

1. Administrative Details

Proposal Name: Incorporate the Cherokee Park Levee into the Red River below Denison Arkansas, Louisiana and Texas Dam Flood Control Project

by Agency: Caddo Levee District, a State Government Agency located in Shreveport, Caddo Parish, Louisiana

Locations: LA

Date Submitted: 08/16/2018

Confirmation Number: 46ca0c30-6050-4407-86c6-2a877d63f1f2 s

Supporting Documents

File Name	Date Uploaded
Item 5 MAP Red-River-CherokeeParkArea Levee Segment.pdf	08/15/2018
Colonel Derosier Letter 2-8-2017+.pdf	08/15/2018
FEMA Levee Certification Letter.pdf	08/15/2018
West Agurs De-authorization.pdf	08/15/2018
Colonel Derosier Letter - Cherokee Park Levee.pdf	08/16/2018

2. Provide the name of the primary sponsor and all non-Federal interests that have contributed or are expected to contribute toward the non-Federal share of the proposed feasibility study or modification.

Sponsor	Letter of Support
Caddo Levee District, Louisiana State Agency Located in Caddo Parish, Louisiana(Primary)	Attached

3. State if this proposal is for a feasibility study, a modification to an authorized USACE feasibility study or a modification to an authorized USACE project. If it is a proposal for a modification, provide the authorized water resources development feasibility study or project name.

[x] Modification to an Authorized USACE Project : Red River Below Denison Dam Arkansas, Louisiana and Texas Flood Control Project, Authorized by Section 10 of the Flood Control Act of 1946 (60 Stat. 647 Chapter 596)

4. Clearly articulate the specific project purpose(s) of the proposed study or modification. Demonstrate that the proposal is related to USACE mission and authorities and specifically address why additional or new authorization is needed.

Incorporate Cherokee Park Levee into the Red River Below Denison Dam Arkansas, Louisiana and Texas Flood Control Project. The Caddo Levee District, Caddo Parish, Louisiana has one section of levee that needs to be incorporated into the Red River Below Denison Dam Project. The existing levee, Cherokee Park Levee, is an extension of the North Caddo Levee, which is part of the main stem Red River Levee system. 1. The Cherokee Park Levee is accredited by FEMA for the main stem Red River System and provides flood protection for approximately 2,432 acres and 661 acres developed commercial, industrial and residential area including the City of Shreveport's Downtown Airport. 2. The Corps of Engineers, Vicksburg District, has accepted the Cherokee Park Levee into the PL 84-99 Rehabilitation Assistance and Inspection Program. (Eligibility letter, attachment 1) 3. The Cherokee Park Levee, constructed in the early 1960s begins at 93° 46' 16.82" W _ 32° 32' 50.86" N and ends at 93° 45' 3.77" W _ 32° 32' 43.71" N is requested for authorization into the federal system. Refer to the map, attachment 2. 4. The start of the Cherokee Park Levee intersects the currently designated West Agurs Levees, both levees lying along the right descending bank of the main stem Red River. The above stated coordinates for the beginning of the Cherokee Park Levee is also a point on the current West Agurs Levee system. 5. The end of the Cherokee Park Levee ties in to high ground and provides protection for what a portion of the West Agurs Levee used to protect (2,432 acres) plus an additional 661 acres of a developed industrial park. 6. The Cherokee Park Levee currently appears on the FEMA Federal Insurance Rate Maps. 7. The Cherokee Park Levee is a levee maintained by the Caddo Levee District and exceeds the 1% Annual Chance Flood shown in the National Levee Database, which meets federal standards.

5. To the extent practicable, provide an estimate of the total cost, and the Federal and non-Federal share of those costs, of the proposed study and, separately, an estimate of the cost of construction or modification.

	Federal	Non-Federal	Total
Study	\$0	\$0	\$0
Construction	\$0	\$0	\$0

Explanation (if necessary)

6. To the extent practicable, describe the anticipated monetary and nonmonetary benefits of the proposal including benefits to the protection of human life and property; improvement to transportation; the national economy; the environment; or the national security interests of the United States.

The Caddo Levee District is Louisiana State Agency located in Caddo Parish, Northwest Louisiana, has one section of levee that needs to be incorporated into the Red River Below Denison Dam Project. This existing levee, Cherokee Park Levee, is an extension of the North Caddo Levee, which is part of the main stem Red River Levee system. The levee is approximately 1.56 miles long and was constructed in the early 1960s and been operated and maintained by Caddo Levee District. The District was created in 1892 by Act 74 of the State of Louisiana's General Assembly and was charged of operation and maintenance of the Levees along the West Bank of the Red River and its tributaries (approximately 119 miles of levee system) in Caddo Parish. Levees along the West side of the Red River provide flood protection for more than 30,000 residents most located within the City of Shreveport and 200,000 acres of Agricultural land. The Cherokee Park Levee has been existed for more than 58 years and has provided the required flood control and protection this North Shreveport commercial_industrial and residential area (480 residential buildings and 275 commercial_industrial buildings) including the City of Shreveport's Downtown Commercial Airport. The Levee has been proved to be Resilient and performed well during the June 2015 Historic Record Flood of the Red River and was determined to meet the Federal Eligibility Standards. Also the levee has been accredited by FEMA for the main stem Red River System and provides flood protection for over 2,432 acres and is shown on the updated FEMA Flood Insurance Rate Maps for Caddo Parish. The Corps of Engineers, Vicksburg District conducted Initial Eligibility Inspection of this Levee in June 2016 and has accepted it into the PL 84-99 Rehabilitation Assistance and Inspection Program.

7. Does local support exist? If 'Yes', describe the local support for the proposal.

Yes

Local Support Description

The Caddo Levee District has accepted responsibility for O&M of this Levee for more than 60 years and there is no burden or cost to the federal government

8. Does the primary sponsor named in (2.) above have the financial ability to provide for the required cost share?

Yes

Map Document

(This is as uploaded, a blank page will show if nothing was submitted)

Item 5 MAP Red_River_CherokeeParkArea Levee Segment.pdf

Additional Proposal Information

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Colonel Derosier Letter 2-8-2017+.pdf



DEPARTMENT OF THE ARMY

VICKSBURG DISTRICT, CORPS OF ENGINEERS
4155 CLAY STREET
VICKSBURG, MISSISSIPPI 39183-3435

FEB - 8 2017

SUBJECT: Cherokee Park Levee Initial Eligibility Inspection

The Honorable Carolyn Prator
President, Caddo Levee District
P.O. Box 78282
Shreveport, LA 71137

Dear Mrs. Prator:

The Cherokee Park Levee, as a result of an Initial Eligibility Inspection performed by the Vicksburg District in June 2016, has been determined to be Minimally Acceptable and is therefore eligible for rehabilitation assistance and the Public Law 84-99 Rehabilitation Assistance and Inspection Program. A copy of the inspection report is enclosed.

Note that this determination is made contingent upon installation of a gatewell over a 72 inch culvert by July 2017, as noted in the report. In the event of a flood event prior to the gate installation, follow the emergency action plan described in the report.

I congratulate you on inclusion into, and your participation in, the Public Law 84-99 Rehabilitation and Inspection Program. If you have any questions, they can be directed to Mr. James Harper at (601) 631-5522.

Sincerely,

A handwritten signature in black ink, appearing to read "Michael C. Derosier".

Michael C. Derosier
Colonel, Corps of Engineers
District Commander

Enclosure



Flood Damage Reduction Segment / System Inspection Report

**US Army Corps
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Name of Segment / System: Cherokee Park Levee Segment

Public Sponsor(s): Caddo Levee District

Public Sponsor Representative: Carolyn Prator

Sponsor Phone: (318) 221-2654

Sponsor Email: caddolevee@bellsouth.net

Corps of Engineers Inspector: Rodney Nordby, Stephanie Semple, Craig McRaney, & James Harper

Inspection Start Date: 6/28/2016

Inspection Report Prepared By: Rodney Nordby & Stephanie Semple NORDBY.RODNEY.R
AY.1121733737

Inspection End Date: 6/28/2016

Date Report Prepared: 7/5/2016

Internal Technical Review (for Periodic Inspections) By: MCRANEY.CURTIS.C.1231894450

Date of ITR: 8/11/2016

Final Approved By: BARFIELD.LANNY.B.12307
85062

Date Approved: 8/11/2016

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ou=USA, cn=NORDBY.RODNEY.RAY.1121733737
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ou=USA, cn=BARFIELD.LANNY.B.1230785062
Date: 2016.08.11 16:46:05 -0500

Type of Inspection:	<input checked="" type="checkbox"/> Initial Eligibility Inspection <input type="checkbox"/> Continuing Eligibility Inspection (Routine) <input type="checkbox"/> Continuing Eligibility Inspection (Periodic)	Overall Segment / System Rating:	<input type="checkbox"/> Acceptable <input checked="" type="checkbox"/> Minimally Acceptable <input type="checkbox"/> Unacceptable
Contents of Report:	<input checked="" type="checkbox"/> Instructions <input checked="" type="checkbox"/> Initial Eligibility Inspection <input checked="" type="checkbox"/> General Items for All Flood Control Works <input checked="" type="checkbox"/> Levee Embankment <input type="checkbox"/> Concrete Floodwalls <input type="checkbox"/> Sheet Pile and Concrete I-walls <input type="checkbox"/> Interior Drainage System <input type="checkbox"/> Pump Stations <input type="checkbox"/> FDR System Channels	<p>Note: In addition to the report contents indicated here, a plan view drawing of the system, with stationing, should be included with this report to reference locations of items rated less than acceptable. Photos of general system condition and any noted deficiencies should also be attached.</p> <p>Note: This inspection rating represents the Corps evaluation of operations and maintenance of the flood damage reduction system and may be used in conjunction with other information for a levee certification determination for National Flood Insurance Program (NFIP) purposes if applicable. An Acceptable Corps inspection rating, alone, does not equate to a certifiable levee for the NFIP. It is recommended for levee systems currently accredited by the Federal Emergency Management Agency (FEMA) for NFIP purposes receiving a Corps Minimally Acceptable or Unacceptable rating be evaluated by the levee owner to determine the potential impacts to the certification for FEMA.</p>	



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Flood Damage Reduction Segment / System Public Sponsor Pre-Inspection Form

The following information is to be provided by the levee district sponsor prior to an inspection. This information will be used to help evaluate the organizational capability of the levee district to manage the levee segment / system maintenance program.

1. Levee segment / system and district: (name of the segment / system and levee district) Cherokee Park Levee Segment
2. Reporting period: (month/day/year to month/day/year) As of 28 June 2016
3. Summary of maintenance required by last inspection report: N/A, no previous inspection.
4. Summary of maintenance performed this reporting period: Good sod and gravel surfacing maintenance. Removal of some encroachments and woody growth within easement limits.
5. Summary of maintenance planned next reporting period: Continue sod and gravel surfacing maintenance. Installation of two flood control gates on structures.
6. Summary of changes to segment / system since last inspection: N/A, no previous inspection.
7. Problems/ issues requiring the assistance of the US Army Corps of Engineers: Assistance in bringing this levee segment into the Federal system.



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Flood Damage Reduction Segment / System
Inspection Report
Cherokee Park Levee (CHER)

Pre-Inspection Form
Page 1 of 2

General Instructions for the Inspection of Flood Damage Reduction Segments / Systems

A. Purpose of USACE Inspections:

The primary purpose of these inspections is to prevent loss of life and catastrophic damages, preserve the value of Federal investments, and to encourage non-Federal sponsors to bear responsibility for their own protection. Inspections should assure that Flood Damage Reduction structures and facilities are continually maintained and operated as necessary to obtain the maximum benefits. Inspections are also conducted to determine eligibility for Rehabilitation Assistance under authority of PL 84-99 for Federal and non-Federal systems. (ER 1130-2-530, ER 500-1-1)

B. Types of Inspections:

The Corps conducts several types of inspections of Flood Damage Reduction systems, as outlined below:

Initial Eligibility Inspections	Continuing Eligibility Inspections	
	Routine Inspections	Periodic Inspections
IEIs are conducted to determine whether a non-Federally constructed Flood Damage Reduction system meets the minimum criteria and standards set forth by the Corps for initial inclusion into the Rehabilitation and Inspection Program.	RIs are intended to verify proper maintenance, owner preparedness, and component operation.	PIs are intended to verify proper maintenance and component operation and to evaluate operational adequacy, structural stability, and safety of the system. Periodic Inspections evaluate the system's original design criteria vs. current design criteria to determine potential performance impacts, evaluate the current conditions, and compare the design loads and design analysis used against current design standards. This is to be done to identify components and features for the sponsor that need to be monitored more closely over time or corrected as needed. (Periodic Inspections are used as the basis of risk assessments.)

C. Inspection Boundaries:

Inspections should be conducted so as to rate each Flood Damage Reduction "Segment" of the system. The overall system rating will be the lowest segment rating in the system.

Project	System	Segment
A flood damage reduction project is made up of one or more flood damage reduction systems which were under the same authorization.	A flood damage reduction system is made up of one or more flood damage reduction segments which collectively provide flood damage reduction to a defined area. Failure of one segment within a system constitutes failure of the entire system. Failure of one system does not affect another system.	A flood damage reduction segment is defined as a discrete portion of a flood damage reduction system that is operated and maintained by a single entity. A flood damage reduction segment can be made up of one or more features (levee, floodwall, pump stations, etc).

D. Land Use Definitions:

The following three definitions are intended for use in determining minimum required inspection intervals and initial requirements for inclusion into the Rehabilitation and Inspection Program. Inspections should be considered for all systems that would result in significant environmental or economic impact upon failure regardless of specific land use.

Agricultural	Rural	Urban
Protected population in the range of zero to 5 households per square mile protected.	Protected population in the range of 6 to 20 households per square mile protected.	Greater than 20 households per square mile; major industrial areas with significant infrastructure investment. Some protected urban areas have no permanent population but may be industrial areas with high value infrastructure with no overnight population.



E. Use of the Inspection Report Template:

The report template is intended for use in all Army Corps of Engineers inspections of levee and floodwall systems and flood damage reduction channels. The section of the template labeled "Initial Eligibility" only needs to be completed during Initial Eligibility Inspections of Non-Federally constructed Flood Damage Reduction Systems. The section labeled "General Items" needs to be completed with every inspection, along with all other sections that correspond to features in the system. The section labeled "Public Sponsor Pre-Inspection Report" is intended for completion before the inspection, if possible.

F. Individual Item / Component Ratings:

Assessment of individual components rated during the inspection should be based on the criteria provided in the inspection report template, though inspectors may incorporate additional items into the report based on the characteristics of the system. The assessment of individual components should be based on the following definitions.

Acceptable Item	Minimally Acceptable Item	Unacceptable Item
The inspected item is in satisfactory condition, with no deficiencies, and will function as intended during the next flood event.	The inspected item has one or more minor deficiencies that need to be corrected. The minor deficiency or deficiencies will not seriously impair the functioning of the item as intended during the next flood event.	The inspected item has one or more serious deficiencies that need to be corrected. The serious deficiency or deficiencies will seriously impair the functioning of the item as intended during the next flood event.

