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

July 2023

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Section 1

Purpose of Real Estate Plan

This 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 EIS09. 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. The Project Area is shown in Figure K: 1-1 below.

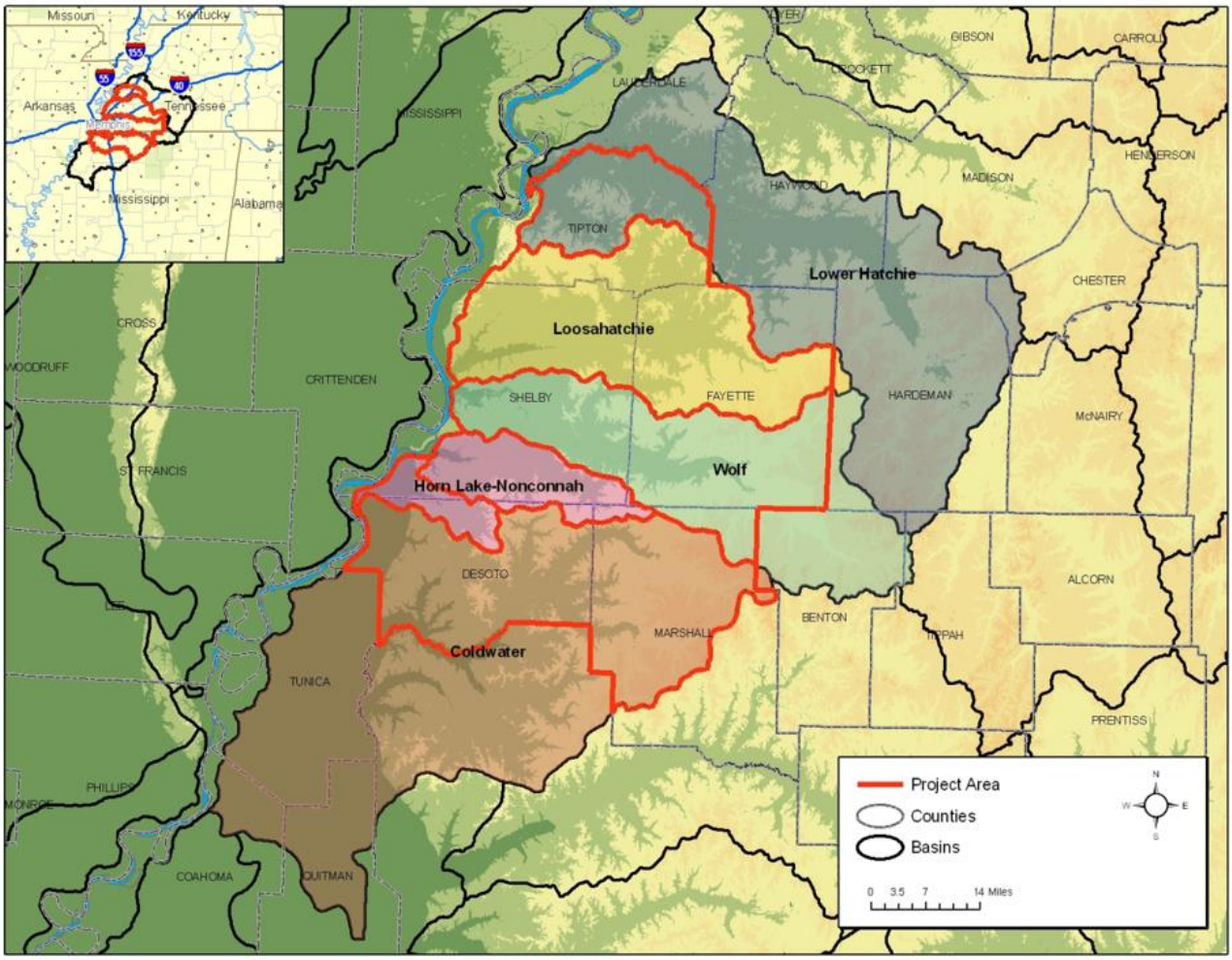

Figure K:1-1. Memphis Metro Basins

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 has 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 AER (Aquatic Ecosystem Restoration) 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.

