Memphis District Real Estate
United States Army Corps of Engineers

Memphis Metropolitan Stormwater - North DeSoto Feasibility Study, DeSoto County, Mississippi Draft Feasibility Report with Integrated Environmental Impact Statement

Appendix K: Real Estate Plan

26 April 2022

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Section 1

Purpose of Real Estate Plan

This draft Real Estate Plan (REP) presents the real estate requirements and costs for the draft Integrated Feasibility Report with Environmental Impact Statement (IFR-EIS) for the North Desoto Flood Risk Management Study. The Real Estate Plan is tentative in nature; it is for planning purposes only and both the final real property acquisition lines and the real estate cost estimates provided are subject to change even after approval of the final Integrated Feasibility Report with EIS. Design optimization and feature prioritization will be performed after project authorization; therefore, this Real Estate Plan may be revised upon further analysis. Detailed maps for access, staging and other specifics relating to project features may not be developed until each project feature or measure undergoes more detailed design analysis.

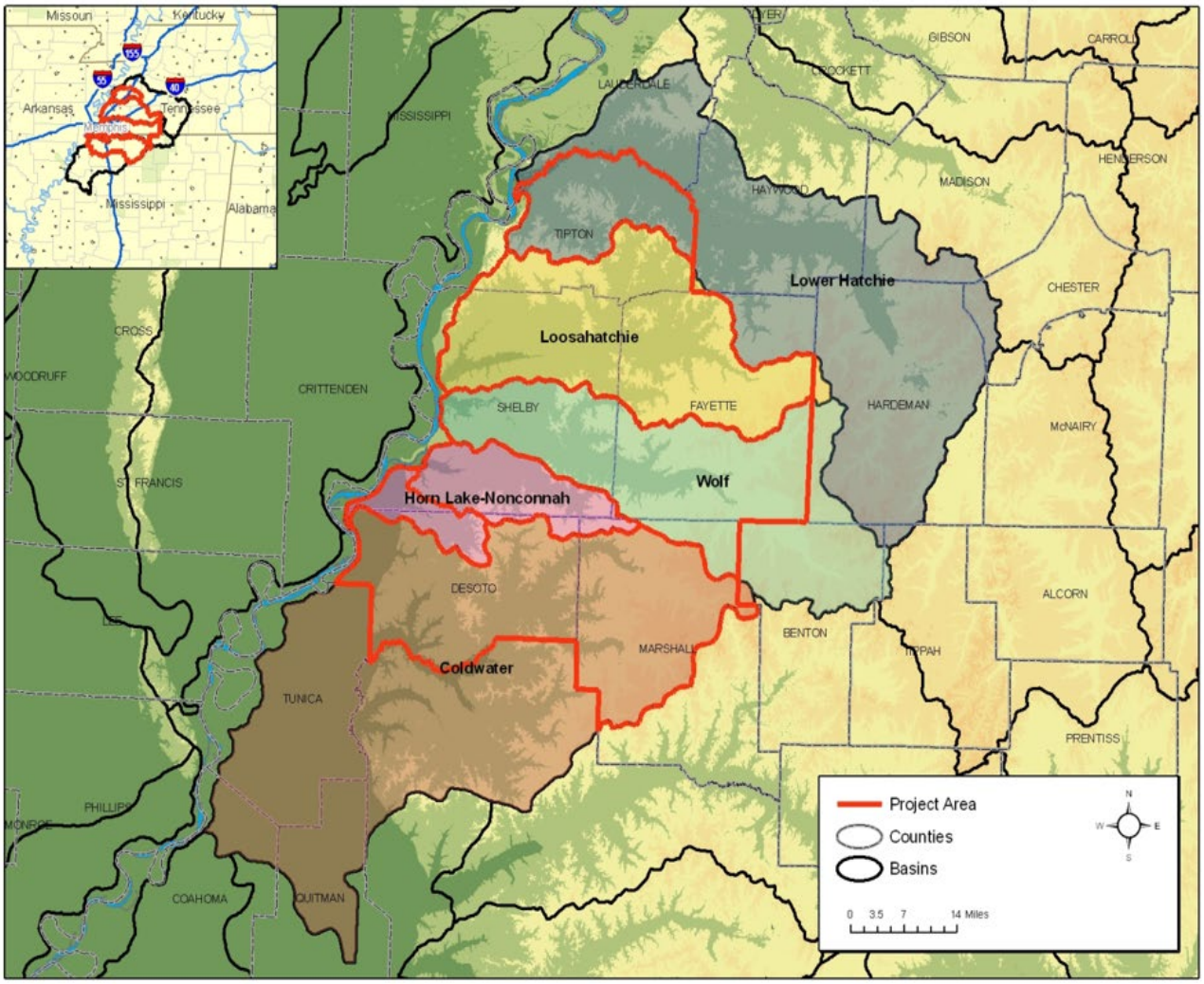

Figure K:1-1. Memphis Metro Basins

1.1 PROJECT PURPOSE

The Non-Federal Sponsor is the DeSoto County, Mississippi Board of Supervisors. The study area lies in the Horn Lake Creek-Nonconnah and Coldwater River Basins in DeSoto County, Mississippi. This includes Horn Lake Creek, Nonconnah River, Camp Creek, Hurricane Creek, Johnson Creek, and numerous tributaries of the Coldwater River watershed in northern DeSoto County, Mississippi. The study area includes the cities of Horn Lake, Southaven, Olive Branch, Walls, and Hernando. The most significant flooding issues occur in the northern part of the county, while channel instability and aquatic habitat degradation is more widespread.

The problems identified in this study include:

- The risk of flood damages in Horn Lake Creek Basin.
- The landscape has been heavily developed and as a result has experienced altered hydrology.
- Critical infrastructure, roads, schools, and medical facilities are at risk of rain-driven flooding.
- The inundation of roads during flood events is causing safety issues countywide.
- Channel degradation caused by, channelization, erosive soils, agricultural practices including the removal of riparian vegetation, and other channel alterations in the DeSoto County watersheds have caused a decline in the ability of streams and adjacent lands to support the requisite functions for fish and wildlife.

The Federal objective is to identify a flood risk management plan that reasonably maximizes NED benefits.

The flood risk management planning objectives include:

- Reduce flood damages to businesses, residential, and critical infrastructure in Horn Lake and Coldwater Basins in DeSoto County; and
  and
- Reduce risk to human life from flooding and rainfall events throughout the county.

The Federal Objective for Ecosystem restoration is to identify an ecosystem restoration plan that reasonably maximizes NER benefits. The Ecosystem restoration planning objectives include:

- Support aquatic habitat by reducing channel degradation such as instability and erosion.
- Restore suitable habitat for native and special status species.

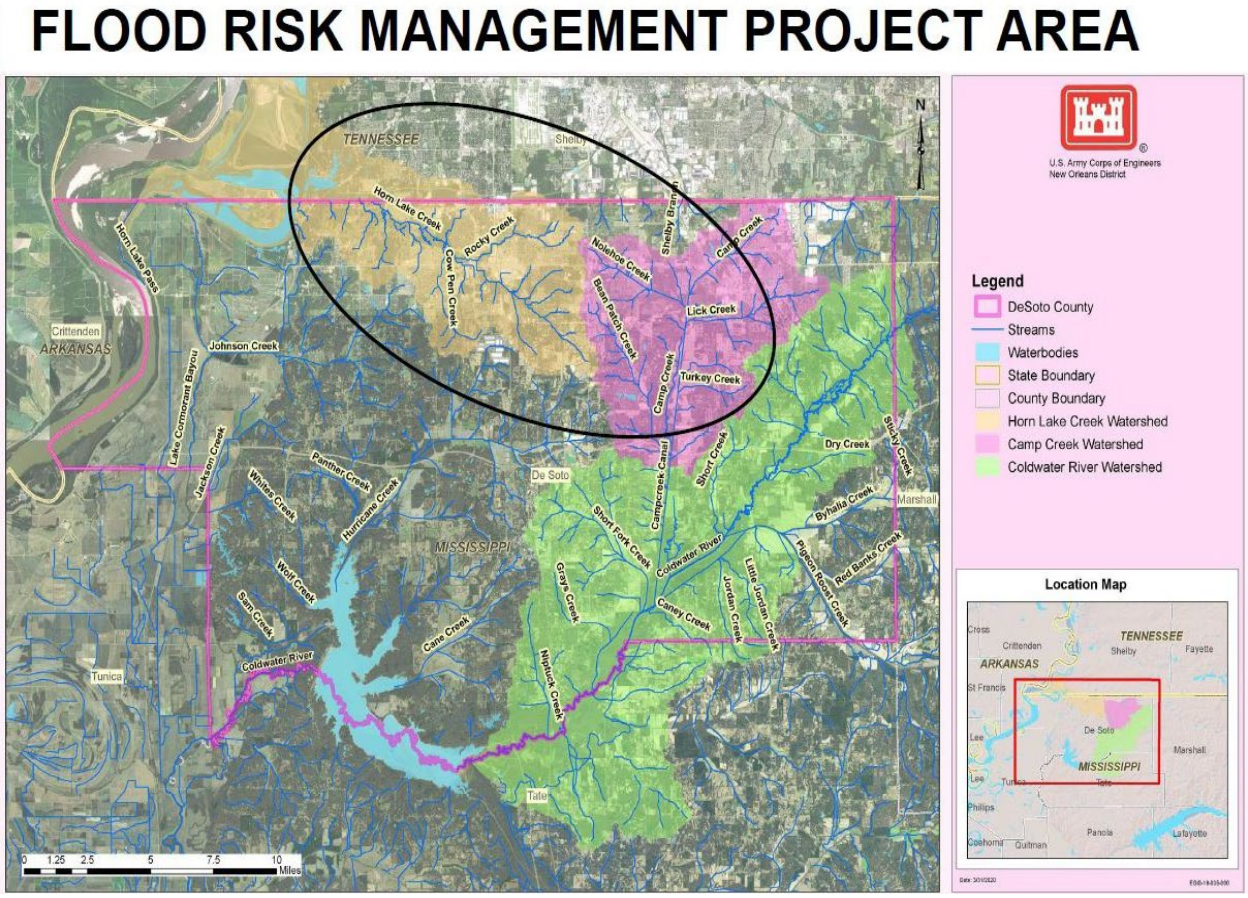

Figure K:1-2. Creeks within the Flood Risk Management Area

1.2 PROJECT LOCATION

The authority covers a large area including six river basins, across five counties in two states and as such affords the ability to work with multiple sponsors. In this case the local sponsor is Desoto County, Mississippi Board of Supervisors. The study area lies in the Horn Lake Creek-Nonconnah and Coldwater River Basins in DeSoto County, Mississippi. This includes Horn Lake Creek, Nonconnah River, Camp Creek, Hurricane Creek, Johnson Creek, and numerous tributaries of the Coldwater River watershed in northern DeSoto County, Mississippi.

Horn Lake Creek is approximately 26 miles in length, crossing the Tennessee Mississippi state line approximately 12 stream miles upstream. Horn Lake Creek has a total drainage area of 54 square miles with 42 square miles in Mississippi. Major tributaries include Rocky Creek, Cow Pen Creek, and Southaven Creek. The creek and its tributaries serve as the primary drainage outlets for the cities of Southaven and Horn Lake, Mississippi. Increased urbanization of these two cities and other areas adjacent to the creek's floodplain has increased the rainfall runoff rate, flooding, and erosion of streams in the basin.