G. Overall Segment / System Ratings:

Determination of the overall system rating is based on the definitions below. Note that an Unacceptable System Rating may be either based on an engineering determination that concluded that noted deficiencies would prevent the system from functioning as intended during the next flood event, or based on the sponsor's demonstrated lack of commitment or inability to correct serious deficiencies in a timely manner.

Acceptable System	Minimally Acceptable System	Unacceptable System
All items or components are rated as Acceptable.	One or more items are rated as Minimally Acceptable or one or more items are rated as Unacceptable and an engineering determination concludes that the Unacceptable items would not prevent the segment / system from performing as intended during the next flood event.	One or more items are rated as Unacceptable and would prevent the segment / system from performing as intended, or a serious deficiency noted in past inspections (which had previously resulted in a minimally acceptable system rating) has not been corrected within the established timeframe, not to exceed two years.

H. Eligibility for PL84-99 Rehabilitation Assistance:

Inspected systems that are not operated and maintained by the Federal government may be Active in the Corps' Rehabilitation and Inspection Program (RIP) and eligible for rehabilitation assistance from the Corps as defined below:

If the Overall System Rating is Acceptable	If the Overall System Rating is Minimally Acceptable	If the Overall System Rating is Unacceptable
The system is active in the RIP and eligible for PL84-99 rehabilitation assistance.	The system is Active in the RIP during the time that it takes to make needed corrections. Active systems are eligible for rehabilitation assistance. However, if the sponsor does not present USACE with proof that serious deficiencies (which had previously resulted in a minimally acceptable system rating) were corrected within the established timeframe, then the system will become Inactive in the RIP.	The system is Inactive in the RIP, and the status will remain Inactive until the sponsor presents USACE with proof that all items rated Unacceptable have been corrected. Inactive systems are ineligible for rehabilitation assistance.



I. Reporting:

After the inspection, the Corps is responsible for assembling an inspection report (or a summary report if it was a Periodic Inspection) including the following information:

- a. All sections of the report template used during the inspection, including the cover and pre-inspection materials. (Supplemental data collected, and any sections of the template that weren't used during the inspection do not need to be included with the report.)
- b. Photos of the general system condition and noted deficiencies.
- c. A plan view drawing of the system, with stationing, to reference locations of items rated less than acceptable.
- d. The relative importance of the identified maintenance issues should be specified in the transmittal letter.
- e. If the Overall System Rating is Minimally Acceptable, the report needs to establish a timeframe for correction of serious deficiencies noted (not to exceed two years) and indicate that if these items are not corrected within the required timeframe, the system will be rated as Unacceptable and made Inactive in the Rehabilitation Inspection Program.

J. Notification:

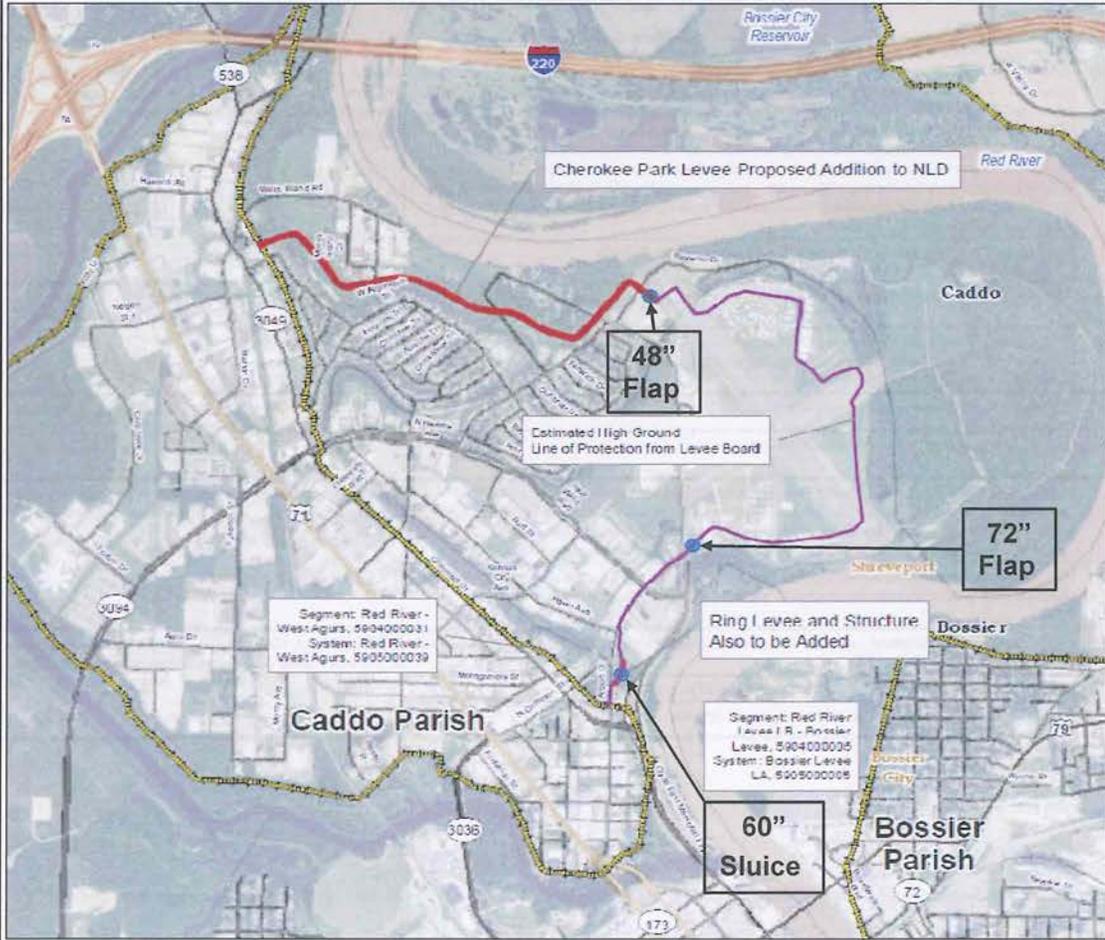
Reports are to be disseminated as follows within 30 days of the inspection date.

If the Overall System Rating is Acceptable	If the Overall System Rating is Minimally Acceptable	If the Overall System Rating is Unacceptable
Reports need to be provided to the local sponsor and the county emergency management agency.	Reports need to be provided to the local sponsor, state emergency management agency, county emergency management agency, and to the FEMA region.	Reports need to be provided to the local sponsor, state emergency management agency, county emergency management agency, FEMA region, and to the Congressional delegation within 30 days of the inspection.



Cherokee Park Proposed NLD Addition

29 July 2018
120011R.S



Legend

- Cherokee Park Levee
- Current NLD Levees
- Estimated High Ground From Levee Board

Scale: 0, 500, 1,000, 1,500 Feet



ADDITIONAL INFORMATION

**USACE-MVK
GEOSPATIAL DATA
SECTION**

Initial Eligibility

For use only during Initial Eligibility Inspections of Non-Federally Constructed Flood Damage Reduction Segments / Systems

Rated Item	Rating	Rating Guidelines	Location/Remarks/Recommendations
1. Public Sponsor (A or U only)	A	A The Public Sponsor is a legally constituted public body with full authority and capability to perform the terms of its agreement as the non-Federal partner of the Corps for a segment / system, able to pay damages, if necessary, in the event of its failure to perform. The public sponsor may be a State, County, City, Town, Federally recognized Indian Tribe or tribal organization, Alaska Native Corporation, or any political subpart of a State or group of states that has the legal and financial authority and capability to provide the necessary cash contributions and the lands, easements, rights-of-way, relocations, borrow, and dredged or excavated materials disposal areas (LERRD's) necessary for the segment / system, and who could legally hold and save the Federal government free from damages that could potentially arise during post-flood rehabilitations or other work on the segment / system.	CHER_2016_a_0042: Station_1 NA: Caddo Levee District is a legally constituted public body, authorized by the State of LA, with full authority and capable of performing to the terms of their agreement for this levee segment.: NA (A)
		U The segment / system does not have a public sponsor as defined above.	
2. Flood Protection (A or U only)	A	A The principal function of the segment / system is to protect people or property from floods.	CHER_2016_a_0043: Station_1 NA: This levee's principal function is to protect personnel and property from floods.: NA (A)
		U The segment / system was built or is primarily used for channel alignment, navigation, recreation, fish and wildlife, land reclamation, drainage, to protect against land erosion or tidal inflows, or for some other non-flood related purpose.	
3. Segment / System Completion (A or U only)	A	A Segment / System construction is fully completed.	CHER_2016_a_0044: Station_1 NA: This levee segment was fully completed is 1958.: NA (A)
		U The segment / system is still under construction.	
4. Construction Compliance (A or U only)	A	A Appropriate local, State, tribal, and/or Federal permits (right-of-way, easements, regulatory permits, etc.), or waivers thereof, have been obtained for FDR segment / system construction and subsequent modifications. The segment / system was constructed in accordance with all applicable Federal, state and local codes, ordinances, and applicable laws.	CHER_2016_a_0045: Station_1 NA: This levee segment was constructed IAW all applicable codes, ordinances, and laws.: NA (A)
		U The appropriate permits (or waivers thereof) have not been obtained for the segment / system, or the segment / system was not constructed in accordance with applicable codes, ordinances, and laws.	
5. Primary Levee	A	A In the case of a levee segment / system, the levee is a primary levee or is a secondary levee which is designed to protect human life.	CHER_2016_a_0046: Station_1 NA: This levee segment is a primary levee designed to protect human life.: NA (A)
		U The levee is a secondary levee and was not designed to protect human life.	
		N/A The FDR segment / system is not a levee segment / system.	

Key: A = Acceptable. M = Minimally Acceptable; Maintenance is required. U = Unacceptable. N/A = Not Applicable. FDR = Flood Damage Reduction



Initial Eligibility

For use only during Initial Eligibility Inspections of Non-Federally Constructed Flood Damage Reduction Segments / Systems

Rated Item	Rating	Rating Guidelines	Location/Remarks/Recommendations
6. Minimum Elevation ¹ (A or U only)	A	A	<ul style="list-style-type: none"> • Urban Levees and Floodwalls- Minimum elevation corresponding to a flood level with 10% probability of occurring in a given year (10-year flood). • Agricultural Levees and Floodwalls- Minimum elevation corresponding to a flood level with 20% probability of occurring in a given year (5-year flood). • Flood Damage Reduction Channels- Minimum capacity is for a flood with a 10% probability of occurring in a given year (10-year flood). Improved channels must additionally provide drainage for at least 1.5 square miles of land and have a capacity of at least 800 cfs. (Interior drainage channels within the protected area of a levee segment / system are not considered to be flood damage reduction channels under the RIP.)
		U	
7. Physical Location and Cross Section (A or U only)	A	A	CHER_2016_a_0048: Station_1 NA: The levee's location, cross section and design elements are sufficient to provide reliable flood protection. It is a closed system that ties to the West Agurs Levee at Sta 0+00 and ties to high ground (Airport Dr) at Sta 205+80.: NA (A)
		U	
8. Embankment Fill Material ²	A	A	CHER_2016_a_0049: Station_1 NA: Embankment material is uniform and adequately compacted throughout the entire FDR segment / system, with a type of material suitable to prevent slides & seepage problems. Reference soil borings & analysis from Freese & Nichols inspection. No issues noted during the 2015 flood event.: NA (A)
		U	
9. Foundations ²	A	A	CHER_2016_a_0050: Station_1 NA: Material and construction methods address piping, sand boils, seepage, or settlements that would reduce the level of protection. No issues were noted during the 2015 flood event along this segment.: NA (A)
		U	
10. Erosion Control	A	A	CHER_2016_a_0051: Station_1 NA: Erosion protection is adequate and the segment is protected against bank caving and slides. No issues were noted during the 2015 flood event along this segment.: NA (A)
		U	

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Flood Damage Reduction Segment / System
Inspection Report
Cherokee Park Levee (CHER)

Initial Eligibility
Page 2 of 3

Initial Eligibility

For use only during Initial Eligibility Inspections of Non-Federally Constructed Flood Damage Reduction Segments / Systems

Rated Item	Rating	Rating Guidelines	Location/Remarks/Recommendations	
11. Interior Drainage System ¹ (including culverts, gates, pump stations)	A	A	CHER_2016_a_0052: Station_1 NA: Interior drainage structures are adequately sized, situated and constructed.: NA (A)	
		U		Interior drainage structures are undersized, poorly constructed, poorly situated, or unreliably designed.
		N/A		The issue of interior drainage does not apply to this type of FDR segment / system.
12. Structures ²	A	A	CHER_2016_a_0053: Station_1 NA: Structures are designed and constructed to withstand anticipated loadings. No issues were noted during the 2015 flood event along this segment.: NA (A)	
		U		Structures are unreliably designed or inadequately constructed.

¹ Depending on available data and local Corps policy, the minimum elevation required may be calculated using traditional methods, with the addition of 1 foot of freeboard in agricultural areas and 2 feet of freeboard in urban areas, or using annual exceedance probability, which numerically accounts for the natural variation and uncertainty when estimating discharge-probability and stage-discharge functions so that additional requirements for elevation are based on the level of uncertainty in the data.

² This item should be evaluated based on a review of performance history. If this is not available, some form of engineering assessment is required.

³ Documentation (plans, at a minimum) required for any necessary engineering evaluation is to be provided by the public sponsor.

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Flood Damage Reduction Segment / System
Inspection Report
Cherokee Park Levee (CHER)

Initial Eligibility
Page 3 of 3

General Items for All Flood Damage Reduction Segments / Systems
 For use during all inspections of all Flood Damage Reduction Segments / Systems

Rated Item	Rating	Rating Guidelines	Location/Remarks/Recommendations
1. Operations and Maintenance Manuals	A	A	Levee Owner's Manual, O&M Manuals, and/or manufacturer's operating instructions are present.
		M	Sponsor manuals are lost or missing or out of date; however, sponsor will obtain manuals prior to next scheduled inspection.
		U	Sponsor has not obtained lost or missing manuals identified during previous inspection.
2. Emergency Supplies and Equipment (A or M only)	M	A	The sponsor maintains a stockpile of sandbags, shovels, and other flood fight supplies which will adequately supply all needs for the initial days of a flood fight. Sponsor determines required quantity of supplies after consulting with inspector.
		M	The sponsor does not maintain an adequate supply of flood fighting materials as part of their preparedness activities.
3. Flood Preparedness and Training (A or M only)	M	A	Sponsor has a written system-specific flood response plan and a solid understanding of how to operate, maintain, and staff the FDR system during a flood. Sponsor maintains a list of emergency contact information for appropriate personnel and other emergency response agencies.
		M	The sponsor maintains a good working knowledge of flood response activities, but documentation of system-specific emergency procedures and emergency contact personnel is insufficient or out of date.

