



REGIONAL FLOOD RISK MANAGEMENT

Mississippi River Valley

POC: Scott Whitney, MVD RFRM, 309-794-5386, scott.d.whitney@usace.army.mil



2nd Annual Interagency Regional Flood/Drought Preparedness Workshop

January 23, 2013, 8:30-12:30 CST

Telecon/Webinar

NEED: Flood Risk Management agencies regularly conduct intra-agency or local inter-agency/partner meetings to discuss wide variety of FRM topics/issues but have rarely come together on a regional interagency level to achieve a higher level awareness, efficiency or effectiveness.

PURPOSE: Provide annual interagency workshop forum for state and federal managers with flood risk management responsibilities and opportunity to come together to share the latest FRM lessons learned, best practices, successes and challenges. In short, we better serve the communities, citizens and nation by ensuring a holistic and collaborative approach to Flood Risk Management and Flood Preparedness endeavors. With added indications and concern for prolonged drought, we will also be including presentation and discussion on conditions/challenges/consequences of drought induced low river levels in region.

BACKGROUND: Flooding is the most deadly and costly natural disaster in the United States. Managers and citizens of the Mississippi River Valley, the world's third largest watershed, are all too familiar with the recurrent risks, challenges and consequences of flooding. Consequences of flooding commonly are measured in loss of life, loss of business revenue, property damage, infrastructure damage, environmental damage, and recovery costs. In past decade the Mississippi Valley has experienced devastating and costly flooding from multiple Hurricanes and record setting mainstem and tributary riverine flood events. Effective and efficient Flood Risk Management (FRM) is a shared responsibility or "Team Sport" that requires regular and intensive interagency collaboration and communication. The first regional interagency flood preparedness workshop held in Memphis in Feb 2011, was attended by over eighty state and federal management personnel with direct responsibility for flood risk management activities. There was an overwhelming positive response from attendees regarding the value-added nature of the workshop in light of the many regional challenges with Flood Risk Management in the Mississippi Valley. In recognition of this success and strong support across a wide range of federal/state partners, MG John Peabody, MVD Commander, indicated that his Regional Flood Risk Manager and staff would facilitate the continuation of this annual event as means to ensure appropriate awareness and preparedness prior to spring flood season.

PARTICIPANTS:

FEDERAL AGENCIES

Federal Emergency Management Agency – HQ, Regions: IV, V, VI, VII and VIII

U.S. Fish and Wildlife Service

U.S. Geological Survey

U.S. Dept of Transportation – Maritime Administration (MARAD)

National Oceanic and Atmospheric Administration – National Weather Service

U.S. Coast Guard

U.S. Department of Agriculture - NRCS

U.S. Environmental Protection Agency

U.S. Army Corps of Engineers – HQ, IWR, MVD, Districts: MVP, MVR, MVS, MVM, MVK, MVN, NWD, Districts NWK and NWO

STATES: MN, WI, IA, IL, MO, KY, TN, AR, LA, and MS – Governor's office, Emergency Management and Dept of Natural Resources



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FINAL DRAFT AGENDA OUTLINE

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January 23, 2013, 8:30-12:30 CST

Telecon/Webinar

AUDIO/WEB CONFERENCE ACCESS INFORMATION:

USA Toll-Free: 888-684-8852

PARTICIPANT CODE: 1720303

Webmeeting Address: <https://www.webmeeting.att.com>

(To activate web meeting: Meeting #: 888-684-8852 Access Code: 1720303)

23 Jan 2012

8:30 Welcome & Opening Remarks

- USACE MVD Regional Flood Risk Manager – Scott Whitney
- USACE MVD Commander - MG John Peabody
- FEMA VII Regional Administrator – Beth Freeman

8:40 Session I: Weather Forecast and Hydrologic Warning System

- Spring 2013 Weather Forecast (NOAA/NWS) – Noreen Schwein
- Current Status and Challenges on River Gauges (USGS) – Bob Holmes

9:15 Session II: Continued Drought Conditions, Challenges and Consequences

- Corps Operations and Water Control – Chuck Shadie
- USCG Operations and Traffic Control – CMD Tim Wendt
- MARAD Perspectives/Concerns – Bill Paape and Jim Murphy
- State/Other Perspectives/Concerns

10:00 Session III: Operation Watershed – Recovery (USACE) – Scott Whitney

- Construction Status of Flood Repairs
- System Risk Reduction
- Post Flood Report

10:30 Session IV: Regional Flood/Drought Readiness Actions - Group Discussions

- Upper Region – ND, MN, WI, IL, and IA
- Middle Region – MO, IL, TN, and KY
- Lower Region – AR, MS and LA



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- 11:00 Session V: Overview of Mitigation and Preparedness (FEMA) – Beth Freeman**
- PPD-8 National Preparedness
 - Hazard Mitigation Initiatives
 - Floodplain Permitting and Zoning
 - National Flood Insurance Program (NFIP)
- 11:30 Session VI: State FRM Programs, Incentives and Initiatives (States)**
- Silver Jackets Initiatives and Pilot Projects
 - Levee System Inspections and Certifications
- 12:00 Session VII: Regional Roundtable Perspectives and Concerns**
- Upper Region – ND, MN, WI, IL, and IA
 - Middle Region – MO, IL, TN, and KY
 - Lower Region – AR, MS and LA
- 12:20 Closing Comments, Wrap-Up and Action Items**
- 12:30 Adjourn**

Attachments:

A – MVD RFRM Contact List (meeting invitees)

B – Overview of MR&T Post Flood Report

C – Comprehensive Project Reference Guide for MVDs OW-R Repair/Restore



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ATTACHMENT A

MVD RFRM CONTACT LIST *(workshop invitees)*

Mississippi Valley Interagency Regional Flood Risk Management Contacts

Last Update: 1/14/13

LAST NAME	FIRST NAME	ORG- 1	ORG- 2	ORGANIZATION POSITION	WORK PHONE	E-MAIL ADDRESS
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Mississippi Valley Interagency Regional Flood Risk Management Contacts

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Mississippi Valley Interagency Regional Flood Risk Management Contacts

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Mississippi Valley Interagency Regional Flood Risk Management Contacts

Last Update: 1/14/13

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ATTACHMENT B

OVERVIEW of MR&T POST FLOOD REPORT (Session 3)



