



DEPARTMENT OF THE ARMY  
U.S. ARMY CORPS OF ENGINEERS  
WASHINGTON, D.C. 20314-1000

CECW-HS

MAR 21 2014

MEMORANDUM FOR COMMANDERS, MAJOR SUBORDINATE COMMANDS AND DISTRICTS

SUBJECT: Interim Policy for Determining Eligibility Status of Flood Risk Management Projects for the Rehabilitation Program Pursuant to Public Law (P.L.) 84-99

1. References.

- a. Engineer Regulation 500-1-1, 30 September 2001, Civil Emergency Management Program.
- b. Engineer Pamphlet 500-1-1, 30 September 2001, Civil Emergency Management Program Procedures.
- c. Memorandum, CECW-HS, 29 November 2011, subject: Policy for Development and Implementation of System-Wide Improvement Frameworks (SWIFs).
- d. Memorandum, CECW-HS, 25 November 2013, subject: Determination of Public Law (P.L.) 84-99 Active Status for Flood Risk Management Projects.
- e. Levee Owner's Manual for Non-Federal Flood Control Works, March 2006.
- f. 33 CFR Part 203 – Emergency Employment of Army and Other Resources, Natural Disaster Procedures.

2. Terms Used in this Document. A list of key terms used in this memorandum is provided in Enclosure 1.

3. Background and Purpose.

a. The US Army Corps of Engineers (USACE) is in the process of revising its policies, including those related to the Flood Risk Management Program, the Levee Safety Program and the Rehabilitation Program (formerly known as the Rehabilitation and Inspection Program, reference 1.a.). The intent is to improve agency policy, support the agency's strategic direction and advances in risk-informed decision making, increase transparent communication and enhance long-term sustainability.

b. The primary purpose of this memorandum is to provide interim criteria for determining eligibility for rehabilitation assistance that is consistent with the anticipated

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direction of the Rehabilitation Program and enable its continued implementation while revisions to 33 CFR Part 203 (reference 1.f.) are developed and promulgated.

c. This memorandum supersedes the eligibility criteria in Appendix B of EP 500-1-1 (reference 1.b.) and supersedes reference 1.d. For the current version of the inspection checklist (entitled Flood Damage Reduction Segment/System Inspection Report), see Enclosure 2.

d. This memorandum revises the applicability of the System-Wide Improvement Framework (SWIF) policy in reference 1.c.

e. All other policies associated with the Rehabilitation Program including, but not limited to, the determination of deferred maintenance activities remain in effect.

f. Eligibility for rehabilitation assistance will be determined pursuant to paragraphs 5 and 6 of this interim policy, which specifies that only a subset of the criteria previously used to determine eligibility will continue to be used to make eligibility determinations during the interim period. Note: vegetation management will not be considered in making an eligibility determination. A final policy will be established through notice and comment rulemaking. Any eligibility criteria eliminated by this interim policy will be restored, if at all, only through a public rulemaking process.

#### 4. Applicability.

a. This policy is effective immediately and applies to all Headquarters (HQUSACE) elements, divisions, districts, laboratories, and other field operating activities of USACE.

b. This interim policy provides criteria for eligibility determinations for levee systems as outlined in paragraphs 5 and 6 below. Eligibility determinations for channels, dams, tunnels and debris basins will remain suspended and their status (either Active or Inactive) will remain unchanged.

c. This interim policy does not impact federal coastal storm damage reduction (CSDR) projects (also known as hurricane and shore protection projects). For these projects, applicable policies in reference 1.a. still apply.

#### 5. Eligibility Determination for Levee Systems.

a. These interim eligibility criteria will be used to determine eligibility for rehabilitation assistance for levee systems until final policy is issued.

b. Continuing Eligibility for Rehabilitation Assistance.

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(1) Federal and non-federal levee systems that are currently Active in the Rehabilitation Program will be evaluated for continuing eligibility using the interim eligibility criteria in paragraph 6.f. during the next scheduled Continuing Eligibility Inspection (CEI) or in accordance with Letters of Intent (LOIs) and SWIFs (reference 1.c.).

(2) Federal and non-federal levee systems with a CEI conducted prior to the date of this memorandum and for which the public sponsor has not been provided an eligibility determination (based on reference 1.d.) will be reevaluated using the interim eligibility criteria in paragraph 6.f. Reevaluations may be conducted using information from the previous inspection report. Therefore, reinspection may not be necessary.

(3) Upon request by the public sponsor, federal levee systems that are currently Inactive in the Rehabilitation Program can be reinspected and reevaluated for eligibility based on the interim eligibility criteria. Inactive federal levee systems that meet the interim eligibility criteria may regain Active status in the Rehabilitation Program. See paragraph 5.c. for more information on Inactive non-federal levee systems.

(4) Newly constructed federal levee systems are granted Active status when the public sponsor assumes operation and maintenance responsibilities. CEI determinations for these newly constructed federal levee systems will use the interim eligibility criteria in paragraph 6.f.

c. Initial Eligibility Inspections (IEIs) for Non-Federal Levee Systems.

(1) Non-federal levee systems seeking entry or reentry into the Rehabilitation Program require an IEI to determine eligibility.

(2) IEIs may be conducted and eligibility determinations will be made using the interim criteria provided in paragraph 6.

(3) Non-federal levee systems with an IEI conducted prior to the date of this memorandum and for which the public sponsor has not been provided an eligibility determination (based on reference 1.d.) will be reevaluated using the interim eligibility criteria in paragraph 6.e.

d. Levee Owner's Manual and Operations and Maintenance Responsibilities.

(1) For non-federal levee systems, the Levee Owner's Manual (reference 1.e.) will continue to serve as a maintenance reference document. The eligibility criteria in the Levee Owner's Manual that must be met to gain and maintain an Active status in the

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Rehabilitation Program are superseded by this memorandum. Districts will ensure that public sponsors of non-federal levee systems are aware of these changes.

(2) USACE encourages public sponsors to follow the maintenance practices in the Levee Owner's Manual as an element of best practices in flood risk management.

(3) USACE will use this interim policy to determine eligibility for the Rehabilitation Program for federal levee systems. Public sponsors of federal levee systems normally have obligations regarding how they operate and maintain the levee systems under the authorizing legislation and the terms of the project cooperation agreement with USACE. These obligations are independent of any decision to participate in the Rehabilitation Program.

6. Interim Rehabilitation Program Eligibility Requirements for Levee Systems. The following section is in reference to Enclosure 2, the Flood Damage Reduction Segment/System Inspection Report (also referred to as Inspection Checklist).

a. The Inspection Checklist will continue to be used for all levee system inspections. The full inspection report will be provided to public sponsors to provide a complete assessment of the levee condition. The full inspection results including an overall system rating and description of specific deficiencies are critical information public sponsors need to effectively operate and maintain their levee system, prioritize any repairs or improvements and conduct communication and risk reduction activities. The overall levee segment and overall levee system ratings will continue to be assigned in accordance with Enclosure 2, Sections F-G on page B-5. Providing up to two years to correct Unacceptable items still applies and will still be used to determine the overall system rating. However, the overall system rating will no longer be used to determine status in the Rehabilitation Program. As such Enclosure 2, Section H on page B-5 does not apply. Instead paragraphs 6.e. and 6.f. of this interim policy will be used to determine Active or Inactive status.

b. In accordance with current policy, eligibility determinations will be based on a levee system basis. If a levee system comprises more than one levee segment, all segments must meet the interim eligibility criteria, identified in paragraphs 6.e. and 6.f., for the entire levee system to be Active. If one levee segment does not meet the interim eligibility criteria, the entire levee system will be Inactive.

c. Channels that are integral to a levee system will be inspected as part of that levee system, using existing channel-related inspection items. However, eligibility determinations will be based on the levee system. Therefore, if a levee system is deemed Active, the associated channel is also considered to be Active and eligible for rehabilitation assistance.

