed and allowed to air dry. Provenience information was verified for accuracy at this stage, and all materials were accounted for by a physical inventory. Artifacts were then analyzed and all information documented within a relational database. Artifacts were assigned a unique catalog number and placed in 4-mil polypropylene resealable bags. After analysis was completed, a final check of all proveniences was made. Lastly, a check was made

to verify the accuracy of the data entry. All pertinent materials and information will be curated at the Erskine Ramsay Archaeological Repository located at Moundville Archaeological Park (Appendix C). This facility meets U.S. Department of Interior 36 CFR Part 79 guidelines. Materials collected during the investigation are summarized below.

CHIPPED-STONE DEBITAGE

Debitage is the byproduct of lithic reduction activities, i.e., flintknapping. Specimens were classified in accordance with Ahler's (1989) aggregate analysis methods, in which recorded attributes include raw material type, size grade, and presence of cortex. Alldebitage was size graded through nested 1-inch, 1/2-inch, and 1/4-inch screens. One piece of 1/4-inch undifferentiated chertdebitage was recovered from 1MG1041.

GLASS

Clear container glass is a curved fragment of glass which lacks manufacturing attributes necessary for determining the specific type of container. Clear or colorless glass refers to transparent decolorized glass. Glass produced in this manner was made from the purest of sand possible and decolorized with manganese, selenium, or arsenic. Colorless glass produced through these different processes commonly date from the 1870s to the mid-twentieth century and is still produced today (Lindsey 2010). A total of four specimens were recovered from the project area; two specimens from 1MG1041 and two from Shovel Test 106 designated as an Isolated Find.

BRICK

Bricks are produced from tempered clay which is formed into a mold or cut into a rectangular block and fired in a kiln. The manufacturing of brick in the United States began soon after European colonists arrived. Machine-made bricks began replacing hand-made bricks throughout the nineteenth century and became the primary method of brick production in the late nineteenth century (Holly 2009). One brick fragment was recovered from 1MG1041.

SLAG

Slag is a by-product of smelting or refining metal. There was one piece of slag recovered from 1MG1041.

INVESTIGATION OF ARCHITECTURAL RESOURCES

The historic architectural resources inventory was conducted on November 12, 2013 in accordance with AHC's Alabama Guidelines: Preparing Reports for Historic Architectural Resources Under Section 106 of the National Historic Preservation Act of 1966, as Amended (Alabama Historical Commission 2005), as well as those contained in National Register Bulletin 24, Guidelines for Local Surveys: A Basis for Preservation Planning (Derry et al. 1985).

Federal regulations define the APE as "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" (CFR 2011a). In regard to the proposed project, the architectural APE was determined to be a 0.8 km (0.5 miles) radius surrounding the location of the project area (see Figure 5). The APE includes areas that have a visual link to the proposed project. Viewsheds to and from the proposed project corridor(s) were discounted where vegetation and/or topography obstructed lines of sight (Figures 10-13).



Figure 10. View of the architectural APE to the north.



Figure 11. View of the architectural APE to the south.



Figure 12. View of the architectural APE to the east.



Figure 13. View of the architectural APE to the west.

ARCHITECTURAL SURVEY RESULTS

On November 12, 2013, TVAR conducted a historic architectural survey of the APE, which resulted in the identification of no previously unrecorded architectural resources, other than the modern brick pumping station depicted in Figure 10. This structure was constructed in the early to mid-1970's, as it is first depicted on the USGS 1976 Decatur 7.5 minute topographic quadrangle. TVAR recommends no additional investigation of aboveground resources in connection with the proposed undertaking.

SUMMARY AND RECOMMENDATIONS

On November 5, 2013, TVAR conducted a Phase I cultural resource survey to document and assess cultural resources within a 0.3 hectare (0.74 acre) survey tract in preparation for a road easement acquisition in the city of Decatur, Morgan County, Alabama. One previously undocumented site and one isolated find were identified and evaluated. Site 1MG1041 is recommended as not eligible for inclusion in the NRHP. It is thus the opinion of TVAR that no significant cultural resources will be adversely impacted by the proposed road easement acquisition.