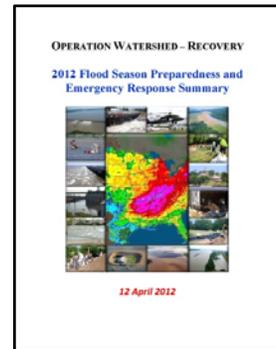
2011 MR&T POST FLOOD EVALUATION

Prepared by S.D. Whitney, 7 January 2011

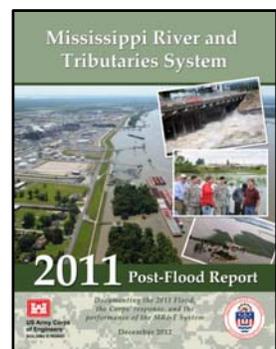
The MR&T Post Flood Evaluation was largely executed from August 2011 through December 2012 as a concentrated effort to investigate and document the performance of the MR&T system and how the entire Mississippi River Watershed was managed as a system during the historic Mississippi River Basin Flood Event that extended from March through July 2011. The purpose of this evaluation was to (1) assess MR&T system performance, (2) identify and prioritize recapitalization requirements for system components necessary to repair the MR&T system for future events, and (3) assess effectiveness or areas of improvement for water control communication and coordination across the watershed. The resulting documents will be a valuable resource for system management, operation and improvements. They will also serve as a reference guides for future flood risk management.

With over 1.5 years of intensive data collection, evaluation, writing and review, three key documents were produced as part of the MR&T Post Flood Evaluation. These documents are intended to serve as educational tools and reference points for our citizens, decision makers and future flood fighters. Facts, figures and lessons learned from the 2011 flood serve to hasten and guide our endeavors to rebuild and improve the MR&T project, ensuring continued safety and security of our citizen's lives and livelihoods.

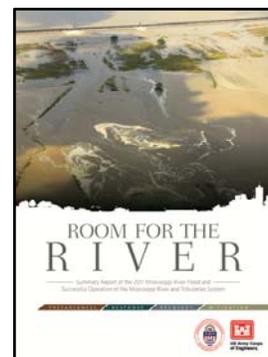
- (1) **APRIL 2012:** a 50-page handbook entitled “*2012 Flood Season Preparedness and Emergency Response Summary*”. This document was developed to capture in general terms, the efforts the Mississippi Valley Division (MVD) U.S. Army Corps of Engineers (USACE) took to manage and mitigate risks associated with the great flood of 2011 and in preparation for the next flood event. This handbook was designed as a useful tutorial for a number of innovative mapping products and web-based tools available educate, inform and elicit action with respect to inherent flood risks following one of the largest flood events on record. Intended Audience: Flood Risk Management Professionals, Decision Makers and Flood Fighters



- (2) **DECEMBER 2012:** a 350 page technical document entitled “*MR&T 2011 Post Flood Report: Documenting the 2011 Flood, the Corps' Response, and the performance of the MR&T System*”. A series of ten Appendices provided several thousand pages of supporting data and documentation are provided on accompanying CD. This comprehensive internal technical assessment evaluates the performance of individual MR&T System components and how well the individual components were utilized and operated as a system to manage the complex set of risks presented by the 2011 Flood. The report concludes with recommendations for improvements and future studies to aid MR&T recovery efforts and future system operation, management, and flood fight activities. Intended Audience: Flood Risk Management Professionals, Decision Makers and Flood Fighters.



- (3) **DECEMBER 2012:** a 32 page summary document entitled “*Room for the River*” provides a colorful series of images and condensed narratives on intriguing facts, figures and lessons learned from the 2011 flood experience and evaluation. The document focuses in on key themes and hot topics surrounding the 2011 Flood and Recovery. Intended Audience: Community/State/Federal Leaders, Congressionals, Media and General Public





Operation Watershed - Recovery

Responding to the Historic Mississippi River Flood of 2011

MR&T 2011 POST FLOOD EVALUATION



KEY MR&T TALKING POINTS

- The Mississippi River and Tributaries (MR&T) project is one of the world's most comprehensive and successful flood control and navigation systems.
- More than a dozen significant floods have tested the MR&T over the past eighty years, but none as extensively as the 2011 record flood.
- The system contains pre-flood deficiencies of which some were not tested by the flood and remain a risk. An example of such underlying/residual risks relates to the 11 percent of the MR&T System on-going construction efforts that may continue for decades.
- In 2011, the MR&T system performed as designed by accommodating the river while using only 85 percent of its design capacity. Yet at the same time, not a single life was lost.
- More than \$230 billion in flood damages were prevented by the MR&T during the 2011 record flood.
- Since its inception, the MR&T system is credited with preventing \$612 billion, or in excess of half a trillion dollars, in cumulative flood damages. At an investment level of \$14 billion, those savings result in a \$44 return on every \$1 invested.
- We owe a debt of gratitude for the wisdom, tenacity and efforts of our forbearers who devised, funded, constructed and maintained this innovative system that has proven so beneficial to so many for so long.
- We extend our sincere appreciation to the thousands of local land owners, levee boards, cities, states and other partners who desperately fought the flood fight alongside us and who continue to stand with us during the path to recovery.
- After more than 1.5 years of evaluation and documentation, the expansive MR&T 2011 Post Flood Report and the condensed "*Room for the River*" booklet will serve as educational tools and reference points for our citizens, decision makers and future flood fighters.
- Facts, figures and lessons learned from the 2011 flood serve to hasten and guide our endeavors to rebuild and improve the MR&T project, ensuring continued safety and security of our citizen's lives and livelihoods.
- The U.S. Army Corps of Engineers and Mississippi River Commission, working hand-in-hand with our strong partners, continue to keep an ear to the past, maintain a hand on the present and project a steady voice for our nation's bright and productive future.