Nonconnah Creek originates in DeSoto County north of Olive Branch, Mississippi. The upper Nonconnah Creek basin drains approximately 45 square miles, with most of that area occurring in Tennessee. Land uses include industrial, commercial, and residential along with agricultural and forested.

Camp Creek is approximately 10 miles in length and has a total drainage area of approximately 145 square miles. Major tributaries include Nolehoe and Licks Creeks. Camp Creek and its tributaries serve as the primary drainage outlets for Olive Branch, Mississippi. Land in the Nolehoe-Camp Creek Basin is mainly commercial and residential in the upper reaches, changing over to a majority of agricultural and forested in the lower reaches. Camp Creek is a tributary to the Coldwater River above Lake Arkabutla.

Nolehoe Creek is a small tributary to Camp Creek with mixed rural and urban land use (Figure 1). The watershed is approximately 9.3-square miles, this urbanizing watershed flows through Olive Branch, Mississippi where it flows into Camp Creek. This watershed includes urban, forest, cropland, pasture, as well as scrub/barren lands (Homer et al., 2011).

Licks Creek, like Nolehoe, is a small tributary to Camp Creek. Land use is highly developed with residential and commercial properties with some forested and agricultural areas in the upper and lower reaches. Licks Creek flows from northeast to southwest into Camp Creek.

Johnson Creek is a 4th order stream or medium stream that has a total drainage are of 34.1 square miles. This stream flows from its headwaters at Twin Lakes Subdivision near the City of Horn Lake into Lake Cormorant Bayou. Although pasture is the dominant land use within this watershed, cropland is the dominant land use surrounding the water body. A 2008 Total Maximum Daily Load (TMDL) Study completed by the Mississippi Department of Environmental Quality recommends that the Johnson Creek watershed be considered as a priority watershed for riparian buffer zone restoration and any nutrient reduction best management practices (BMP) for the purpose of reducing nutrient loads entering the creek and its tributaries and that such efforts would provide improved water quality for the support of aquatic life in the water bodies.

1.3 PROJECT AUTHORITY

The United States House of Representatives Committee on Transportation and Infrastructure adopted a resolution on March 7, 1996. The committee resolved that the Secretary of the Army review the report of the Chief of Engineers, Tennessee and Mississippi, Docket No. 2475, 104th Congress, 2nd Session on the Wolf River and Tributaries, Tennessee and Mississippi, published as House Document Numbered 76, Eighty-fifth Congress, and other pertinent reports, to determine whether any modifications of the recommendations contained therein are advisable at this time, with particular reference to the need for improvements for flood control, environmental restoration, water quality, and related purposes associated with storm water runoff and management in the metropolitan Memphis, Tennessee area and tributary basins including Shelby, Tipton, and Fayette Counties, Tennessee, and DeSoto and Marshall Counties, Mississippi. This area includes the Hatchie River, Loosahatchie River, Wolf River, Nonconnah Creek, Horn Lake Creek, and Coldwater River Basins. The review shall evaluate the effectiveness of existing Federal and non-Federal improvements and determine the need for additional improvements to prevent flooding from storm water, to restore environmental resources, and to improve the quality of water entering the Mississippi River and its tributaries.

This study is funded through the Consolidated Appropriations Act, 2018, Public Law 115-141, Division D up to $3,000,000 with a 50/50 cost share. A Feasibility Cost Sharing Agreement with DeSoto County Board of Supervisors (sponsor) was executed on September 21, 2018.

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Section 2

Description of the Recommended Plan and Lands, Easements, Rights-of-Way, Relocations, and Disposal (LERRD) Sites

TENTATIVELY SELECTED PLAN SUMMARY

The Tentatively Selected Plan (TSP) as discussed in the main report includes both a Flood Risk Management (FRM) plan, which contains both structural and non-structural features, and an ecosystem restoration (NER) plan which maximizes ecosystem benefits. Per USACE Guidance, the Project Delivery Team (PDT) identified the alternative that reasonably maximizes net economic benefits consistent with protecting the nation's environment. The TSP is estimated to produce approximately 1.7 million dollars in annual benefits at an average annual cost of nearly 1 million dollars, for a Benefit to Cost Ratio (BCR) of 1.79.

2.1 NER TSP

The National Ecosystem Restoration (NER) plan maximizes ecosystem restoration benefits compared to costs. The National Ecosystem Restoration Plan (NER) consists of implementing Grade Control Structures and establishing Riparian Zones for 11 streams through acquisition of fee simple estates in the study area. The NER TSP features are described in Section 7.1.2 of the DIFR-EIS. Grade Control Structures combined with varying acreages of riparian restoration was identified as the National Ecosystem Restoration (NER) Plan and is the tentatively selected plan (TSP) for the ecosystem restoration component of the project.

Grade control structures (GCS) include a variety of rock or concrete structures placed across the channel and anchored in the streambanks to provide a hard point in the streambed that resists the erosion forces of the degradational zone and maintains a streambed elevation.

Riparian Zones include restoration of lands adjacent to stream banks to stabilize soils, and reforest with native vegetation to improve foraging, cover, and reproductive habitats. The proposed riparian buffer strips are to occur along land uses related to agriculture and land that is barren or unforested. The reforestation measure would maintain and improve wildlife habitat along 11 streams.

The plans objective is to decrease channel slopes and stabilize bank lines in order to improve transport of stream flows and sediment, restore and protect aquatic and riparian ecosystems over a 50 period of analysis, improve land use to support channel stabilization and ecosystem restoration, and improve water quality to support aquatic resources.

The NER plan is estimated to provide 378 Average Annual Habitat Units at an average annual cost of 3.8K per AAHU. The total annual cost of the NER plan is 1.2M.

2.2 FRM-TSP NONSTRUCTURAL FEATURES

The nonstructural FRM-TSP could consist of the following non-structural risk reduction measures:

- Dry Flood Proofing. Dry flood-proofing to the Base Flood Elevation (BFE) generally means the use of a variety of techniques to reduce the risk of flood damage to a structure by making that structure resistant to flooding. Example dry floodproofing measures are listed below.

2.3 FRM-TSP STRUCTURAL FEATURES

The structural FRM-TSP could consist of the following structural risk reduction measures:

- (FRM) TSP PROJECT FEATURES:
  - Levee-Floodwall - the levee will run approx. 2,475 linear feet adjacent to US Hwy. 51 with an average height of 5'. A 600-linear-foot ditch will drain a depression on the riverside of the levee. Where development makes a levee infeasible, protection will transition to a 525 linear foot floodwall.

DRY FLOOD PROOFING OF NON-RESIDENTIAL STRUCTURES

Dry flood proofing consists of sealing all areas from the ground level up to approximately 3 ft of a structure to reduce the risk of flood damage of a certain magnitude, as described in this report, by making walls, doors, windows and other openings resistant to penetration by flood waters. Walls are coated with sealants, waterproofing compounds, or plastic sheeting. Back-flow from water and sewer lines prevention mechanisms such as drain plugs, standpipes, grinder pumps, and back-up valves are installed. Openings, such as doors, windows, sewer lines and vents, may also be closed temporarily, with sandbags or removable closures, or permanently.

Some common flood proofing measures include:

• Backflow valves;

• Closures on doors, windows, stairwells, and vents;

• Rearranging or protecting damageable property--e.g., relocate or raise utilities;

• Sump pumps and sub-drains; and

• Water resistant material; metal windows, doors and jambs; waterproof adhesives; sealants and floor drains.

The district will prepare a Nonstructural Implementation Plan, which will provide details regarding possible methods of program implementation. It is assumed that all properties have legal access by way of public streets or existing public right-of-way. Further it is assumed that residential and commercial properties participating in the program will have sufficiently large sites to accommodate staging of material and equipment. For the purposes of this report, the assumption is that a Request for Approval of a Non-Standard Estate would be developed by CEMVM and submitted through CEMVD-RE to CEHQ-RE for approval of the Chief of Real Estate at Headquarters. The Non-Standard Estate would give the Government, Sponsor, and Contractor the necessary rights needed for ingress and egress, stage and floodproof eligible structures, as well as the necessary rights to protect the federal investment. The District will perform analysis of the cost of the land value of the estate versus the net benefit to the landowner.

STRUCTURAL

The structural portion of the Tentatively Selected Plan consists of a new 3,000 linear foot levee and floodwall system along the left-bank of Horn Lake Creek upstream of Goodman Rd. The levee will be constructed with 3-foot horizontal to 1-foot vertical (3H:1V) side slopes and a 12-foot-wide crown. The levee will run approx. 2,475 linear feet adjacent to US Hwy. 51 with an average height of 5'. A 600-linear-foot ditch will drain a depression on the riverside of the levee. Where development makes a levee infeasible, protection will transition to a 525 linear foot floodwall. The floodwall be 18" thick with an eight-foot-wide foundation. The wall will be five feet high and protrude 3.5 feet above ground level. The levee will require approx. 14,000 cubic yards of fill, and the floodwall will require 300 cubic yards of reinforced concrete. This alternative will require relocation of several utility poles and signs, removal and replacement of asphalt, and demolition of an existing building.

Figure K:2-1. Map of Levee-Floodwall for Flood Risk Reduction

The real estate costs presented herein for the structural portion of the FRM-TSP are based on the estimated acreages and estates shown in the table below. There are a total of 5 landowners holding 63.65 acres to be acquired in Fee. The estate of Fee was chosen to prevent the landowners from being left with an uneconomic remnant. The PDT has not identified a site for borrow and an assumption has been made that borrow will be taken from one of the 5 tracts that are to be acquired in fee below.

Table K:2-1. FRM Structural Features: Real Estate Requirements

Structural Component for FRM-TSP				
Landowners		**Estate**	**Acres**	
1		Fee	1	
1		Fee	6	
1		Fee	.75	
1		Fee	35.90	
1		Fee	20.00	
Total	**5**		**Total**	**63.65**

The real estate costs presented herein for the structural portion of the NER-TSP are based on the estimated acreages and estates shown in the table below. Maps of the project features are provided in Section 8 for reference.

The total number of landowners affected by the acquisition of rights for the grade control structures and subsequential access is 66. There will be a total of 44.5 acres that will need to be acquired in fee for these grade control structures, and 140.4 acres of perpetual road easement will be needed for accessing these structures.

The total number of landowners affected by the acquisition of rights for the riparian zones is 63. There will be a total of 394 acres that will need to be acquired in fee for these riparian zones, and 22 acres of perpetual road easement will be needed for accessing these zones.

This equates to a combined total of 129 landowners, 438.5 acres to be acquired in fee, and 162.4 acres of perpetual road easements for access for the NER-TSP.