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d. If inspectors encounter conditions that put the inspectors at personal risk or conditions that make it impossible to conduct the inspection, including evaluating the interim eligibility criteria, the inspector will end the inspection. The levee system will be deemed Inactive and reconsideration of status will not occur until final policy issuance or the public sponsor may pursue a SWIF (paragraph 7 and reference 1.c.).

e. Non-federal levee systems must meet all the Initial Eligibility requirements of Enclosure 2, pages B-7 through B-9, in addition to the requirements identified in paragraph 6.f. for CEIs.

f. Requirements for eligibility under a CEI.

(1) All public sponsors must complete the maintenance program information on page B-2 of Enclosure 2.

(2) For non-federal levee systems, confirmation that Initial Eligibility Items 1-5 on page B-7 of Enclosure 2 continue to be met and must be documented in the CEI.

(3) Levee segment/system has received an Individual Item/Component Rating of Acceptable or Minimally Acceptable for the following items, which are a subset of the items of the existing Inspection Checklist:

Levee Embankments		
Rated Item	Page Number, Enclosure 2	Item Number
Encroachments	B-11	3
Closure Structures (Stop Log, Earthen Closures, Gates, or Sandbags Closures)	B-11	4
Slope Stability	B-12	5
Erosion/Bank Caving	B-12	6
Animal Control	B-13	10
Culverts/Discharge Pipes (This item includes both concrete and corrugated metal pipes.)	B-13	11
Underseepage Relief Wells/Toe Drainage Systems	B-14	14

Floodwalls		
Rated Item	Page Number, Enclosure 2	Item Number
Encroachments	B-16	2
Closure Structures (Stop Log Closures and Gates)	B-16	3
Tilting, Sliding, or Settlement of Concrete Structures	B-17	5
Foundation of Concrete Structures	B-17	6
Underseepage Relief Wells/Toe Drainage Systems	B-18	8

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Interior Drainage System		
Rated Item	Page Number, Enclosure 2	Item Number
Culverts/Discharge Pipes	B-21	9
Sluice/Slide Gates	B-21	10
Flap Gates/Flap Valves/Pinch Valves	B-22	11

Pump Stations		
Rated Item	Page Number, Enclosure 2	Item Number
Intake and Discharge Pipelines	B-27	17
Sluice/Slide Gates	B-27	18
Flap Gates/Flap Valves/Pinch Valves	B-27	19

A summary list of the Rated Items that are to be used to determine status for the Rehabilitation Program can be found in Enclosure 3. Enclosure 3 is an optional document for communicating eligibility information to the public sponsor.

g. Notification procedures outlined for overall system ratings found in Enclosure 2, Section J, on page B-6 still apply. Results of an eligibility determination in accordance with this interim policy (paragraphs 6.e. and 6.f.) will be included as part of the final Inspection Report package provided to the public sponsor.

#### 7. Policy on SWIF Actions.

a. The policy for the implementation of SWIFs was issued on 29 November 2011 (reference 1.c.). This policy creates a process for working with public sponsors to plan and implement system-wide improvements. The process consists of a LOI that leads to the development of a long-term SWIF, which also provides for environmental compliance. The following paragraphs provide additional detail for processing LOIs and SWIFs as part of this interim policy.

b. The policy for SWIFs remains in effect and USACE will continue to process LOIs and SWIFs from public sponsors. Public sponsors are encouraged to continue to develop SWIFs to improve the performance and reliability of their levee systems.

c. For LOIs that have been approved by HQUSACE, districts will notify the public sponsor in writing of its options to: 1) retain its current LOI; 2) adjust its LOI (and subsequently its draft SWIF) to focus on actions to address deficiencies to meet the interim eligibility criteria outlined in paragraph 6; or 3) terminate its LOI if the interim eligibility criteria can be met without further system-wide improvements. Public sponsors must submit notification in writing of their selected option within 60 days of

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district notification. If the public sponsor chooses to adjust its LOI, the sponsor will provide the district with the proposed changes as part of its written response. The district will determine if the changes are sufficient to meet the intent of the SWIF policy and address the interim eligibility criteria. If the district determines the changes are sufficient, the district will approve the changes to the LOI, notify the public sponsor, and amend the LOI documentation. The timeline to develop the SWIF (up to two years) may be extended as deemed appropriate by the district, not to exceed one additional year. The final amended document will be submitted to the division, the HQUSACE P.L. 84-99 Program Manager and the HQUSACE point of contact for SWIF.

d. For SWIFs accepted by HQUSACE, districts will notify the public sponsor in writing of its options to: 1) retain its current SWIF; 2) adjust its SWIF to focus on actions to address deficiencies to meet the interim eligibility criteria outlined in paragraph 6; or 3) terminate its SWIF if the interim eligibility criteria can be met without further system-wide improvements. Public sponsors must submit notification in writing of their selected option within 60 days of the district notification. If the public sponsor chooses to adjust its SWIF, the sponsor will provide the district with the proposed changes as part of its written response. The district will determine if the changes are sufficient to meet the intent of the SWIF policy and address the interim eligibility criteria. If the district determines the changes are sufficient, the district will approve the changes to the SWIF, notify the public sponsor and amend the SWIF documentation. The final amended document will be submitted to the division, the HQUSACE P.L. 84-99 Program Manager and the HQUSACE point of contact for SWIF.

e. For LOIs under development, districts will provide public sponsors with the interim eligibility criteria and their options to: 1) continue to focus the LOI to address all system-wide deficiencies; 2) adjust the LOI to focus on actions to address deficiencies to meet the interim eligibility criteria outlined in paragraph 6; or 3) discontinue the LOI development if the interim eligibility criteria can be met without further system-wide improvements.

f. Environmental compliance and consideration of other requirements, such as compliance with the Endangered Species Act (ESA) and treaties with Tribes, must continue to be integrated into and accomplished as part of an accepted SWIF's implementation. Note that the acceptance of a SWIF does not require environmental compliance because that action only establishes a plan for future action without any irreversible commitment of resources. However, the public sponsor's implementation of the actions agreed to in the SWIF may trigger environmental compliance requirements, in which case USACE is responsible for assuring compliance with all applicable environmental requirements prior to implementation of any SWIF action by the public sponsor that would affect the environment or other resources. Any ESA compliance that is determined to be required for the implementation of a SWIF will be accomplished

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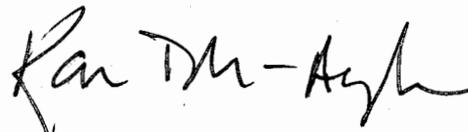
by USACE under Section 7 of the ESA. Public sponsors implementing the SWIF will be required to provide, at their cost, necessary background information/documentation for consultation. They will be required to implement, at their cost, mitigation or other measures necessary to fulfill environmental compliance responsibilities made necessary by implementation of the SWIF as a condition of their continued eligibility for rehabilitation assistance. As part of the LOI and SWIF review, districts will identify environmental compliance actions necessary to implement the proposed SWIF and ensure that the SWIF contains necessary milestones to assure compliance during implementation.

g. The approval process for LOIs and SWIFs not yet approved or accepted by HQUSACE is outlined in reference 1.c.

8. Funding. No change.

9. The HQUSACE points of contact are Ms. Tammy Conforti for Levee Safety at (202) 761-4649, Mr. Rob Grubbs for P.L. 84-99 at (202) 761-4603 and Mr. Steve Fink for SWIFs at (509) 301-5899.

3 Encls



KAREN DURHAM-AGUILERA, P.E., SES  
Director of Contingency Operations,  
Homeland Security and Northwestern  
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## Enclosure 1: Terms Used in this Document

**Active.** A status applied to flood risk management projects concerning participation in the Rehabilitation Program under the authority of P.L. 84-99. An Active project must have met USACE criteria for entry into the Rehabilitation Program. Only Active projects may receive rehabilitation assistance to repair damages caused by a flood event or coastal storm.