Operation Watershed - Recovery

Responding to the Historic Mississippi River Flood of 2011

MR&T 2011 POST FLOOD EVALUATION



KEY FINDINGS AND CONCLUSIONS

Based on a holistic view of the 2011 Flood and the performance of the MR&T System, the following conclusions may be drawn regarding the system:

- The 2011 Flood was one of the largest on record, particularly in the lower reaches of the Mississippi River.
- Although it was one of the largest floods, much of the extreme rainfall was concentrated, resulting in range of interior flooding issues including drought-like conditions on the lower end of the system.
- Flood fighting was a key measure during the flood. The Corps assigned approximately 1,000 staff to the flood and spent nearly \$60M from March to August when Emergency Operations were underway.
- The flood fighting techniques employed at a tactical level were generally successful in maintaining the integrity of the primary FRM System. An exception is the construction of ring dikes around sand boils and seeps. Some locations reported the throat of the sand boil moving outside the ringed area and requiring re-ringing. This is typically caused by “bleed” channels located too high in the ring dike or missing entirely. The Flood Fight Manuals require updating to provide clearer instructions on ringing sand boils and overall flood fighting terminology and techniques.
- Tie-in issues (floodwall to high ground) have been studied and tested extensively in the aftermath of Hurricane Katrina, and recommendations for tie-in designs are available in the Corps Armoring Manual dated November 2011. As these recommendations are implemented, these types of problems should become less frequent.
- The operation of the MR&T System, as a whole, was adequate to minimize flood impacts. This includes the operation of gates, reservoirs, spillways, and diversions located throughout the System.
- There were 24 reservoirs utilized during the flood with only 5 of them being an MR&T component. The use of the 24 reservoirs ranged from simply monitoring conditions and reporting to normal control to deviation from normal control. Six of the reservoirs reached at least 100% of their flood control storage. Dam safety ratings of reservoirs influence their operation and could impact flood levels in the future.
- No significant breaches occurred in the primary FRM System. Minor breaches occurred in a private spur levee and as part of the operation of the New Madrid Bend Levee.
- Both MVK MR&T System segments were rated unacceptable (pre-flood) requiring extra diligence during 2011 flood fight operations. An “unacceptable” rating occurs when the condition of one or more components may prevent the system segment from performing as designed.
- One of seven MVM MR&T System segments was unacceptable (pre-flood). This increased to four systems post-flood.
- None of six MVN MR&T System segments were rendered unacceptable (pre or post flood).
- The system contains pre-flood deficiencies of which some were not tested by the flood and remain a risk. An example of such underlying/residual risks relates to the 11 percent of the MR&T System on-going construction efforts that may continue for decades.

These conclusions were used to develop a comprehensive and prioritized set of preliminary component-specific recommendations to address the weaknesses and vulnerabilities that were revealed by the 2011 Flood. The report divides these component specific recommendations into three overarching categories (strategic, operational, and technical) to help establish the most appropriate approach to advancing them.



Operation Watershed - Recovery

Responding to the Historic Mississippi River Flood of 2011

MR&T 2011 POST FLOOD EVALUATION



OVERARCHING RECOMMENDATIONS

The PFR effort identified several key overarching recommendations for the MR&T System. These overarching recommendations capture the main themes of the many detailed recommendations developed through this effort:

- **Use the information from the PFR effort to inform repair of the MR&T System.** Use 2011 MR&T System performance, damage, and risk assessment information developed through the PFR and other efforts to help establish appropriate repair processes. This includes efforts focused on improving levee resiliency, confirming level of protection, sharing best practices, and developing system repair plans using risk-informed decision making.
- **Use the information from the PFR effort to inform completion of the MR&T System.** Information from the PFR effort should be used to aid in the development of a plan to complete the remaining 11 percent of the MR&T System not yet constructed. Information that would provide insights into this include MR&T performance, changing river hydraulics, improved levee engineering, economics and associated risks, environmental and other stakeholder considerations.
- **Update Operation Plans/Manuals, Communications Plans, and SOPs using information from this PFR, external inputs, AARs, etc.** Use information developed through the PFR effort, AARs, external inputs, and further studies to inform the update and enhancement of MR&T operation and flood fight plans/manuals, SOPs and regionally standardized communication plans. These efforts would focus on improving both internal and external MR&T related operations during major flood events and would involve refinement of existing processes and utilization of new technologies. Example efforts may include enhancing flood fight operations with newly developed tools and examining the potential need to update operations plans for key MR&T FRM structures.
- **Regionally standardize communication approaches and products with MR&T System floodway and backwater area stakeholders.** Use feedback from stakeholders, lessons learned, best practices, and new technologies to develop regionally consistent communication approaches, tools and products to improve understanding, reduce impacts and improve collaboration during future floods. The Interagency Recovery Task Force offers great potential to make this a coordinated multi-agency effort.
- **Evaluate the need to conduct an updated flow line study for the MR&T System.** Use 2011 hydraulic flood data and associated MR&T component performance to evaluate the need for an updated flow line study for the System. Physical and hydraulic changes in the river system and complex flow patterns at Morganza, Bonnet Carre, and the Old River Control Complex should be examined to determine if a change in flow line data or water control plans is warranted.
- **Coordinate a regional “triage” effort to prioritize, refine and implement the recommendations identified in the MR&T System Post Flood Report.** The next steps in advancing the preliminary MR&T recommendations in this report will utilize the existing regional program management structure and process to further screen, combine, prioritize, refine, and develop detailed scopes for recommendation implementation. This process is vitally important due to the need to establish coordinated MR&T improvement, regional priorities, and because there is limited funding available to accomplish these tasks.

Many of the recommendations developed through this effort are considered preliminary and have not yet been fully scoped or vetted. The next steps in their advancement will include further screening, regional prioritization, refinement, detailed scoping, and analysis. Some of the recommendations provided are already moving forward (e.g., BPNM operation assessment, examination of river flow changes, etc.) and will continue to be advanced. The process of implementing the PFR recommendations will result in improved performance of the MR&T System and further reduce flood risks within the Lower Mississippi River Valley.



ATTACHMENT C

COMPREHENSIVE PROJECT REFERENCE GUIDE FOR MVDs OW-R REPAIR/RESTORE (Session 3)

NOTE: Many of the estimated costs and schedules shown in the following tables are still being refined through ongoing efforts of engineering design, environmental compliance, real estate issues and consideration of multiple implementation strategies. The USACE is committed to driving down risk by delivering these repair/restore projects in the most efficient and effective manner possible. Therefore, our teams will continue to carefully evaluate and improve upon project designs and construction schedules.

The SCHEDULED projects in these tables have been financed through a combination of “Self Financing” (FCCE) and Disaster Relief Appropriations Act (MR&T-O&M-PL84-99).

