

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)

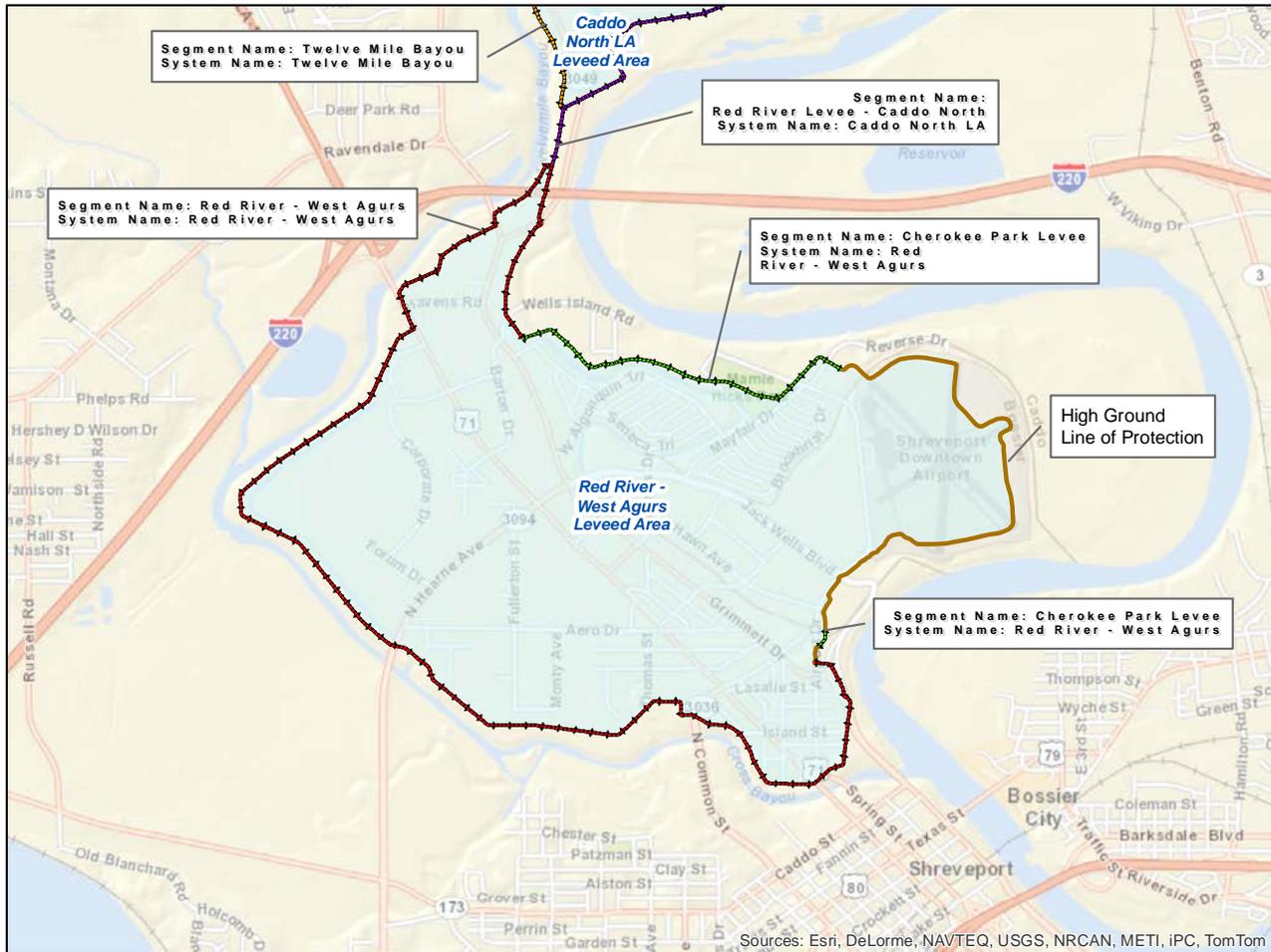
Item 5 MAP Red_River_CherokeeParkArea Levee Segment.pdf



MVK Levee Segment Map

Segments: West Agurs, Caddo North, Cherokee Park, Twelve Mile Bayou

Oct. 26, 2017
@
1600 HRS



Legend

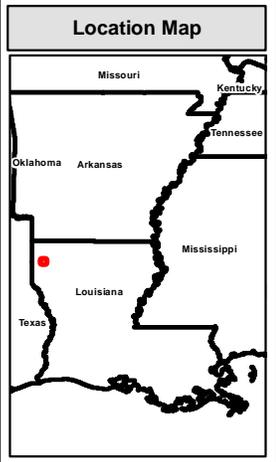
- High Ground Line
- Leveed Area

Levees

Segment Name

- Cherokee Park Levee
- Red River - West Agurs
- Red River Levee - Caddo North
- Twelve Mile Bayou

Scale: 0 to 1 Miles / 0 to 5,200 Feet



Sources: Esri, DeLorme, NAVTEQ, USGS, NRCAN, METI, IPC, TomTom

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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Date: 2016.08.11 11:27:48 -0500

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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.