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**APPENDIX A:
ENUMERATION OF SHOVEL TESTS**

TEST	STATUS	NAD 27 Easting	NAD 27 Northing	SITE	BOTTOM OF TEST (cmbs)
100	positive	505133.007032	3825617.314147	1MG1041	56
101	no dig - gravel, ditch disturbance, modern trash	505101.515677	3825616.527868		0
102	negative	505103.532189	3825587.378642		42
103	no dig - pavement, underground utilities	505087.616998	3825627.349125		0
104	negative	505132.631682	3825588.422944		45
106	positive	505088.31077	3825656.217688	Isolated Find	36
107	negative	505057.794815	3825657.90764		57
108	no dig - modern trash, push piles	505060.654603	3825629.587462		0
1001	no dig - in road, disturbed	505111.178655	3825616.80861		0
1002	positive	505121.580408	3825617.342006	1MG1041	46
1003	positive	505133.049007	3825606.140689	1MG1041	32
1004	negative	505133.219225	3825597.425022	1MG1041	42
1005	no dig - on berm between road and drainage	505143.058477	3825617.781484	1MG1041	0
1006	negative	505132.102244	3825626.835701	1MG1041	48
1007	negative	505079.098653	3825655.572146	Isolated Find	56
1008	negative	505067.002411	3825657.110953	Isolated Find	60
1009	negative	505087.681528	3825647.270144	Isolated Find	43
1010	negative	505086.969604	3825638.336898	Isolated Find	46
1011	no dig - push piles behind pumping station	505097.186259	3825657.506503	Isolated Find	0
1012	no dig - push pile berm along trail	505087.921438	3825666.756504	Isolated Find	0

**APPENDIX B:
SITE FORM**

Site: <input type="text" value="MG1041"/> <input type="button" value="Retrieve Site"/>
Site Name: <input style="width: 600px;" type="text" value="JWR001"/>
<u>Location and Size</u>
Easting: <input type="text" value="505130"/> Northing: <input type="text" value="3825613"/> Elevation: <input type="text" value="171"/> Township: <input type="text" value="05S"/> Range: <input type="text" value="04W"/> Section: <input type="text" value="34"/> <input type="text" value="NW"/> 1/4 of <input type="text" value="NW"/> 1/4 of <input type="text" value="NW"/> 1/4 Major Axis: <input type="text" value="22"/> Minor Axis: <input type="text" value="15"/> Max Depth: <input type="text" value="30"/>
<u>Preservation Information</u>
Preservation State: <input type="text" value="CULTIVATION"/> Immediate Destruction Pending: <input type="checkbox"/> Looting/Vandalism: <input type="text" value="N"/> % Destroyed: <input type="text" value="95"/> National Register Status: <input type="text" value="NO"/>
<u>Archaeological Information</u>
Level of Investigation: <input type="text" value="RECONNAISSANCE"/> Excavation Status: <input type="text" value="SURFACE & SHOVEL"/> Topographic Association: <input type="text" value="FLOOD PLAIN"/> Physiographic District: <input type="text" value="?"/> Physiographic Section: <input type="text" value="CUMBERLAND"/> Nearest Water Source: <input type="text" value="FIRST"/> Direction To: <input type="text" value="SW"/> Distance To: <input type="text" value="460"/> At Confluence: <input type="text" value="N"/> Drainage Basin: <input type="text" value="TENNESSEE"/> Ground Cover: <input type="text" value="DEVELOPED"/> Soil Type: <input type="text" value="MONONGAHELA COM"/> Soil Texture Class: <input type="text" value="FINE SANDY LOAM"/> County Soil Survey: <input type="text" value="null"/> Degree of Disturbance: <input type="text" value="ENTIRE"/>
<u>Characteristics</u>