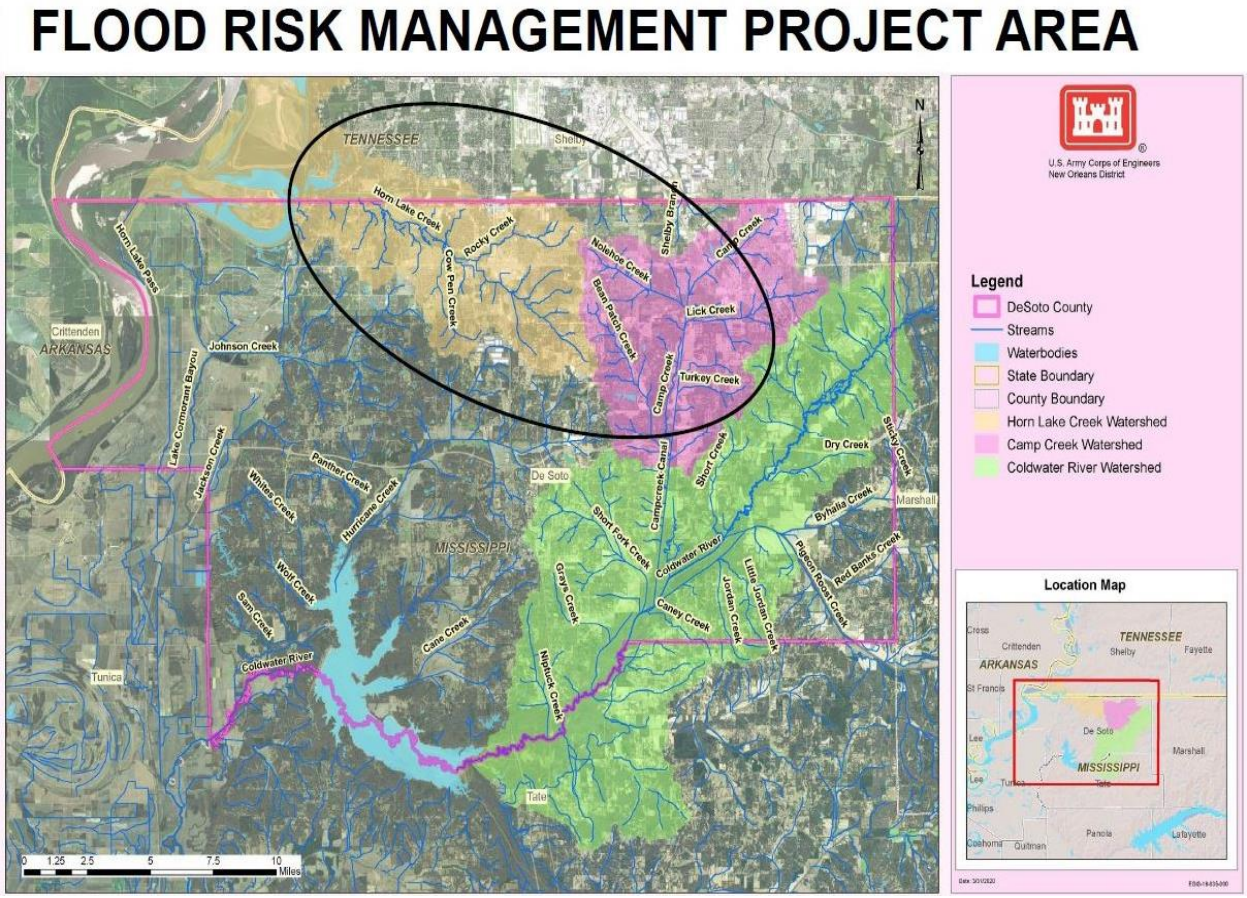

Figure K:1-2. Creeks within the Flood Risk Management Area

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 as shown in Figure K:1-2 above.

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.

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Section 2

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

RECOMMENDED PLANS SUMMARY

The Recommended Plan (RP) as discussed in the main report includes both a Flood Risk Management (FRM) plan, which contains both structural and nonstructural features, and an Aquatic Ecosystem Restoration (AER) plan which maximizes ecosystem benefits. Per USACE Guidance, the Project Delivery Team (PDT) identified the alternatives that reasonably maximize net economic benefits consistent with protecting the nation's environment. The FRM RP is estimated to produce approximately 1.88 million dollars in annual benefits at an average annual cost of $275K, for a Benefit to Cost Ratio (BCR) of 2.57.

2.1 FRM-RP STRUCTURAL FEATURES

The structural portion of the Recommended 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 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.

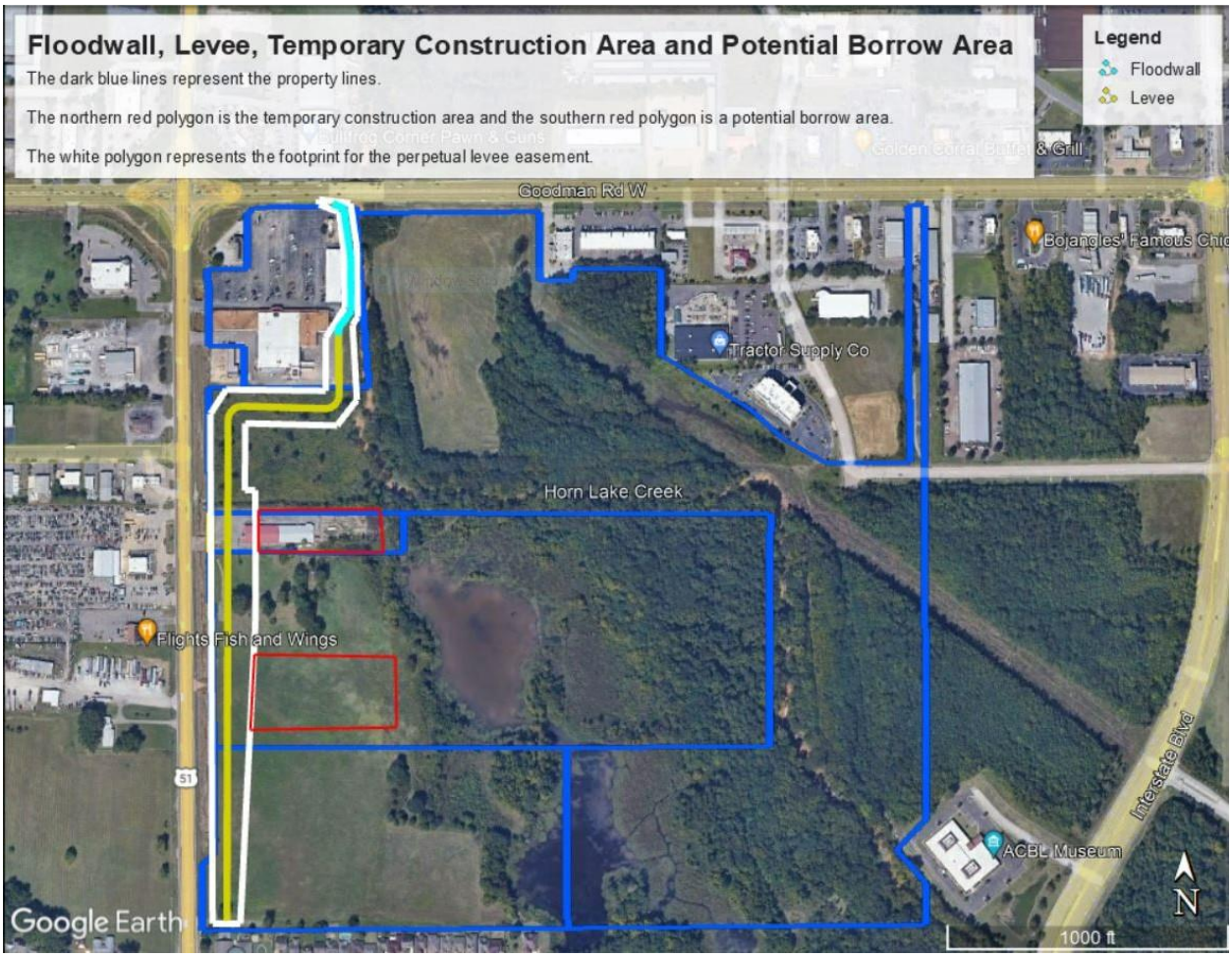

Figure K:2-1. Map of Levee and Floodwall for Flood Risk Reduction

The real estate costs presented herein for the structural portion of the FRM-RP are based on the estimated acreages and estates shown in the table below. There are a total of 5 landowners holding 12.5 acres to be acquired. There is a vacant building that will be cut off by the levee on one of the parcels. It is assumed that this facility will be listed as an improvement/damage during the appraisal process for this particular tract. The PDT has identified a potential site for borrow and a temporary construction area.