Key: A = Acceptable. M = Minimally Acceptable; Maintenance is required. U = Unacceptable. N/A = Not Applicable. FDR = Flood Damage Reduction



US Army Corps of Engineers®

Flood Damage Reduction Segment / System
 Inspection Report
 Cherokee Park Levee (CHER)

General Items for All Flood Damage Reduction Segments / Systems
 Page 1 of 1

Levee Embankments

For use during Initial and Continuing Eligibility Inspections of levee segments / systems

Rated Item	Rating	Rating Guidelines	Location/Remarks/Recommendations	
1. Unwanted Vegetation Growth ¹	M	A	The levee has little or no unwanted vegetation (trees, bush, or undesirable weeds), except for vegetation that is properly contained and/or situated on overbuilt sections, such that the mandatory 3-foot root-free zone is preserved around the levee profile. The levee has been recently mowed. The vegetation-free zone extends 15 feet from both the landside and riverside toes of the levee to the centerline of the tree. If the levee access easement doesn't extend to the described limits, then the vegetation-free zone must be maintained to the easement limits. Reference EM 1110-2-301 or Corps policy for regional vegetation variance.	CHER_2016_a_0002: Station_1 4+45: Woody growth and trees located within 15' of the landside levee toe.: NA (M) CHER_2016_a_0003: Station_1 19+00: Station_2 22+00: Woody growth and small trees located at the riverside levee toe.: NA (M) CHER_2016_a_0006: Station_1 36+75: Woody growth and trees located within 15' of riverside levee toe.: NA (M)
		M	Minimal vegetation growth (brush, weeds, or trees 2 inches in diameter or smaller) is present within the zones described above. This vegetation must be removed but does not currently threaten the operation or integrity of the levee.	CHER_2016_a_0008: Station_1 43+50: Tree located within 15' of landside levee toe.: NA (M) CHER_2016_a_0009: Station_1 47+50: Tree located within 15' of landside levee toe.: NA (M)
		U	Significant vegetation growth (brush, weeds, or any trees greater than 2 inches in diameter) is present within the zones described above and must be removed to reestablish or ascertain levee integrity.	CHER_2016_a_0012: Station_1 56+00: Station_2 60+75: Trees located within 5' of the landside levee toe in this reach.: NA (M)
2. Sod Cover	A	A	There is good coverage of sod over the levee.	CHER_2016_a_0001: Station_1 0+00: Upstream limits of Cherokee levee where levee ties to West Agurs Levee. Levee is in good condition with good sod cover.: NA (A)
		M	Approximately 25% of the sod cover is missing or damaged over a significant portion or over significant portions of the levee embankment. This may be the result of over-grazing or feeding on the levee, unauthorized vehicular traffic, chemical or insect problems, or burning during inappropriate seasons.	CHER_2016_a_0019: Station_1 81+00: Location where levee ties to high ground.: NA (A) CHER_2016_a_0024: Station_1 201+90: Levee ties into high ground at this location. High ground ends and levee alignment begins.: NA (A)
		U	Over 50% of the sod cover is missing or damaged over a significant portion or portions of the levee embankment.	CHER_2016_a_0028: Station_1 205+80: Downstream limits of Cherokee Levee segment. Levee found to be in good condition in this area. Levee ties to highground at this location.: NA (A)
		N/A	Surface protection is provided by other means.	
3. Encroachments	M	A	No trash, debris, unauthorized farming activity, structures, excavations, or other obstructions present within the easement area. Encroachments have been previously reviewed by the Corps, and it was determined that they do not diminish proper functioning of the levee.	CHER_2016_a_0004: Station_1 20+00: Station_2 22+00: Chain link fence located at the riverside levee toe along this reach.: NA (M)
		M	Trash, debris, unauthorized farming activity, structures, excavations, or other obstructions present, or inappropriate activities noted that should be corrected but will not inhibit operations and maintenance or emergency operations. Encroachments have not been reviewed by the Corps.	CHER_2016_a_0005: Station_1 24+75: Shed located within 15' of landside levee toe.: NA (M) CHER_2016_a_0010: Station_1 55+60: Powerpole located at the riverside levee toe. Power pole located 2' from the landside levee toe.: NA (M)
		U	Unauthorized encroachments or inappropriate activities noted are likely to inhibit operations and maintenance, emergency operations, or negatively impact the integrity of the levee.	CHER_2016_a_0011: Station_1 55+60: Station_2 60+75: Chain link fence, wooden fence, shed, and line of powerpoles located at the landside levee toe.: NA (M) CHER_2016_a_0014: Station_1 61+50: Station_2 65+80: Chain link fence located 2' from the landside levee toe. Power pole with guide wire located at the landside levee toe.: NA (M)

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US Army Corps
of Engineers®

Flood Damage Reduction Segment / System
Inspection Report
Cherokee Park Levee (CHER)

Levee Embankments
Page 1 of 22

Levee Embankments

For use during Initial and Continuing Eligibility Inspections of levee segments / systems

Rated Item	Rating	Rating Guidelines	Location/Remarks/Recommendations
4. Closure Structures (Stop Log, Earthen Closures, Gates, or Sandbag Closures) (A or U only)	NA	A	Closure structure in good repair. Placing equipment, stoplogs, and other materials are readily available at all times. Components are clearly marked and installation instructions/ procedures readily available. Trial erections have been accomplished in accordance with the O&M Manual.
		U	Any of the following issues is cause for this rating: Closure structure in poor condition. Parts missing or corroded. Placing equipment may not be available within the anticipated warning time. The storage vaults cannot be opened during the time of inspection. Components of closure are not clearly marked and installation instructions/ procedures are not readily available. Trial erections have not been accomplished in accordance with the O&M Manual.
		N/A	There are no closure structures along this component of the FDR segment / system.
5. Slope Stability	A	A	No slides, sloughs, tension cracking, slope depressions, or bulges are present.
		M	Minor slope stability problems that do not pose an immediate threat to the levee embankment.
		U	Major slope stability problems (ex. deep seated sliding) identified that must be repaired to reestablish the integrity of the levee embankment.
6. Erosion/ Bank Caving	A	A	No erosion or bank caving is observed on the landward or riverward sides of the levee that might endanger its stability.
		M	There are areas where minor erosion is occurring or has occurred on or near the levee embankment, but levee integrity is not threatened.
		U	Erosion or caving is occurring or has occurred that threatens the stability and integrity of the levee. The erosion or caving has progressed into the levee section or into the extended footprint of the levee foundation and has compromised the levee foundation stability.
7. Settlement ²	A	A	No observed depressions in crown. Records exist and indicate no unexplained historical changes.
		M	Minor irregularities that do not threaten integrity of levee. Records are incomplete or inclusive.
		U	Obvious variations in elevation over significant reaches. No records exist or records indicate that design elevation is compromised.
8. Depressions/ Rutting	A	A	There are scattered, shallow ruts, pot holes, or other depressions on the levee that are unrelated to levee settlement. The levee crown, embankments, and access road crowns are well established and drain properly without any ponded water.
		M	There are some infrequent minor depressions less than 6 inches deep in the levee crown, embankment, or access roads that will pond water.
		U	There are depressions greater than 6 inches deep that will pond water.
9. Cracking	A	A	Minor longitudinal, transverse, or desiccation cracks with no vertical movement along the crack. No cracks extend continuously through the levee crest.

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Levee Embankments

For use during Initial and Continuing Eligibility Inspections of levee segments / systems

Rated Item	Rating	Rating Guidelines	Location/Remarks/Recommendations
		<p>M Longitudinal and/or transverse cracks up to 6 inches in depth with no vertical movement along the crack. No cracks extend continuously through the levee crest. Longitudinal cracks are no longer than the height of the levee.</p> <p>U Cracks exceed 6 inches in depth. Longitudinal cracks are longer than the height of the levee and/or exhibit vertical movement along the crack. Transverse cracks extend through the entire levee width.</p>	
10. Animal Control	A	<p>A Continuous animal burrow control program in place that includes the elimination of active burrowing and the filling in of existing burrows.</p> <p>M The existing animal burrow control program needs to be improved. Several burrows are present which may lead to seepage or slope stability problems, and they require immediate attention.</p> <p>U Animal burrow control program is not effective or is nonexistent. Significant maintenance is required to fill existing burrows, and the levee will not provide reliable flood protection until this maintenance is complete.</p>	CHER_2016_a_0037; Station_1 NA: No animal control issues noted at time of inspection.: NA (A)
11. Culverts/ Discharge Pipes ³ (This item includes both concrete and corrugated metal pipes.)	M	<p>A There are no breaks, holes, cracks in the discharge pipes/ culverts that would result in significant water leakage. The pipe shape is still essentially circular. All joints appear to be closed and the soil tight. Corrugated metal pipes, if present, are in good condition with 100% of the original coating still in place (either asphalt or galvanizing) or have been relined with appropriate material, which is still in good condition. Condition of pipes has been verified using television camera video taping or visual inspection methods within the past five years, and the report for every pipe is available for review by the inspector.</p> <p>M There are a small number of corrosion pinholes or cracks that could leak water and need to be repaired, but the entire length of pipe is still structurally sound and is not in danger of collapsing. Pipe shape may be ovalized in some locations but does not appear to be approaching a curvature reversal. A limited number of joints may have opened and soil loss may be beginning. Any open joints should be repaired prior to the next inspection. Corrugated metal pipes, if present, may be showing corrosion and pinholes but there are no areas with total section loss. Condition of pipes has been verified using television camera video taping or visual inspection methods within the past five years, and the report for every pipe is available for review by the inspector.</p> <p>U Culvert has deterioration and/or has significant leakage; it is in danger of collapsing or as already begun to collapse. Corrugated metal pipes have suffered 100% section loss in the invert. HOWEVER: Even if pipes appear to be in good condition, as judged by an external visual inspection, an Unacceptable Rating will be assigned if the condition of pipes has not been verified using television camera video taping or visual inspection methods within the past five years, and reports for all pipes are not available for review by the inspector.</p> <p>N/A There are no discharge pipes/ culverts.</p>	<p>CHER_2016_a_0017; Station_1 80+00: Inlet of 48" dia. concrete structure. Video conducted in 2012. Sponsor has contract to place flap gate on structure within the year. Inlet is free of obstructions and debris. All other components appear to be in good condition at the time of inspection.: NA (M)</p> <p>CHER_2016_a_0018; Station_1 80+00: Outlet of 72" dia. concrete str. Outlet is free of debris and obstructions and has a positive seal. Other components appears to be in good condition at the time of inspection. Video inspection conducted in 2012. Structure goes under the airport runway.: NA (M)</p> <p>CHER_2016_a_0021; Station_1 178+45: Outlet of 72" dia concrete str. Outlet is free of debris and obstructions and has a positive seal. Other components appears to be in good condition at the time of inspection. Video inspection conducted in 2012. Sponsor has contract to place flap gate.: NA (M)</p> <p>CHER_2016_a_0022; Station_1 178+45: Inlet of 72" dia concrete str. Inlet is free of debris and obstructions and has a positive seal. Other components appears to be in good condition at the time of inspection. Video inspection conducted in 2012. Inlet is located in Clyde Fant Rd ditch.: NA (M)</p> <p>CHER_2016_a_0023; Station_1 178+45: Drop inlet located midway of 72" concrete structure. Other components appears to be in good condition at the time of inspection.</p>

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US Army Corps
of Engineers®

Flood Damage Reduction Segment / System
Inspection Report
Cherokee Park Levee (CHER)

Levee Embankments
Page 3 of 22

Levee Embankments

For use during Initial and Continuing Eligibility Inspections of levee segments / systems

Rated Item	Rating	Rating Guidelines	Location/Remarks/Recommendations
			Video inspection conducted in 2012.: NA (M) CHER_2016_a_0025: Station_1 203+53: Inlet of 60" CMP. Inlet is free of debris and obstructions. Other components appears to be in good condition at the time of inspection. Video inspection conducted in 2012.: NA (M) CHER_2016_a_0026: Station_1 203+53: Outlet of 60" CMP. Outlet is free of debris and obstructions. Structure appears to have positive seal. Other components appears to be in good condition at the time of inspection. Video inspection conducted in 2012.: NA (M) CHER_2016_a_0027: Station_1 203+53: Stem assembly for 60" CMP structure. All components appear to be in good condition at the time of inspection. Structure uses a sluice gate to obtain positive seal.: NA (M)
12. Riprap Revetments & Bank Protection	NA	A	No riprap displacement or stone degradation that could pose an immediate threat to the integrity of channel bank. Riprap intact with no woody vegetation present.
		M	Minor riprap displacement or stone degradation that could pose an immediate threat to the integrity of the channel bank. Unwanted vegetation must be cleared or sprayed with an appropriate herbicide.
		U	Significant riprap displacement, exposure of bedding, or stone degradation observed. Scour activity is undercutting banks, eroding embankments, or impairing channel flows by causing turbulence or shoaling. Rock protection is hidden by dense brush, trees, or grasses.
		N/A	There is no riprap protecting this feature of the segment / system, or riprap is discussed in another section.
13. Revetments other than Riprap	NA	A	Existing revetment protection is properly maintained, undamaged, and clearly visible.
		M	Minor revetment displacement or deterioration that does not pose an immediate threat to the integrity of the levee. Unwanted vegetation must be cleared or sprayed with an appropriate herbicide.
		U	Significant revetment displacement, deterioration, or exposure of bedding observed. Scour activity is undercutting banks, eroding embankments, or impairing channel flows by causing turbulence or shoaling. Revetment protection is hidden by dense brush and trees.
		N/A	There are no such revetments protecting this feature of the segment / system.

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US Army Corps
of Engineers®

Flood Damage Reduction Segment / System
Inspection Report
Cherokee Park Levee (CHER)

Levee Embankments
Page 4 of 22

Levee Embankments

For use during Initial and Continuing Eligibility Inspections of levee segments / systems

Rated Item	Rating	Rating Guidelines	Location/Remarks/Recommendations	
14. Underseepage Relief Wells/ Toe Drainage Systems	NA	A	Toe drainage systems and pressure relief wells necessary for maintaining FDR segment / system stability during high water functioned properly during the last flood event and no sediment is observed in horizontal system (if applicable). Nothing is observed which would indicate that the drainage systems won't function properly during the next flood, and maintenance records indicate regular cleaning. Wells have been pumped tested within the past 5 years and documentation is provided.	CHER_2016_a_0040: Station_1 NA: No relief wells or toe drains located on this levee segment.: NA (NA)
		M	Toe drainage systems or pressure relief wells are damaged and may become clogged if they are not repaired. Maintenance records are incomplete or indicate irregular cleaning and pump testing.	
		U	Toe drainage systems or pressure relief wells necessary for maintaining FDR segment / system stability during flood events have fallen into disrepair or have become clogged. No maintenance records. No documentation of the required pump testing.	
		N/A	There are no relief wells/ toe drainage systems along this component of the FDR segment / system.	
15. Seepage	M	A	No evidence or history of unrepaired seepage, saturated areas, or boils.	CHER_2016_a_0041: Station_1 NA: No evidence of seepage noted during the 2015 flood event. Due to the uncertainty of how the system will perform with water to the top of the levee, this item is rated M.: NA (M)
		M	Evidence or history of minor unrepaired seepage or small saturated areas at or beyond the landside toe but not on the landward slope of levee. No evidence of soil transport.	
		U	Evidence or history of active seepage, extensive saturated areas, or boils.	