**Continuing Eligibility Inspection (CEI).** An evaluation of Active federal and non-federal flood risk management projects conducted in order to make a status determination for the Rehabilitation Program. Inactive federal flood risk management projects can regain Active status as a result of a CEI.

**Federal Levee System.** For the purposes of this interim policy, a federal levee system means a levee system that is federally authorized and constructed, with a public sponsor being responsible for operations, maintenance, repair, replacement and rehabilitation (OMRR&R).

**Inactive.** A status applied to flood risk management projects concerning participation in the Rehabilitation Program under the authority of P.L. 84-99. Inactive projects include formerly Active non-federal projects that left Active status voluntarily or non-federal and federally authorized projects that have been determined by USACE to no longer meet the eligibility criteria.

**Initial Eligibility Inspection (IEI).** An evaluation conducted to make a status determination of non-federal flood risk management projects that are either currently Inactive or that are seeking to gain entry into the Rehabilitation Program for the first time.

**Levee Feature.** A levee feature is a structure that is critical to the functioning of a levee system. Examples include embankment sections, floodwall sections, closure structures, pumping stations, interior drainage works and flood risk management channels.

**Levee Segment.** A levee segment is a discrete portion of a levee system that is operated and maintained by a single entity. A levee segment may comprise one or more levee features.

**Levee System.** One or more segments of earthen embankment or floodwall and all appurtenant structures (such as closures, berms, pumping stations, culverts, and interior drainage) that are interconnected and necessary to ensure exclusion of floodwater from a defined area.

**Non-Federal Levee System.** For the purposes of this interim policy, the term non-federal levee system will refer to those levee systems that have been constructed by a local government or public sponsor. Operations and maintenance is also the responsibility of the local government or public sponsor.

Public Sponsor. For purposes of this interim policy, a public sponsor is a public entity that is a legally constituted public body with full authority and capability to perform the terms of its agreement as the non-federal partner of USACE for a project. A 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.



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## Flood Damage Reduction Segment / System Inspection Report

Name of Segment / System: \_\_\_\_\_

Public Sponsor(s): \_\_\_\_\_

Public Sponsor Representative: \_\_\_\_\_

Sponsor Phone: \_\_\_\_\_

Sponsor Email: \_\_\_\_\_

Corps of Engineers Inspector: \_\_\_\_\_ Date of Inspection: \_\_\_\_\_

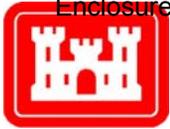
Inspection Report Prepared By: \_\_\_\_\_ Date Report Prepared: \_\_\_\_\_

Internal Technical Review (for Periodic Inspections) By: \_\_\_\_\_ Date of ITR: \_\_\_\_\_

Final Approved By: \_\_\_\_\_ Date Approved: \_\_\_\_\_

Type of Inspection:	<input type="checkbox"/> <b>Initial Eligibility Inspection</b> <input type="checkbox"/> <b>Continuing Eligibility Inspection (Routine)</b> <input type="checkbox"/> <b>Continuing Eligibility Inspection (Periodic)</b>	Overall Segment / System Rating:	<input type="checkbox"/> <b>Acceptable</b> <input type="checkbox"/> <b>Minimally Acceptable</b> <input type="checkbox"/> <b>Unacceptable</b>
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Contents of Report:	<input type="checkbox"/> <b>Instructions</b> <input type="checkbox"/> <b>Initial Eligibility Inspection</b> <input type="checkbox"/> <b>General Items for All Flood Control Works</b> <input type="checkbox"/> <b>Levee Embankment</b> <input type="checkbox"/> <b>Concrete Floodwalls</b> <input type="checkbox"/> <b>Sheet Pile and Concrete I-walls</b> <input type="checkbox"/> <b>Interior Drainage System</b> <input type="checkbox"/> <b>Pump Stations</b> <input type="checkbox"/> <b>FDR System Channels</b>	<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>
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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)
2. Reporting period: (month/day/year to month/day/year)
3. Summary of maintenance required by last inspection report:
4. Summary of maintenance performed this reporting period:
5. Summary of maintenance planned next reporting period:
6. Summary of changes to segment / system since last inspection:
7. Problems/ issues requiring the assistance of the US Army Corps of Engineers:



US Army Corps  
of Engineers®

Flood Damage Reduction Segment / System  
Inspection Report

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.



## Enclosure 2: Flood Damage Reduction Segment / System Inspection Report

### 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.



## Enclosure 2: Flood Damage Reduction Segment / System Inspection Report

### 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.



**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	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.	
	U	The segment / system does not have a public sponsor as defined above.	
2. Flood Protection (A or U only)	A	The principal function of the segment / system is to protect people or property from floods.	
	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	Segment / System construction is fully completed.	
	U	The segment / system is still under construction.	
4. Construction Compliance (A or U only)	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.	
	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	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.	
	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 <sup>1</sup> (A or U only)	A	<ul style="list-style-type: none"> <li>• <b>Urban Levees and Floodwalls</b>- Minimum elevation corresponding to a flood level with 10% probability of occurring in a given year (10-year flood).</li> <li>• <b>Agricultural Levees and Floodwalls</b>- Minimum elevation corresponding to a flood level with 20% probability of occurring in a given year (5-year flood).</li> <li>• <b>Flood Damage Reduction Channels</b>- 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.)</li> </ul>	
	U	The FDR segment / system does not meet requirements for minimum elevation, capacity, or drainage area.	
7. Physical Location and Cross Section (A or U only)	A	The physical location, cross section, and other design elements of the FDR system are sufficient to provide reliable flood protection. The FDR segment / system forms a properly closed segment / system. See Table 5-4, EP 500-1-1.	
	U	The FDR segment / system was not constructed in an appropriate location, does not have an appropriate cross section, is not a properly closed segment / system, or has other shortcomings with design elements necessary for providing reliable flood damage reduction.	
8. Embankment Fill Material <sup>2</sup>	A	Embankment fill material is uniform and adequately compacted throughout the entire FDR segment / system, and the type of embankment material is suitable to prevent slides and seepage problems.	
	U	Embankment fill material is not uniform, or there is no compaction and evidence indicates a need for compaction, or the type of embankment material is unsuitable and is likely to contribute to the development of slides or seepage problems.	
9. Foundations <sup>2</sup>	A	Foundation material and construction methods adequately address piping, sand boils, seepage, or settlements that would reduce the level of protection.	
	U	Foundation material and construction methods are such that excessive uncontrolled seepage, sand boils, and piping will occur. Performance history indicates significant uncontrolled seepage, sand boils or piping.	
10. Erosion Control	A	Erosion protection is capable of handling the designed flow velocity for the level of protection for the entire FDR segment / system. The FDR segment / system is protected against bank caving and slides in all necessary areas, and has adequate drainage to protect FDR segment / system slopes from runoff erosion.	
	U	Erosion protection is not present and there is evidence indicating a need for erosion protection.	

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**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 <sup>3</sup> (including culverts, gates, pump stations)	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 <sup>3</sup>	A	Structures are designed and constructed to withstand anticipated loadings.		
	U	Structures are unreliably designed or inadequately constructed.		

<sup>1</sup> 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.

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

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

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**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	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)		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)		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.	

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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
1. Unwanted Vegetation Growth <sup>1</sup>	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.	
	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.	
	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.	
2. Sod Cover	A	There is good coverage of sod over the levee.	
	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.	
	U	Over 50% of the sod cover is missing or damaged over a significant portion or portions of the levee embankment.	
	N/A	Surface protection is provided by other means.	
3. Encroachments	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.	
	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.	
	U	Unauthorized encroachments or inappropriate activities noted are likely to inhibit operations and maintenance, emergency operations, or negatively impact the integrity of the levee.	
4. Closure Structures (Stop Log, Earthen Closures, Gates, or Sandbag)	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.	