Table K:2-2. NER Features: Real Estate Requirements

Streams	Grade Control Structures	Landowners	Estate	Acres	Landowners (Access)	Estate (Access)	Acres (Access)
Horn Lake Creek NER	14	10	Fee	7.5	10	Road Easement	25
Nonconnah Creek NER	6	6	Fee	3.5	6	Road Easement	7
Camp Creek NER	8	7	Fee	3.5	7	Road Easement	17
Cane Creek NER	9	5	Fee	4.5	5	Road Easement	13.4
Hurricane Creek NER	5	4	Fee	4.5	4	Road Easement	17.5
Johnson Creek NER	11	8	Fee	5.5	8	Road Easement	14.2
Lick Creek NER	2	2	Fee	1.5	2	Road Easement	1.4
Mussacuna Creek NER	2	3	Fee	1.5	3	Road Easement	4.4
Nolehole Creek NER	11	10	Fee	5.5	10	Road Easement	11.9
Red Banks Creek NER	5	5	Fee	2.5	5	Road Easement	18.5
Short Fork Creek NER	9	6	Fee	4.5	6	Road Easement	10.1
Total	**82**	**66**		**44.5**	**66**		**140.4**

Streams	Riparian Zone	Landowners	Estate	Acres	Landowners (Access)	Estate (Access)	Acres (Access)
Horn Lake	1	4	Fee	17	4	Road Easement	2
Nonconnah	1	3	Fee	20	3	Road Easement	2
Camp	1	18	Fee	47	18	Road Easement	2
Cane	1	5	Fee	26	5	Road Easement	2
Hurricane	1	6	Fee	64	6	Road Easement	2
Johnson	1	10	Fee	49	10	Road Easement	2
Lick	1	1	Fee	14	1	Road Easement	2
Mussacuna	1	1	Fee	23	1	Road Easement	2
Nolehole	1	5	Fee	18	5	Road Easement	2
Red Banks	1	5	Fee	24	5	Road Easement	2
Short Fork	1	5	Fee	42	5	Road Easement	2
Total	**11**	**63**		**394**	**63**		**22**

2.4 ACCESS

FRM Structural - Floodwall - Levee

Access to the project area would be via public roads. Highway 51 and Goodman Road will both serve as access roads in order to ingress and egress from the properties affiliated with the floodwall-levee.

FRM Non-Structural Dry Floodproofing

The floodproofing agreement should contain a real estate component authorizing entry to perform the dry floodproofing/construction work. This in no way negates the need for a non-standard estate to provide all the real estate interest necessary to perform subject work.

NER Riparian Zones and Grade Control Structures

At this stage of the study the PDT has not decided exactly where access will be made to the riparian zones and the grade control structures. The PDT provided a preliminary number of 140.4 Acres that would be needed in perpetual road easements for the grade control structures. No figure was provided for acres needed in perpetual road easements for access to the riparian zones. An assumption was made at 2 acres per riparian zone for a total of 22 Acres.

2.5 BORROW

The levee will require approximately 14,000 cubic yards of fill material. An assumption has been made that the borrow will come from one of the 5 tracts that are to be acquired in fee listed in Table K:2-3. Levee-Floodwall at Bullfrog Corner.

2.6 DISPOSAL

A disposal site will not be needed for the project.

2.7 Operations, Maintenance, Repair, Rehabilitation, & Replacement (OMRR&R)

The final report will include OMRR&R requirements for the NFS. This could possibly include OMRR&R requirements for nonstructural dry floodproofing. If applicable, this would likely include periodic inspections by the sponsor to ensure the flood proofing is being maintained by the landowner and any requirements the landowner has to meet. This will likely be discussed in the agreement between the NFS and landowner. The rights that the NFS needs in order to perform their OMRR&R requirements would be gained through an acquisition of a nonstandard estate.

Section 3

Non-Federal Sponsor Owned LERRD

The Non-Federal Sponsor (NFS) for the Study, DeSoto County, Mississippi Board of Supervisors currently owns some of the county roads needed to access certain project features. DeSoto County also owns property identified for a possible riparian zone near Short Fork Creek.

Section 4

Estates

4.1 ROAD EASEMENT (PERPETUAL AND TEMPORARY)

A (perpetual [exclusive] [non-exclusive] and assignable) (temporary) easement and right-of-way in, on, over and across (the land described in Schedule A) (Tracts Nos._____ ,and_____) for the location, construction, operation, maintenance, alteration replacement of (a) road(s) and appurtenances thereto; together with the right to trim, cut, fell and remove therefrom all trees, underbrush, obstructions and other vegetation, structures, or obstacles within the limits of the right-of-way; (reserving, however, to the owners, their heirs and assigns, the right to cross over or under the right-of-way as access to their adjoining land at the locations indicated in Schedule B); subject, however, to existing easements for public roads and highways, public utilities, railroads and pipelines.

4.2 TEMPORARY WORK AREA EASEMENT

A temporary easement and right-of-way in, on, over and across (the land described in Schedule A) (Tracts Nos._____ ,_____and_____), for a period not to exceed_____, beginning with date possession of the land is granted to the (Grantee), for use by the (Grantee), its representatives, agents, and contractors as a (borrow area) (work area), including the right to (borrow and/or deposit fill, spoil and waste material thereon) (move, store and remove equipment and supplies, and erect and remove temporary structures on the land and to perform any other work necessary and incident to the construction of the Project, together with the right to trim, cut, fell and remove therefrom all trees, underbrush, obstructions, and any other vegetation, structures, or obstacles within the limits of the right-of-way; reserving, however, to the landowners, their heirs and assigns, all such rights and privileges as may be used without interfering with or abridging the rights and easement hereby acquired; subject, however, to existing easements for public roads and highways, public utilities, railroads and pipelines.

4.3 FEE

The fee simple title to (the land described in Schedule A) (Tracts Nos. ____, ____ and _____), subject, however, to existing easements for public roads and highways, public utilities, railroads and pipelines.

4.4 Non-Standard Estate

A Request for Approval of a Non-Standard Estate (NSE) will be submitted through CEMVD-RE to CEHQ-RE separately from the Real Estate Plan. The NSE would need to be developed and submitted for approval to the Director of Real Estate in Headquarters that gives the Government, Sponsor, and Contractor the necessary rights needed to ingress and egress, stage and floodproof eligible structures, as well as the rights necessary to protect the federal investment

Section 5

Existing Federal Projects within LERRD Required for the Project

There are no Federal projects within the Lands, Easements, Right of Way, Relocations and Disposal Sites (LERRD) required for the project.

Section 6

Federally Owned Lands within LERRD Required for the Project

There are no federally owned lands within the Lands, Easements, Right of Way, Relocations and Disposals Sites (LERRD) required for the project.

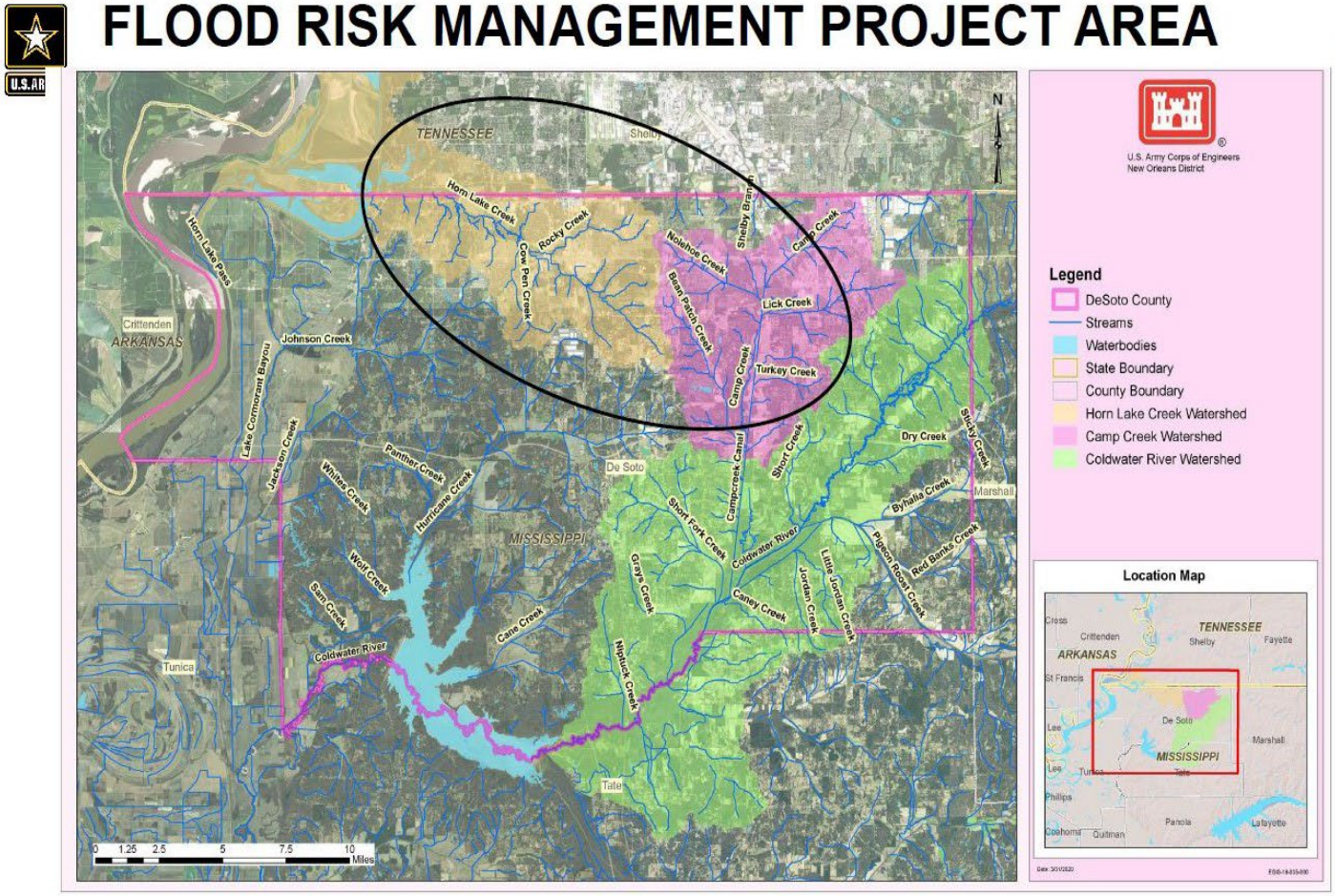
Section 7

Federal Navigation Servitude

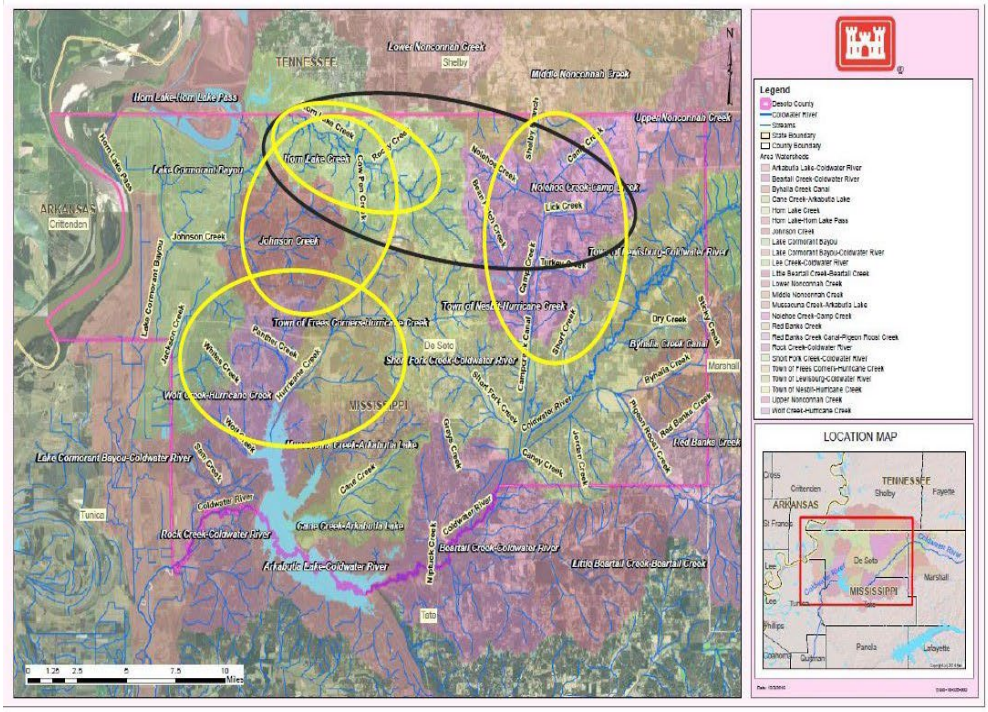
The navigation servitude is the dominant right of the Government, under the Commerce Clause of the U.S. Constitution, to use, control, and regulate the navigable waters of the United States and submerged lands thereunder. None of the features for the North Desoto Project will be constructed within navigable waters of the United States, therefore, the navigation servitude will not apply.