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

Structural Component for FRM-RP				
Landowners		**Estate**	**Acres**	
1		Flood Protection Levee Easement (Levee/Floodwall)	1	
1		Flood Protection Levee Easement (Levee/Floodwall)	2.5	
1		Flood Protection Levee Easement (Levee/Floodwall)	.5	
1		Flood Protection Levee Easement (Levee/Floodwall)	2.5	
1		Flood Protection Levee Easement (Levee/Floodwall)	1.5	
Repeat		Temporary Construction Easement	1.5	
Repeat		Temporary Construction Easement (Borrow)	3	
Total	**5**		**Total**	**12.5**

2.2 FRM-RP NONSTRUCTURAL FEATURES

The nonstructural FRM-RP could consist of the following nonstructural dry flood proofing risk management measures. Dry floodproofing of structures would be completed on a volunteer basis. 21 commercial buildings and 14 apartment buildings would be eligible to participate in the project. Dry Floodproofing will not be mandatory.

DRY FLOODPROOFING:

Dry floodproofing 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. 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 project will have sufficiently large sites to accommodate staging of material and equipment. A Request for Approval of a Non-Standard Estate would be developed by the Memphis District Real Estate Office and submitted through the Mississippi Valley Division to USACE Director of Real Estate for consideration and approval for use. The Non-Standard Estate would give the Government, sponsor, and contractor the necessary rights needed for ingress and egress, staging, and floodproofing eligible structures, as well as the necessary rights to protect the Federal investment. Other real estate interest needed will be right of entry for survey and right of entry for construction. The right of entry for survey will allow the sponsor, Government, and contractors to access properties for preliminary survey and exploration task. The right of entry for construction will grant rights needed to access the property and perform construction. The right of entry for construction still must be followed by an acquisition of an estate or

estates. There may be a need for temporary work area easements for staging of the dry floodproofing work.

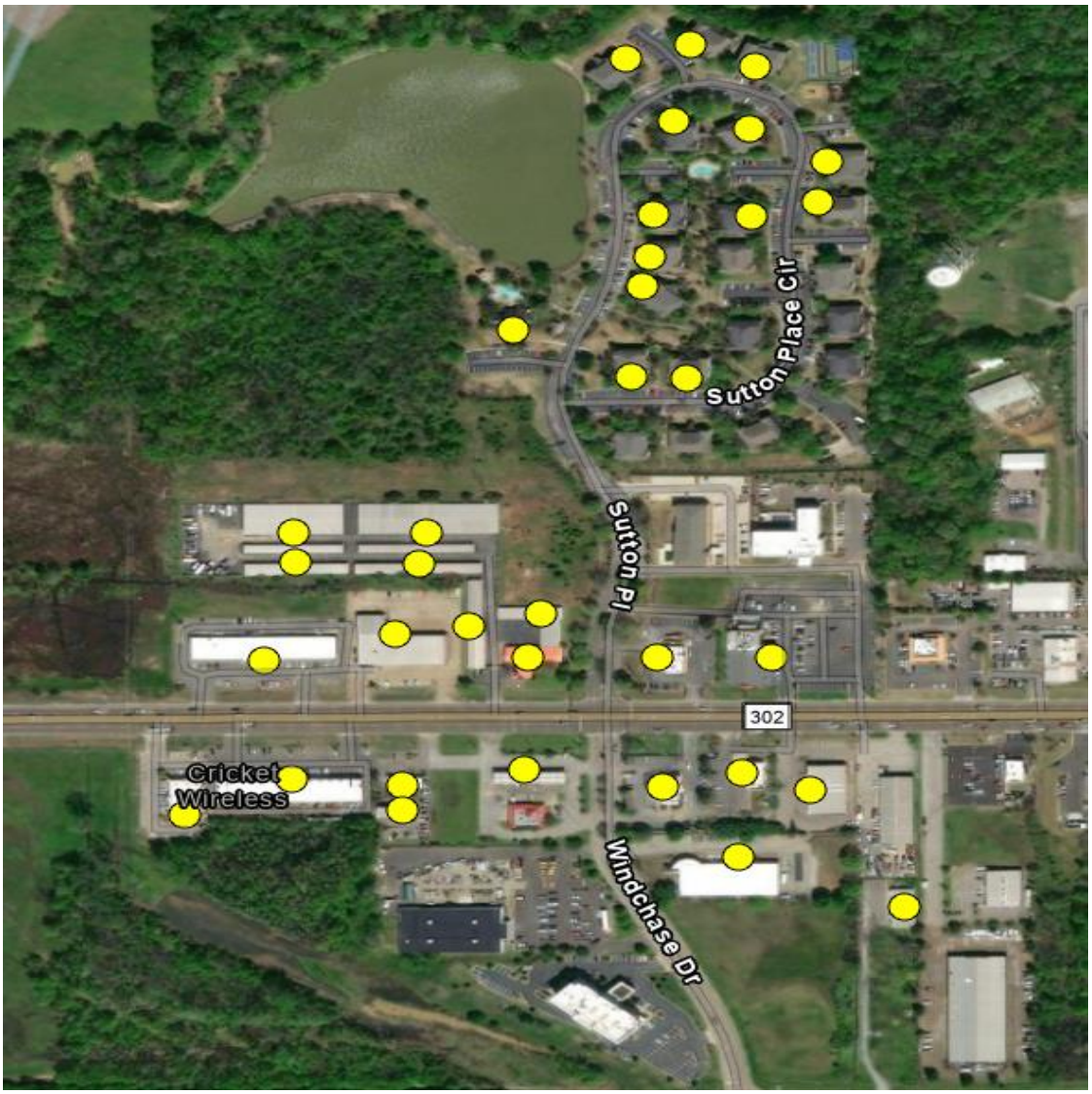

Figure K:2-2. Map of 35 Structures for Dry Floodproofing

2.3 AER RP

The AER plan maximizes ecosystem restoration benefits compared to costs. The AER plan consists of implementing Grade Control Structures, Riser Pipes, and establishing Longitudinal Peaked Stone Toe Protection (LPSTP), and Riparian Zones for 11 streams through acquisition of fee simple estates in the study area. The Riser Pipes and the LPSTP will overlap with the real estate footprint for the Riparian Zones and Grade Control Structures. The AER RP features are described in Section 7.1.2 of the DIFR-EIS.