Completed
Under Construction
Not Started

MVDs OPERATION WATERSHED - RECOVERY

MR&T SCHEDULED REPAIR & RESTORE PROJECTS

2011-2012 completions

2013 completions

2014-15 completions

LAST UPDATE: 10 JAN 2013

AUTH.	TYPE	OW-R REPAIR/RESTORE PROJECTS	CORPS DISTRICT	STATE	FRAGO CLASS (Risk)	ESTIMATED COST (\$1000s)	SCHED START	UPDATED ACTUAL/SCHED COMPLETE DATES
VICKSBURG DISTRICT								
MR&T	CI	Kempe Bend	MVK	LA / MS	II	\$10,920	1-Oct-11	30-Jun-12
MR&T	Levee	Buck Chute	MVK	MS	II	\$2,640	30-Aug-11	31-Jul-12
MR&T	Levee	Albermarle Slide	MVK	MS	II	\$1,006	30-Aug-11	31-Jul-12
MR&T	Levee	Francis (Sand Boil - Rosedale)	MVK	MS	II	\$474	31-Aug-12	15-Feb-13
MR&T	Levee	Winterville	MVK	MS	II	\$510	31-Aug-12	15-Feb-13
MR&T	Levee	Lake Bruin	MVK	LA	II	\$755	4-Jun-13	31-Dec-13
MR&T	Levee	Leland Chute AR 2150+00	MVK	AR	II	\$2,410	9-Jul-13	31-Dec-13
MR&T	Levee	Lake Chicot	MVK	AR	II	\$1,683	9-Jul-13	31-Dec-13
MR&T	Levee	Henderson	MVK	LA	II	\$2,089	4-Jun-13	31-Dec-13
MR&T	Levee	Ice Box Hole	MVK	LA	II	\$933	4-Jun-13	31-Dec-13
MR&T	Levee	Tara	MVK	MS	II	\$4,015	2-May-13	31-Dec-14
O&M	Dredge-M	Victoria Bend Dredging	MVK	MS / AR	II	\$1,600	30-Jul-12	15-Jun-12
MR&T	CI	Walnut Point/ Kentucky Bend	MVK	MS	IIIa	\$13,541	1-Sep-12	15-Nov-12
MR&T	CI	Milliken Bend	MVK	LA	IIIa	\$5,460	1-Sep-12	13-Oct-12
MR&T	CI	Cypress Bend	MVK	AR	IIIa	\$3,276	1-Sep-12	25-Oct-12
MR&T	CI	Gibson	MVK	LA	IIIa	\$1,966	1-Sep-12	18-Oct-12
MR&T	CI	Morville	MVK	LA	IIIa	\$3,259	1-Sep-12	30-Jun-13
MR&T	CI	Hardscrabble DS Ext	MVK	LA	IIIa	\$2,184	12-Aug-12	4-Jan-13
MR&T	CI	Mayersville	MVK	MS	IIIa	\$1,770	1-Sep-12	
MR&T	CI	Goodrich Upstream Extension	MVK	LA	IIIa	\$10,695	3-Dec-12	13-Dec-13
MR&T	CI	Mississippi River Repairs btn 610-320 AHP	MVK	MS/LA/AR	IIIa	\$10,032	21-Jun-12	13-Dec-13
MR&T	CI	Big Island	MVK	AR	IIIa	\$2,621	3-Dec-12	28-Nov-12
MR&T	CI	Kemp Bend	MVK	LA	IIIa	\$121	30-Jul-13	31-Dec-14
MR&T	Levee	Avon	MVK	MS	IIIa	\$1,608	30-May-13	30-Sep-14
MR&T	Levee	Leota	MVK	MS	IIIa	\$698	30-May-13	30-Sep-14
MR&T	Levee	Ben Lomand	MVK	MS	IIIa	\$790	30-May-13	30-Sep-14
MR&T	Levee	Lake Jackson	MVK	MS	IIIa	\$1,123	30-May-13	30-Sep-14
MR&T	Levee	Greenville	MVK	MS	IIIa	\$769	30-May-13	30-Sep-14
MR&T	Levee	Lake St. John	MVK	LA	IIIa	\$198	30-Jul-13	31-Dec-14
MR&T	Levee	Davis Landing (Lake St. Joseph)	MVK	LA	IIIa	\$1,661	30-Jul-13	31-Dec-14
MR&T	Levee	St. Joe	MVK	LA	IIIa	\$105	30-Jul-13	31-Dec-14
MR&T	Levee	Willow Lake	MVK	AR	IIIa	\$2,936	30-Sep-13	30-Oct-14
MR&T	Levee	Grand Lake	MVK	AR	IIIa	\$617	30-Sep-13	30-Oct-14
MR&T	Levee	Wilson Point	MVK	LA	IIIa	\$974	30-Sep-13	30-Oct-14
MR&T	Levee	AR 2250+00	MVK	AR	IIIa	\$438	30-Sep-13	31-Dec-13
MR&T	Levee	Lake Chicot Pumping Station	MVK	AR	IIIa	\$795	7-Jan-14	31-Dec-13
MR&T	Struct	Muddy Bayou - Roller Gate Operators	MVK	MS	IIIa	\$126	1-Jun-12	30-Sep-13
O&M	Dredge-H	Lake Providence Harbor, LA	MVK	LA	IIIa	\$1,200	31-May-12	23-Sep-12
O&M	Dredge-H	Vicksburg Harbor, MS	MVK	MS	IIIa	\$750	15-Feb-12	4-Nov-12
O&M	Dredge-H	Greenville Harbor, MS	MVK	MS	IIIa	\$1,000	15-Feb-12	19-Oct-12
O&M	Dredge-H	Yellow Bend Harbor	MVK	AR/MS	IIIa	\$115	31-May-12	15-Oct-12
O&M	Dredge-H	Madison Parish Port	MVK	LA	IIIa	\$150	31-May-12	30-Sep-12
O&M	Dredge-H	Rosedale Harbor	MVK	MS/AR	IIIa	\$200	30-Jun-12	26-Jan-13
O&M	Dredge-M	Ouachita/Black River, Dredging	MVK	LA	IIIa	\$1,200	29-Feb-12	30-Sep-12
O&M	Dredge-M	Mouth of the Yazoo River, MS	MVK	MS/LA	IIIa	\$175	31-May-12	17-Nov-12
O&M	Dredge-M	Red River, Dredging	MVK	LA	IIIa	\$1,200	29-Feb-12	28-Sep-12
MR&T	CI	Dennis	MVK	MS	IIIb	\$4,805	1-Sep-12	20-Sep-12
MR&T	CI	Bourgere	MVK	LA	IIIb	\$23,587	1-Oct-12	30-Jun-13
MR&T	Levee	Mississippi River Levee Slides - MS	MVK	MS	IIIb	\$1,500	16-Jul-12	30-Sep-12
MR&T	Levee	Mississippi River Levee Slides - AR	MVK	AR	IIIb	\$1,000	20-Aug-12	8-Jan-13
MR&T	Levee	Mississippi River Levee Slides - LA	MVK	LA	IIIb	\$3,500	23-Jul-12	30-Sep-13
MR&T	CI	Leland - Lagrange	MVK	MS	IV	\$1,138	3-Dec-12	21-Dec-12
MR&T	Levee	Mississippi River Levees - Low Spots	MVK	MS, AR, LA	IV	\$3,337	23-Aug-12	15-May-13
MR&T	Levee	Sicily Island Levee Slides	MVK	LA	IV	\$602	1-Aug-12	30-Sep-13
MR&T	Levee	Red River Backwater - Levee Gravel Resurfacing	MVK	LA	IV	\$1,596	31-Jul-12	30-Sep-13
MR&T	Levee	YB Coldwater Levee Slides	MVK	MS	IV	\$100	1-Dec-12	30-Sep-13
MR&T	Levee	YB Mainstem Coldwater Levees	MVK	MS	IV	\$5,000	20-Aug-12	30-Sep-14
MR&T	Levee	YB Will M Whittington Levee Slides	MVK	MS	IV	\$100	1-Dec-12	30-Sep-13