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Enclosure 2: Flood Damage Reduction Segment / System Inspection Report

**Levee Embankments**

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

Rated Item	Rating	Rating Guidelines	Location/Remarks/Recommendations
Closures) (A or U only)	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	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	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 <sup>2</sup>	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	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	Minor longitudinal, transverse, or desiccation cracks with no vertical movement along the crack. No cracks extend continuously through the levee crest.	
	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.	

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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
		<b>U</b> 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.	
10. Animal Control	<b>A</b>	Continuous animal burrow control program in place that includes the elimination of active burrowing and the filling in of existing burrows.	
	<b>M</b>	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.	
	<b>U</b>	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.	
11. Culverts/ Discharge Pipes <sup>3</sup> (This item includes both concrete and corrugated metal pipes.)	<b>A</b>	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.	
	<b>M</b>	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.	
	<b>U</b>	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. <b>HOWEVER:</b> 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.	
	<b>N/A</b>	There are no discharge pipes/ culverts.	
12. Riprap Revetments &	<b>A</b>	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.	

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Enclosure 2: Flood Damage Reduction Segment / System Inspection Report

**Levee Embankments**

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

Rated Item	Rating	Rating Guidelines	Location/Remarks/Recommendations
Bank Protection	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	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.	
14. Underseepage Relief Wells/ Toe Drainage Systems	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.	
	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	A	No evidence or history of unrepaired seepage, saturated areas, or boils.	
	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.	

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## **Levee Embankments**

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

<sup>1</sup> 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.

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

<sup>3</sup> 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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## Floodwalls

For use during Initial and Continuing Eligibility Inspections of all floodwalls

Rated Item	Rating	Rating Guidelines	Location/Remarks/Recommendations
1. Unwanted Vegetation Growth <sup>1</sup>	A	A grass-only or paved zone is maintained on both sides of the floodwall, free of all trees, brush, and undesirable weeds. The vegetation-free zone extends 15 feet from both the land and riverside of the floodwall, at ground-level, to the centerline of the tree. Additionally, an 8-foot root-free zone is maintained around the entire structure, including the floodwall toe, heel, and any toe-drains. If the floodwall 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 and/or Corps policy for regional vegetation variance.	
	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 floodwall.	
	U	Significant vegetation growth (brush, weeds, or any trees greater than 2 inches in diameter) is present within the zones described above. This vegetation threatens the operation or integrity of the floodwall and must be removed.	
2. Encroachments	A	No trash, debris, unauthorized 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 floodwall.	
	M	Trash, debris, unauthorized 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.	
	U	Unauthorized encroachments or inappropriate activities noted are likely to inhibit operations and maintenance, emergency operations, or negatively impact the integrity of the floodwall.	
3. Closure Structures (Stop Log Closures and Gates) (A or U only)	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.	
4. Concrete Surfaces	A	Negligible spalling, scaling or cracking. If the concrete surface is weathered or holds moisture, it is still satisfactory but should be seal coated to prevent freeze/ thaw damage.	
	M	Spalling, scaling, and open cracking present, but the immediate integrity or performance of the structure is not threatened. Reinforcing steel may be exposed. Repairs/ sealing is necessary to prevent additional damage during periods of thawing and freezing.	

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## Floodwalls

For use during Initial and Continuing Eligibility Inspections of all floodwalls

Rated Item	Rating	Rating Guidelines	Location/Remarks/Recommendations
		<p><b>U</b> Surface deterioration or deep cracks present that may result in an unreliable structure. Any surface deterioration that exposes the sheet piling or lies adjacent to monolith joints may indicate underlying reinforcement corrosion and is unacceptable.</p>	
5. Tilting, Sliding or Settlement of Concrete Structures <sup>2</sup>	<b>A</b>	There are no significant areas of tilting, sliding, or settlement that would endanger the integrity of the structure.	
	<b>M</b>	There are areas of tilting, sliding, or settlement (either active or inactive) that need to be repaired. The maximum offset, either laterally or vertically, does not exceed 2 inches unless the movement can be shown to be no longer actively occurring. The integrity of the structure is not in danger.	
	<b>U</b>	There are areas of tilting, sliding, or settlement (either active or inactive) that threaten the structure's integrity and performance. Any movement that has resulted in failure of the waterstop (possibly identified by daylight visible through the joint) is unacceptable. Differential movement of greater than 2 inches between any two adjacent monoliths, either laterally or vertically, is unacceptable unless it can be shown that the movement is no longer active. Also, if the floodwall is of I-wall construction, then any visible or measurable tilting of the wall toward the protected side that has created an open horizontal crack on the riverside base of a monolith is unacceptable.	
6. Foundation of Concrete Structures <sup>1</sup>	<b>A</b>	No active erosion, scouring, or bank caving that might endanger the structure's stability.	
	<b>M</b>	There are areas where the ground is eroding towards the base of the structure. Efforts need to be taken to slow and repair this erosion, but it is not judged to be close enough to the structure or to be progressing rapidly enough to affect structural stability before the next inspection. For the purposes of inspection, the erosion or scour is not closer to the riverside face of the wall than twice the floodwall's underground base width if the wall is of L-wall or T-wall construction; or if the wall is of sheetpile or I-wall construction, the erosion is not closer than twice the wall's visible height. Additionally, rate of erosion is such that the wall is expected to remain stable until the next inspection.	
	<b>U</b>	Erosion or bank caving observed that is closer to the wall than the limits described above, or is outside these limits but may lead to structural instabilities before the next inspection. Additionally, if the floodwall is of I-wall or sheetpile construction, the foundation is unacceptable if any turf, soil or pavement material got washed away from the landside of the I-wall as the result of a previous overtopping event.	
7. Monolith Joints	<b>A</b>	The joint material is in good condition. The exterior joint sealant is intact and cracking/desiccation is minimal. Joint filler material and/or waterstop is not visible at any point.	
	<b>M</b>	The joint material has appreciable deterioration to the point where joint filler material and/or waterstop is visible in some locations. This needs to be repaired or replaced to prevent spalling and cracking during freeze/ thaw cycles, and to ensure water tightness of the joint.	

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## Floodwalls

For use during Initial and Continuing Eligibility Inspections of all floodwalls

Rated Item	Rating	Rating Guidelines	Location/Remarks/Recommendations
		<p><b>U</b> The joint material is severely deteriorated or the concrete adjacent to the monolith joints has spalled and cracked, damaging the waterstop; in either case damage has occurred to the point where it is apparent that the joint is no longer watertight and will not provide the intended level of protection during a flood.</p> <p><b>N/A</b> There are no monolith joints in the floodwall.</p>	
8. Underseepage Relief Wells/ Toe Drainage Systems	<b>A</b>	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.	
	<b>M</b>	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.	
	<b>U</b>	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.	
	<b>N/A</b>	There are no relief wells/ toe drainage systems along this component of the FDR segment / system.	
9. Seepage	<b>A</b>	No evidence or history of unrepaired seepage, saturated areas, or boils.	
	<b>M</b>	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.	
	<b>U</b>	Evidence or history of active seepage, extensive saturated areas, or boils.	

<sup>1</sup> Inspectors must have as-built drawings available during the inspection so that the lateral distance to the heel and toe of the floodwalls can be determined in the field.

<sup>2</sup> The sponsor should be monitoring any observed movement to verify whether the movement is active or inactive.