Grade Control Structures (GCS) include a variety of rock 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.

Riser Pipes - Concentrated flows can create deep incisions in the bank. Select incisions will be mitigated by installing a pipe to convey the grade change without scouring the bank. This will help to retain vegetation and reduce scour at these locations.

Longitudinal Peaked Stone Toe Protection with tiebacks in the 11 identified streams. These were not located in the field but are to be placed in proximity of identified GCSs. These will reduce damages to banks and protect top bank habitat. It will also reduce the ability of the stream to meander and scour into the outside bend of the stream.

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 objective of the AER Plan 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 current estimated implementation cost for the AER RP is approximately $26.5M which would be cost shared $17.2M (65%) federal and $9.3M (35%) non-federal (percentages in parentheses). The AER plan is estimated to provide 325 Average Annual Habitat Units (AAHUs) at an average annual cost of $3.6K per AAHU. The total annual cost of the NER plan is $1.2 million. This plan will stabilize and restore approximately 28 miles of stream, support connectivity of an estimated 90 stream miles, and provide 327 acres of BLH riparian restoration.

The real estate costs presented herein for the structural portion of the AER-RP 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 56. There will be a total of 37 acres that will need to be acquired in fee for these grade control structures, and 115.4 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 59. There will be a total of 327 acres that will need to be acquired in fee for these riparian zones, and 20 acres of perpetual road easement will be needed for accessing these riparian zones.

This equates to a combined total of 115 landowners, 364 acres to be acquired in fee, and 135.4 acres of perpetual road easements for access for the AER-RP. Temporary work area acreage will not be needed to implement the AER features as staging of the work will take place on property purchased by way of the fee simple estates.

Table K:2-3. AER Grade Control Features, Riser Pipes, and Longitudinal Peaked Stone Toe Protection (LPSTP): Real Estate Requirements

Streams	Grade Control Structures, Riser Pipes, and LPSTP	Landowners	Estate	Acres	Landowners (Access)	Estate (Access)	Acres (Access)
Nonconnah Creek AER	7	6	Fee	3.5	6	Road Easement	7
Camp Creek AER	7	7	Fee	3.5	7	Road Easement	17
Cane Creek AER	9	5	Fee	4.5	5	Road Easement	13.4
Hurricane Creek AER	9	4	Fee	4.5	4	Road Easement	17.5
Johnson Creek AER	11	8	Fee	5.5	8	Road Easement	14.2
Lick Creek AER	3	2	Fee	1.5	2	Road Easement	1.4
Mussacuna Creek AER	3	3	Fee	1.5	3	Road Easement	4.4
Nolehole Creek AER	11	10	Fee	5.5	10	Road Easement	11.9
Red Banks Creek AER	5	5	Fee	2.5	5	Road Easement	18.5
Short Fork Creek AER	9	6	Fee	4.5	6	Road Easement	10.1
Total	**74**	**56**		**37**	**56**		**115.4**

Table K:2-4. AER Riparian Zone Features: Real Estate Requirements

Streams	Riparian Zone	Landowners	Estate	Acres	Landowners (Access)	Estate (Access)	Acres (Access)
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	**10**	**59**		**327**	**59**		**20**

2.4 ACCESS

FRM Structural - Floodwall and 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 Nonstructural 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. It is anticipated that these properties, once identified, will be accessed via public roads and highways.

Floodproofing Agreement

An agreement outlining dry floodproofing measures and objectives shall be executed between the NFS and the property owners. The Flood Proofing Agreement, together with the easement(s) and covenant running with the land, as well as any required release or subordination agreements, shall be recorded by the NFS (Non-Federal Sponsor) in the appropriate public records of the County in which the property is located. After the Flood Proofing Agreement together with the easement and covenant and any required subordination agreements are recorded in the public records, the dry floodproofing of the structure will be commenced, completed, inspected, and after final approval by the District Engineer, a notice of construction completion will be issued to the NFS and the individual dry floodproofing project will be closed out as complete. The dry floodproofing agreement is also referenced in Appendix D (“Nonstructural Implementation Plan”).

AER Riparian Zones, Riser Piers, Longitudinal Peaked Stone Toe Protection, 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 115.4 Acres that would be needed in perpetual road easements for the grade control structures, riser pipes, and LPSTP. 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 20 Acres.

2.5 BORROW

The levee will require approximately 14,000 cubic yards of fill material. The sponsor is responsible for obtaining borrow according to the PPA. A potential borrow site has been identified within acceptable haul distance and is noted in Table K:2-1. Map of Levee-Floodwall for Flood Risk Reduction.

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. The real property rights needed by the NFS to conduct OMRR&R responsibilities for the nonstructural floodproofing will be contained in the permanent easement. 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 FLOOD PROTECTION LEVEE EASEMENT

A perpetual and assignable right and easement in (the land described in Schedule A) (Tracts Nos, ____, ____ and ____) to construct, maintain, repair, operate, patrol and replace a flood protection (levee) (floodwall)(gate closure) (sandbag closure), including all appurtenances thereto; reserving, however, to the owners, their heirs and assigns, all such rights and privileges in the land 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 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.

4.4 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

For the nonstructural component of the Project, the Memphis District Real Estate Office will develop and submit through the Mississippi Valley Division to HQUSACE Director of Real Estate a request for approval of a non-standard estate for the nonstructural floodproofing of residential and commercial structures.