Section 8

Project Maps



STUDY AREA



DeSoto County has the fastest growing population in Mississippi (178,751).

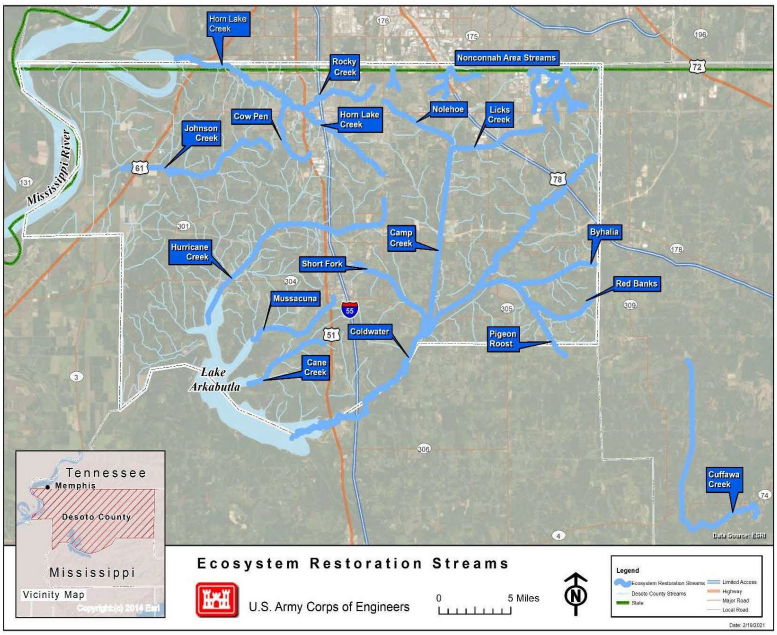
Hurricane, Johnson and Horn Lake Creek, and Coldwater River basins were evaluated for flood damages and ecosystem degradation

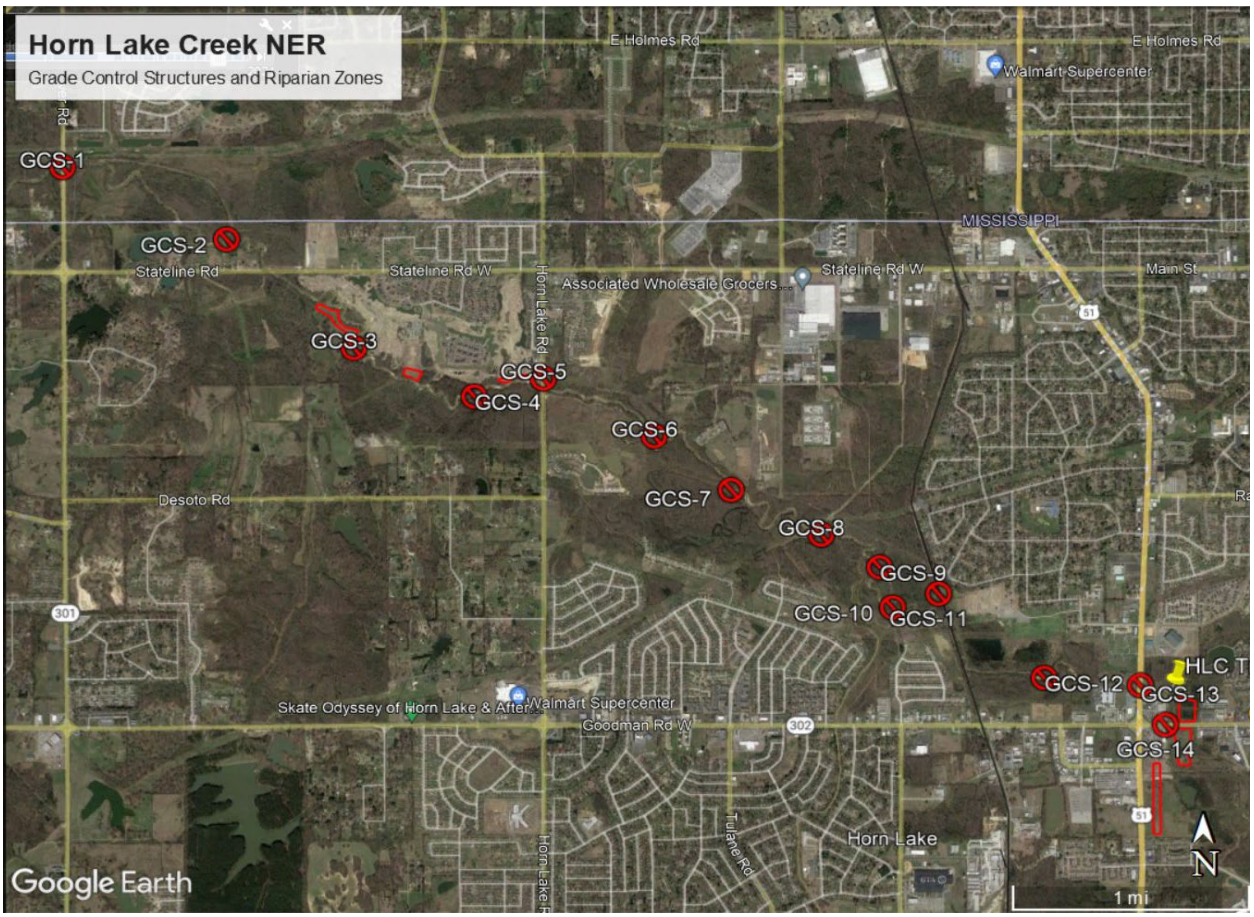
While Horn Lake Creek, and Coldwater River basins had flood damages, all basins showed varying degrees of channel instability and aquatic habitat degradation

ECOSYSTEM RESTORATION (ER) STUDY AREA

- Ecosystem Restoration has been investigated for the following streams**:
  - Horn Lake Creek
  - (Cow Pen Creek)
  - (Rocky Creek)
  - Nonconnah Creek
  - (Coldwater River)
  - Lick Creek
  - Nolehoe Creek
  - Camp Creek
  - Hurricane Creek
  - Cane Creek
  - Mussacuna Creek
  - Johnson Creek
  - (Cuffawa)
  - Short Fork
  - Red Banks
  - (Pigeon Roost)
  - (Byhalia)