¹ If there is significant growth on the levee that inhibits the inspection of animal burrows or other items, the inspection should be ended until this item is corrected.

² Detailed survey elevations are normally required during Periodic Inspections, and whenever there are obvious visual settlements.

³ The decision on whether or not USACE inspectors should enter a pipe to perform a detailed inspection must be made at the USACE District level. This decision should be made in conjunction with the District Safety Office, as pipes may be considered confined spaces. This decision should consider the age of the pipe, the diameter of the pipe, the apparent condition of the pipe, and the length of the pipe. If a pipe is entered for the purposes of inspection, the inspector should record observations with a video camera in order that the condition of the entire pipe, including all joints, can later be assessed. Additionally, the video record provides a baseline to which future inspections can be compared.

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US Army Corps
of Engineers®

Flood Damage Reduction Segment / System
Inspection Report
Cherokee Park Levee (CHER)

Levee Embankments
Page 5 of 22

Levee Embankments

For use during Initial and Continuing Eligibility Inspections of levee segments / systems



Inspect ID: CHER_2016_a_0002 **Title:** USACE_CEMVK_CHER_2016_a_0002_1.jpg **Rated Item:** 1. Unwanted Vegetation Growth **Caption:** Rating: Minimally Acceptable;
Remarks: Woody growth and trees located within 15' of the landside levee toe.; Station_1: 4+45



US Army Corps
of Engineers®

Flood Damage Reduction Segment / System
Inspection Report
Cherokee Park Levee (CHER)

Levee Embankments
Page 6 of 22

Levee Embankments

For use during Initial and Continuing Eligibility Inspections of levee segments / systems



Inspect ID: CHER_2016_a_0003 Title: USACE_CEMVK_CHER_2016_a_0003_1.jpg Rated Item: 1. Unwanted Vegetation Growth Caption: Rating: Minimally Acceptable; Remarks: Woody growth and small trees located at the riverside levee toe.; Station_1: 19+00; Station_2: 22+00



US Army Corps
of Engineers®

Flood Damage Reduction Segment / System
Inspection Report
Cherokee Park Levee (CHER)

Levee Embankments
Page 7 of 22

Levee Embankments

For use during Initial and Continuing Eligibility Inspections of levee segments / systems



Inspect ID: CHER_2016_a_0001 Title: USACE_CEMVK_CHER_2016_a_0001_1.jpg Rated Item: 2. Sod Cover Caption: Rating: Acceptable; Remarks: Upstream limits of Cherokee levee where levee ties to West Agurs Levee. Levee is in good condition with good sod cover.; Station_1: 0+00



US Army Corps
of Engineers®

Flood Damage Reduction Segment / System
Inspection Report
Cherokee Park Levee (CHER)

Levee Embankments
Page 8 of 22

Levee Embankments

For use during Initial and Continuing Eligibility Inspections of levee segments / systems



Inspect ID: CHER_2016_a_0024 Title: USACE_CEMVK_CHER_2016_a_0024_1.jpg Rated Item: 2. Sod Cover Caption: Rating: Acceptable; Remarks: Levee ties into high ground at this location. High ground ends and levee alignment begins.; Station_1: 201+90



US Army Corps
of Engineers®

Flood Damage Reduction Segment / System
Inspection Report
Cherokee Park Levee (CHER)

Levee Embankments
Page 9 of 22

Levee Embankments

For use during Initial and Continuing Eligibility Inspections of levee segments / systems



Inspect ID: CHER_2016_a_0028 Title: USACE_CEMVK_CHER_2016_a_0028_1.jpg Rated Item: 2. Sod Cover Caption: Rating: Acceptable; Remarks: Downstream limits of Cherokee Levee segment. Levee found to be in good condition in this area. Levee ties to highground at this location.; Station_1: 205+80



US Army Corps
of Engineers®

Flood Damage Reduction Segment / System
Inspection Report
Cherokee Park Levee (CHER)

Levee Embankments
Page 10 of 22

Levee Embankments

For use during Initial and Continuing Eligibility Inspections of levee segments / systems



Inspect ID: CHER_2016_a_0005 Title: USACE_CEMVK_CHER_2016_a_0005_1.jpg Rated Item: 3. Encroachments Caption: Rating: Minimally Acceptable; Remarks: Shed located within 15' of landside levee toe.; Station_1: 24+75



US Army Corps
of Engineers®

Flood Damage Reduction Segment / System
Inspection Report
Cherokee Park Levee (CHER)

Levee Embankments
Page 11 of 22

Levee Embankments

For use during Initial and Continuing Eligibility Inspections of levee segments / systems



Inspect ID: CHER_2016_a_0010 **Title:** USACE_CEMVK_CHER_2016_a_0010_1.jpg **Rated Item:** 3. Encroachments **Caption:** Rating: Minimally Acceptable; Remarks: Powerpole located at the riverside levee toe. Power pole located 2' from the landside levee toe.; Station_1: 55+60



US Army Corps
of Engineers®

Flood Damage Reduction Segment / System
Inspection Report
Cherokee Park Levee (CHER)

Levee Embankments
Page 12 of 22

Levee Embankments

For use during Initial and Continuing Eligibility Inspections of levee segments / systems



Inspect ID: CHER_2016_a_0011 Title: USACE_CEMVK_CHER_2016_a_0011_1.jpg Rated Item: 3. Encroachments Caption: Rating: Minimally Acceptable; Remarks: Chain link fence, wooden fence, shed, and line of powerpoles located at the landside levee toe.; Station_1: 55+60; Station_2: 60+75



Levee Embankments

For use during Initial and Continuing Eligibility Inspections of levee segments / systems



Inspect ID: CHER_2016_a_0013 **Title:** USACE_CEMVK_CHER_2016_a_0013_1.jpg **Rated Item:** 8. Depressions/ Rutting **Caption:** Rating: Acceptable; Remarks: Location where Wells Island Road crosses the levee embankment. Sponsor has gap closure plan for this location.; Station_1: 61+00



US Army Corps
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Flood Damage Reduction Segment / System
Inspection Report
Cherokee Park Levee (CHER)

Levee Embankments
Page 14 of 22

Levee Embankments

For use during Initial and Continuing Eligibility Inspections of levee segments / systems



Inspect ID: CHER_2016_a_0017 **Title:** USACE_CEMVK_CHER_2016_a_0017_1.jpg **Rated Item:** 11. Culverts/ Discharge Pipes (This item includes both concrete and corrugated metal pipes.) **Caption:** Rating: Minimally Acceptable; Remarks: Inlet of 48" dia. concrete structure. Video conducted in 2012. Sponsor has contract to place flap gate on structure within the year. Inlet is free of obstructions and debris. All other components appear to be in good condition at the time of inspection.; Station_1: 80+00



US Army Corps
of Engineers®

Flood Damage Reduction Segment / System
Inspection Report
Cherokee Park Levee (CHER)

Levee Embankments
Page 15 of 22

Levee Embankments

For use during Initial and Continuing Eligibility Inspections of levee segments / systems



Inspect ID: CHER_2016_a_0018 **Title:** USACE_CEMVK_CHER_2016_a_0018_1.jpg **Rated Item:** 11. Culverts/ Discharge Pipes (This item includes both concrete and corrugated metal pipes.) **Caption:** Rating: Minimally Acceptable; Remarks: Outlet of 72" dia. concrete str. Outlet is free of debris and obstructions and has a positive seal. Other components appears to be in good condition at the time of inspection. Video inspection conducted in 2012. Structure goes under the airport runway.; Station_1: 80+00



US Army Corps
of Engineers®

Flood Damage Reduction Segment / System
Inspection Report
Cherokee Park Levee (CHER)

Levee Embankments
Page 16 of 22

Levee Embankments

For use during Initial and Continuing Eligibility Inspections of levee segments / systems



Inspect ID: CHER_2016_a_0021 **Title:** USACE_CEMVK_CHER_2016_a_0021_1.jpg **Rated Item:** 11. Culverts/ Discharge Pipes (This item includes both concrete and corrugated metal pipes.) **Caption:** Rating: Minimally Acceptable; Remarks: Outlet of 72" dia concrete str.. Outlet is free of debris and obstructions and has a positive seal. Other components appears to be in good condition at the time of inspection. Video inspection conducted in 2012. Sponsor has contract to place flap gate.; Station_1: 178+45



US Army Corps
of Engineers®

Flood Damage Reduction Segment / System
Inspection Report
Cherokee Park Levee (CHER)

Levee Embankments
Page 17 of 22

Levee Embankments

For use during Initial and Continuing Eligibility Inspections of levee segments / systems



Inspect ID: CHER_2016_a_0022 **Title:** USACE_CEMVK_CHER_2016_a_0022_1.jpg **Rated Item:** 11. Culverts/ Discharge Pipes (This item includes both concrete and corrugated metal pipes.) **Caption:** Rating: Minimally Acceptable; Remarks: Inlet of 72" dia concrete str.. Inlet is free of debris and obstructions and has a positive seal. Other components appears to be in good condition at the time of inspection. Video inspection conducted in 2012. Inlet is located in Clyde Fant Rd ditch.; Station_1: 178+45



US Army Corps
of Engineers®

Flood Damage Reduction Segment / System
Inspection Report
Cherokee Park Levee (CHER)

Levee Embankments
Page 18 of 22

Levee Embankments

For use during Initial and Continuing Eligibility Inspections of levee segments / systems



Inspect ID: CHER_2016_a_0023 **Title:** USACE_CEMVK_CHER_2016_a_0023_1.jpg **Rated Item:** 11. Culverts/ Discharge Pipes (This item includes both concrete and corrugated metal pipes.) **Caption:** Rating: Minimally Acceptable; Remarks: Drop inlet located midway of 72" concrete structure. Other components appears to be in good condition at the time of inspection. Video inspection conducted in 2012. ; Station_1: 178+45



US Army Corps
of Engineers®

Flood Damage Reduction Segment / System
Inspection Report
Cherokee Park Levee (CHER)

Levee Embankments
Page 19 of 22

Levee Embankments

For use during Initial and Continuing Eligibility Inspections of levee segments / systems



Inspect ID: CHER_2016_a_0025 **Title:** USACE_CEMVK_CHER_2016_a_0025_1.jpg **Rated Item:** 11. Culverts/ Discharge Pipes (This item includes both concrete and corrugated metal pipes.) **Caption:** Rating: Minimally Acceptable; Remarks: Inlet of 60" CMP. Inlet is free of debris and obstructions. Other components appears to be in good condition at the time of inspection. Video inspection conducted in 2012. ; Station_1: 203+53



US Army Corps
of Engineers®

Flood Damage Reduction Segment / System
Inspection Report
Cherokee Park Levee (CHER)

Levee Embankments
Page 20 of 22

Levee Embankments

For use during Initial and Continuing Eligibility Inspections of levee segments / systems



Inspect ID: CHER_2016_a_0026 **Title:** USACE_CEMVK_CHER_2016_a_0026_1.jpg **Rated Item:** 11. Culverts/ Discharge Pipes (This item includes both concrete and corrugated metal pipes.) **Caption:** Rating: Minimally Acceptable; Remarks: Outlet of 60" CMP. Outlet is free of debris and obstructions. Structure appears to have positive seal. Other components appears to be in good condition at the time of inspection. Video inspection conducted in 2012. ; Station_1: 203+53



US Army Corps
of Engineers®

Flood Damage Reduction Segment / System
Inspection Report
Cherokee Park Levee (CHER)

Levee Embankments
Page 21 of 22

Levee Embankments

For use during Initial and Continuing Eligibility Inspections of levee segments / systems



Inspect ID: CHER_2016_a_0027 **Title:** USACE_CEMVK_CHER_2016_a_0027_1.jpg **Rated Item:** 11. Culverts/ Discharge Pipes (This item includes both concrete and corrugated metal pipes.) **Caption:** Rating: Minimally Acceptable; Remarks: Stem assembly for 60" CMP structure. All components appear to be in good condition at the time of inspection. Structure uses a sluice gate to obtain positive seal.; Station_1: 203+53



US Army Corps
of Engineers®

Flood Damage Reduction Segment / System
Inspection Report
Cherokee Park Levee (CHER)

Levee Embankments
Page 22 of 22

Flood Damage Reduction Segment / System Supplemental Data Sheet

This form is intended for the Corps' internal use and may not need to be updated with every inspection.

Name of Segment / System: Cherokee Park Levee Segment Sponsor: Caddo Levee District Location: Caddo Parish, LA River Basin: Red River Project Description: Cherokee Park Levee Authority that Project was Constructed Under: Louisiana Department of Public Works Date of Construction: 7/3/1958 Approximate Annual Maintenance Costs: Unknown Construction: <input type="checkbox"/> Federally Constructed <input checked="" type="checkbox"/> Non-Federally Constructed Maintenance: <input type="checkbox"/> Federally Maintained <input checked="" type="checkbox"/> Non-Federally Maintained	
National Flood Insurance Program: a. Is the project currently NFIP? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No b. If in the NFIP, Date of Certification (per 44 CFR 65.10):	
Datum Information: a. Datum used for the design and construction of this project is: Unknown b. Current recommended datum for this project is: Unknown c. Has the Project been converted to the current recommended datum? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Levee Embankment Data: a. Levee Designed Gage Function Reading/Station: Unknown b. Level of Protection Provided: 100 year c. Average Height of Levee: 10 feet d. Average Crown Width: 10 feet e. Average Side Slope: 3H:1V	Protected Features (For use in preparing estimates and PIRs): a. Total acres protected: Unknown b. Total agriculture production acres protected: Unknown c. Towns: Unknown d. Businesses: Unknown e. Residences: Unknown f. Roads: Unknown g. Utilities: Unknown h. Barns: Unknown i. Machine Sheds: Unknown j. Outbuildings: Unknown k. Irrigation Systems: Unknown l. Grain Bins: Unknown m. Other Facilities: Unknown



Cherokee Park Levee 2016

In order to be eligible, all of the following items must be rated A, M, N/A or Yes.

Note: Item numbers listed below refer to their placement in the Inspection Checklist (Enclosure 2).