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 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

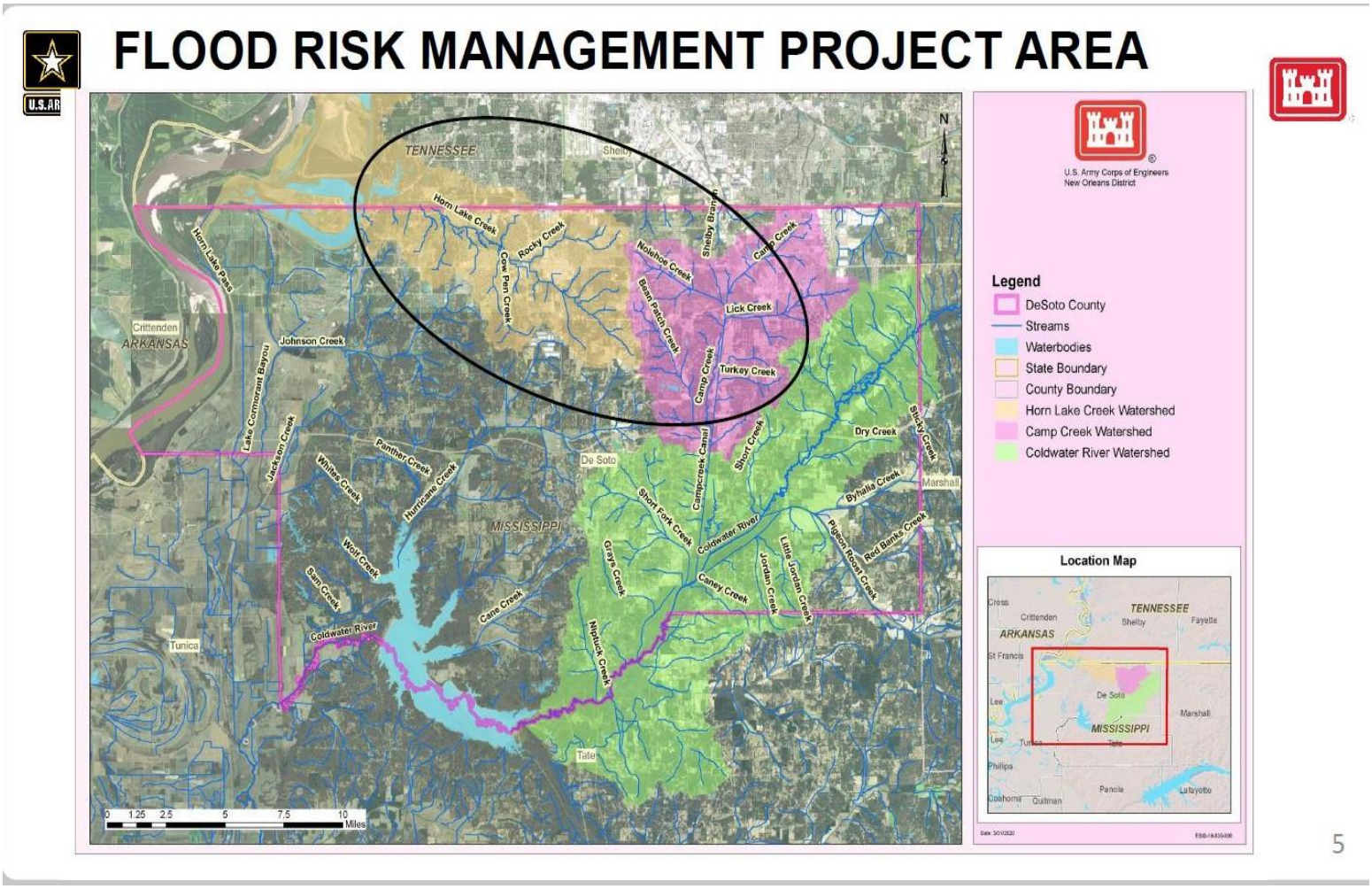

Figure K:8-1. Flood Risk Management Project Area

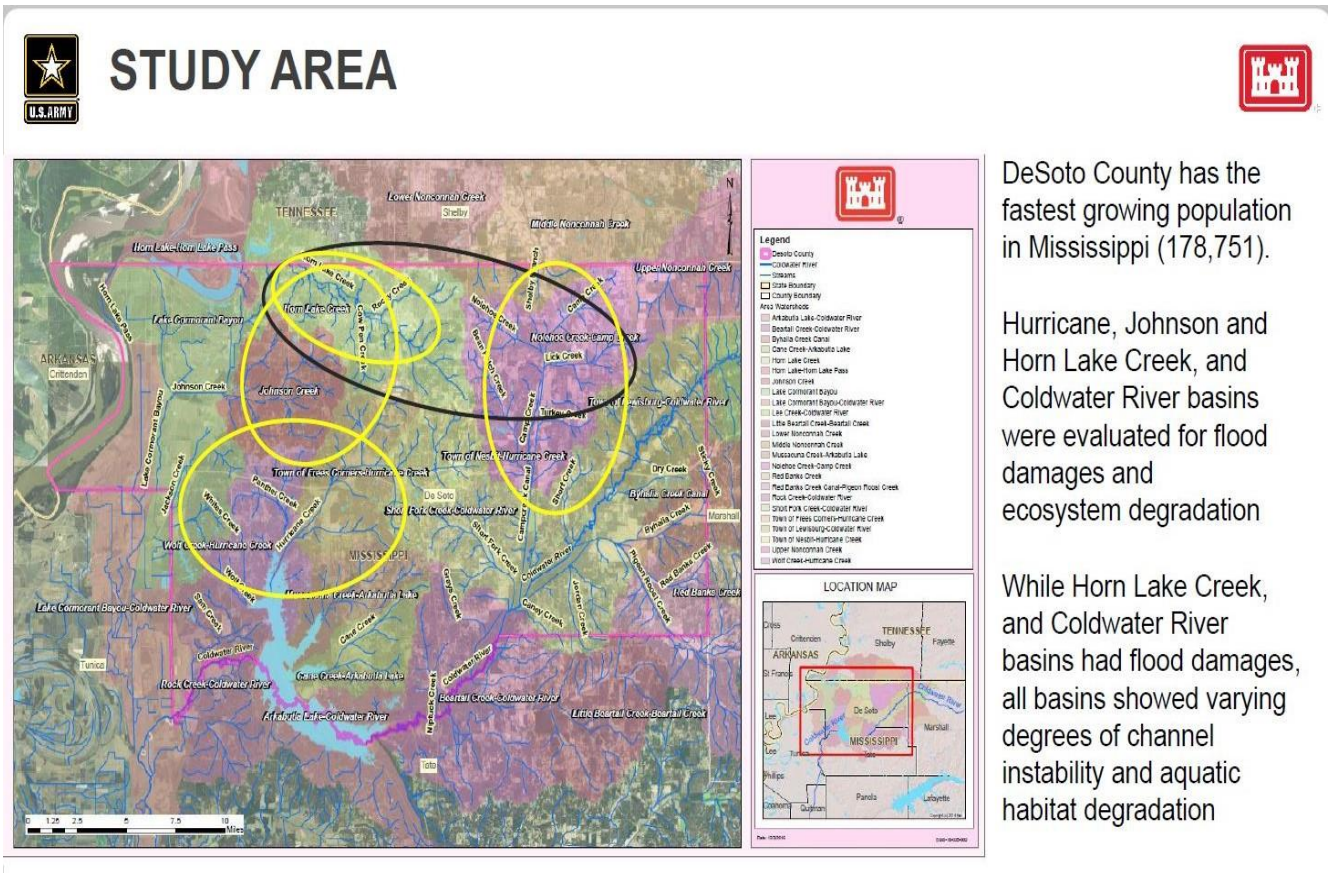

Figure K:8-2. Study Area

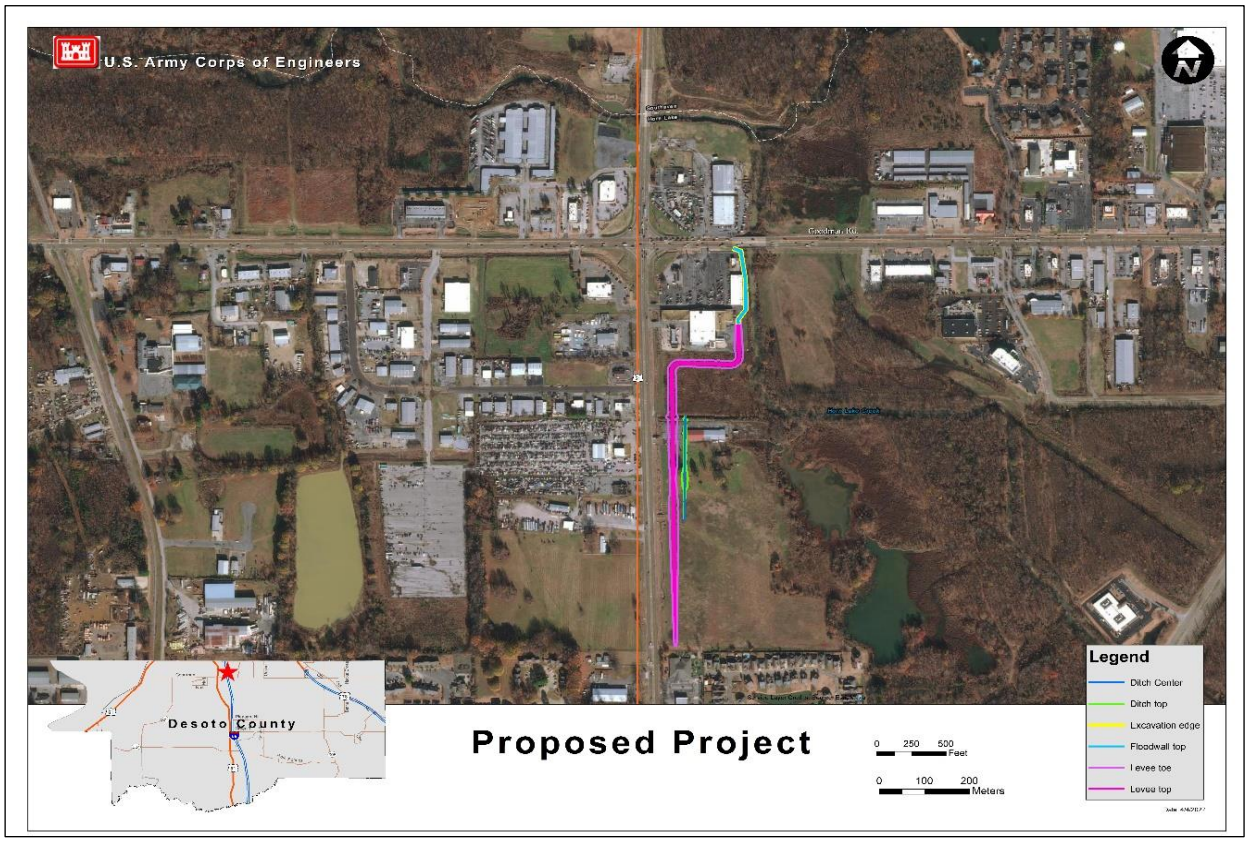

Figure K:8-3. Levee and Floodwall

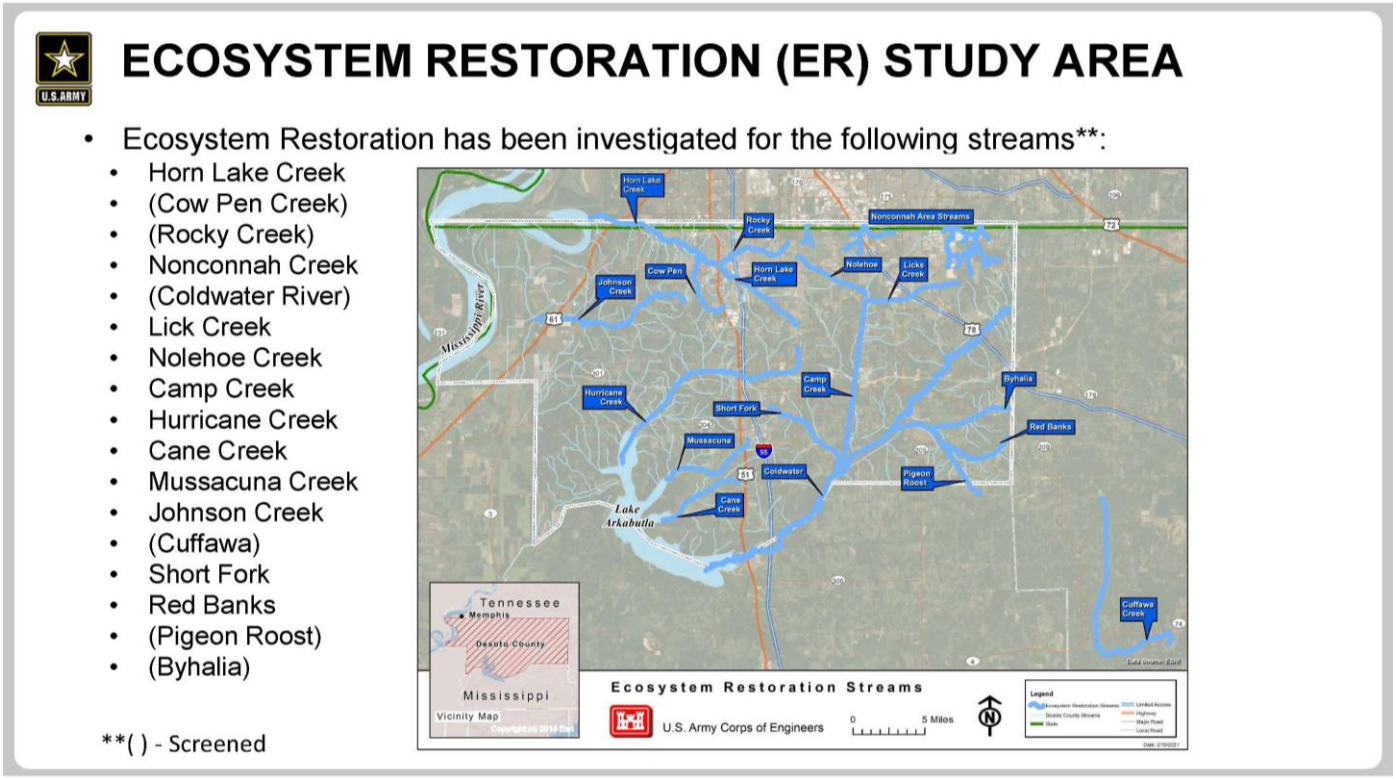