**( ) - Screened




Horn Lake Creek NER
Grade Control Structures and Riparian Zones
GCS-1
GCS-2
GCS-3
GCS-4
GCS-5
GCS-6
GCS-7
GCS-8
GCS-9
GCS-10
GCS-11
GCS-12
GCS-13
GCS-14
E Holmes Rd
Walmart Supercenter
MISSISSIPPI
Stateline Rd
Stateline Rd W
Horn Lake Rd
Associated Wholesale Grocers...
Main St
Desoto Rd
Skate Odyssey of Horn Lake & After...
Goodman Rd W
Tulane Rd
Horn Lake
HLC T
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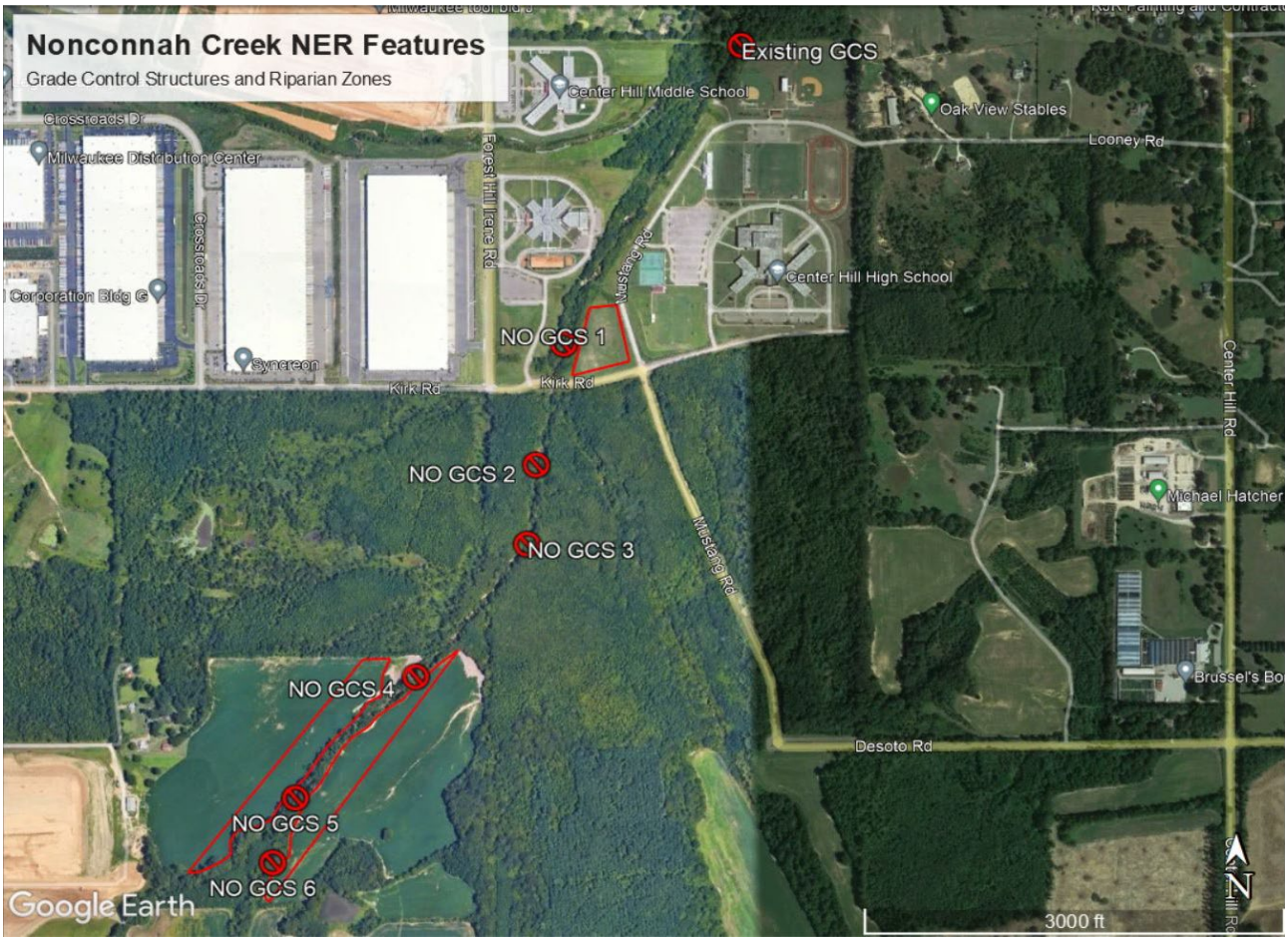
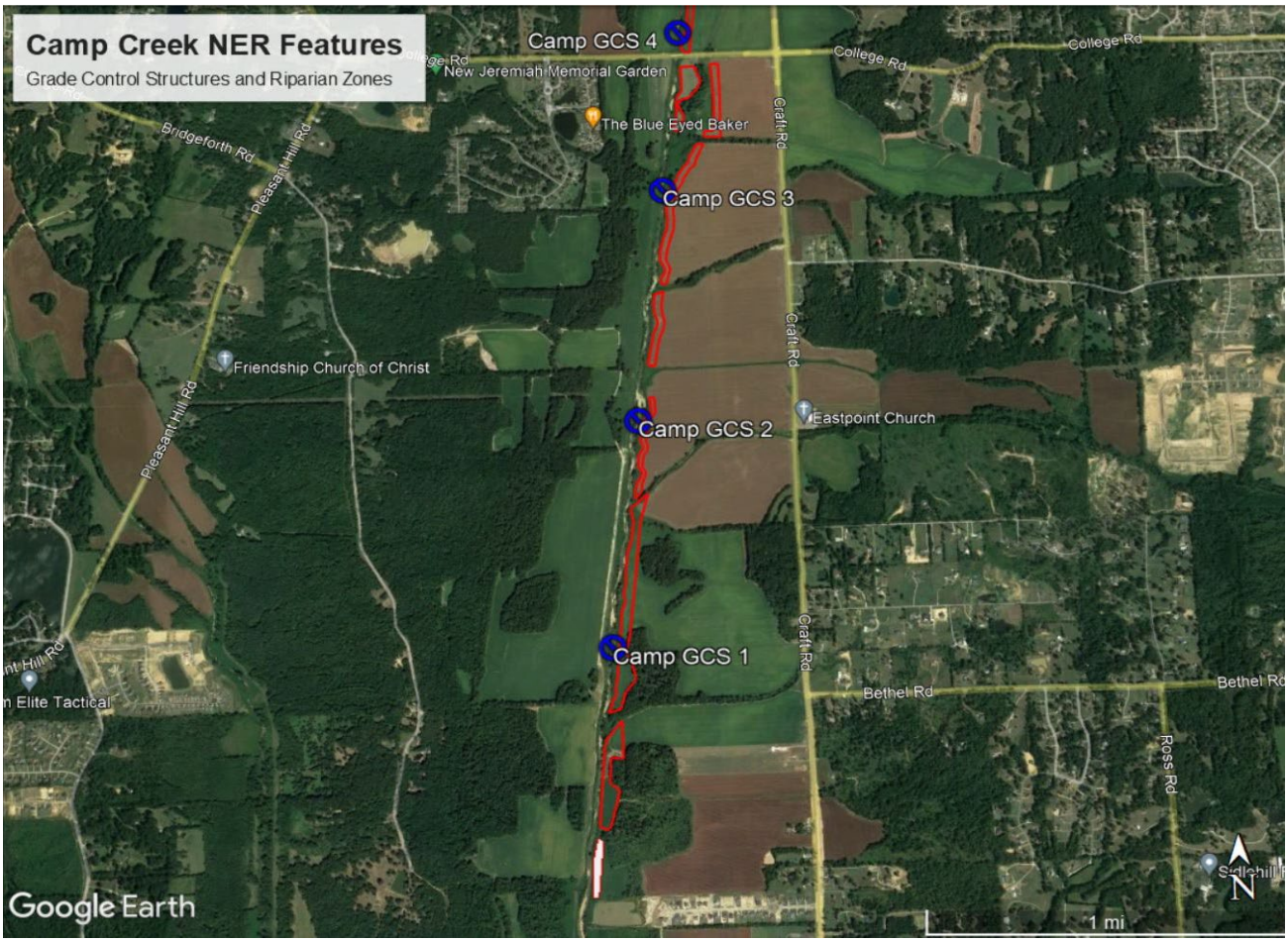
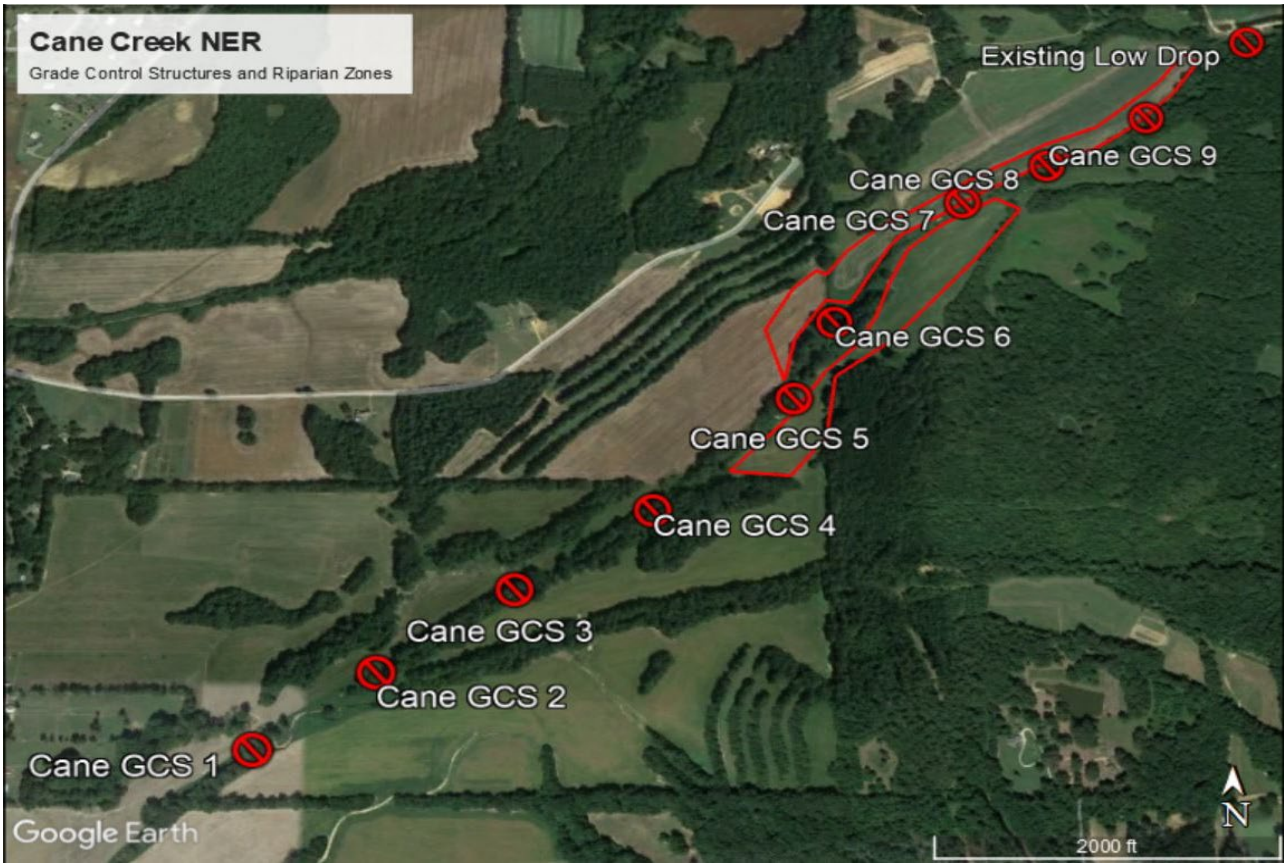
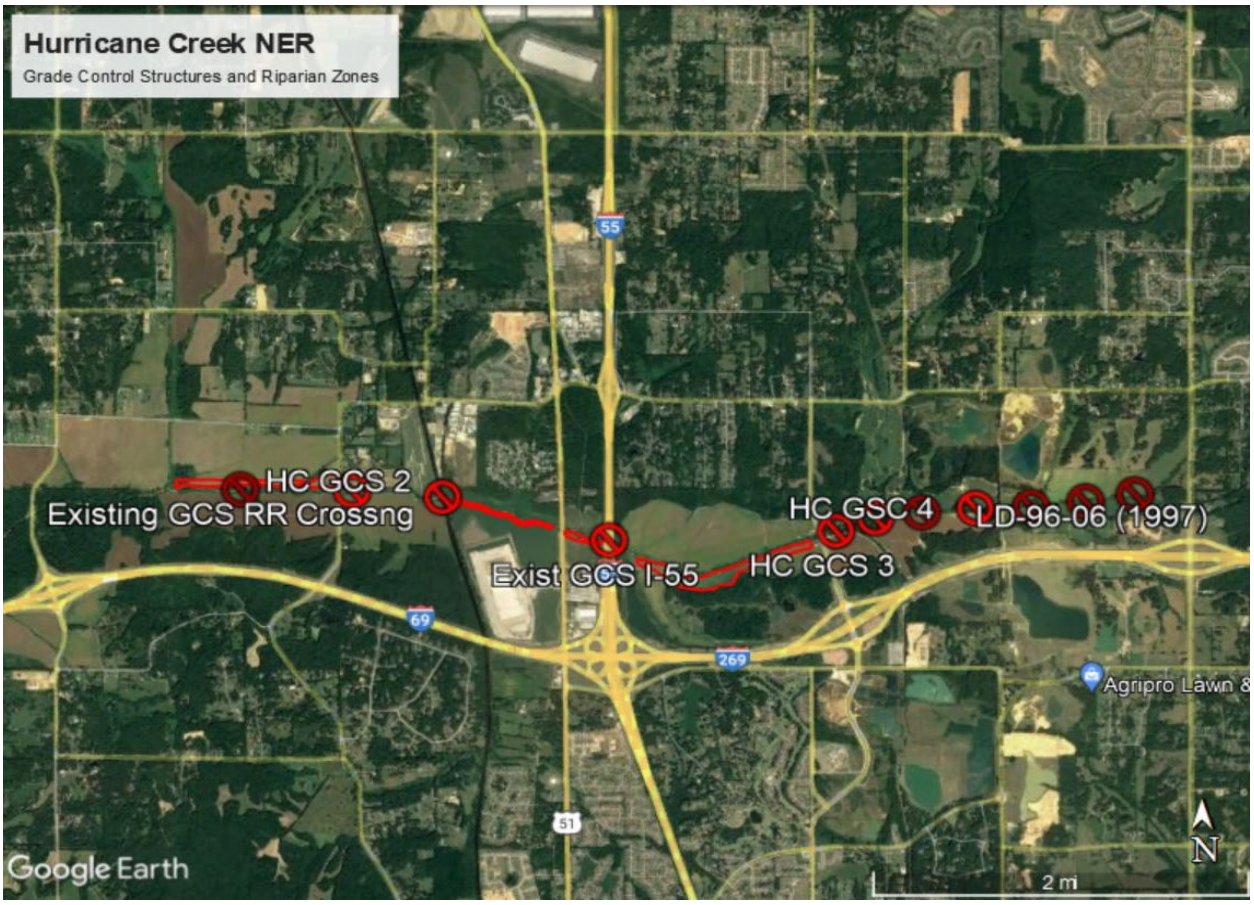

Nonconnah Creek NER Features
Grade Control Structures and Riparian Zones
Existing GCS
Center Hill Middle School
Oak View Stables
Looney Rd
Crossroads Dr
Milwaukee Distribution Center
Forest Hill Irene Rd
Mustang Rd
Center Hill High School
Corporation Bldg G
Crossroads Dr
NO GCS 1
Syncreon
Kirk Rd
Kirk Rd
Center Hill Rd
NO GCS 2
Michael Hatcher
NO GCS 3
Mustang Rd
Brussel's Bo
NO GCS 4
Desoto Rd
NO GCS 5
NO GCS 6
Google Earth
3000 ft
N