MVDs OPERATION WATERSHED - RECOVERY

MR&T SCHEDULED REPAIR & RESTORE PROJECTS

LAST UPDATE: 10 JAN 2013

2011-2012 completions

2013 completions

2014-15 completions

Completed
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AUTH.	TYPE	OW-R REPAIR/RESTORE PROJECTS	CORPS DISTRICT	STATE	FRAGO CLASS (Risk)	ESTIMATED COST (\$1000s)	SCHED START	UPDATED ACTUAL/SCHED COMPLETE DATES
MR&T	Levee	YB Tributary Levee Slides	MVK	MS	IV	\$100	1-Dec-12	30-Sep-13
MR&T	Levee	YB Yazoo Backwater Levee Slides	MVK	MS	IV	\$4,000	27-Dec-12	30-Sep-14
MR&T	Levee	Mississippi River Levees - Survey controls	MVK	MS, AR, LA	IV	\$2,000	1-Oct-12	31-Oct-13
MR&T	Rec	Arkabutla Lake	MVK	MS	IV	\$700	1-Jul-12	9-Jul-12
MR&T	Rec	Sardis Lake	MVK	MS	IV	\$150	1-Jul-12	2-Jul-12
MR&T	Rec	Enid Lake	MVK	MS	IV	\$150	1-Jul-12	19-Jul-12
MR&T	Rec	Grenada Lake	MVK	MS	IV	\$300	1-Jul-12	6-Jul-12
O&M	Rec	Lake Ouachita Debris Removal	MVK	AR	IV	\$150	1-Aug-12	31-Aug-12
O&M	Rec	Lake Ouachita Facility Repair	MVK	AR	IV	\$100	1-Aug-12	31-Aug-12
O&M	Rec	Lake Ouachita Campsite Repair	MVK	AR	IV	\$90	1-Aug-12	30-Sep-12
O&M	Rec	Lake Ouachita Beach Repair	MVK	AR	IV	\$75	1-Aug-12	31-Aug-12
O&M	Rec	Lake Ouachita Electrical	MVK	AR	IV	\$50	1-Aug-12	30-Sep-12
O&M	Rec	Lake Ouachita Road Repair	MVK	AR	IV	\$200	1-Jul-12	30-Apr-13
O&M	Rec	Lake Ouachita Ditch Lines	MVK	AR	IV	\$100	1-Aug-12	30-Sep-12
O&M	Rec	Lake Ouachita Lift Stations	MVK	AR	IV	\$100	1-Aug-12	30-Sep-12
O&M	Rec	DeGray Lake Debris Removal	MVK	AR	IV	\$50	1-Aug-12	31-Aug-12
O&M	Rec	DeGray Lake Access Road	MVK	AR	IV	\$150	1-Aug-12	31-Aug-12
O&M	Rec	Lake Greeson Electrical	MVK	AR	IV	\$60	1-Aug-12	31-Aug-12
O&M	Rec	Lake Greeson Road Repair	MVK	AR	IV	\$170	1-Aug-12	31-Aug-12
O&M	Rec	Lake Greeson Road_Bridge Repair	MVK	AR	IV	\$200	1-Aug-12	30-Sep-12
O&M	Rec	Lake Greeson Debris Removal	MVK	AR	IV	\$100	1-Jul-12	31-Aug-12
O&M	Rec	Lake Greeson Repair_Rebuild Campsites	MVK	AR	IV	\$120	1-Aug-12	31-Aug-12
O&M	Rec	Lake Greeson Repair_Replace Dump Station	MVK	AR	IV	\$50	1-Aug-12	31-Aug-12
O&M	Rec	Lake Greeson Beach Repair	MVK	AR	IV	\$75	1-Jul-12	31-Aug-12
O&M	Rec	DeGray Dam - Resurface Parking Lot	MVK	AR	IV	\$400	1-Aug-12	30-Apr-13
O&M	Rec	DeGray Lake Beach Repair	MVK	AR	IV	\$100	1-Aug-12	31-Aug-12