Figure K:8-4. Ecosystem Restoration (ER) Study Area

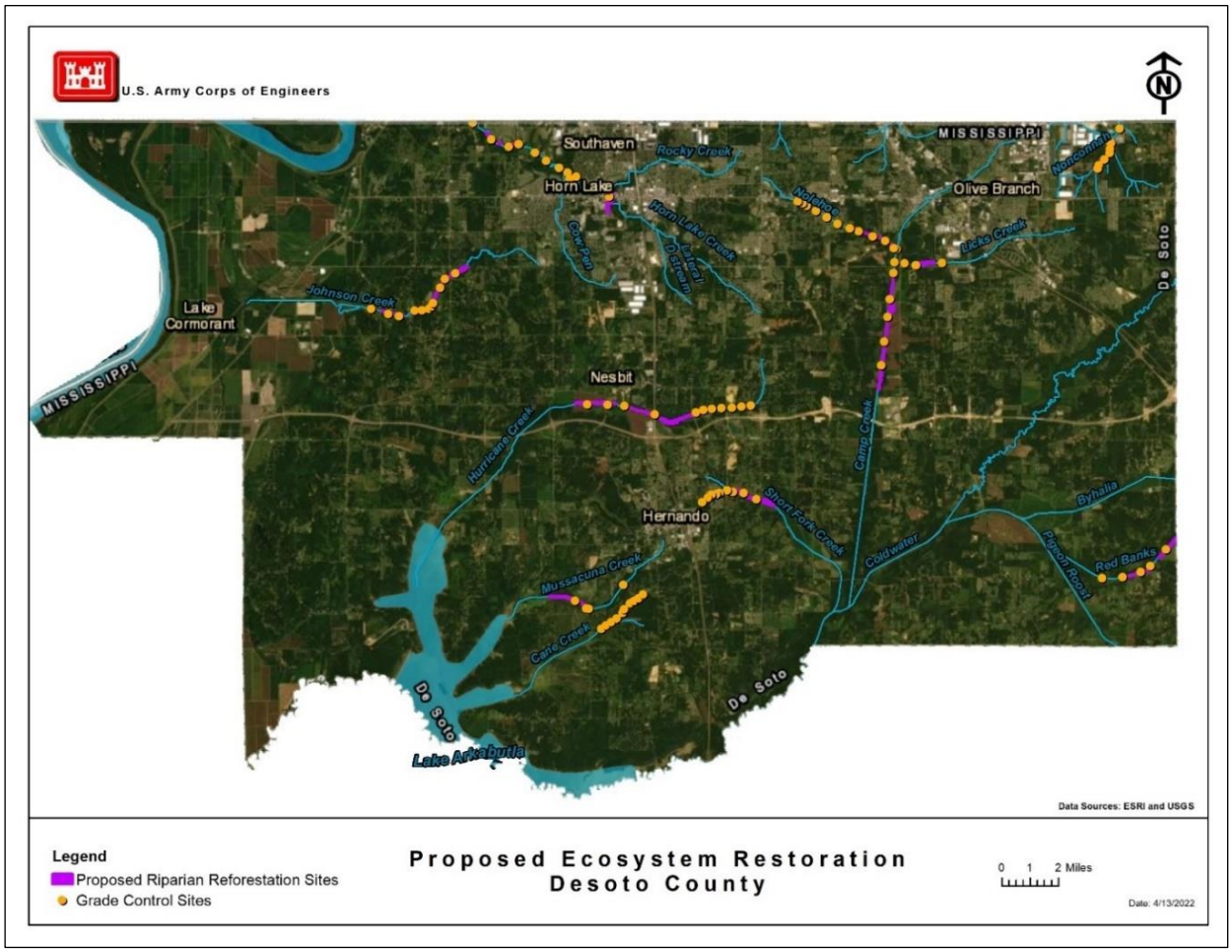

Figure K:8-5. Ecosystem Restoration (ER) Featrues Map

Section 9

Induced Flooding

The Project Delivery Team has determined that the proposed measures in this study will not cause induced flooding.

Section 10

Baseline Cost Estimate

10.1 FRM STRUCTURAL

Total real estate costs for the structural component (levee, floodwall) of the FRM-RP is $ 2,209,725. This includes $1,978,725 for the 01 Account and $231,000 for the 02 Account (Relocations). This figure encompasses the cost of acquiring real property interest, damages, LERRD administrative costs, utility relocations, and contingencies, as well as cost for potential condemnations. This also includes cost for a temporary construction area and potential borrow pit.