Camp Creek NER Features
Grade Control Structures and Riparian Zones
Camp GCS 4
Camp GCS 3
Camp GCS 2
Camp GCS 1
College Rd
New Jeremiah Memorial Garden
The Blue Eyed Baker
Craft Rd
Bridgeforth Rd
Pleasant Hill Rd
Friendship Church of Christ
Eastpoint Church
Bethel Rd
Ross Rd
Google Earth
1 mi
N


Cane Creek NER
Grade Control Structures and Riparian Zones
Existing Low Drop
Cane GCS 9
Cane GCS 8
Cane GCS 7
Cane GCS 6
Cane GCS 5
Cane GCS 4
Cane GCS 3
Cane GCS 2
Cane GCS 1
Google Earth
2000 ft
N


Hurricane Creek NER
Grade Control Structures and Riparian Zones
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HC GSC 4
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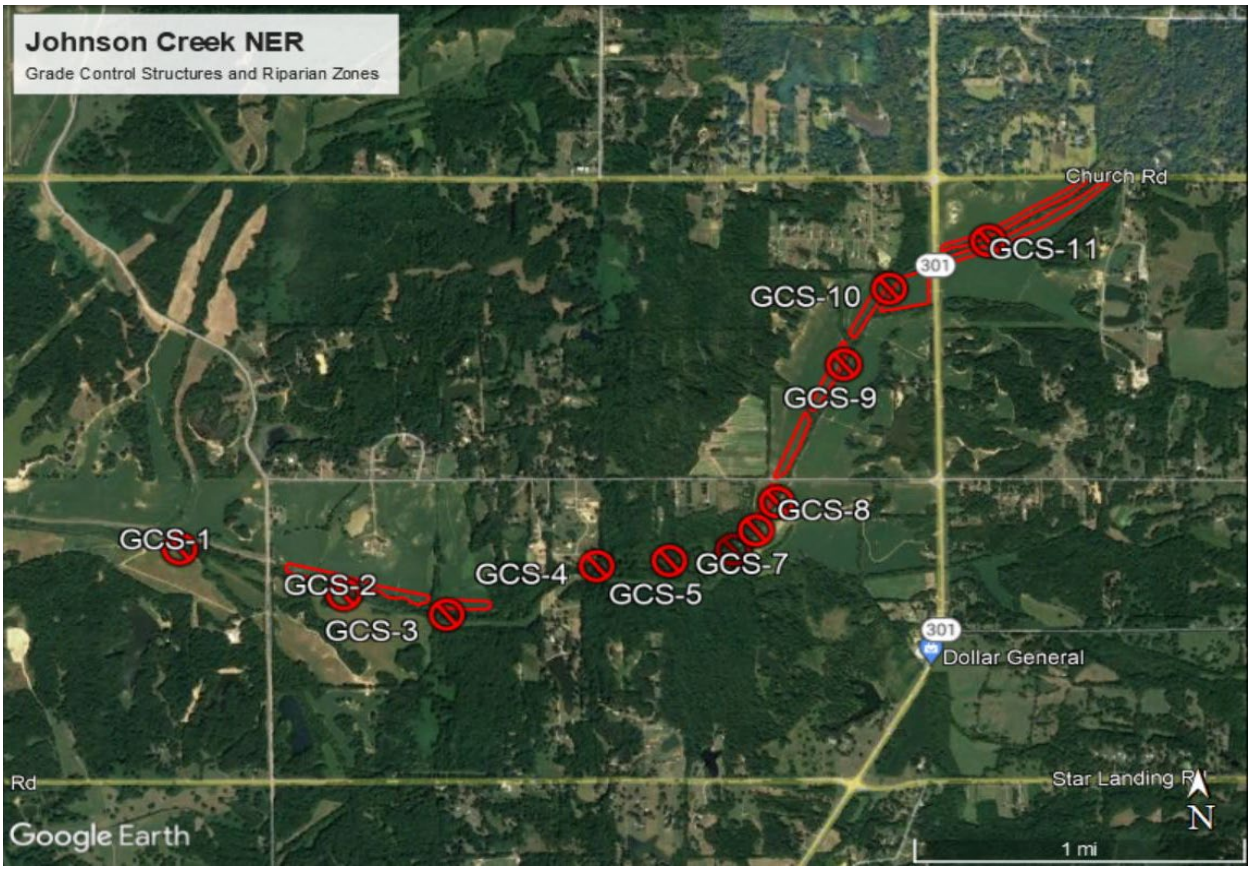
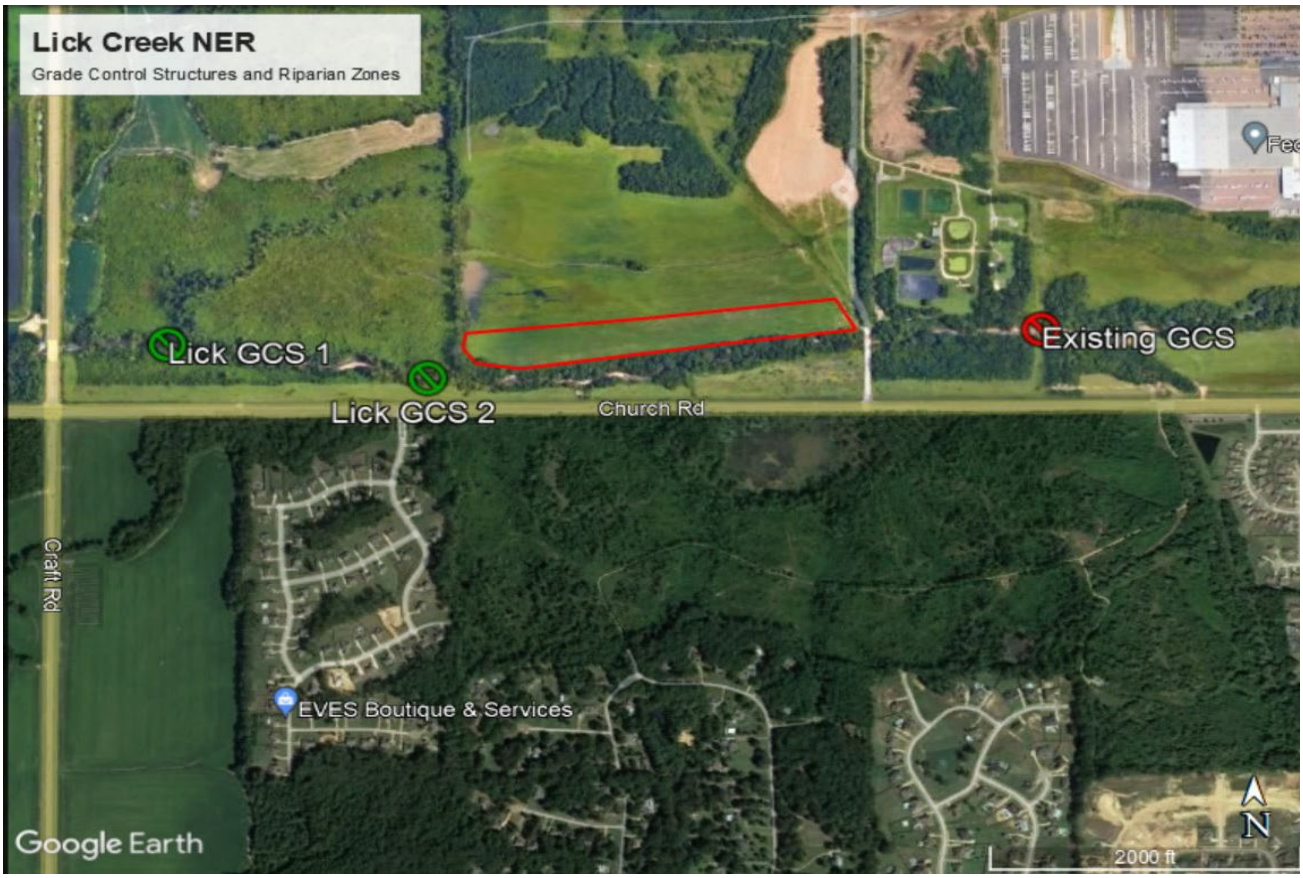
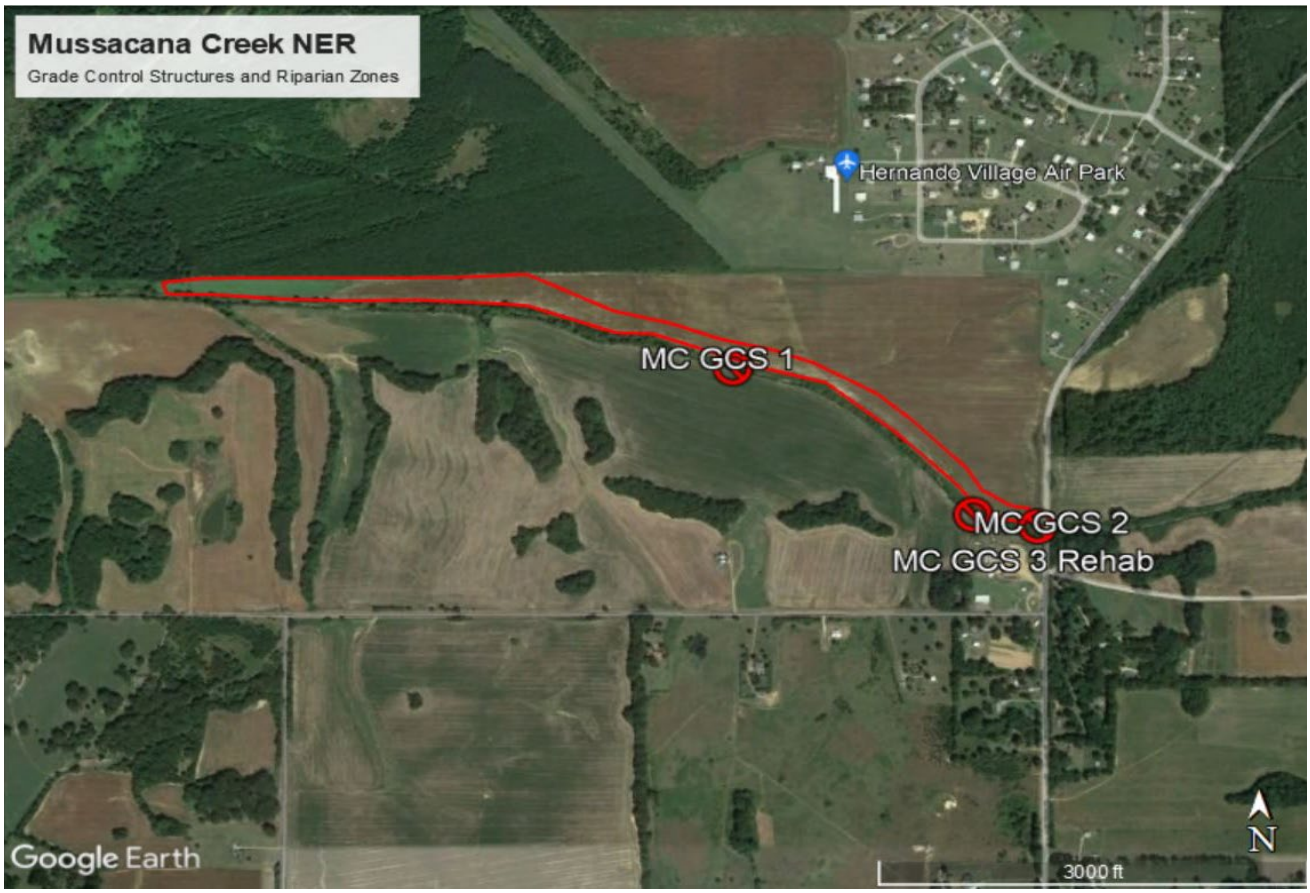
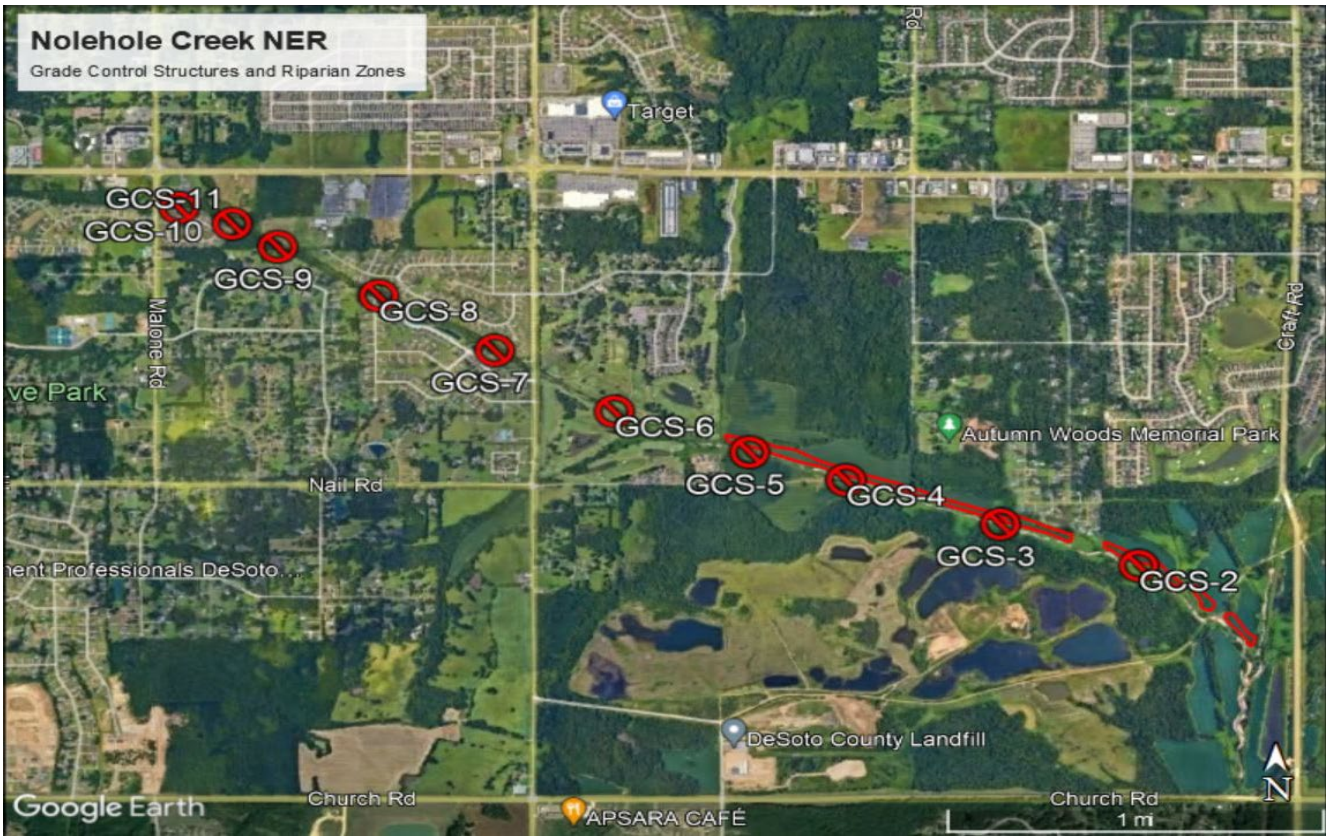
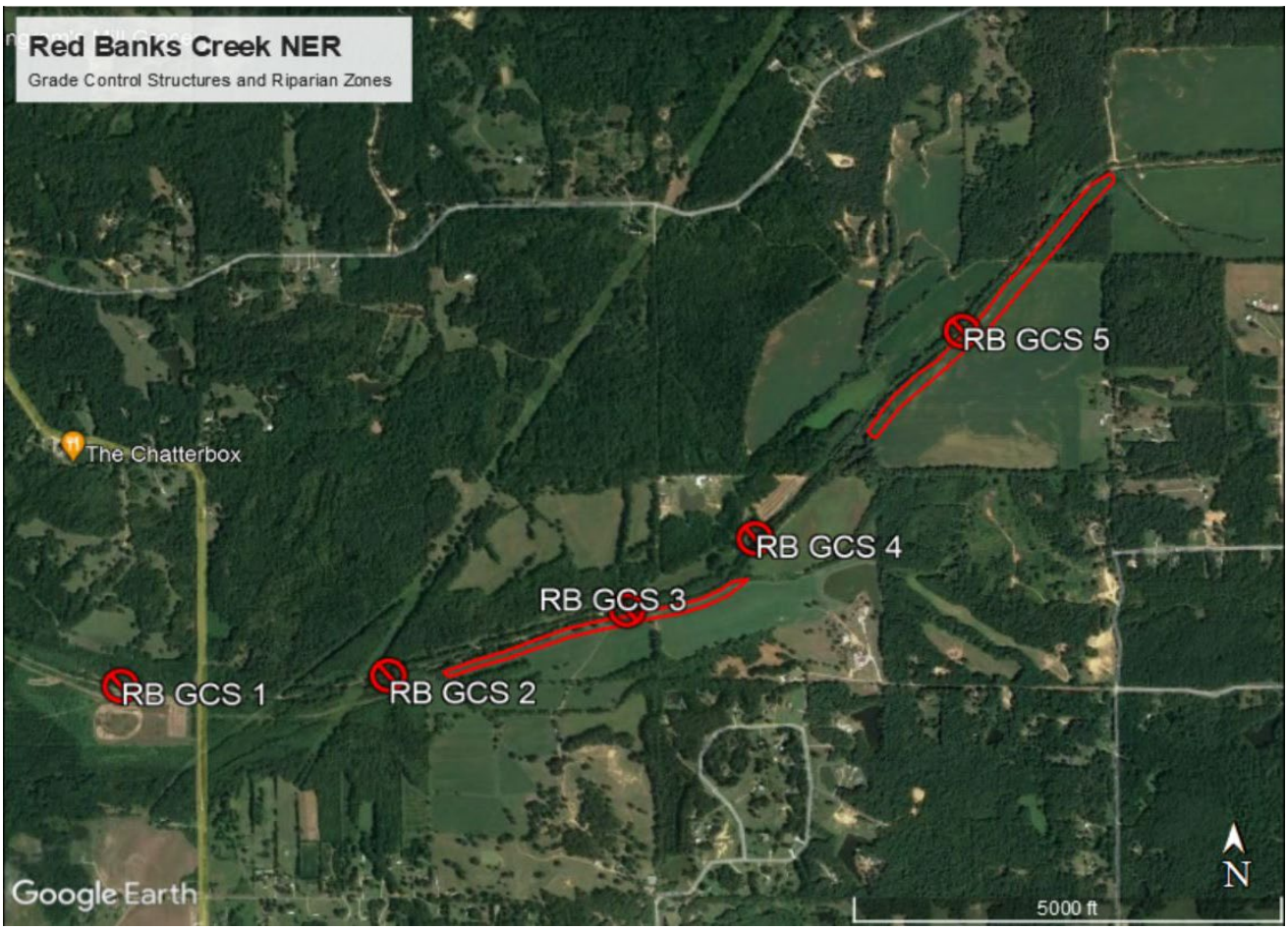
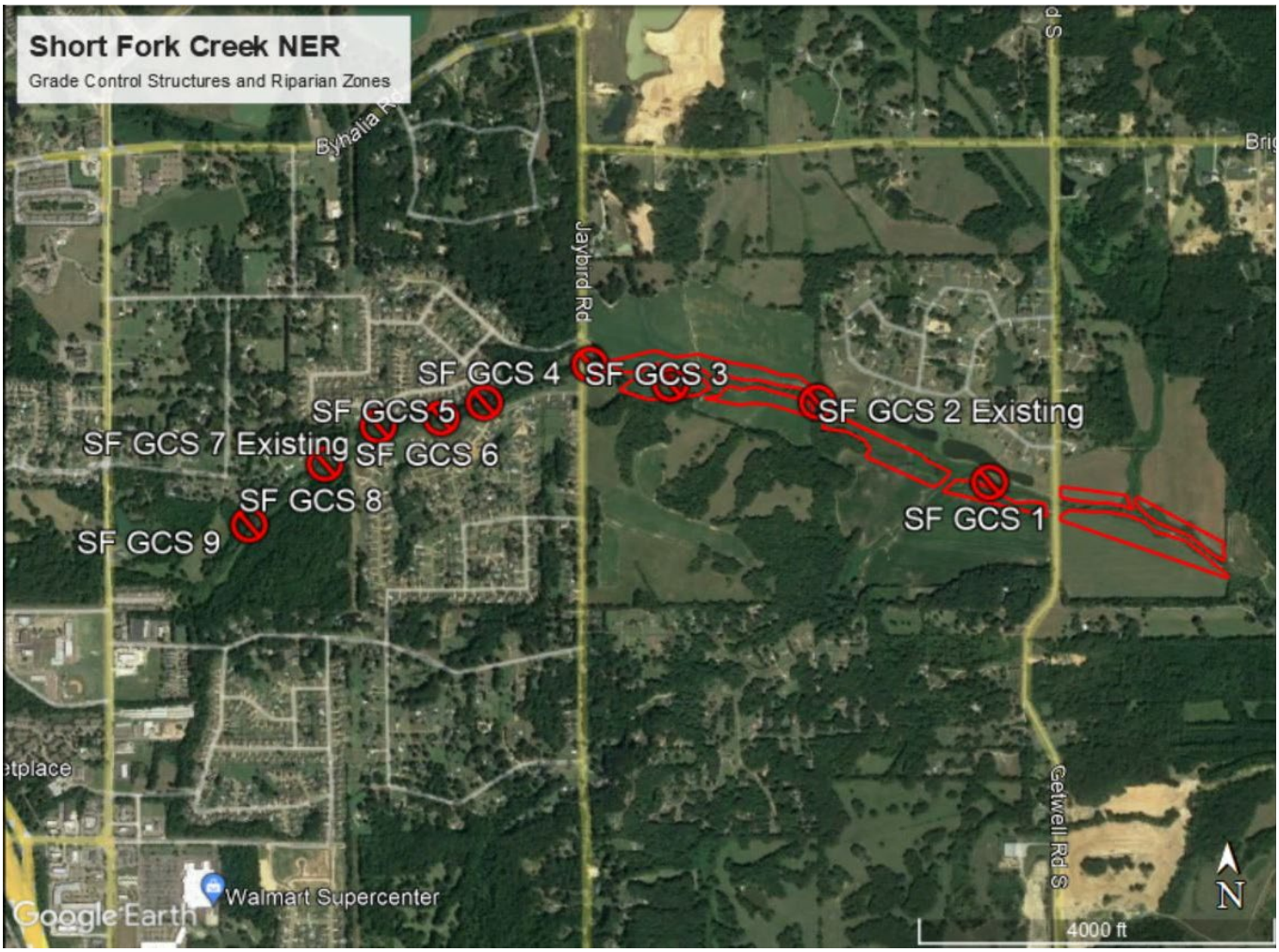