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## Interior Drainage System

For use during Initial and Continuing Eligibility Inspections of interior drainage systems

Rated Item	Rating	Rating Guidelines	Location/Remarks/Recommendations
1. Vegetation and Obstructions	A	No obstructions, vegetation, debris, or sediment accumulation noted within interior drainage channels or blocking the culverts, inlets, or discharge areas. Concrete joints and weep holes are free of grass and weeds.	
	M	Obstructions, vegetation, debris, or sediment are minor and have not impaired channel flow capacity or blocked more than 10% of any culvert openings, but should be removed. A limited volume of grass and weeds may be present in concrete channel joints and weep holes.	
	U	Obstructions, vegetation, debris, or sediment have impaired the channel flow capacity or blocked more than 10% of a culvert opening. Sediment and debris removal required to re-establish flow capacity.	
2. Encroachments	A	No trash, debris, unauthorized 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 interior drainage system.	
	M	Trash, debris, unauthorized 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.	
	U	Unauthorized encroachments or inappropriate activities noted are likely to inhibit operations and maintenance, emergency operations, or negatively impact the integrity of this component of the interior drainage system.	
3. Ponding Areas	A	No trash, debris, structures, or other obstructions present within the ponding areas. Sediment deposits do not exceed 10% of capacity.	
	M	Trash, debris, excavations, structures, or other obstructions present, or inappropriate activities that will not inhibit operations and maintenance. Sediment deposits do not exceed 30% of capacity.	
	U	Trash, debris, excavations, structures, or other obstructions, or other encroachments or activities noted that will inhibit operations, maintenance, or emergency work. Sediment deposits exceeds 30% of capacity.	
	N/A	There are no ponding areas associated with the interior drainage system.	
4. Fencing and Gates <sup>1</sup>	A	Fencing is in good condition and provides protection against falling or unauthorized access. Gates open and close freely, locks are in place, and there is little corrosion on metal parts.	
	M	Fencing or gates are damaged or corroded but appear to be maintainable. Locks may be missing or damaged.	
	U	Fencing and gates are damaged or corroded to the point that replacement is required, or potentially dangerous features are not secured.	
	N/A	There are no features noted that require safety fencing.	
5. Concrete Surfaces (Such as gate)	A	Negligible spalling, scaling or cracking. If the concrete surface is weathered or holds moisture, it is still satisfactory but should be seal coated to prevent freeze/ thaw damage.	

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## Interior Drainage System

For use during Initial and Continuing Eligibility Inspections of interior drainage systems

Rated Item	Rating	Rating Guidelines	Location/Remarks/Recommendations
wells, outfalls, intakes, or culverts)	M	Spalling, scaling, and open cracking present, but the immediate integrity or performance of the structure is not threatened. Reinforcing steel may be exposed. Repairs/ sealing is necessary to prevent additional damage during periods of thawing and freezing.	
	U	Surface deterioration or deep cracks present that may result in an unreliable structure. Any surface deterioration that exposes the sheet piling or lies adjacent to monolith joints may indicate underlying reinforcement corrosion and is unacceptable.	
	N/A	There are no concrete items in the interior drainage system.	
6. Tilting, Sliding or Settlement of Concrete and Sheet Pile Structures <sup>2</sup> (Such as gate wells, outfalls, intakes, or culverts)	A	There are no significant areas of tilting, sliding, or settlement that would endanger the integrity of the structure.	
	M	There are areas of tilting, sliding, or settlement (either active or inactive) that need to be repaired. The maximum offset, either laterally or vertically, does not exceed 2 inches unless the movement can be shown to be no longer actively occurring. The integrity of the structure is not in danger.	
	U	There are areas of tilting, sliding, or settlement (either active or inactive) that threaten the structure's integrity and performance. Any movement that has resulted in failure of the waterstop (possibly identified by daylight visible through the joint) is unacceptable. Differential movement of greater than 2 inches between any two adjacent monoliths, either laterally or vertically, is unacceptable unless it can be shown that the movement is no longer active. Also, if the floodwall is of I-wall construction, then any visible or measurable tilting of the wall toward the protected side that has created an open horizontal crack on the riverside base of a monolith is unacceptable.	
	N/A	There are no concrete items in the interior drainage system.	
7. Foundation of Concrete Structures <sup>3</sup> (Such as culverts, inlet and discharge structures, or gatewells.)	A	No active erosion, scouring, or bank caving that might endanger the structure's stability.	
	M	There are areas where the ground is eroding towards the base of the structure. Efforts need to be taken to slow and repair this erosion, but it is not judged to be close enough to the structure or to be progressing rapidly enough to affect structural stability before the next inspection. The rate of erosion is such that the structure is expected to remain stable until the next inspection.	
	U	Erosion or bank caving observed that may lead to structural instabilities before the next inspection.	
	N/A	There are no concrete items in the interior drainage system.	
8. Monolith Joints	A	The joint material is in good condition. The exterior joint sealant is intact and cracking/ desiccation is minimal. Joint filler material and/or waterstop is not visible at any point.	
	M	The joint material has appreciable deterioration to the point where joint filler material and/or waterstop is visible in some locations. This needs to be repaired or replaced to prevent spalling and cracking during freeze/ thaw cycles, and to ensure water tightness of the joint.	

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



## Interior Drainage System

For use during Initial and Continuing Eligibility Inspections of interior drainage systems

Rated Item	Rating	Rating Guidelines	Location/Remarks/Recommendations
	U	The joint material is severely deteriorated or the concrete adjacent to the monolith joints has spalled and cracked, damaging the waterstop; in either case damage has occurred to the point where it is apparent that the joint is no longer watertight and will not provide the intended level of protection during a flood.	
	N/A	There are no monolith joints in the interior drainage system.	
9. Culverts/ Discharge Pipes <sup>4</sup>	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.	
	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.	
	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.	
	N/A	There are no discharge pipes/ culverts.	
10. Sluice / Slide Gates <sup>5</sup>	A	Gates open and close freely to a tight seal or minor leakage. Gate operators are in good working condition and are properly maintained. Sill is free of sediment and other obstructions. Gates and lifters have been maintained and are free of corrosion. Documentation provided during the inspection.	
	M	Gates and/or operators have been damaged or have minor corrosion, and open and close with resistance or binding. Leakage quantity is controllable, but maintenance is required. Sill is free of sediment and other obstructions.	
	U	Gates do not open or close and/or operators do not function. Gate, stem, lifter and/or guides may be damaged or have major corrosion.	
	N/A	There are no sluice/ slide gates.	

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## Interior Drainage System

For use during Initial and Continuing Eligibility Inspections of interior drainage systems

Rated Item	Rating	Rating Guidelines	Location/Remarks/Recommendations
11. Flap Gates/ Flap Valves/ Pinch Valves <sup>1</sup>	A	Gates/ valves open and close easily with minimal leakage, have no corrosion damage, and have been exercised and lubricated as required.	
	M	Gates/ valves will not fully open or close because of obstructions that can be easily removed, or have minor corrosion damage that requires maintenance.	
	U	Gates/ valves are missing, have been damaged, or have deteriorated to the point that they need to be replaced.	
	N/A	There are no flap gates.	
12. Trash Racks (non-mechanical)	A	Trash racks are fastened in place and properly maintained.	
	M	Trash racks are in place but are unfastened or have bent bars that allow debris to enter into the pipe or pump station, bars are corroded to the point that up to 10% of the sectional area may be lost. Repair or replacement is required.	
	U	Trash racks are missing or damaged to the extent that they are no longer functional and must be replaced. (For example, more than 10% of the sectional area may be lost.)	
	N/A	There are no trash racks, or they are covered in the pump stations section of the report.	
13. Other Metallic Items	A	All metal parts are protected from corrosion damage and show no rust, damage, or deterioration that would cause a safety concern.	
	M	Corrosion seen on metallic parts appears to be maintainable.	
	U	Metallic parts are severely corroded and require replacement to prevent failure, equipment damage, or safety issues.	
	N/A	There are no other significant metallic items.	
14. Riprap Revetments of Inlet/ Discharge Areas	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.	
15. Revetments other than Riprap	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.	