Rehabilitation Program Eligibility Determination	
Yes <input checked="" type="checkbox"/>	Public sponsor provided maintenance information per the Public Sponsor Pre-Inspection Form.
No <input type="checkbox"/>	Non-federal levee system meets Initial Eligibility criteria.
N/A <input type="checkbox"/>	
If either of the above items is marked "No" the levee system is not eligible.	
Rating	Rated Item
Levee Embankments	
A <input type="checkbox"/>	3. Encroachments
M <input checked="" type="checkbox"/>	
U <input type="checkbox"/>	
A <input type="checkbox"/>	4. Closure Structures (Stop Log, Earthen Closures, Gates, or Sandbag Closures)
U <input type="checkbox"/>	
N/A <input checked="" type="checkbox"/>	
A <input checked="" type="checkbox"/>	5. Slope Stability
M <input type="checkbox"/>	
U <input type="checkbox"/>	
A <input checked="" type="checkbox"/>	6. Erosion/ Bank Caving
M <input type="checkbox"/>	
U <input type="checkbox"/>	
A <input checked="" type="checkbox"/>	10. Animal Control
M <input type="checkbox"/>	
U <input type="checkbox"/>	
A <input type="checkbox"/>	11. Culverts/Discharge Pipes (This item includes both concrete and corrugated metal pipes.)
M <input checked="" type="checkbox"/>	
U <input type="checkbox"/>	
N/A <input type="checkbox"/>	
A <input type="checkbox"/>	14. Underseepage Relief Wells/Toe Drainage Systems
M <input type="checkbox"/>	
U <input type="checkbox"/>	
N/A <input checked="" type="checkbox"/>	
Floodwalls	
A <input type="checkbox"/>	2. Encroachments
M <input type="checkbox"/>	
U <input type="checkbox"/>	
A <input type="checkbox"/>	3. Closure Structures (Stop Log Closures and Gates)
U <input type="checkbox"/>	
N/A <input type="checkbox"/>	
A <input type="checkbox"/>	5. Tilting, Sliding, or Settlement of Concrete Structures
M <input type="checkbox"/>	
U <input type="checkbox"/>	

A	<input type="checkbox"/>	6. Foundation of Concrete Structures
M	<input type="checkbox"/>	
U	<input type="checkbox"/>	
A	<input type="checkbox"/>	8. Underseepage Relief Wells/Toe Drainage Systems
M	<input type="checkbox"/>	
U	<input type="checkbox"/>	
N/A	<input type="checkbox"/>	
Interior Drainage System		
A	<input type="checkbox"/>	9. Culverts/Discharge Pipes
M	<input type="checkbox"/>	
U	<input type="checkbox"/>	
N/A	<input type="checkbox"/>	
A	<input type="checkbox"/>	10. Sluice/Slide Gates
M	<input type="checkbox"/>	
U	<input type="checkbox"/>	
N/A	<input type="checkbox"/>	
A	<input type="checkbox"/>	11. Flap Gates/Flap Valves/Pinch Valves
M	<input type="checkbox"/>	
U	<input type="checkbox"/>	
N/A	<input type="checkbox"/>	
Pump Stations		
A	<input type="checkbox"/>	17. Intake and Discharge Pipelines
M	<input type="checkbox"/>	
U	<input type="checkbox"/>	
A	<input type="checkbox"/>	18. Sluice/Slide Gates
M	<input type="checkbox"/>	
U	<input type="checkbox"/>	
N/A	<input type="checkbox"/>	
A	<input type="checkbox"/>	19. Flap Gates/Flap Valves/Pinch Valves
M	<input type="checkbox"/>	
U	<input type="checkbox"/>	
N/A	<input type="checkbox"/>	
Rehabilitation Program Status		
Active	<input checked="" type="checkbox"/>	System meets all interim eligibility criteria, including having received a rating of A, M, N/A or Yes for all subset items and is therefore eligible for rehabilitation assistance.
Inactive	<input type="checkbox"/>	System does not meet interim eligibility requirements.
Comments: 2016 Routine Inspection Rating: Minimally Acceptable		

Initial Eligibility Inspection Report
June 2016

PL 84-99
Initial Eligibility Inspection Report
Cherokee Park Levee
Shreveport, Louisiana



**US Army Corps
of Engineers®**
VICKSBURG DISTRICT

TABLE OF CONTENTS

1. ELIGIBILITY INFORMATION	1
2. PROJECT INFORMATION	1
3. INTRODUCTION.....	3
4. FIELD INSPECTION	8
5. EVALUATION	9
6. RECOMMENDATIONS.....	20

All Appendices Are Contained on Attached DVD

- APPENDIX A: REQUEST FOR CADDO LEVEE DISTRICT, INCORPORATE
CHEROKEE PARK LEVEE INTO FEDERAL SYSTEM AND DE-
AUTHORIZE A DESIGNATED SECTION OF THE WEST AGURS
LEVEE, SEPTEMBER, BY FREESE AND NICHOLS**
- APPENDIX B: NEW FLOOD CONTROL STRUCTURES CHEROKEE PARK
LEVEE SYSTEM - PLANS**
- APPENDIX C: NEW FLOOD CONTROL STRUCTURES CHEROKEE PARK
LEVEE SYSTEM – BID PROPOSAL**
- APPENDIX D: FLOOD DAMAGE REDUCTION SEGMENT/SYSTEM
INSPECTION REPORT**
- APPENDIX E: CADDO LEVEE DISTRICT, CADDO PARISH, LOUISIANA
OPERATION AND MAINTENANCE PLAN**

ELIGIBILITY INFORMATION

- a. Name of applicant: Mr. Ali Mustapha, Administrator, Caddo Levee District
- b. River or stream where project is located: Red River
- c. City, County, and State: City of Shreveport, Caddo Parish, Louisiana
- d. Maintenance Responsibility: Ali Mustapha
1320 Grimmert Drive
PO Box 78282
Shreveport, LA 71137-8282
- e. Sponsor: Caddo Levee District
- f. Contact: Mr. Ali Mustapha
Phone: (318) 221-2654
mailto:amustapha@caddolevee.org
www.caddoleveedistrict.org

2. PROJECT INFORMATION

a. Basic Data

- i. Previous repairs by other agencies: None
- ii. River Basin: Red River
- iii. Drainage District: N/A
- iv. Location: Right Descending Bank of Red River

b. Classification

- i. Project Purpose: Urban Flood Control
- ii. Primary or Secondary Levee: Primary

c. Protection Provided

i. Design

a) Levee

Height: 4 to 11 Feet
Top Width: 10 Feet
Side Slopes: Landside – 3.4H:1V to 3.7H:1V
Riverside – 2.8H:1V to 3.4H:1V

- b) Estimated Level of Protection: The Cherokee Park Levee is approximately 1.52 miles long and ties into the Caddo North Levee on the upstream end and ties into high ground on the downstream end. The levee will provide approximate 500 yr. protection plus approximately 8 ft. of freeboard. The high ground between the Cherokee Park Levee and the

West Agurs Levee provides approximate 500 yr. protection plus approximately 6.4 ft. of freeboard.

- c) Overtopping Elevation: Overtopping will first occur at the lowest point in the line of protection at the Old River Bayou Structure near approximate El. 173.5 ft. This elevation is approximately 6.4 ft. above the 500 yr. flood event, and is located in high ground between the Cherokee Park Levee and the West Agurs Levee. The Cherokee Park Levee will overtop at approximate El. 176 ft., which is approximately 8 ft. above the 500 yr. flood event. The flood fight plan is attached in Appendix F.
- d) Gage Data: The gage listed below is the only gage near the Cherokee Park Levee on the Red River.

Red River at Shreveport, LA
Gage zero – 131.48 feet NGVD

- e) Material Types:
Embankment: Soil borings were taken at 7 locations along the Cherokee Park Levee as part of levee certification. The fill materials encountered in borings are primarily lean clays (CL), fat clays (CH), and silt (ML) with layers of silty clay (CL-ML) and varying amounts of sand. .
Foundation: Beneath the fill materials, the borings encountered native alluvial clays and silts with varying amounts of sand, occasional sand seams, and various consistencies and densities.
- f) Erosion Protection: The levee was designed for sod cover to protect the levee from wave and current induced erosion. Small amounts of riprap are in the outlet channels of the interior drainage structures.
- g) Interior Drainage: The interior area is drained by gravity through three culverts. The culverts are 48", 60" and 72" in diameter. None of these culverts are through the levee, but do provide interior drainage for the Cherokee Park Levee. The 48" culvert is controlled by a metal flap-gate on the downstream end. The 60" culvert is controlled by a manually operated vertical lift gate on the downstream end. The 72" culvert is presently uncontrolled. The Caddo Levee District has a contract out for bids for construction of a gateway with a vertical lift gate for the 72" culvert and will be installed by July 2017. More information on interior drainage is located in Appendix A, Request for Caddo Levee District, Incorporate Cherokee Park Levee Into The Federal Levee System and De-Authorize A Designated Section Of The West Agurs Levee, Appendix E, Interior Drainage Associated With Cherokee Park Levee. The plans for the

72" vertical lift gate are located in Appendix B and the contract bid documents are located in Appendix C.

ii. Economics

- a) Total Acres Protected: 2,020 Acres
- b) Land Use: Residential and Commercial
- c) Facilities Protected: Approximately 480 residential buildings and 275 commercial buildings
- d) Property Value: \$ 9.35 million
- e) Historic Flood Damage: See paragraph 5.b.i

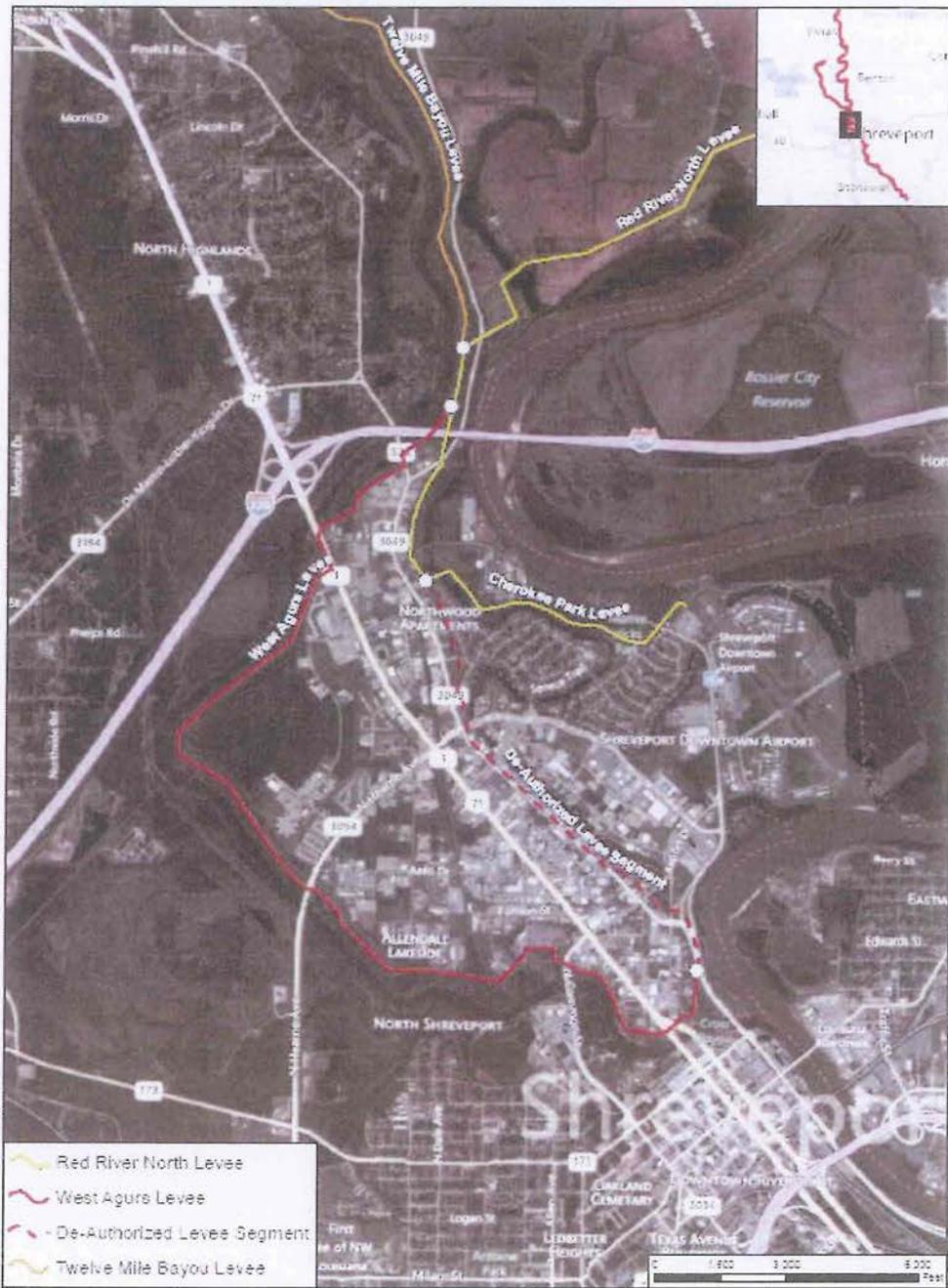
3. INTRODUCTION

a. General

The Cherokee Park levee, built by the Louisiana Department of Transportation and Development, is situated on the right descending bank of the Red River. The levee is approximately 1.52 miles long and ties into the Caddo North Levee on the upstream end and ties into high ground on the downstream end. The total area protected by the levee includes approximately 2,020 acres of residential and commercial land with approximately 480 residential buildings and 275 commercial buildings being protected.

Figure1 shows a location map of the levee system.





DATE	12/15/2011
BY	Freese Nichols
PROJECT	Caddo Levee District
CLIENT	City of Shreveport
SCALE	As Shown
APP	Location Map
DATE	12/15/2011
BY	Freese Nichols

FREES NICHOLS
 4228 Interchange Plaza
 Suite 200
 Fort Worth, TX 76109

CADDO LEVEE DISTRICT
LOCATION MAP



FIGURE
1

b. Authority

The authority for USACE to provide emergency response/ disaster assistance is Public Law (PL) 84-99 (33 U.S.C. 701n). The appropriation for this authority is Flood Control and Coastal Emergencies, 96x3125. Under PL 84-99, the Chief of Engineers is authorized to undertake activities, including disaster preparedness, Advance Measures, emergency operations (Disaster Response and Post Flood Response), rehabilitation of flood control works (FCW) threatened or destroyed by flood, protection or repair of Federally authorized shore protective works threatened or damaged by coastal storm, provision of emergency water due to drought or contaminated source, emergency dredging, and flood-related rescue operations. Most USACE preparedness activities in support of the Federal Response Plan (FRP) are funded under FCCE appropriations. The authority granted by PL 84-99 is now being implemented under new guidelines (ER 500-1-1, Rehabilitation and Inspection Program (RIP), Chapter 5) as described below.

c. Purpose and Scope of Inspection

A sound, consistent, comprehensive system of inspecting flood control works is the foundation of the RIP. Such a system encourages public sponsors to properly maintain their projects, allowing citizens and communities protected by the projects to be confident that their safety is provided for. The RIP includes two types of inspections, Initial Eligibility Inspection's (IEI) and Continuing Eligibility Inspection's (CEI). An inspection results in a project status of either Active or Inactive. Refer to ER 500-1-1, paragraphs 5-6 and 5-8 for additional information.

i. The Inspection Guide.