MEMPHIS DISTRICT

MR&T	CI	Cache-Cairo	MVM	IL	I	\$26,110	14-Sep-12	3-Aug-12
MR&T	Levee	Above Cairo Parcel 2A - Relief Wells	MVM	IL	I	\$6,769	29-Sep-11	27-Jan-13
MR&T	Levee	BPNM Floodway - Make Safe/Stable & Restore	MVM	MO	I	\$50,000	15-Jul-11	30-Dec-12
MR&T	Levee	Above Cairo Parcel 2 - Slurry Trench	MVM	IL	I	\$1,901	26-Sep-11	18-Aug-12
MR&T	Levee	City of Cairo, IL	MVM	IL	I	\$4,600	1-Aug-12	30-Oct-13
MR&T	Levee	Cairo Parcel 5	MVM	IL	I	\$9,956	14-Sep-12	30-Nov-13
MR&T	Levee	Island 8, KY	MVM	KY	II	\$5,100	31-Jul-12	16-Oct-13
MR&T	Levee	Yazoo MP 89/90 to MP 92/93 (Rena Lara)	MVM	MS	II	\$3,000	28-Feb-13	31-Dec-13
MR&T	Levee	Nash Levee	MVM	MO	II	\$1,500	29-Mar-13	31-Dec-13
MR&T	Levee	Gammon Area boils LM 141	MVM	AR	II	\$2,500	30-Aug-13	31-Dec-13
MR&T	Struct	New Madrid Mainline Culvert Failure, MO	MVM	MO	II	\$900	24-Aug-12	2-Dec-13
O&M	Dredge-M	McKellar Lake Dredging	MVM	TN / AR	II	\$500	31-Jul-12	15-Jan-13
O&M	Dredge-M	Sycamore Chute Dredging	MVM	TN / AR	II	\$2,000	15-Aug-12	31-Dec-12
PL84-99	Levee	Dyer County Levee Breach	MVM	TN	II	\$2,081	30-Apr-13	24-Jun-14
PL84-99	Levee	Ensley Levee Breach	MVM	TN	II	\$1,069	30-Apr-13	31-Dec-13
MR&T	CI	Chute of Island 8	MVM	KY	IIIa	\$13,621	15-Sep-12	12-Oct-12
MR&T	CI	Walnut Bend	MVM	AR	IIIa	\$11,312	1-Aug-12	25-Oct-12
MR&T	CI	Randolph Dikes	MVM	TN	IIIa	\$4,000	31-Jul-12	30-May-13
MR&T	CI	Merriwether-Cherokee, top bank and revetment deep reach	MVM	TN	IIIa	\$24,115	26-Sep-11	31-Jul-13
MR&T	CI	Mississippi River Repairs btn 956-599 AHP	MVM	IL/MO/TN/KY	IIIa	\$4,370	31-Aug-12	30-Jun-13
MR&T	CI	Presidents Island	MVM	TN	IIIa	\$26,689	26-Sep-11	31-Oct-13
MR&T	CI	Oldtown	MVM	AR	IIIa	\$6,253	1-Aug-13	31-Oct-13
MR&T	CI	Rescue	MVM	MS	IIIa	\$9,300	1-Aug-13	30-Nov-13
MR&T	Levee	Cates Levee (Madrid Bend)	MVM	KY	IIIa	\$436	31-Aug-12	26-Oct-12
O&M	Dredge-H	New Madrid Co. Harbor, MO	MVM	MO	IIIa	\$550	30-Jun-12	31-Aug-12
O&M	Dredge-H	Elvis Stahr Harbor, KY	MVM	KY	IIIa	\$1,000	30-Jun-12	12-Aug-12
MR&T	CI	Below Richardson Landing Casting Field	MVM	KY	IIIb	\$3,600	30-Sep-11	31-May-13
MR&T	CI	Merriwether-Cherokee, US DS Revetment	MVM	TN	IIIb	\$6,658	1-Aug-12	18-Sep-12
MR&T	CI	Commerce	MVM	MS	IIIb	\$15,142	1-Aug-12	4-Sep-12
MR&T	CI	Fritz	MVM	TN	IIIb	\$5,822	1-Aug-13	30-Nov-13
MR&T	CI	Little Cypress	MVM	MO	IIIb	\$6,386	1-Aug-13	30-Nov-13
MR&T	CI	Mhoon Bend	MVM	MS	IIIb	\$2,184	1-Aug-13	30-Nov-13

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MVDs OPERATION WATERSHED - RECOVERY

MR&T SCHEDULED REPAIR & RESTORE PROJECTS

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MR&T	CI	Ensley	MVM	TN / AR	IIIb	\$5,800	26-Oct-12	30-Nov-13
MR&T	Dike	Randolph Hardpoints	MVM	TN	IV	\$1,125	30-Aug-12	28-Jun-13
MR&T	Drainage	SFBM Above Haleside Ditch, AR	MVM	AR	IV	\$2,000	31-Aug-12	30-Sep-14
MR&T	Drainage	St. Francis River & Tribs, AR & MO - Ditch 10	MVM	AR	IV	\$1,500	30-Aug-12	2-Nov-12
MR&T	Drainage	SFBM AR-MO Various locations Channel Cleanouts (MSC	MVM	AR & MO	IV	\$1,200	30-Nov-12	30-Aug-13
MR&T	Drainage	SFBM AR-MO Various locations Channel Cleanouts (MSC	MVM	AR	IV	\$2,500	29-Aug-12	16-Oct-13
MR&T	Drainage	St. Francis River & Tribs, AR & MO - Blockhole, MO	MVM	MO	IV	\$3,500	31-Aug-12	31-Aug-13
MR&T	Drainage	St. Francis River & Tribs, AR & MO -Ditch 251, MO	MVM	MO	IV	\$650	31-Aug-13	31-Mar-14
MR&T	Drainage	St. Francis River & Tribs, AR & MO - Ditch 11	MVM	AR	IV	\$600	30-Aug-13	31-Dec-13
MR&T	Drainage	SFBM AR-MO Various locations Channel Cleanouts (MSC	MVM	MO	IV	\$1,200	31-Aug-13	31-Aug-14
MR&T	Drainage	SFBM AR-MO Various locations Channel Cleanouts (MSC	MVM	MO	IV	\$3,500	31-Aug-13	30-Sep-14
MR&T	Drainage	SFBM AR-MO Various locations Channel Cleanouts (MSC	MVM	AR	IV	\$1,500	31-Aug-13	30-Sep-14
MR&T	Drainage	St. Francis River & Tribs, AR & MO - Ditches	MVM	AR & MO	IV	\$7,500	30-Aug-13	30-Sep-15
MR&T	Dredge-H	Memphis Harbor, McKellar Lake, TN	MVM	TN	IV	\$2,800	30-Jun-12	15-Jan-13
MR&T	Dredge-H	Helena Harbor, Phillips Co., AR	MVM	TN	IV	\$500	30-Jun-12	27-Oct-12
MR&T	Dredge-M	Channel Improvement Dredging Westover, AR	MVM	AR	IV	\$500	15-Aug-12	2-Nov-12
MR&T	Levee	SFBM West Levee Renovation (MSC IDs 168-173)	MVM	AR	IV	\$3,500	31-Aug-12	31-Oct-13
MR&T	Levee	SFBM St Francis Town AR Levee Restore	MVM	AR	IV	\$6,500	31-Aug-13	30-Nov-14
MR&T	Levee	SFBM West Levee Renovation (MSC IDs 168-173)	MVM	MO	IV	\$550	30-Aug-13	30-Nov-14
O&M	Dredge-H	Caruthersville Harbor, MO	MVM	MO	IV	\$850	30-Jun-12	21-Sep-12
O&M	Dredge-H	Helena Harbor, AR	MVM	AR	IV	\$600	30-Jun-12	16-Oct-12
O&M	Dredge-H	New Madrid Harbor, MO (Mi 889)	MVM	MO	IV	\$400	30-Jun-12	8-Sep-12
O&M	Dredge-H	Northwest Tennessee Harbor, TN	MVM	TN	IV	\$600	30-Jun-12	7-Dec-12
O&M	Dredge-H	Osceola Harbor, AR	MVM	AR	IV	\$1,000	30-Jun-12	7-Oct-12
O&M	Dredge-H	Wolf River Harbor, TN	MVM	TN	IV	\$300	30-Jun-12	9-Nov-12