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Enclosure 2: Flood Damage Reduction Segment / System Inspection Report  
**Interior Drainage System**  
 For use during Initial and Continuing Eligibility Inspections of interior drainage systems

Rated Item	Rating	Rating Guidelines	Location/Remarks/Recommendations
	<b>M</b>	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.	
	<b>U</b>	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.	
	<b>N/A</b>	There are no such revetments protecting this feature of the segment / system.	

<sup>1</sup> Proper operation of this item must be demonstrated during the inspection.

<sup>2</sup> The sponsor should be monitoring any observed movement to verify whether the movement is active or inactive.

<sup>3</sup> Inspectors must have as-built drawings available during the inspection so that the lateral distance to the heel and toe of the floodwalls can be determined in the field.

<sup>4</sup> 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.

<sup>5</sup> Proper operation of the gates (full open and closed) must be demonstrated during the inspection if no documentation is available. Be aware of both manual and electrical operators.

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## Pump Stations

For use during Initial and Continuing Eligibility Inspections of pump stations

Rated Item	Rating	Rating Guidelines	Location/Remarks/Recommendations
1. Pump Stations Operating, Maintenance, Training, & Inspection Records	A	Operation, maintenance and inspection records are present at the pump station and are being used and updated, and personnel have been trained in pump station operations. Names and last training date shown in the record book.	
	M	Operation, maintenance and inspection records are present but not adequately used and updated.	
	U	No operation, maintenance and inspection records are present, or refresher training for personnel has not been conducted.	
2. Pump Station Operations and Maintenance Equipment Manuals	A	Operation and Maintenance Equipment Manuals and/or posted operating instructions are present and updated as required, and adequately cover all pertinent pump station features. O&M manuals include points of contact for manufacturers and suppliers of major equipment used in the facility.	
	M	Operation and Maintenance Equipment Manuals and/or posted operating instructions are present and adequately cover all pertinent pump station features. However, they are incomplete and the necessary updates have not been made.	
	U	Operation and Maintenance Equipment Manuals are not available.	
3. Safety Compliance	A	Safety compliance inspection reports by applicable local, state, or federal agencies available for review.	
	M	No safety compliance inspection reports are available for review.	
4. Communications (A or M only)	A	A telephone, cellular phone, two-way radio, or similar device is available to pump station operator and maintenance personnel.	
	M	A telephone, cellular phone, two-way radio, or similar device is not available to pump station operator and maintenance personnel.	
5. Plant Building	A	The building is in good structural condition with no major foundation settlement problems. The roof is not leaking, intake & exhaust louvers are clear of debris, fans are operational, etc.	
	M	There are minor structural defects, minimal foundation settlement, leaks, or other conditions noted that need repair. Defects do not threaten the structural integrity or stability of the building, and will not impact pumping operations.	
	U	The structural integrity or stability of the building is threatened, or there is damage to the building that threatens safety of the operator or impacts pumping operations.	
6. Fencing and Gates <sup>1</sup>	A	Fencing is in good condition and provides protection against falling or unauthorized access. Gates open and close freely, locks are in place, and there is little corrosion on metal parts.	
	M	Fencing or gates are damaged or corroded but appear to be maintainable. Locks may be missing or damaged.	
	U	Fencing and gates are damaged or corroded to the point that replacement is required, or potentially dangerous features are not secured.	

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## Pump Stations

For use during Initial and Continuing Eligibility Inspections of pump stations

Rated Item	Rating	Rating Guidelines	Location/Remarks/Recommendations
		N/A	There are no features noted that require safety fencing.
7. Pumps <sup>1</sup>	A	All pumps are properly maintained and lubricated. Systems are periodically tested and documented for review. No vibration, cavitation noises or unusual sounds are noted when the pump is operated. Bearing temperature sensor records don't indicate any problems.	
	M	Minor deficiencies noted that need to be closely monitored or repaired, such as the presence of slight vibrations, leakage of packing gland, bearing temperature sensors are inoperable or no record is present. However, the pumps are operational and are expected to perform through the next period of usage.	
	U	Major deficiencies identified that may significantly reduce pumping operations. For example, bearing sensor records indicate problems, excessive vibration noted, impellers are badly corroded, or there are eroded or missing blades.	
8. Motors, Engines, Fans, Gear Reducers, Back Stop Devices, etc.	A	All items are operational. Preventative maintenance and lubrication is being performed and the system is periodically subjected to performance testing. Instrumentation, alarms, bearing sensors and auto shutdowns are operational.	
	M	Systems have minor deficiencies, but are operational and will function adequately through the next flood. Bearing sensors are not operational.	
	U	One or more of the primary motors or systems is not operational, or noted deficiencies have not been corrected.	
9. Sumps / Wet well	A	Clear of debris, sediment, or other obstructions. Procedures are in place to remove debris accumulation during operation.	
	M	Debris, sediment, or other obstructions may be present and must be removed, but the sump/wet well will function as intended during the next flood. Procedures are in place to remove debris accumulation during operation.	
	U	Large debris or excessive silt present which will hinder or damage pumps during operation, or no procedures established to remove debris accumulation during operation.	
10. Mechanical Operating Trash Rakes <sup>1</sup>	A	Drive chain, bearing, gear reducers, and other components are in good operating condition and are being properly maintained.	
	M	The trash rake is in need of maintenance, but is still operational.	
	U	Trash rake not operational or deficiencies will inhibit operations during the next flood event.	
	N/A	There are no mechanical trash rakes.	
11. Non-Mechanical Trash Racks	A	Trash racks are fastened in place and properly maintained.	
	M	Trash racks are in place but are unfastened or have bent bars that allow debris to enter into the pipe or pump station, bars are corroded to the point that up to 10% of the sectional area may be lost. Repair or replacement is required.	

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## Pump Stations

For use during Initial and Continuing Eligibility Inspections of pump stations

Rated Item	Rating	Rating Guidelines	Location/Remarks/Recommendations
	<b>U</b>	Trash racks are missing or damaged to the extent that they are no longer functional and must be replaced. (For example, more than 10% of the sectional area may be lost.)	
	<b>N/A</b>	There are no trash racks, or they are covered in the pump stations section of the report.	
12. Fuel System for Pump Engines	<b>A</b>	Fuel system is operational, day tank present and operational, fuel fresh and rotated regularly.	
	<b>M</b>	Fuel system is operational and of adequate capacity, but day tank is missing or fuel is not fresh and rotated regularly.	
	<b>U</b>	Fuel system not functional.	
	<b>N/A</b>	No fuel system.	
13. Power Source	<b>A</b>	The normal power source and backup generators, if installed, are operational, properly exercised and well maintained. Surge protection, grounding, lightning protection, transformers, and automatic/manual transfer of main power to backup system is working.	
	<b>M</b>	Normal power source and backup units, if applicable, are operational with minor discrepancies or maintenance, inspection and exercising record is present but not up to date. Preventative maintenance or repairs are required.	
	<b>U</b>	Normal power source or generators are not operational and must be repaired; or generator, if required, is not on site.	
14. Electrical Systems <sup>2</sup>	<b>A</b>	Operational and maintained free of damage, corrosion, and debris. Preventative maintenance and system testing is being performed periodically.	
	<b>M</b>	Operational with minor discrepancies. Preventative maintenance or repairs are required, but the components are expected to function adequately during the next flood event.	
	<b>U</b>	Components of the electrical system will not function adequately during the next flood event and must be replaced.	
15. Megger Testing on Pump Motors and Critical Power Cables	<b>A</b>	Results of megger tests on pump motors or critical power cables show that the insulation meets manufacturer's or industry standards. Tested within the last year.	
	<b>M</b>	Megger testing not conducted within the past year. If megger tests on pump motors indicate that insulation resistance is below the manufacturer's or industry standard, but the resistance can be corrected with proper application of heat, this is minimally acceptable. (The application of heat does not relate to critical power cables.)	
	<b>U</b>	Megger tests not conducted within past two years, or tests indicate that insulation resistance is low enough that the equipment will not be able to meet design standards of operation; or evidence of arcing or shorting is detected visually.	