IEI's and CEI's use the same form (the "Inspection Guide") to record inspection results. The Inspection Guide is in Appendix C.

ii. Inspection Methodology.

a) Individual items of each component of a project are *rated*, using the Inspection Guide (Appendix C), and the rating codes and criteria shown in Table 1, below.

Table 1. Rating Codes for Individual Rated Items

SYMBOL	RATING CODE	DEFINITION
A	Acceptable	The rated item is in acceptable condition, and will function as designed and intended during the next flood event.
M	Minimally Acceptable	The rated item has a minor deficiency that needs to be corrected. The minor deficiency will not seriously impair the functioning of the item during the next flood event. The overall reliability of the project will be lowered because of the minor deficiency.
U	Unacceptable	The rated item is unacceptable. The deficiency is so serious that the item will not adequately function in the next flood event, compromising the project's ability to provide reliable flood protection.

- b) The lowest rating code for any rated item will determine the overall *condition* of the project. Project condition codes are shown in Table 2, below.
- If all rated items are rated as Acceptable, the project condition is Acceptable. An Acceptable condition means that the FCW will function as designed and intended, with a high degree of reliability, during a flood event, and that necessary cyclic maintenance is being adequately performed.
 - If one or more rated items are rated as Minimally Acceptable, with no rated items rated as Unacceptable, then the project condition is Minimally Acceptable. The project will function as designed and intended, but with a lesser degree of reliability than what the project should provide.
 - One or more rated items with a rating of Unacceptable will result in a project condition of Unacceptable. An Unacceptable condition means that one or more deficient conditions exist that are so serious that the FCW does not provide reliable protection against the threat of a flood. These deficiencies can reasonably be foreseen to prevent the project from functioning as designed, intended, or required.

Table 2. Project Condition Codes

SYMBOL	CONDITION	DEFINITION
A	Acceptable	No immediate work required, other than routine maintenance. The flood control project will function as designed and intended, with a high degree of reliability, and necessary cyclic maintenance is being adequately performed.
M	Minimally Acceptable	One or more deficient conditions exist in the flood control project that need to be improved/corrected. However, the project will essentially function as designed and intended, but with a lesser degree of reliability than what the project should provide. Specific items of the project must be improved/corrected.
U	Unacceptable	One or more deficient conditions that can reasonably be foreseen to prevent the project from functioning as designed, intended, or required.

- c) The project condition determines the project's *status* in the RIP, as shown in Table 3, below. If the project condition is Acceptable, the project is in Active status in the RIP. If the project condition is Minimally Acceptable, the project is in Active status in the RIP. If the project condition is Unacceptable, then the project is in Inactive status in the RIP.

Table 3. Project Status

IF THE LOWEST RATING FOR A RATED ITEM IS:	THEN THE PROJECT CONDITION IS:	AND THE PROJECT STATUS IS:
Acceptable	Acceptable	Active
Minimally Acceptable	Minimally Acceptable	Active
Unacceptable	Unacceptable	Inactive

Historically, there has been a wide variation in the interpretation of Corps design and maintenance standards as they apply to structures not originally constructed by a Federal agency. The changes being implemented in this inspection report will lead to improved uniformity throughout the Corps and the Federal Government in establishing requirements for state and local participation associated with rehabilitation assistance. The new guidelines require that any non-federal flood control project must meet minimum maintenance and engineering criteria to be eligible for rehabilitation assistance. The changes also include a requirement that all applications for rehabilitation of non-federal projects have a public sponsor. The public sponsorship requirement became a binding condition on July 16, 1988, on any

further Corps assistance in repairing non-federal projects. This new cost-sharing requirement establishes an 80 percent federal and 20 percent non-federal distribution for the construction costs (excluding engineering and design costs) of the rehabilitation of flood control projects.

The main body of the report contains an overall evaluation of the condition of the project maintenance, the structural integrity of the flood control works, and an evaluation of the level of flood control protection provided. Also provided is the final recommendation of the study team which includes the overall condition rating of the flood control works and a description of work items which must be performed by the levee owner in order to remain eligible for PL 84-99 assistance.

Following the main body of the report are appendices A-E. Appendix A contains the design engineering drawings obtained from IIW Engineers & Surveyors, P.C., in Dubuque, IA. Appendix B contains a site plan and cross sectional information about the levee generated from data obtained by the Corps of Engineers. Appendix C includes individual ratings of all engineering and maintenance items assessed during the inspection. Appendix D contains photographs taken during the site visit by personnel from the Corps of Engineers. An outline for the design of an operation and maintenance manual is contained in Appendix E. Appendix F contains the City of Fayette's Disaster Preparedness Plan.

4. FIELD INSPECTION

Personnel from the Corps of Engineers, Vicksburg District, conducted two field inspections. The first inspection was completed in July 2013 to determine whether the levee had any outstanding issues that would prevent it from meeting the initial eligibility requirements. The inspection team consisted of: Craig McRaney (EC-G), Gordon Watkins (EM), Kendall Smith (EC-HH), Andy Hardy (EC-G), Larry Raborn (OD-MP), Marneshia Richards (EC-DS), Jacob Haymon (EC-VR), and Rodney Nordby (EC-VR). The levee system was driven along its entire length and was inspected for compliance with PL 84-99 engineering and maintenance criteria. The levee had several encroachments and some vegetation that needed to be removed. Also, a culvert was in need of a sluice gate. A second inspection took place after the sponsor removed the encroachments and vegetation that was noted during the first inspection. The sponsor also has a sluice gate slated for installation on the culvert in September. The second inspection took place on June 2016 and the inspection team was composed of James Harper (OD-M), Craig McRaney (EC-G), and Rodney Nordby (EC-VR). Photos were taken to document the condition of the flood control system at the time of the inspection and can be seen in the Flood Damage Reduction Segment/System Inspection Report in Appendix D.

5. EVALUATION

a. Geotechnical

i. General Conditions

The Cherokee Park Levee was constructed in 1959 by the Louisiana Department of Transportation. This levee is recognized by FEMA as the downstream end of the Red River North Levee System, but the Corps of Engineers has no record or documentation of the levee. The Cherokee Park Levee is 1.5 miles in length and is maintained by the Caddo Levee District. This segment of the Red River North Levee System extends from Station 2592+15 to 2672+65.

ii. Levee Embankment

Seven borings were drilled by Freese and Nichols, Inc. in 2012, and indicate the embankment to consist of clays and silts. A good portion of the reach contains a variety of encroachments, including trees, buildings, fences, power poles, debris, and a leaking well or pipe. Most visible encroachments fall within the required 15 ft. clearance starting at the levee toe, but there are several large trees growing in the levee embankment.

iii. Foundations

The United States Geological Survey's Geologic Map of Louisiana states the existing levee site is underlain by Natural Levees of Holocene age. The Natural Levees are created from aggregate flood deposits as a result of floodplain inundation overbank flood sedimentation. The map describes the Natural Levees as "gray and brown silt, silty clay, some very fine sand, reddish brown along the Red river."

iv. Slope Stability

The levee meets the minimum requirements for slopes of impervious embankments. Significant erosion and/or sloughing were not observed.

v. Seepage

The levee meets the minimum requirements for protection against underseepage.

b. Hydrology and Hydraulics

i. Floods of Record

The two most recent large floods in the Red River Basin occurred in May of 1990 and June of 2015. The Red River flood of 1990 was caused by a series of storms centered over the basin extending over a period of several months. The upper reaches of the lower Red River from Texarkana, AR to Shreveport, LA experienced discharges in excess of the 100 year frequency discharge. The lower reaches of the lower Red River downstream of Shreveport, LA experienced discharges between the 50 year and 100 year frequency discharge. During the 1990 flood, the Red River crested at 34.2 feet at the Fulton, Arkansas gage on May 12, 34.5 feet at the Shreveport, Louisiana gage on May 15 and 39.4 feet at the Alexandria, Louisiana gage on May 19.

The Red River flood of 2015 was caused by a series of heavy rain events in the Southern Plains during the month of May 2015, especially in parts of Southern Oklahoma and Northern Texas along the Red River Basin. Record rainfall in May 2015 broke monthly totals that go back over 120 years. Monthly totals above 20 inches were common in these areas, which were 600% above normal. On May 28, the NWS issued a weekly weather briefing with observed 30 days of rainfall ranging between 8 to 10 inches. This record rainfall caused Lake Texoma to reach its highest pool stage in history at 645.72 feet on May 31st. The Tulsa District, Corps of Engineers on Lake Texoma started releasing over 50,000 cubic feet per second (CFS) from Lake Texoma on May 24th. Releases increased to over 100,000 CFS on May 28th as 80,000 CFS of uncontrollable water spilled over the top of the spillway. Along with the huge amount of water being released from Lake Texoma, an average of 46,000 CFS was also being released from Lake Hugo, as it reached a record pool stage of 440.14 feet during the same period. These were the main contributors to the Red River flooding downstream into parts of the ArkLaTex.

The Red River reached heights not seen in 70 years, which caused major flooding in the cities of Shreveport and Bossier City. From rural farm lands along the Red River in Northeast Texas, to small towns along the banks of the Red River in Southwest Arkansas, into the twin cities of Shreveport and Bossier City and other downstream river parishes, the Red River Flood of 2015 caused major damage to many ArkLaTex communities. During the 2015 flood, the Red River crested at 37.14 feet at the Shreveport, Louisiana gage on June 9 and 36.1 feet at the Alexandria, Louisiana gage on June 16.

Historical Data for the Cherokee Park Levee could not be located.

ii. Discharge Frequency and Rating Curve

A discharge frequency analysis was performed at the Shreveport gage in 2009 as part of the National Flood Insurance Program Levee System Evaluation for the Bossier Levee. Yearly peak discharges for the period of record 1974-2007 at the Shreveport gage were evaluated for the frequency analysis.

The discharge frequencies computed are located in Table 4 and were computed using the Hydrologic Engineering Center Statistical Software Package (HEC-SSP).

Stage-discharge data was gathered at the Shreveport gage for the period 1996-2006 for the development of the rating curve. The points were graphically plotted and a best fit curve was produced from the data. The rating curve produced at Shreveport is shown in Figure 1.

Discharge frequency and rating curves were also developed at the Fulton, Arkansas and Alexandria, Louisiana, gages in the same manner.

iii. Water Surface Profile

The 100 year water surface profile was developed by using the 1% flood flow for the Red River, the corresponding stages from the rating curves developed at the gages, and the existing 1% flood profile for the Red River from the Red River Waterway DM No. 3 Revised, Supplement No. 2. Using the existing 100 year flowline as a guide from DM No. 3 Revised, a new 1% flood profile was plotted for the Red River. Also, for purposes of other projects on the Red River, the 100 year profile was plotted against all levee profiles along the Red River. The profiles against the Red River Levee North, West Agurs Levee and Cherokee Park Levee can be seen in Appendix A, Request for Caddo Levee District.

Table 4. Estimated Water Surface Elevations for Red River at Shreveport, Louisiana

Percent Chance Event	Recurrence Interval (Years)	Discharge (cfs)*	Water Elevation
50	2	91,160	157.5
20	5	128,858	160.3
10	10	151,200	161.5
4	25	176,615	161.9
2	50	193,704	162.7
1	100	209,395	164.5
0.2	500	241,646	165.6

* cubic feet per second

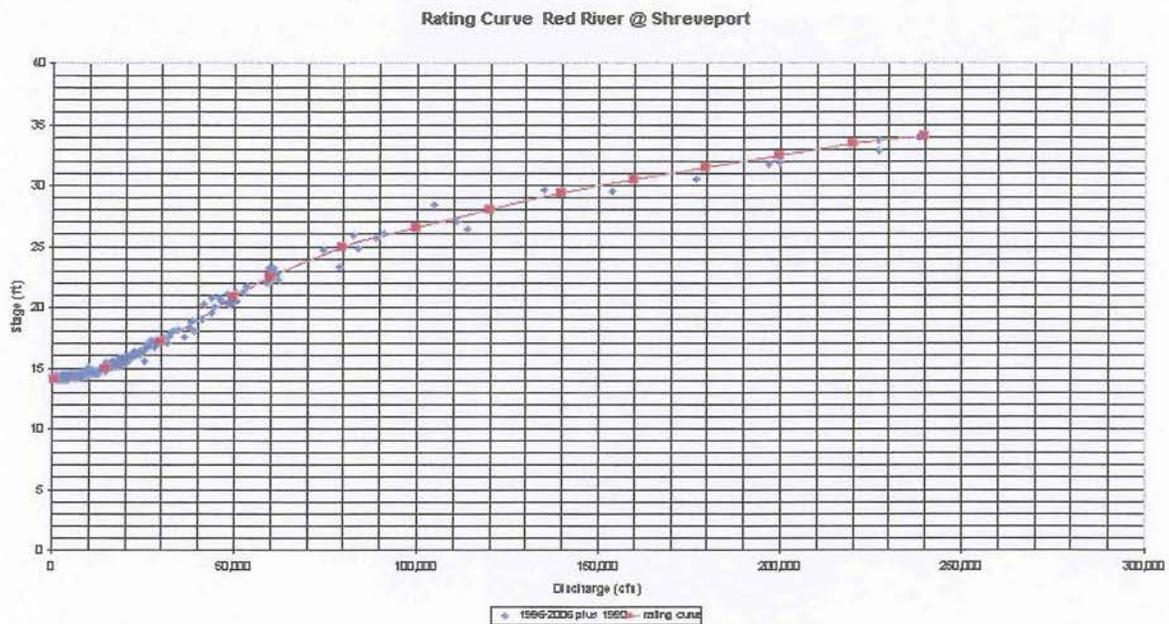


Figure 1. Rating Curve for Red River at Shreveport, Louisiana, Gage Zero = 131.48 ft, NGVD

iv. Level of Protection

The levee crown and profile of the Cherokee Park Levee, is shown in relation to the Red River water surface profile for the 100 year event in Appendix A,, Request for Caddo Levee District, Incorporate Cherokee Park Levee Into The Federal Levee System and De-Authorize A Designated Section Of The West Agurs Levee, Appendix B – Plan and Profile Sheets for the Red River North Levee The profile shows that the levee has approximately 7 feet of freeboard at all locations along the levee. The 100 year profile is also shown for the Red River Levee North and West Agurs Levees. From the Water Elevation data, it can be assumed that the levee can provide protection for floods greater than the 500 year event.

v. Erosion Protection

Riprap is placed around the outlets of the drainage structures at levee stations to be determined. The entire levee is covered with grass.

c. Operation and Maintenance

i. Embankment

Generally, the levee has good grass cover throughout its entire length. The levee generally runs parallel to the Red River. Several areas had vegetation within 15 feet from both the landside and riverside toes. The lower end has several large trees that are near the landside toe and power poles located in the levee embankment, but neither should affect levee integrity. At the time of inspection, there was no evidence of animal burrows. The crown of the levee had some rutting, most likely mowing activities. Ruts were also noticed around the gatewell structure located at levee station 4+60.

ii. Structures

Three structures were visually inspected as part of the Initial Eligibility Inspection.