NEW ORLEANS DISTRICT

MR&T	Levee	Duncan Point	MVN	LA	I	\$8,850	30-Sep-11	COMPLETE
MR&T	Levee	Baton Rouge Front	MVN	LA	I	\$1,762	30-Nov-11	9-Jul-12
MR&T	CI	Greenville Bend	MVN	LA	II	\$3,902	1-Oct-11	30-Nov-11
MR&T	CI	Avondale Bend, RM 108.0	MVN	LA	II	\$4,700	1-Oct-11	30-Nov-11
MR&T	CI	Avondale Bend, RM 108.3	MVN	LA	II	\$4,703	1-Oct-11	30-Nov-11
MR&T	CI	Port Allen	MVN	LA	II	\$3,800	1-Oct-11	30-Nov-11
MR&T	CI	Alliance	MVN	LA	II	\$14,300	15-May-12	COMPLETE
MR&T	CI	Third District	MVN	LA	II	\$11,400	1-Oct-11	30-Aug-12
MR&T	Levee	Jackson Barricks Slope Paving	MVN	LA	II	\$126	1-Mar-12	1-Mar-12
MR&T	Levee	Belle Chase Slope Paving	MVN	LA	II	\$116	1-Mar-12	1-Mar-12
MR&T	Levee	Chalmette Seepage	MVN	LA	II	\$2,268	16-Sep-11	27-Mar-12
MR&T	Levee	Audubon Seepage	MVN	LA	II	\$233	25-Sep-12	30-Jun-13
MR&T	Levee	Blackhawk Slide	MVN	LA	II	\$3,203	18-Sep-12	13-Mar-13
MR&T	Levee	Huey P Long Seepage	MVN	LA	II	\$10,044	7-Aug-12	15-Jul-13
MR&T	Levee	Old River Seepage	MVN	LA	II	\$21,200	28-Sep-12	28-Sep-13
MR&T	Levee	Algiers Seepage	MVN	LA	II	\$7,888	7-Aug-13	23-Sep-14
MR&T	Levee	Pt Coupee Seepage	MVN	LA	II	\$49,626	19-Sep-13	2-Dec-14
MR&T	Levee	Pt Pleasant Seepage	MVN	LA	II	\$147,866	23-Sep-13	25-Nov-14
MR&T	Struct	Morganza Control, Piezometers and relief wells	MVN	LA	II	\$2,460	1-Oct-11	26-Apr-13
MR&T	Struct	Old River Aux CS	MVN	LA	II	\$16,800	17-Aug-12	7-Aug-13
MR&T	Struct	Morganza Control, Stilling Basin	MVN	LA	II	\$19,650	15-Apr-13	30-Apr-14
MR&T	Struct	Morganza Control, Lower Guide Levee	MVN	LA	II	\$1,800	20-Feb-13	20-Feb-14
O&M	Dredge-M	Gulf Intracoastal Waterway, LA	MVN	LA	II	\$3,000	31-May-12	31-Mar-13
O&M	Dredge-M	Deep Draft Projects	MVN	LA	II	\$120,000	15-Sep-11	15-Feb-13
O&M	Dredge-M	Deep Draft Projects - MR Baton Rouge to Gulf	MVN	LA	II	\$10,000	15-Sep-11	*COMPLETE ahead of sr
MR&T	CI	Saint Gabriel	MVN	LA	IIIa	\$4,040	17-Oct-12	COMPLETE
MR&T	CI	English Turn	MVN	LA	IIIa	\$2,566	17-Oct-12	COMPLETE
MR&T	CI	Saint Alice	MVN	LA	IIIa	\$2,839	17-Oct-12	COMPLETE
MR&T	CI	Tropical Bend	MVN	LA	IIIa	\$3,112	17-Oct-12	15-Jan-13
MR&T	CI	Port Sulphur	MVN	LA	IIIa	\$1,419	17-Oct-12	15-Jan-13
MR&T	CI	Gravolet	MVN	LA	IIIa	\$3,003	30-Sep-12	COMPLETE
MR&T	CI	Mississippi River Repairs btn 320-0 AHP	MVN	LA	IIIa	\$3,014	16-Apr-12	COMPLETE
O&M	Dredge-H	Baton Rouge Harbor (Devils Swamp) - Maintenance	MVN	LA	IIIa	\$250	25-May-12	18-Sep-12
O&M	Dredge-M	Atchafalaya Basin, Dredging	MVN	LA	IIIa	\$6,000	24-Sep-12	30-Jan-13
O&M	Dredge-S	Old River, Maintenance	MVN	LA	IIIa	\$10,000	15-Aug-12	17-Sep-12
MR&T	CI	Marchand	MVN	LA	IIIb	\$3,711	31-May-12	COMPLETE
MR&T	Struct	Morganza Control, seepage	MVN	LA	IIIb	\$50	15-Aug-12	9-Oct-12
MR&T	Struct	Old River CS, erosion	MVN	LA	IIIb	\$3,000	30-Sep-12	30-Dec-13

Completed
Under Construction
Not Started

MVDs OPERATION WATERSHED - RECOVERY

2011-2012 completions

MR&T SCHEDULED REPAIR & RESTORE PROJECTS

2013 completions

LAST UPDATE: 10 JAN 2013

2014-15 completions

AUTH.	TYPE	OW-R REPAIR/RESTORE PROJECTS	CORPS DISTRICT	STATE	FRAGO CLASS (Risk)	ESTIMATED COST (\$1000s)	SCHED START	UPDATED ACTUAL/SCHED COMPLETE DATES
MR&T	Struct	Morganza Control,curtain wall	MVN	LA	IIIb	\$200	1-Oct-12	29-May-13
MR&T	Struct	Wax Lake East PS	MVN	LA	IIIb	\$1,100	30-Mar-13	26-Sep-13
MR&T	Struct	Wax Lake West PS	MVN	LA	IIIb	\$1,400	30-Mar-13	26-Sep-13
MR&T	Struct	Franklin PS	MVN	LA	IIIb	\$1,300	30-Mar-13	26-Sep-13
MR&T	Struct	Centerville PS	MVN	LA	IIIb	\$2,500	30-Mar-13	26-Sep-13
MR&T	Struct	Northbend PS	MVN	LA	IIIb	\$1,000	30-Mar-13	26-Sep-13
MR&T	Struct	Old River CS, outflow channel	MVN	LA	IIIb	\$15,000	30-Jan-13	31-Mar-14