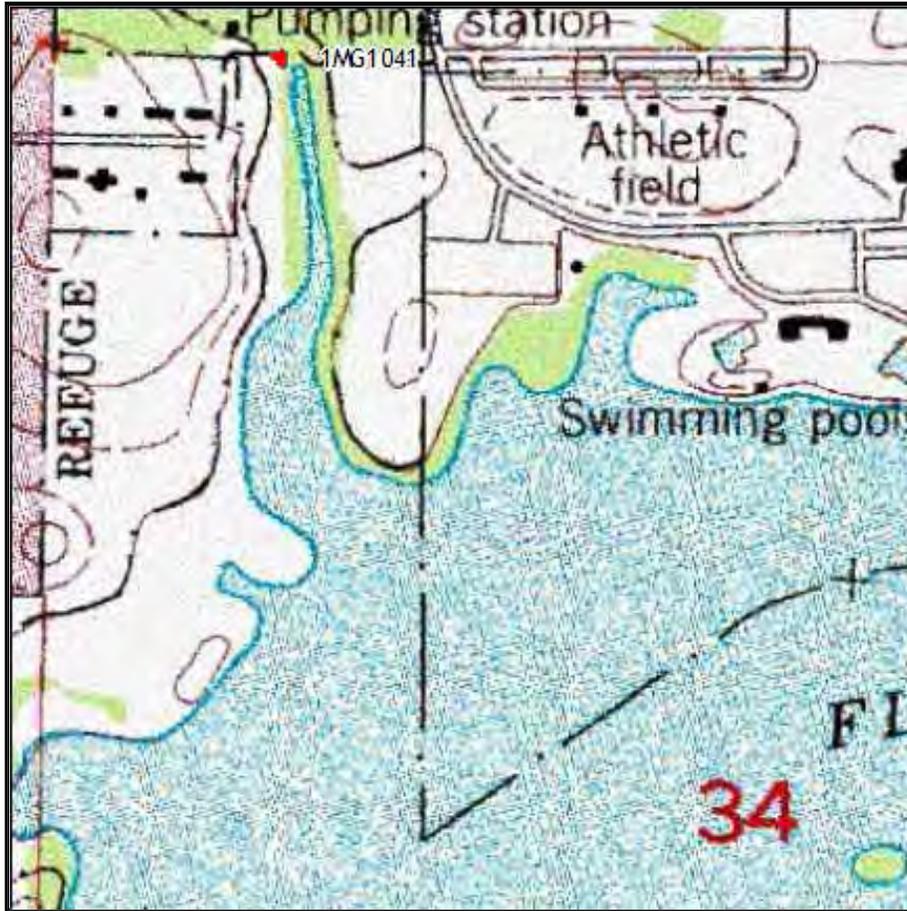
- Human Remains
- Features
- Petroglyph/Pictograph
- Rockshelter
- Cave
- Artifact Scatter
- Midden
- Shell Midden
- Single Earthen Mound
- Multiple Earthen Mound
- Stone Mound(s)
- Weir
- Quarry
- Standing Historic Structure
- Historic Structure Site
- Historic Cemetery
- Still
- Mill
- Engineering
- Other

Components

UNKNOWN ABORIGINAL, TWENTIETH CENTURY HISTORIC

Comments

THE SITE IS A PREHISTORIC AND HISTORIC ARTIFACT SCATTER LOCATED IN A FLOODPLAIN, JUST NORTH OF FLINT CREEK. THE SITE ENCOMPASSES A PORTION OF AN AGRICULTURAL FIELD, A RECREATIONAL TRAIL, AND AN ARTIFICIAL DRAINAGE. ONLY A SMALL PORTION OF THE LAND WITHIN THE BOUNDARY REMAINS UNDISTURBED. A TOTAL OF SIX SHOVEL TESTS WERE CONDUCTED ON THE SITE, THREE OF WHICH YIELDED ARTIFACTS. FIVE ARTIFACTS WERE EXCAVATED FROM THESE TESTS, INCLUDING ONE PIECE OF CHIPPED-STONE DEBITAGE, TWO PIECES OF CLEAR CONTAINER GLASS, A PIECE OF SLAG, AND A BRICK FRAGMENT. ARTIFACTS WERE EXCAVATED FROM A MAXIMUM DEPTH OF 30 CM BELOW THE SURFACE WITH A CONCENTRATION IN THE UPPER 12 CM ACROSS