The first structure is located south of the Downtown Airport. It is a single 60-inch CMP that runs underneath a small embankment. The structure has a concrete end section at the inlet and a concrete stem assembly with a steel sluice gate, wing walls and a steel walkway at the outlet. The steel walkway had a couple of bent members, but was in good condition overall.



Riprap was seen in the ditch, but there was moderate displacement along the side slopes at the outlet. All concrete features of the structure appeared to be in good condition. The sluice gate was not operated, but appeared to be in good condition.





The second structure is located near the Downtown Airport at Station 2671+04 (RR North Levee System). A single RCP runs underneath the airport runway, and has a concrete headwall and 48-inch metal flap gate at the downstream end of the pipe. The flap gate was not operated, but all of its features appeared to be in good condition. The concrete headwall appeared to be in good condition. Moderate displacement of riprap was noted.



The first structure (shown) was the 12' x 12' x 12' concrete structure that was built in 1980 and is now being replaced with a new structure. The new structure will be made of steel and will be built on a concrete foundation. The new structure will be built on a concrete foundation. The new structure will be built on a concrete foundation.



The third structure is located near the Downtown Airport at Station 178+45. A 72" RCP, a gatewell and flume acts as part of the airport drainage system. This pipe is uncontrolled on the downstream end. The existing gatewell will be replaced with a new gatewell containing a vertical lift gate.



A rectangular structure
found on the north of the site
during the site investigation
is shown in the photo below.
The structure is made of concrete
and has a circular opening in the
center. The structure is surrounded
by a chain-link fence. The
structure is located in a wooded
area. The structure is approximately
10 feet long and 4 feet wide.
The structure is made of concrete
and has a circular opening in the
center. The structure is surrounded
by a chain-link fence. The
structure is located in a wooded
area. The structure is approximately
10 feet long and 4 feet wide.

The structure is made of concrete and has a circular opening in the center. The structure is surrounded by a chain-link fence. The structure is located in a wooded area. The structure is approximately 10 feet long and 4 feet wide.



6. RECOMMENDATIONS

Based on the results of the field inspection, the evaluation contained in the attached “Flood Damage Reduction Segment/System Inspection Report” in Appendix D, and regulations for eligibility for inclusion in the PL84-99 program (ER 500-1-1), the overall condition of the Cherokee Park Levee is rated as Minimally Acceptable, provided the construction of the gatewell for the 72” pipe is accomplished before July 2017 and the emergency closure plan listed below is used until construction is complete. A flood control system with this rating is in compliance with regulations and guidelines and does meet criteria for assistance under PL84-99.

The Emergency plan consists of the Following:

- 1) Monitoring the Red River Flood stage elevation while the River is rising.
- 2) When the Flood Stage reaches 34' and the River level is rising:
 - a) Close the culvert inlet at the headwall using prefabricated plywood and brace by a cross beam assembly and anchors. Also, sand bags will be used to insure proper support.
 - b) Mobilize a 12" pumps and set up for use to bypass pump (from the paved ditch to the River) in case of localized rain storms.
 - c) Monitor the closure to insure no leakage and to insure support sand bracing is adequate.
- 3) Remove closure when the Red River level drops below 34' and is dropping.

APPENDIX A

**REQUEST FOR CADDO LEVEE DISTRICT,
INCORPORATE CHEROKEE PARK LEVEE INTO FEDERAL
SYSTEM
AND
DE-AUTHORIZE A DESIGNATED SECTION OF THE WEST AGURS
LEVEE, SEPTEMBER 2013
BY
FREESE AND NICHOLS
(On DVD Only)**

APPENDIX B

**NEW FLOOD CONTROL STRUCTURES CHEROKEE PARK
LEVEE SYSTEM – PLANS
(On DVD Only)**

APPENDIX C

**NEW FLOOD CONTROL STRUCTURES CHEROKEE PARK
LEVEE SYSTEM – BID PROPOSAL
(On DVD Only)**

APPENDIX D

**FLOOD DAMAGE REDUCTION SEGMENT/SYSTEM
INSPECTION REPORT**

APPENDIX E

**CADDO LEVEE DISTRICT
CADDO PARISH, LOUISIANA**

**OPERATION AND MAINTENANCE PLAN
(On DVD Only)**

Additional Proposal Information

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FEMA Levee Certification Letter.pdf



FEMA

April 18, 2013

Mr. Stephen Roberts
President, Caddo Levee District
P. O. Box 78282
Shreveport, LA 71137

COPY

RE: Levee Accreditation – West Agurs Levee, Red River South Bank Levee, Black Bayou/Pine Island Levee and Red River North Bank Levee

Dear Mr. Roberts:

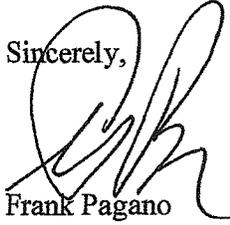
On April 18, 2011, the U.S. Department of Homeland Security's Federal Emergency Management Agency (FEMA) sent a letter to the Caddo Parish, Louisiana requesting data and supporting documentation from the owner of the levee within the county that are shown on the effective Flood Insurance Rate Map as providing protection from the base flood. FEMA Region 6 received the documentation and data requested in the letter for West Agurs Levee, Red River South Bank Levee, Black Bayou/Pine Island Levee and Red River North Bank Levee, on March 1, 2013.

This documentation and data have been reviewed by FEMA Region 6, and based on receipt of this information; it appears that the minimum certification requirements outlined in Title 44 of the Code of Federal Regulations, Section 65.10 have been met. Therefore, this levee certification has been accepted and the levee system will be shown on the new Flood Insurance Rate Maps as providing protection from the base flood. The area protected from the base flood by the levee will be mapped as a shaded Zone X and a note will be placed in the protected area on the map.

This certification is recognized for this map update only. Map updates in the future will require the levee to be re-certified by the levee owner. In addition, the levee owner may be requested at any time to provide design, construction, operation, and maintenance documents to support any activity on the levee after the date of this certification. Any deviation from the documentation and data submitted to FEMA could result in the levee system no longer providing protection from the base flood on future maps.

Mr. Stephen Roberts
April 18, 2013
Page 2

The FEMA lead for this project is Shona Gibson, P.E. She may be contacted either by telephone at (940) 383-7326, or by e-mail at Shona.Gibson@fema.dhs.gov. Please do not hesitate to contact us if you have any questions.

Sincerely,

Frank Pagano
Mitigation Division Director

cc: Perry Pringle, Attorney, Caddo Levee District
John Rutledge, Freese and Nichols, Inc
The Honorable Woody Wilson, Parish Administrator, Caddo Parish
James Demouchet, Floodplain Administrator, Caddo Parish
The Honorable Cedric B. Glover, Mayor, City of Shreveport
Ali Mustapha, Assistant City Engineer, City of Shreveport
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The Honorable Helen Adger, Mayor, Village of Gilliam
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The Honorable Mary L. Landrieu, U.S. Senator
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The Honorable Alan Seabaugh, State Representative
The Honorable Patrick C. Williams, State Representative
Craig McRaney, USACE Vicksburg District
Cindy O'Neal, State NFIP Coordinator
Cindy Crouch, Study Manager, RAMPP
Philip Beasley, External Affairs Director, FEMA Region 6
Steve Altman, RAMPP-RSC6

Additional Proposal Information

(This is as uploaded, a blank page will show if nothing was submitted)

West Agurs De-authorization.pdf

DECEMBER 5, 2016

RULES COMMITTEE PRINT 114-69

TEXT OF HOUSE AMENDMENT TO S. 612, TO DESIGNATE THE FEDERAL BUILDING AND UNITED STATES COURTHOUSE LOCATED AT 1300 VICTORIA STREET IN LAREDO, TEXAS, AS THE “GEORGE P. KAZEN FEDERAL BUILDING AND UNITED STATES COURTHOUSE”

[Showing the text of the Water Infrastructure Improvements for the Nation (WIIN) Act]

1 **SECTION 1. SHORT TITLE; TABLE OF CONTENTS.**

2 (a) **SHORT TITLE.**—This Act may be cited as the
3 “Water Infrastructure Improvements for the Nation Act”
4 or the “WIIN Act”.

5 (b) **TABLE OF CONTENTS.**—

Sec. 1. Short title; table of contents.

TITLE I—WATER RESOURCES DEVELOPMENT

Sec. 1001. Short title.

Sec. 1002. Secretary defined.

Subtitle A—General Provisions

Sec. 1101. Youth service and conservation corps organizations.

Sec. 1102. Navigation safety.

Sec. 1103. Emerging harbors.

Sec. 1104. Federal breakwaters and jetties.

Sec. 1105. Remote and subsistence harbors.

Sec. 1106. Alternative projects to maintenance dredging.

Sec. 1107. Great Lakes Navigation System.

Sec. 1108. Funding for harbor maintenance programs.

Sec. 1109. Maintenance of harbors of refuge.

Sec. 1110. Donor ports and energy transfer ports.

Sec. 1111. Harbor deepening.

- Sec. 1165. Disposition studies.
- Sec. 1166. Transfer of excess credit.
- Sec. 1167. Hurricane and storm damage reduction.
- Sec. 1168. Fish hatcheries.
- Sec. 1169. Shore damage prevention or mitigation.
- Sec. 1170. Enhancing lake recreation opportunities.
- Sec. 1171. Credit in lieu of reimbursement.
- Sec. 1172. Easements for electric, telephone, or broadband service facilities.
- Sec. 1173. Study on performance of innovative materials.
- Sec. 1174. Conversion of surplus water agreements.
- Sec. 1175. Projects funded by the Inland Waterways Trust Fund.
- Sec. 1176. Rehabilitation assistance.
- Sec. 1177. Rehabilitation of Corps of Engineers constructed dams.
- Sec. 1178. Columbia River.
- Sec. 1179. Missouri River.
- Sec. 1180. Chesapeake Bay oyster restoration.
- Sec. 1181. Salton Sea, California.
- Sec. 1182. Adjustment.
- Sec. 1183. Coastal engineering.
- Sec. 1184. Consideration of measures.
- Sec. 1185. Table Rock Lake, Arkansas and Missouri.
- Sec. 1186. Rural western water.
- Sec. 1187. Interstate compacts.
- Sec. 1188. Sense of Congress.
- Sec. 1189. Dredged material disposal.

Subtitle B—Studies

- Sec. 1201. Authorization of proposed feasibility studies.
- Sec. 1202. Additional studies.
- Sec. 1203. North Atlantic Coastal Region.
- Sec. 1204. South Atlantic coastal study.
- Sec. 1205. Texas coastal area.
- Sec. 1206. Upper Mississippi and Illinois Rivers.
- Sec. 1207. Kanawha River Basin.

Subtitle C—Deauthorizations, Modifications, and Related Provisions

- Sec. 1301. Deauthorization of inactive projects.
- Sec. 1302. Backlog prevention.
- Sec. 1303. Valdez, Alaska.
- Sec. 1304. Los Angeles County Drainage Area, Los Angeles County, California.
- Sec. 1305. Sutter Basin, California.
- Sec. 1306. Essex River, Massachusetts.
- Sec. 1307. Port of Cascade Locks, Oregon.
- Sec. 1308. Central Delaware River, Philadelphia, Pennsylvania.
- Sec. 1309. Huntingdon County, Pennsylvania.
- Sec. 1310. Riverecenter, Philadelphia, Pennsylvania.
- Sec. 1311. Salt Creek, Graham, Texas.
- Sec. 1312. Texas City Ship Channel, Texas City, Texas.
- Sec. 1313. Stonington Harbour, Connecticut.
- Sec. 1314. Red River below Denison Dam, Texas, Oklahoma, Arkansas, and Louisiana.
- Sec. 1315. Green River and Barren River, Kentucky.
- Sec. 1316. Hannibal Small Boat Harbor, Hannibal, Missouri.
- Sec. 1317. Land transfer and trust land for Muscogee (Creek) Nation.

1 (N) Easterly along said non-tangent curve
2 to the left having a radius of 253.99 feet, a
3 central angle of $98^{\circ} 53' 23''$, a chord of South
4 $83^{\circ} 28' 51''$ East – 385.96 feet, and an arc
5 length of 438.38 feet to an angle point of the
6 tract herein described.

7 (O) South $75^{\circ} 49' 13''$ East, a distance of
8 321.52 feet to the point of beginning and con-
9 taining 393.53 acres (17,142,111 square feet)
10 of land.

11 **SEC. 1313. STONINGTON HARBOUR, CONNECTICUT.**

12 The portion of the project for navigation, Stonington
13 Harbour, Connecticut, authorized by the Act of May 23,
14 1828 (4 Stat. 288, chapter 73), that consists of the inner
15 stone breakwater that begins at coordinates N.
16 682,146.42, E. 1231,378.69, running north 83.587 de-
17 grees west 166.79' to a point N. 682,165.05, E.
18 1,231,212.94, running north 69.209 degrees west 380.89'
19 to a point N. 682,300.25, E. 1,230,856.86, is no longer
20 authorized as a Federal project beginning on the date of
21 enactment of this Act.

22 **SEC. 1314. RED RIVER BELOW DENISON DAM, TEXAS, OKLA-**
23 **HOMA, ARKANSAS, AND LOUISIANA.**

24 The portion of the project for flood control with re-
25 spect to the Red River below Denison Dam, Texas, Okla-

1 homa, Arkansas, and Louisiana, authorized by section 10
2 of the Flood Control Act of 1946 (60 Stat. 647, chapter
3 596), consisting of the portion of the West Agurs Levee
4 that begins at lat. 32° 32' 50.86" N., by long. 93° 46'
5 16.82" W., and ends at lat. 32° 31' 22.79" N., by long.
6 93° 45' 2.47" W., is no longer authorized beginning on
7 the date of enactment of this Act.

8 **SEC. 1315. GREEN RIVER AND BARREN RIVER, KENTUCKY.**

9 (a) IN GENERAL.—Beginning on the date of enact-
10 ment of this Act, commercial navigation at the locks and
11 dams identified in the report of the Chief of Engineers
12 entitled "Green River Locks and Dams 3, 4, 5, and 6 and
13 Barren River Lock and Dam 1, Kentucky" and dated
14 April 30, 2015, shall no longer be authorized, and the land
15 and improvements associated with the locks and dams
16 shall be disposed of—

17 (1) consistent with this section; and

18 (2) subject to such terms and conditions as the
19 Secretary determines to be necessary and appro-
20 priate in the public interest.