US Army Corps
of Engineers®

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:

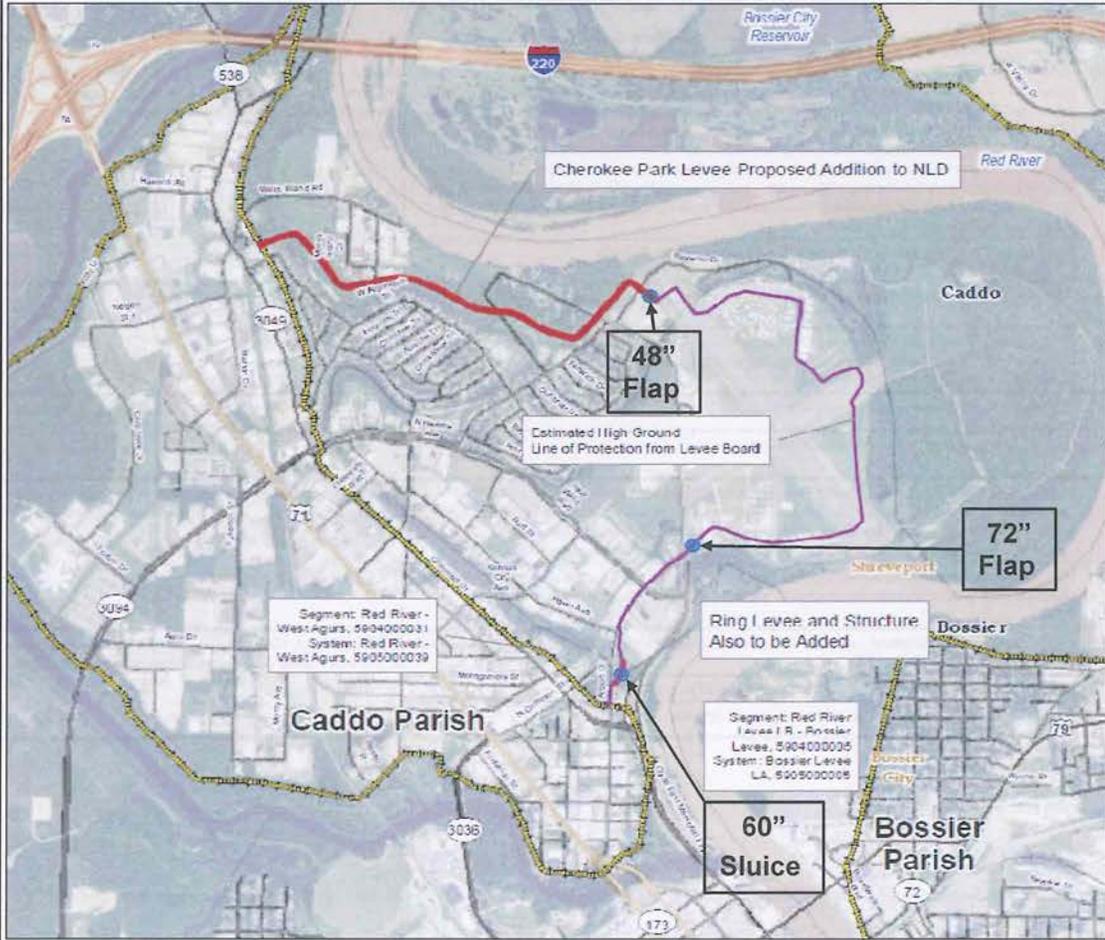
Reports are to be disseminated as follows within 30 days of the inspection date.

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 Levee
- Estimated High Ground From Levee Board



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	CHER_2016_a_0047: Station_1 NA: This levee segment was constructed to a 100 year flood elevation.: NA (A)
		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 segment, with a type of material suitable to prevent slides & seepage. 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. 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	Given the level of protection provided by the FDR system, interior drainage structures are appropriately sized, situated, and constructed to move anticipated runoff and seepage out of the protected area. Pump stations will not become inundated during regular operation and their power system is adequately designed and reliable.
		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	Structures are designed and constructed to withstand anticipated loadings.
		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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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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		<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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			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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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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