USGS 7.5' Topographic Map:

Record Type:	<input type="checkbox"/> Clear	<input type="checkbox"/> Master	<input type="checkbox"/> Synonym
Form Status:	<input type="checkbox"/> Final	<input type="checkbox"/> Verified	<input checked="" type="checkbox"/> New
Form Completion:	<input type="checkbox"/> Final	<input type="checkbox"/> Map Search	<input type="checkbox"/> Literature Search
Sponsor Type:	<input type="text" value="PRI"/>	Sponsored By:	<input type="text" value="Pugh, Wright, and Asso"/>
Recorder Type:	<input type="text" value="PRI"/>	Recorded By:	<input type="text" value="Tennessee Valley Arch"/>
Date Submitted:	<input type="text" value="2013-11-14"/>	Date Revised:	<input type="text" value="2013-11-14"/>

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**APPENDIX C:
CURATION LETTER**

Division of Special Services
Office of Professional Services



April 18, 2013

Hunter Johnson
Tennessee Valley Archaeological Research
2211 Seminole Drive, Suite 302
Huntsville AL 35805

Dear Hunter:

As per your request, this letter is to renew our agreement with you to provide curation services to Tennessee Valley Archaeological Research on an as-needed basis. We are recognized by a variety of Federal agencies as a repository meeting the standards in 36 CFR Part 79 and have formal agreements to provide curation under these guidelines to agencies such as the National Park Service, U.S. Fish and Wildlife Service, U.S. Soil Conservation Service, U.S. Army Corps of Engineers, Tennessee Valley Authority, National Forest Service, etc.

Please be advised that once a year we must be notified of all reports in which we were named as the repository. Project collections must be submitted within one calendar year of completion. Small projects may be compiled for periodic submission. The AHC survey policy specifies which materials must be curated (Administrative Code of Alabama, Chapter 460-X-9). Renewal of this agreement is contingent upon compliance.

We appreciate having the opportunity to assist you with curation services and look forward to working with you in the future.

Sincerely,

Eugene M. Futato RPA
Deputy Director

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STATE OF ALABAMA
ALABAMA HISTORICAL COMMISSION
468 SOUTH PERRY STREET
MONTGOMERY, ALABAMA 36130-0900

December 23, 2014

TEL: 334-242-3184
FAX: 334-240-3477

FRANK W. WHITE
EXECUTIVE DIRECTOR

Richard S. Kanaski
U.S. Department of the Interior
694 Beech Hill Lane
Hardeeville, SC 29927

Re: AHC 15-0242
CRA
Decatur Utilities Easement modification, Wheeler National Wildlife Refuge
Morgan County

Dear Mr. Kanaski:

Upon review of the cultural resource assessment conducted for the above referenced project, we have determined that project activities will not affect any cultural resources eligible for or listed in the National Register of Historic Places. Therefore, we concur with the proposed project activities.

However, should artifacts or archaeological features be encountered during project activities, work shall cease and our office shall be consulted immediately. Artifacts are objects made, used or modified by humans. They include but are not excluded to arrowheads, broken pieces of pottery or glass, stone implements, metal fasteners or tools, etc. Archaeological features are stains in the soil that indicate disturbance by human activity. Some examples are post holes, building foundations, trash pits and even human burials. This stipulation shall be placed on the construction plans to insure contractors are aware of it.

We appreciate your commitment to helping us preserve Alabama's historic archaeological and architectural resources. Should you have any questions, please contact Stacye Hathorn at 334.230.2649 or Stacye.Hathorn@preserveala.org. Have the AHC tracking number referenced above available and include it with any future correspondence.

Sincerely,

Lee Anne Wofford
Deputy State Historic Preservation Officer

LAW/SGH/amh