21 (b) DISPOSITION.—

22 (1) GREEN RIVER LOCK AND DAM 3.—The Sec-
23 retary shall convey to the Rochester Dam Regional
24 Water Commission all right, title, and interest of the
25 United States in and to the land associated with

Primary Sponsor Letter of Support

(This is as uploaded, a blank page will show if nothing was submitted)

Colonel Derosier Letter - Cherokee Park Levee.pdf



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
VICKSBURG DISTRICT, CORPS OF ENGINEERS
4155 CLAY STREET
VICKSBURG, MISSISSIPPI 39183-3435

Executive Office

SUBJECT: Incorporation of Cherokee Park Levee into the Red River Below Denison Dam Project in Water Resources Development Act 2018

Honorable James Sims
President, Caddo Levee District
PO Box 78282
Shreveport, LA 71137

Dear Mr. Sims:

Thank you for your letter of May 11, 2018, regarding incorporation of the Cherokee Park Levee into the existing Red River Below Denison Dam Project. For the reasons discussed below, the Vicksburg District has no objection to the proposed incorporation.

The Vicksburg District concurs that the Cherokee Park Levee provides the public with flood protection benefits to the same elevation as the recently deauthorized Grimmett Drive portion of the West Agurs Levee and that the Cherokee Park Levee completes the protection of the West Agurs Levee system. I commend the Caddo Levee District for successfully bringing the Cherokee Park Levee into the PL 84-99 Rehabilitation and Inspection Program in 2016, and maintaining the levee in accordance with Corps' Levee Safety Program standards. The Vicksburg District therefore has no objection to the proposal to include the subject levee into the Red River Below Denison Dam Project.

We appreciate your levee board's responsiveness in working with the Vicksburg District as you continue to operate and maintain your Red River levees. My point of contact for this matter is Mr. Neal Lewis at (601) 631-7493 or neal.lewis@usace.army.mil.

Sincerely,

A handwritten signature in black ink, appearing to read "Michael C. Derosier".

Michael C. Derosier
Colonel, Corps of Engineers
District Commander

cc: Senator Kennedy
Senator Cassidy
Representative Johnson

State of Louisiana



JAMES T. SIMS
PRESIDENT

PATRICK HARRISON
1ST VICE-PRESIDENT

CAROLYN C. PRATOR
2ND VICE-PRESIDENT

ALI M. MUSTAPHA, P.E.
ADMINISTRATOR-SECRETARY

DANIELLE STAFFORD
ASSISTANT SECRETARY

BOARD OF COMMISSIONERS

CADDO LEVEE DISTRICT

P.O. BOX 78282
SHREVEPORT, LOUISIANA 71137-8282

MEMBERS

KANDI MOORE
GARY PROCELL
HELEN GODFREY SMITH
WILLIE WALKER

May 11, 2018

USACE, Vicksburg District
Col. Michael C. Derosier, District Commander
4155 Clay Street
Vicksburg, MS 39183-3435

RE: Request to Authorize Cherokee Park Levee into Red River Below Denison Dam Project in WRDA

Dear Col. Derosier:

Mr. Richard Brontoli, Red River Valley Association, met with Mr. Ian Bennett, Subcommittee on Water Resources and Environment, Committee on Transportation and Infrastructure; to discuss having the Cherokee Park Levee in the next Water Resource Development Act (WRDA). We believe it should be placed into the authorized project 'Red River Below Denison Dam'; however, Mr. Bennett requested that the Vicksburg District provide a letter of no objection to this proposed action.

The Vicksburg District has placed this levee into the PL 84-99 Rehabilitation Assistance and Inspection Program on February 8, 2017, attachment 1. FEMA has also certified this levee and it is shown on the Flood Insurance Rate Maps (FIRM), attachment 2.

I request the Vicksburg District provide a letter stating that the Cherokee Park qualifies and should be authorized into the Red River Below Denison Dam Project, in the next WRDA Bill. I also request language that should be used in the WRDA Bill. Please provide copies of your response to Rep. Johnson, Rep. Graves, Sen. Cassidy, Sen. Kennedy and RRVA. We appreciate you consideration and support of our request.

Sincerely,

Handwritten signature of Ali M. Mustapha in black ink.

Ali M. Mustapha, P.E., F.ASCE, F.NSPE
Administrator - Secretary

Attachments

TELEPHONE NO. (318) 221-2654
FAX NO. (318) 221-2634

AN EQUAL EMPLOYMENT OPPORTUNITY EMPLOYER



DEPARTMENT OF THE ARMY

VICKSBURG DISTRICT, CORPS OF ENGINEERS
4155 CLAY STREET
VICKSBURG, MISSISSIPPI 39183-3435

FEB - 8 2017

SUBJECT: Cherokee Park Levee Initial Eligibility Inspection

The Honorable Carolyn Prator
President, Caddo Levee District
P.O. Box 78282
Shreveport, LA 71137

Dear Mrs. Prator:

The Cherokee Park Levee, as a result of an Initial Eligibility Inspection performed by the Vicksburg District in June 2016, has been determined to be Minimally Acceptable and is therefore eligible for rehabilitation assistance and the Public Law 84-99 Rehabilitation Assistance and Inspection Program. A copy of the inspection report is enclosed.

Note that this determination is made contingent upon installation of a gatewell over a 72 inch culvert by July 2017, as noted in the report. In the event of a flood event prior to the gate installation, follow the emergency action plan described in the report.

I congratulate you on inclusion into, and your participation in, the Public Law 84-99 Rehabilitation and Inspection Program. If you have any questions, they can be directed to Mr. James Harper at (601) 631-5522.

Sincerely,

A handwritten signature in black ink, appearing to read "Michael C. Derosier".

Michael C. Derosier
Colonel, Corps of Engineers
District Commander

Enclosure

U.S. Department of Homeland Security
Region VI
800 N. Loop 288
Denton, TX 76209-3698



FEMA

April 18, 2013

Mr. Stephen Roberts
President, Caddo Levee District
P. O. Box 78282
Shreveport, LA 71137

COPY

RE: Levee Accreditation – West Agurs Levee, Red River South Bank Levee, Black Bayou/Pine Island Levee and Red River North Bank Levee

Dear Mr. Roberts:

On April 18, 2011, the U.S. Department of Homeland Security's Federal Emergency Management Agency (FEMA) sent a letter to the Caddo Parish, Louisiana requesting data and supporting documentation from the owner of the levee within the county that are shown on the effective Flood Insurance Rate Map as providing protection from the base flood. FEMA Region 6 received the documentation and data requested in the letter for West Agurs Levee, Red River South Bank Levee, Black Bayou/Pine Island Levee and Red River North Bank Levee, on March 1, 2013.

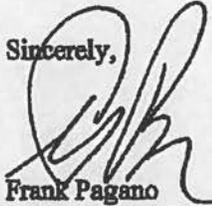
This documentation and data have been reviewed by FEMA Region 6, and based on receipt of this information; it appears that the minimum certification requirements outlined in Title 44 of the Code of Federal Regulations, Section 65.10 have been met. Therefore, this levee certification has been accepted and the levee system will be shown on the new Flood Insurance Rate Maps as providing protection from the base flood. The area protected from the base flood by the levee will be mapped as a shaded Zone X and a note will be placed in the protected area on the map.

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Mr. Stephen Roberts
April 18, 2013
Page 2

The FEMA lead for this project is Shona Gibson, P.E. She may be contacted either by telephone at (940) 383-7326, or by e-mail at Shona.Gibson@fema.dhs.gov. Please do not hesitate to contact us if you have any questions.

Sincerely,



Frank Pagano
Mitigation Division Director

cc: Perry Pringle, Attorney, Caddo Levee District
John Rutledge, Freese and Nichols, Inc
The Honorable Woody Wilson, Parish Administrator, Caddo Parish
James Demouchet, Floodplain Administrator, Caddo Parish
The Honorable Cedric B. Glover, Mayor, City of Shreveport
Ali Mustapha, Assistant City Engineer, City of Shreveport
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The Honorable Patrick C. Williams, State Representative
Craig McRaney, USACE Vicksburg District
Cindy O'Neal, State NFIP Coordinator
Cindy Crouch, Study Manager, RAMPP
Philip Beasley, External Affairs Director, FEMA Region 6
Steve Altman, RAMPP-RSC6

SUBJECT: Incorporation of Cherokee Park Levee into the Federal System

LOCATION: City: Shreveport Parish: Caddo Parish State: Louisiana

DESCRIPTION: The proposed legislation would provide the authority to incorporate all features of the Cherokee Park Levee into the West Agurs Levee System. The intent is incorporation of the Cherokee Park Levee into the Federal Levee System since the Grimmet Drive portion of West Agurs Levee was de-authorized in WRDA 2016. As shown on the enclosed map, the upstream end of the Cherokee Park Levee ties into the West Agurs Levee and the downstream end of the Cherokee Park Levee ties into high ground.

BENEFITS/IMPACTS: The non-Federal sponsor is currently responsible for operating and maintaining the entire West Agurs levee system and the Cherokee Park Levee. The state constructed Cherokee Park Levee to provide additional protection east of Gremmitt Drive portion of the West Agurs Levee system. The Cherokee Park Levee was found to meet federal standards making the de-authorized Gremmitt Drive levee a redundant feature. The Cherokee Park Levee will provide protection to an additional 660 acres of developed property.

STUDIES: An engineering analysis performed by Freese & Nichols, under contract to Caddo Levee District, was completed on the Cherokee Park Levee. The report stated the Cherokee Park Levee provides flood protection to the same elevation afforded by the de-authorized Gremmitt Drive portion of the West Agurs Levee. The Corps reviewed the seepage analysis, stability analysis, and the levee profile and concurred in the report findings.

BACKGROUND: The construction of the West Agurs Levee was federally authorized in 1946. Past USACE inspections of the West Agurs Levee show that the de-authorized Gremmitt Drive portion of the levee was developed by the city which made proper maintenance impossible. The Caddo Levee District succeeded in the de-authorization of the Gremmitt Drive portion of the West Agurs levee; however, their request to incorporate the Cherokee Park Levee did not occur. Cherokee Park Levee was constructed by the State of Louisiana in 1960, with point of beginning at the intersection with Red River levee north of Hearne Avenue and terminating at high ground at the north end of the city airport.

ISSUES: None

PREVIOUS CONGRESSIONAL ACTION: WRDA 1976 Section 190(b), WRDA 2016.

ESTIMATED COST: \$0.0

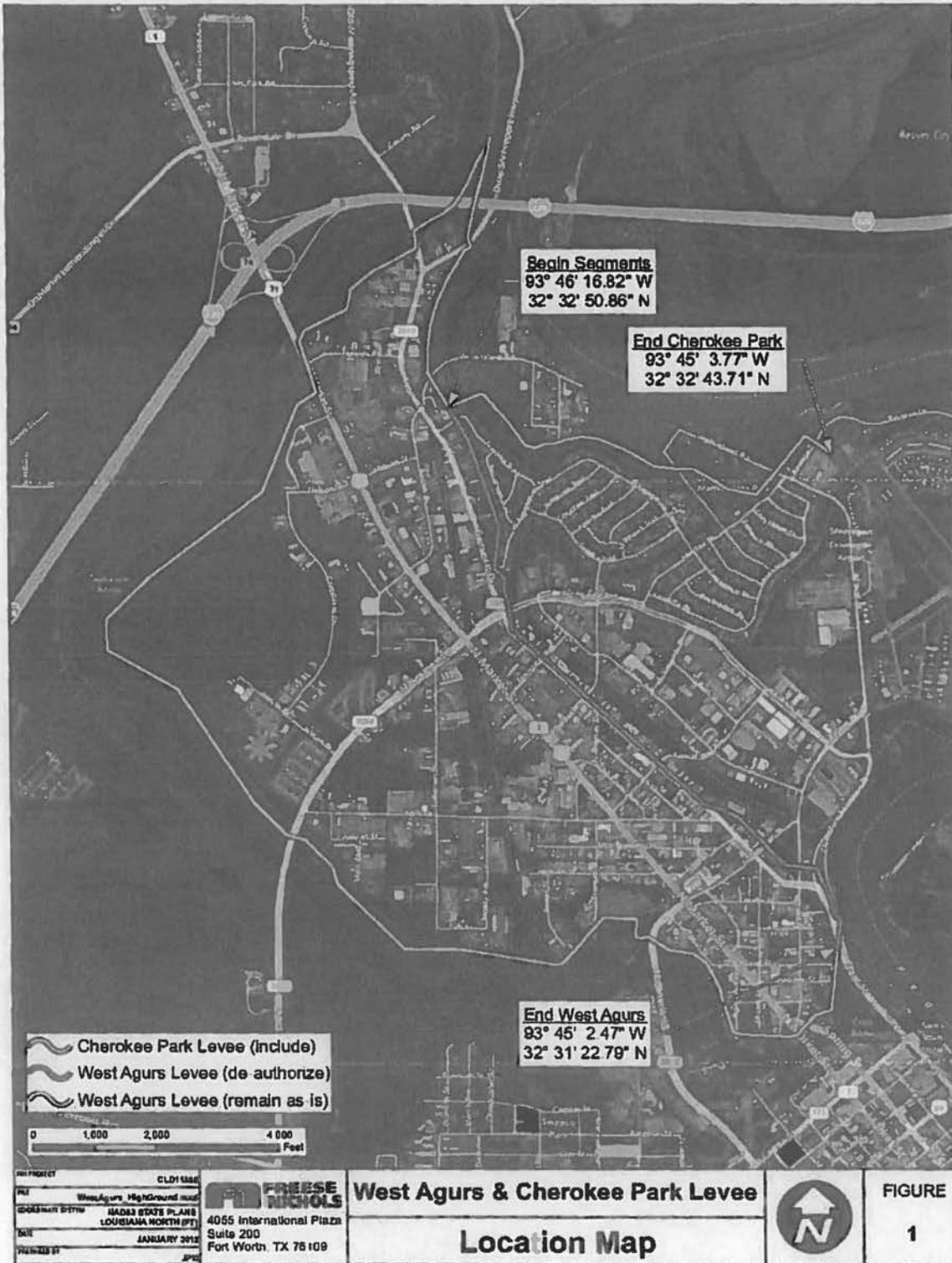
Federal: \$0.0 Non-Federal: \$0 Total: \$0.0

Source/Age of Cost Information: Estimate provided MVK-OD, May 2018.

LOCAL INTEREST OR OPPOSITION: Caddo Levee Board and the Red River Valley

Association support the proposal.

CONGRESSIONAL INTEREST: House: Johnson (LA-04); Senate: Kennedy and Cassidy



PROJECT	CLD1560
FILE	WestAgurs HighGround.mxd
COORDINATE SYSTEM	NAD83 STATE PLANE LOUISIANA NORTH (PT)
DATE	JANUARY 2012
PLANNED BY	JPN

FREESE NICHOLS
 4055 International Plaza
 Suite 200
 Fort Worth, TX 76109

West Agurs & Cherokee Park Levee
Location Map



FIGURE
1