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## Pump Stations

For use during Initial and Continuing Eligibility Inspections of pump stations

Rated Item	Rating	Rating Guidelines	Location/Remarks/Recommendations
16. Enclosures, Panels, Conduit and Ducts	A	All enclosures, panels, conduits, and ducts are protected from corrosion damage and show no rust, damage, or deterioration that would cause a safety concern.	
	M	Minor surface corrosion which appears to be maintainable. Cleaning and painting required.	
	U	Severely corroded and must be replaced to prevent failure, equipment damage, or safety issues.	
17. Intake and Discharge Pipelines	A	Intake and discharge pipelines have no corrosion and paint is intact, except for minor touch up required. Pipe couplings and anchors have no leakage or corrosion.	
	M	Intake and discharge pipelines have minor corrosion and repair and painting is required. Pipe coupling with anchors have minor leakage, corrosion and require bolts to be tightened.	
	U	Intake and discharge pipelines have major corrosion and replacement is required. Pipe coupling with anchors have major leakage and is heavily corroded and requires replacement.	
18. Sluice/ Slide Gates <sup>3</sup>	A	Gates open and close freely to a tight seal or minor leakage. Gate operators are in good working condition and are properly maintained. Sill is free of sediment and other obstructions. Gates and lifters have been maintained and are free of corrosion. Documentation provided during the inspection.	
	M	Gates and/or operators have been damaged or have minor corrosion, and open and close with resistance or binding. Leakage quantity is controllable, but maintenance is required. Sill is free of sediment and other obstructions.	
	U	Gates do not open or close and/or operators do not function. Gate, stem, lifter and/or guides may be damaged or have major corrosion.	
	N/A	There are no sluice/ slide gates.	
19. Flap Gates/ Flap Valves/ Pinch Valves <sup>1</sup>	A	Gates/ valves open and close easily with minimal leakage, have no corrosion damage, and have been exercised and lubricated as required.	
	M	Gates/ valves will not fully open or close because of obstructions that can be easily removed, or have minor corrosion damage that requires maintenance.	
	U	Gates/ valves are missing, have been damaged, or have deteriorated to the point that they need to be replaced.	
	N/A	There are no gates on discharge lines from pump station.	
20. Cranes <sup>1</sup>	A	Cranes operational and have been inspected and load tested in accordance with applicable standards within the last year. Documentation is on hand.	

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## Pump Stations

For use during Initial and Continuing Eligibility Inspections of pump stations

Rated Item	Rating	Rating Guidelines	Location/Remarks/Recommendations
	<b>M</b>	Cranes have not been inspected or operationally tested within the past year, or there are visible signs of corrosion, oil leakage, etc, requiring maintenance.	
	<b>U</b>	Cranes are not operational, and this may prevent the pump station from functioning as required. No documentation available on cranes.	
	<b>N/A</b>	There are no cranes.	
21. Other Metallic Items (Equipment, Ladders, Platform Anchors, etc)	<b>A</b>	All metal parts are protected from corrosion damage and show no rust, damage, or deterioration that would cause a safety concern.	
	<b>M</b>	Corrosion seen on metallic parts appears to be maintainable.	
	<b>U</b>	Metallic parts are severely corroded and require replacement to prevent failure, equipment damage, or safety issues.	
	<b>N/A</b>	There are no other significant metallic items.	

<sup>1</sup> Proper operation of this item must be demonstrated during the inspection.

<sup>2</sup> Check motor control center, circuit breakers, pilot lights, volt meters, ammeters, sump level indicator, gate position indicators, remote operating systems, including SCADA and telemetry systems. Also, check interior and exterior lighting; especially lighting near trash rack screens, ladders, walkways, etc.

<sup>3</sup> Proper operation of the gates (full open and closed) must be demonstrated during the inspection if no documentation is available. Be aware of both manual and electrical operators.

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## Flood Damage Reduction Channels

For use during Initial and Continuing Eligibility Inspections of flood damage reduction channels

Rated Item	Rating	Rating Guidelines	Location/Remarks/Recommendations
1. Vegetation and Obstructions	A	No obstructions, vegetation, debris, or sediment accumulation within the channel. Concrete channel joints and weep holes are free of grass and weeds.	
	M	Obstructions (including log jams), vegetation, debris, or sediment are minor and have not impaired channel flow capacity, but should be removed. Sediment shoals have not developed to the extent that they can support vegetation other than non-aquatic grasses. A limited volume of grass and weeds may be present in concrete channel joints and weep holes.	
	U	Obstructions (including log jams), vegetation, debris or sediment have impaired the channel flow capacity. Sediment shoals are well established and support woody and/or brushy vegetation. Sediment and debris removal required to re-establish flow capacity.	
2. Shoaling <sup>1</sup> (sediment deposition)	A	No shoaling or minor, non-vegetated shoaling is present.	
	M	More widespread vegetated and non-vegetated shoaling is present. Non-aquatic grasses are present on shoal. No trees or brush is present on shoal, and channel flow is not significantly reduced. Sediment and debris removal recommended.	
	U	Shoaling is well established, stabilized by saplings, brush, or other vegetation. Shoals are diverting flow to channel walls. Channel flow capacity is reduced and maintenance is required.	
3. Encroachments	A	No trash, debris, unauthorized 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 channel.	
	M	Trash, debris, unauthorized 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.	
	U	Unauthorized encroachments or inappropriate activities noted are likely to inhibit operations and maintenance, emergency operations, or negatively impact the integrity of the channel.	
4. Erosion	A	No head cutting or horizontal deviation observed.	
	M	Head cutting and horizontal deviation evident, but is less than 1 foot from the designed grade or cross section.	
	U	Head cutting and horizontal deviation of more than 1 foot from the designed grade or cross section. Corrective actions required to stop or slow erosion.	
5. Concrete Surfaces	A	Negligible spalling, scaling or cracking. If the concrete surface is weathered or holds moisture, it is still satisfactory but should be seal coated to prevent freeze/ thaw damage.	
	M	Spalling, scaling, and open cracking present, but the immediate integrity or performance of the structure is not threatened. Reinforcing steel may be exposed. Repairs/ sealing is necessary to prevent additional damage during periods of thawing and freezing.	

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## Flood Damage Reduction Channels

For use during Initial and Continuing Eligibility Inspections of flood damage reduction channels