10.2 FRM NONSTRUCTURAL

A cost estimate was prepared based on the assumption that there are a total of 35 structures to be included within the nonstructural plan (21 commercial, 14 apartment buildings). Participation is voluntary. The owners of these 35 structures would receive a net benefit from the dry floodproofing. The increase in the value of the property or net benefit after being dry floodproofed is expected to exceed the cost of the estate needed to obtain the rights to conduct the dry floodproofing measures, therefore there would be no payment required to obtain the estate. The sponsor would still be responsible for administrative cost. Real estate costs for dry floodproofing include costs associated with the floodproofing of apartment buildings and non-residential structures. It is assumed that relocation assistance costs for tenants will not be applicable as dry floodproofing can be accomplished without requiring the tenants to vacate the structures. Some associated administrative requirements would be for obtaining right-of-entry, title research, curative documents, filing of the floodproofing agreements and easements, and coordination and oversight of any relocations. The total cost estimate for these administrative tasks is $193,800.

10.3 AER

Total real estate costs for the AER Plan is $7,850,037.00 (01 Account). This includes the cost of acquiring road easements, riparian zones, riser pipe, longitudinal stone toe protection 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

11.1 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.

11.2 FRM NONSTRUCTURAL

Dry Floodproofing of Non-Residential and Residential Structures

It is assumed that for the measures to dry floodproof non-residential and residential structures, 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. However, if tenants of the commercial structure must temporarily relocate during the floodproofing construction activities, such tenants might be eligible for some relocation assistance benefits in accordance with 49 CFR Part 24.

Section 12

Mineral Activity/Crops

FRM-RP: 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.

AER-RP: For some of the AER 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 agricultural 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. 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

There would be no application or enactment of zoning ordinances in lieu of, or to facilitate, the nonstructural features of this project. The nonstructural measures are voluntary in nature and would be available only to existing eligible structures as defined within the RP. During PED, planning and zoning regulations would be further reviewed, and discussions would be conducted with the NFS regarding the development and adoption of land use regulations for future activities within the project area. The NFS would be required to coordinate these matters with local planning commissions.

Section 15

Acquisition Schedule

15.1 FRM STRUCTURAL

The following schedule shows the tasks and duration for acquisition of the LERRD required for the structural portion of the FRM-RP. This affects 5 total landowners. 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. This schedule assumes a staff of 3 negotiators.

1. Preliminary Investigations (i.e., HTRW, structural, surveys, etc.) 3 months
2. Mapping 3 months
3. Title 3 months
4. Appraisals 3 months
5. Negotiations and Closing 12 months
6. Condemnation (time could overlap with negotiation and closing) 12 months
7. LERRD Certification 3 months

Based upon this schedule, all real property interests will be acquired in 24 months, with the exception of real property interests requiring condemnation. It is assumed that all properties will be acquired simultaneously. It could take up to 36 months to acquire a property if the property is condemned.

Negotiations and Closings will run concurrently, and Condemnations (if necessary)

15.2 FRM NONSTRUCTURAL

The following schedule shows the tasks and duration for acquisition of the LERRD required for the nonstructural portion of the FRM-RP. The number of landowners that this will ultimately affect is unknown at this time as dry floodproofing will be done on a voluntary basis. 35 structures would be eligible for the program. There are 17 ownerships amongst the 35 structures. 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 the estates for all 35 eligible structures 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. This schedule assumes a staff of 10 negotiators.

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

1. Rights-of Entry between the landowner & NFS	6 months
2. Preliminary Investigations (i.e., HTRW, structural, surveys, etc.)	12 months
3. Government completes design of floodproofing activities	12 months
4. Mapping, Title, and Appraisal, and Acquisition	24 months
5. LERRD Certification	6 months
6. Temporary Relocation of Displaced Tenants (**if applicable**)	12-24 months
7. Floodproofing is performed	12-24 months

Based upon this schedule, all real property interests will be acquired, floodproofing work completed, and LER Certification in 7 years. The relocation of tenants, if applicable, 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 if applicable. **Note: It is assumed that for the measures to dry floodproof non-residential and residential structures, there will be no requirements for temporary relocation.**

15.3 AER

The following acquisition schedule for ecosystem project features is based on the premise that the project will impact approximately 115 landowners for the AER 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 AER 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. This schedule assumes a staff of 10 negotiators.

1. Rights-of Entry between the landowner & NFS	12 months
2. Preliminary Investigations (i.e., HTRW, structural, surveys, etc.)	6 months
3. Mapping	6 months
4. Title	18 months
5. Appraisals	24 months
6. Negotiations and Closing	24 months
7. Condemnation (time could overlap with negotiation and closing)	30 months
8. LER Certification	12 months

Negotiations, Closings and Condemnations (if necessary) will run concurrently.

Based upon this schedule, all real property interest will be acquired in 7 years and 5 months. It could take up to 10 years if the property is condemned.

It is assumed that the FRM structural and FRM nonstructural acquisition activities will not take place while the acquisition activities for the AER are being carried out. The 3 schedules above and assumed staff were developed with non-federal sponsor input.

Section 16

Facility/Utility Relocations

FRM-RP: 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-RP is $231,000.00

AER-RP: No facility/utility relocations are anticipated to be required for the AER 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 RP 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.

Section 18

Landowner Attitude

There was public meeting that was held on June 20th, 2022. 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. The meeting went well. Additional meetings during feasibility level design and the final REP are anticipated.

CONCERNS RAISED AT PUBLIC MEETING ON JUNE 20, 2022	**ANSWERS/REFINEMENTS**
There is development interest on two parcels where the levee is located	We are tracking and if development occurs on these 2 parcels, which are outside of the 100 yr. floodplain, the levee alignment will be adjusted. The levee is being optimized now (completed).
What responsibility does the sponsor have related to the riparian restoration land acquisition and maintenance?	Lands would be acquired by the sponsor in fee and a O&M manual will be developed and provided to the sponsor.
Agree that this project is needed, but will grade control cause flooding?	Modeling that will occur prior to implementation will allow the team to size and place grade control such that it stabilizes the channel without inducing flooding.

Section 19

Risk Notification

The NFS was 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.

Section 20

Other Real Estate Issues

It is not anticipated that there will be any other real estate issues for this project.

Prepared By:

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Mark Harkison
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