ST. PAUL DISTRICT

PL84-99	Levee	Souris River	MVP	ND	I	\$5,000	26-Sep-11	Completed in Nov 12
PL84-99	Struct	Tolna Coulee Advance Measures	MVP	ND	I	\$6,499	30-Sep-11	Completed in Aug 12
O&M	Dredge-M	Mississippi River (MVP Portion)	MVP	WI / MN	II	\$1,000	1-May-12	Completed in Dec 12
O&M	Struct	Lake Darling embankment/abutment erosion	MVP	ND	IIIb	\$400	6-Mar-12	30-Mar-13
O&M	Struct	Lac qui Parle Lake Structure Repairs	MVP	MN	IV	\$290	25-May-12	30-Jun-13
PL84-99	Struct	Minot Channel Control Structure Repair	MVP	ND	IV	\$400	1-Jul-12	Completed in Nov 12

ROCK ISLAND DISTRICT

O&M	Struct	UMR Locks (16-17-20-21-22) Electrical I Wall Control Stands	MVR	IL, IA, MO	IIIa	\$342	29-Sep-12	COMPLETE
O&M	Struct	UMR LD17 and LD20 Machinery Supports	MVR	IL, IA, MO	IIIa	\$348	1-Sep-12	
O&M	Dredge-S	L&D 16 Auxiliary Lock Dredge	MVR	IL	IV	\$50	3-Apr-12	COMPLETE
O&M	Dredge-S	L&D 17 Auxiliary Lock Dredge	MVR	IL	IV	\$50	3-Apr-12	COMPLETE
O&M	Dredge-S	L&D 18 Auxiliary Lock Dredge	MVR	IA	IV	\$100	3-Apr-12	COMPLETE
O&M	Dredge-S	L&D 20 Auxiliary Lock Dredge	MVR	MO	IV	\$50	3-Apr-12	COMPLETE
O&M	Dredge-S	L&D 21 Auxiliary Lock Dredge	MVR	IL	IV	\$150	3-Apr-12	COMPLETE
O&M	Dredge-S	L&D 22 Auxiliary Lock Dredge	MVR	MO	IV	\$150	3-Apr-12	COMPLETE
O&M	Struct	UMR Locks Central Control Station Repairs	MVR	IL, IA, MO	IV	\$84	30-Apr-12	COMPLETE
FCCE	Struct	Govt Interceptor Sewer L&D 15	MVR	IA	IIIa	\$2,500	1-Aug-12	???
O&M	Dredge-M	Miss River Btwn Mo River and Minneapolis, MN	MVR	MO/IL/IA/WI	II	\$500	30-Jul-12	*COMPLETE ahead of sc

ST. LOUIS DISTRICT

O&M	Dredge-M	Miss River btn MO River & Minneapolis, MN	MVS	MO / IL	II	\$650	5-Mar-12	15-Dec-12
O&M	Dredge-M	Miss River, Cairo to Mouth of Missouri	MVS	MO / IL	II	\$6,600	28-Dec-11	15-Dec-12
PL84-99	Levee	Scott County Levee Breach	MVS	IL	II	\$1,416	15-Jun-12	COMPLETE
PL84-99	Levee	Len Small Levee Breach	MVS	IL	II	\$4,175	27-Aug-12	1-Mar-13
O&M	Dredge-H	SEMO Port	MVS	MO	IIIa	\$450	5-Mar-12	COMPLETE
O&M	Dredge-M	Kaskaskia Navigation Project Dredging	MVS	IL	IIIa	\$900	5-Mar-12	31-Mar-13
MR&T	Struct	Wappapello Flood Damages	MVS	MO	IV	\$1,800	2-Apr-12	30-Sep-13
MR&T	Struct	Wappapello Flood Damages - Spillway	MVS	MO	IV	\$2,600	2-Apr-12	30-Sep-13
O&M	Rec	Kaskaskia Navigation Project - Rec Site Repair	MVS	IL	IV	\$75	15-Mar-12	COMPLETE
O&M	Rec	Kaskaskia Navigation Project -Rec Site Repairs	MVS	IL	IV	\$250	15-Mar-12	COMPLETE
O&M	Rec	Rend Lake - Land & Facility Repair	MVS	IL	IV	\$520	28-Feb-12	COMPLETE
O&M	Struct	Rend Lake - Main Dam	MVS	IL	IV	\$995	2-Apr-12	COMPLETE
O&M	Struct	Kaskaskia Lock Relief Wells Drainage	MVS	IL	IV	\$250	15-Jun-12	COMPLETE
O&M	Struct	Kaskaskia Lock Electrical	MVS	IL	IV	\$200	15-May-12	COMPLETE
O&M	Struct	Kaskaskia Tainter Gate Repairs	MVS	IL	IV	\$1,300	15-May-12	COMPLETE
O&M	Struct	Kaskaskia Floating Guidewall Repair	MVS	IL	IV	\$250	15-May-12	15-May-13
PL84-99	Levee	Clear Creek D&LD	MVS	IL	IV	\$869	28-Sep-12	26-Nov-12
PL84-99	Levee	Winfield Pin Oak D&LD	MVS	MO	IV	\$598	4-Sep-12	26-Nov-12
PL84-99	Levee	Degognia / Fountain Bluff D&LD	MVS	IL	IV	\$6,029	27-Sep-12	1-Mar-13
PL84-99	Levee	Grand Tower D&LD	MVS	IL	IV	\$5,591	27-Sep-12	1-Mar-13
PL84-99	Levee	Kaskaskia Island D&LD	MVS	IL	IV	\$745	4-Sep-12	26-Nov-12
PL84-99	Levee	Preston D&LD	MVS	IL	IV	\$1,145	4-Sep-12	26-Nov-12
PL84-99	Levee	Valley City D&LD	MVS	IL	IV	\$444	4-Sep-12	26-Nov-12