Rated Item	Rating	Rating Guidelines	Location/Remarks/Recommendations
		<p><b>U</b> Surface deterioration or deep cracks present that may result in an unreliable structure. Any surface deterioration that exposes the sheet piling or lies adjacent to monolith joints may indicate underlying reinforcement corrosion and is unacceptable.</p> <p><b>N/A</b> There are no concrete items in the channel.</p>	
6. Tilting, Sliding or Settlement of Concrete Structures <sup>2</sup>	<b>A</b>	There are no significant areas of tilting, sliding, or settlement that would endanger the integrity of the structure.	
	<b>M</b>	There are areas of tilting, sliding, or settlement (either active or inactive) that need to be repaired. The maximum offset, either laterally or vertically, does not exceed 2 inches unless the movement can be shown to be no longer actively occurring. The integrity of the structure is not in danger.	
	<b>U</b>	There are areas of tilting, sliding, or settlement (either active or inactive) that threaten the structure's integrity and performance. Any movement that has resulted in failure of the waterstop (possibly identified by daylight visible through the joint) is unacceptable. Differential movement of greater than 2 inches between any two adjacent monoliths, either laterally or vertically, is unacceptable unless it can be shown that the movement is no longer active. Also, if the floodwall is of I-wall construction, then any visible or measurable tilting of the wall toward the protected side that has created an open horizontal crack on the riverside base of a monolith is unacceptable.	
	<b>N/A</b>	There are no concrete items in the channel.	
7. Foundation of Concrete Structures <sup>3</sup>	<b>A</b>	No active erosion, scouring, or bank caving that might endanger the structure's stability.	
	<b>M</b>	There are areas where the ground is eroding towards the base of the structure. Efforts need to be taken to slow and repair this erosion, but it is not judged to be close enough to the structure or to be progressing rapidly enough to affect structural stability before the next inspection. For the purposes of inspection, the erosion or scour is not closer to the riverside face of the wall than twice the floodwall's underground base width if the wall is of L-wall or T-wall construction; or if the wall is of sheetpile or I-wall construction, the erosion is not closer than twice the wall's visible height. Additionally, rate of erosion is such that the wall is expected to remain stable until the next inspection.	
	<b>U</b>	Erosion or bank caving observed that is closer to the wall than the limits described above, or is outside these limits but may lead to structural instabilities before the next inspection. Additionally, if the floodwall is of I-wall or sheetpile construction, the foundation is unacceptable if any turf, soil or pavement material got washed away from the landside of the I-wall as the result of a previous overtopping event.	
	<b>N/A</b>	There are no concrete items in the channel.	
8. Slab and Monolith Joints	<b>A</b>	The joint material is in good condition. The exterior joint sealant is intact and cracking/desiccation is minimal. Joint filler material and/or waterstop is not visible at any point.	

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## Flood Damage Reduction Channels

For use during Initial and Continuing Eligibility Inspections of flood damage reduction channels

Rated Item	Rating	Rating Guidelines	Location/Remarks/Recommendations
		<p><b>M</b> The joint material has appreciable deterioration to the point where joint filler material and/or waterstop is visible in some locations. This needs to be repaired or replaced to prevent spalling and cracking during freeze/ thaw cycles, and to ensure water tightness of the joint.</p> <p><b>U</b> The joint material is severely deteriorated or the concrete adjacent to the monolith joints has spalled and cracked, damaging the waterstop; in either case damage has occurred to the point where it is apparent that the joint is no longer watertight and will not provide the intended level of protection during a flood.</p> <p><b>N/A</b> There are no concrete items in the channel.</p>	
9. Flap Gates/ Flap Valves/ Pinch Valves <sup>4</sup>		<p><b>A</b> Gates/ valves open and close easily with minimal leakage, have no corrosion damage, and have been exercised and lubricated as required.</p> <p><b>M</b> Gates/ valves will not fully open or close because of obstructions that can be easily removed, or have minor corrosion damage that requires maintenance.</p> <p><b>U</b> Gates/ valves are missing, have been damaged, or have deteriorated to the point that they need to be replaced.</p> <p><b>N/A</b> There are no flap gates.</p>	
10. Riprap Revetments & Banks		<p><b>A</b> 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.</p> <p><b>M</b> 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.</p> <p><b>U</b> 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.</p> <p><b>N/A</b> There is no riprap protecting this feature of the segment / system, or riprap is discussed in another section.</p>	
11. Revetments other than Riprap		<p><b>A</b> Existing revetment protection is properly maintained, undamaged, and clearly visible.</p> <p><b>M</b> 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.</p> <p><b>U</b> 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.</p> <p><b>N/A</b> There are no such revetments protecting this feature of the segment / system.</p>	

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



## **Flood Damage Reduction Channels**

**For use during Initial and Continuing Eligibility Inspections of flood damage reduction channels**

<sup>1</sup> If weather and flow conditions allow, inspectors should walk in the channel and probe shoal areas in order to estimate extent of blockage of the cross-sectional area where shoaling is present.

<sup>2</sup> The sponsor should be monitoring any observed movement to verify whether the movement is active or inactive.

<sup>3</sup> Inspectors must have as-built drawings available during the inspection so that the lateral distance to the heel and toe of the floodwalls can be determined in the field.

<sup>4</sup> Proper operation of this item must be demonstrated during the inspection.

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



# 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: Sponsor: Location: River Basin: Project Description: Authority that Project was Constructed Under: Date of Construction: Approximate Annual Maintenance Costs: Construction: <input type="checkbox"/> Federally Constructed <input type="checkbox"/> Non-Federally Constructed Maintenance: <input type="checkbox"/> Federally Maintained <input type="checkbox"/> Non-Federally Maintained	
National Flood Insurance Program: a. Is the project currently NFIP? <input type="checkbox"/> Yes <input 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: b. Current recommended datum for this project is: c. Has the Project been converted to the current recommended datum? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Levee Embankment Data: a. Levee Designed Gage Function Reading/Station: b. Level of Protection Provided: c. Average Height of Levee: d. Average Crown Width: e. Average Side Slope:	Protected Features (For use in preparing estimates and PIRs): a. Total acres protected: b. Total agriculture production acres protected: c. Towns: d. Businesses: e. Residences: f. Roads: g. Utilities: h. Barns: i. Machine Sheds: j. Outbuildings: k. Irrigation Systems: l. Grain Bins: m. Other Facilities:

Enclosure 3: Subset of Inspection Items for Rehabilitation Program Eligibility Determination

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).

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

A <input type="checkbox"/>	<input type="checkbox"/>	6. Foundation of Concrete Structures
M <input type="checkbox"/>	<input type="checkbox"/>	
U <input type="checkbox"/>	<input type="checkbox"/>	
A <input type="checkbox"/>	<input type="checkbox"/>	8. Underseepage Relief Wells/Toe Drainage Systems
M <input type="checkbox"/>	<input type="checkbox"/>	
U <input type="checkbox"/>	<input type="checkbox"/>	
N/A <input type="checkbox"/>	<input type="checkbox"/>	
<b>Interior Drainage System</b>		
A <input type="checkbox"/>	<input type="checkbox"/>	9. Culverts/Discharge Pipes
M <input type="checkbox"/>	<input type="checkbox"/>	
U <input type="checkbox"/>	<input type="checkbox"/>	
N/A <input type="checkbox"/>	<input type="checkbox"/>	
A <input type="checkbox"/>	<input type="checkbox"/>	10. Sluice/Slide Gates
M <input type="checkbox"/>	<input type="checkbox"/>	
U <input type="checkbox"/>	<input type="checkbox"/>	
N/A <input type="checkbox"/>	<input type="checkbox"/>	
A <input type="checkbox"/>	<input type="checkbox"/>	11. Flap Gates/Flap Valves/Pinch Valves
M <input type="checkbox"/>	<input type="checkbox"/>	
U <input type="checkbox"/>	<input type="checkbox"/>	
N/A <input type="checkbox"/>	<input type="checkbox"/>	
<b>Pump Stations</b>		
A <input type="checkbox"/>	<input type="checkbox"/>	17. Intake and Discharge Pipelines
M <input type="checkbox"/>	<input type="checkbox"/>	
U <input type="checkbox"/>	<input type="checkbox"/>	
A <input type="checkbox"/>	<input type="checkbox"/>	18. Sluice/Slide Gates
M <input type="checkbox"/>	<input type="checkbox"/>	
U <input type="checkbox"/>	<input type="checkbox"/>	
N/A <input type="checkbox"/>	<input type="checkbox"/>	
A <input type="checkbox"/>	<input type="checkbox"/>	19. Flap Gates/Flap Valves/Pinch Valves
M <input type="checkbox"/>	<input type="checkbox"/>	
U <input type="checkbox"/>	<input type="checkbox"/>	
N/A <input type="checkbox"/>	<input type="checkbox"/>	
<b>Rehabilitation Program Status</b>		
Active <input 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:		