Johnson Creek NER
Grade Control Structures and Riparian Zones
Church Rd
GCS-11
301
GCS-10
GCS-9
GCS-8
GCS-1
GCS-2
GCS-3
GCS-4
GCS-5
GCS-7
301
Dollar General
Rd
Star Landing R
N
Google Earth
1 mi


Lick Creek NER
Grade Control Structures and Riparian Zones
Lick GCS 1
Lick GCS 2
Church Rd
Existing GCS
Craft Rd
EVES Boutique & Services
Google Earth
2000 ft
N


Mussacana Creek NER
Grade Control Structures and Riparian Zones
Hernando Village Air Park
MC GCS 1
MC GCS 2
MC GCS 3 Rehab
Google Earth
3000 ft
N


Nolehole Creek NER
Grade Control Structures and Riparian Zones
Target
GCS-11
GCS-10
GCS-9
GCS-8
GCS-7
GCS-6
GCS-5
GCS-4
GCS-3
GCS-2
Autumn Woods Memorial Park
Nail Rd
DeSoto County Landfill
Church Rd
APSARA CAFÉ
Google Earth
1 mi
N


Red Banks Creek NER
Grade Control Structures and Riparian Zones
RB GCS 5
The Chatterbox
RB GCS 4
RB GCS 3
RB GCS 1
RB GCS 2
Google Earth
5000 ft
N


Short Fork Creek NER
Grade Control Structures and Riparian Zones
Jaybird Rd
SF GCS 4
SF GCS 3
SF GCS 5
SF GCS 2 Existing
SF GCS 7 Existing
SF GCS 6
SF GCS 8
SF GCS 1
SF GCS 9
Getwell Rd S
Walmart Supercenter
Google Earth
4000 ft
N

Section 9

Induced Flooding

Hydraulic modeling has indicated that there will be induced flooding as a result of the Levee-Floodwall. The District will perform analysis during feasibility level design to determine if there are impacted properties. Initial modeling results show potential for inducements on an estimated 120 parcels. There is not enough information available at this time to determine if there are more structures that will need to be dry floodproofed or parcels that would require the purchase of flowage easements. This will be further refined for the final Real Estate Plan. It will not be possible to address any eligible Public Law 91-646 benefits for possible displaced tenants at this point.

Section 10

Baseline Cost Estimate

4.4 FRM STRUCTURAL

Total real estate costs, excluding mitigation, for the structural component (Levee/Berm) of the FRM-TSP is $2,774,280.00. This includes the cost of acquiring property in fee, damages, LERRD administrative costs, utility relocations, and contingencies, as well as cost for potential condemnations. This does not include the cost for any flowage easements, Public Law 91-646 benefits, or other estates that may need to be acquired as a result of the takings analysis that is being conducted.

4.5 FRM NON-STRUCTURAL

Total Real Estate Costs for the Non-Structural portion of the FRM-TSP is not available at this time. For the FRM-TSP this would include administrative costs, Public Law 91-646 benefits if applicable, and the cost to acquire non-standard estates for structures that will be dry floodproofed or elevated, if applicable. At this time the Non-Standard Estate has not been approved or opined by our Office of Counsel and there has not been a value assigned for the cost of the Non-Standard Estates.

4.6 NER

Total real estate costs, excluding mitigation, for the NER Plan is $8,690,922.00. This includes the cost of acquiring road easements, riparian zones and grade control structure sites in fee simple, LERRD administrative costs, and contingencies, as well as cost for potential condemnations.

Section 11

P.L. 91-646 Relocation Assistance Benefits

4.7 FRM STRUCTURAL

At this time, there have not been any residential or nonresidential structures identified for the structural portion of the project that would require the application of Public Law 91-646 relocation assistance benefits. A takings analysis is being conducted and upon its completion this section will be refined to address any benefits that the public would be eligible for.

4.8 FRM NON-STRUCTURAL.

Dry Flood-Proofing of Non-Residential Structures

It is assumed that for these measures, there will be no requirements for temporary relocation. In the event that relocations are required, in accordance with 49 CFR Part 24 (Subpart A, Section 24.2(a)(9)(ii)(D), property owner/occupants of non-residential structures who willingly participate in the project are not considered displaced, and therefore are not entitled to receive relocations assistance benefits. Additionally, businesses will not receive benefits for temporary loss of operation during construction. Business owners who are tenants of the structure, and who must relocate temporarily during construction, could receive relocation assistance advisory services and moving expenses, in accordance with 49 CFR Part 24.

Section 12

Mineral Activity/Crops

FRM-TSP: There are no known mineral recovery activities currently ongoing or anticipated, or oil/gas wells present on the project LERRD or within the immediate vicinity that will impact the construction, operation, or maintenance of the project. There will be no acquisition of mineral interests from the surface owner or third parties over the easements. Subordination of any mineral rights, easements, or leases will require evaluation on a case-by-case basis. If it is determined that any such outstanding right may negatively impact the intended use of the lands, subordination of that right by separate transaction is recommended.

NER-TSP: For some of the NER project elements, lands with potential agricultural use may be removed from agricultural use. Any timber present within required right-of-way is included in the overall appraised value of the land. In the event the agricutural lands are cultivated, the owner will be allowed to harvest crops prior to acquisition. In the event that project schedules do not allow for such, the contributory value of crops will be included in the estimate of property value in the appraisal.

Section 13

Non-Federal Sponsor Capability Assessment

The sponsor's counsel has participated in a significant number of real estate acquisitions over the last 20 plus years, which were subject to state and federal property acquisition laws, including P.L. 91-646. Staffing is assigned to property acquisitions as needed but recognizing that property acquisitions are time consuming. The sponsor's counsel has experience with the public law due to participation in road right-of-way acquisitions involving federal funds. The sponsor's counsel is able to contract with title abstractors, appraisers, engineers and consultants as necessary for land acquisitions. Additionally, the sponsor's counsel is currently participating in International Right-of-Way Association seminars to be further familiarized with the public law. The sponsor would anticipate regularly scheduled meetings to be sure the property acquisitions are proceeding properly and in a timely fashion. The sponsor is fully capable of carrying out the requirements of this cost share project.

Section 14

Zoning Ordinances

In regard to non-structural floodproofing work to protect existing structures, zoning may need to be considered to control future development. Zoning ordinances will not be a requirement of the LERRD needed for the project.

Section 15

Acquisition Schedule

6.1 FRM STRUCTURAL

The following schedule shows the tasks and duration for acquisition of the LERRD required for the structural portion of the FRM-TSP. This schedule is subject to change based on project refinement during planning, engineering, and design. This schedule is for preliminary planning purposes and assumes that all tracts are acquired at the same time.

1. Mapping	3 month
2. Title	3 months
3. Appraisals (begin concurrent with title)	3 months
4. Negotiations and Closing	3 months
5. Condemnation (overlaps with negotiation and closing)	12 months
6. LER Certification	3 months

Based upon this schedule, all real property interests will be acquired in 9 months, with the exception of real property interests requiring condemnation. It could take up to 18 months if the property is condemned.

Titles and Appraisals will run concurrently.

Negotiations, Closings, and Condemnations will run concurrently.

15.2 FRM NON-STRUCTURAL

The following schedule shows the tasks and duration for acquisition of the LERRD required for the non-structural portion of the FRM-TSP. This schedule is subject to change based on project refinement during planning, engineering, and design. This schedule is for preliminary planning purposes and assumes that all tracts are acquired at the same time. Tasks shown below would likely vary by property; therefore, the schedule shown is the overall anticipated time for the total number of structures and assumes an overlap of tasks. The schedule is dependent upon a defined nonstructural implementation plan and assumes that project funding will be available every year.

Therefore, this estimated schedule is expected to be refined as more information becomes available during PED and implementation of the authorized project.

1. Execution of agreement b/w landowner & NFS (also Right-of-Entry) 2 months
2. Preliminary Investigations (i.e., HTRW, structural, surveys, etc.) 3 months
3. Government completes design of floodproofing activities 6 months
4. Mapping, Title, and Appraisal, and Acquisition 3 months
5. Relocation of Displaced Tenants if applicable 12-24 months
6. NFS obtains authorization for entry to perform floodproofing 1 month
7. Floodproofing is performed 12-24 months
8. LER Certification 3 months

Based upon this schedule, all real property interests will be acquired, floodproofing work completed, and LER Certification in 3.5 years. The relocation of tenants and performance of floodproofing runs concurrently. Displacement of tenants would run for a period of 12 to 24 months with the average displacement being 2 months.

15.3 NER

The following acquisition schedule for ecosystem project features is based on the premise that the project will impact approximately 129 landowners for the NER project features. This tentative schedule provides the total amount of time to complete the acquisition of real estate rights for the construction of the ecosystem project features based on the preliminary information available at this time.

The following schedule shows the tasks and duration for acquisition of the LERRD required for the NER project features. This schedule is subject to change based on project priorities and how the NFS will handle acquisitions. This schedule is for preliminary planning purposes and assumes that all tracts are acquired at the same time.

1. Mapping 6 months
2. Title 6 months
3. Appraisals (begin concurrent with title) 6 months
4. Negotiations and Closing 12 months

5. Condemnation (overlaps with negotiation and closing) 12 months

6. LER Certification 3 months

Title and Appraisals will run concurrently.

Negotiations, Closings and Condemnations will run concurrently.

Based upon this schedule, all real property interest will be acquired in 2 years and 3 months.

Section 16

Facility/Utility Relocations

FRM-TSP: Utility and Facility Relocation surveys have not been fully completed. Any conclusion or categorization contained in this report that an item is a utility or facility relocation is preliminary only. The government will make a final determination of the relocations necessary for the construction, operation or maintenance of the project after further analysis and completion and approval of final attorney's opinions of compensability for each of the impacted utilities and facilities.

Note: Cost engineers used a miscellaneous 5% of all construction costs to cover any potential relocations that could possibly arise. This has been the standard operating procedure in the Memphis District for some time now. This information will be refined during feasibility level design.

Estimated relocation cost for the FRM-TSP is $175,000.00

NER-TSP: No facility/utility relocations are anticipated to be required for the NER features of the Project.

Section 17

HTRW and Other Environmental Considerations

A preliminary HTRW Phase 1 ESA was conducted for the draft IFR-EIS. This preliminary ESA was conducted to facilitate early identification and consideration of HTRW issues. Several potential HTRW issues were identified in this ESA; however, a full Phase I ESA would be conducted on the TSP and would be included in the final IFR-EIS. The preliminary ESA also identified the presence of several active, inactive, plugged and abandoned oil/gas wells, several injection wells, and several oil and gas pipelines within the study area. Several industrial facilities such as chemical plants and refineries were also noted in the study area. There is a low probability of encountering HTRW from the wells, pipelines, and industrial facilities during construction of the project.

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Section 18

Landowner Attitude

There was public meeting that was held on June 29th, 2021. The meeting was held face-to-face for the DeSoto Feasibility Study at the Lander's Center in Southaven, MS. The PDT received public comments at the meeting and at the public email address for the study. Additional meetings during feasibility level design and the final REP are anticipated.

Section 19

Risk Notification

A risk notification letter has not been sent to the NFS. The NFS will be notified in writing about the risks associated with acquiring land before the execution of the Project Partnership Agreement and the Government's formal notice to proceed with acquisition. This will be sent prior to the final report and included within the Final REP.

Section 20

Other Real Estate Issues

It is not anticipated that there will be any other real estate issues for this project. Revisions will be made to the real estate plan after the takings analysis is received in accordance with applicable regulations.

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