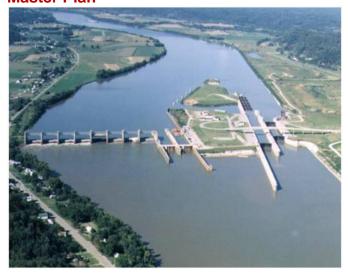


### Ohio River Locks and Dams Master Plan



Robert C. Byrd Locks and Dam

#### **Current Phase:**

Regional Master Plan Update

#### **Location and Description:**

The Regional Master Plan consists of the six locks and dams along the Ohio River including areas in West Virginia, Kentucky, and Ohio. The locations are listed below from east to west.

<u>Willow Island Locks and Dam</u> is located on the Ohio River, 161.7 miles downstream from Pittsburgh, PA, and 3.4 miles upstream from Waverly, WV.

Belleville Locks and Dam is located on the Ohio River at mile 204. Belleville Locks sit 203.9 miles below Pittsburgh, PA, and 0.5 miles below Belleville, WV. Racine Locks and Dam is located on the Ohio River, 237.5 miles below Pittsburgh, PA and 1.5 miles downstream from Letart Falls, OH.

<u>Robert C. Byrd Locks and Dam</u> is located on the Ohio River, 279.2 miles below Pittsburgh, PA, and 9 miles below the City of Gallipolis, OH.

<u>Greenup Locks and Dam</u> is located on the Ohio River, 341.0 miles below Pittsburgh, PA, and 5.0 miles below Greenup, KY.

<u>Meldahl Locks and Dam</u> is located at mile 436 of the Ohio River in Felicity, Ohio. It is 436.2 miles below Pittsburgh, PA, and 1.7 miles below Chilo, OH.

The purpose of the locks and dams is to create a series of steps which river tows and other boats either climb or descend as they travel upstream or downstream. Additionally, the locks and dams provide the opportunity for public recreation and wildlife and vegetative habitats. Belleville and Greenup are also equipped with privately-owned hydroelectric plants.

#### **Summarized Financial Data:**

	<u> Waster Fiar</u>
Estimated Federal Cost	\$610,000
Estimated Non-Federal Cost	\$0
Total Estimated Project Cost	\$610,000
Allocation thru FY23 (Federal)	\$530,000
Balance to Complete after FY23	\$80,000
FY24 Capability (FED)	\$80,000
FY25 President's Budget	N/A

#### **Authorization:**

River and Harbor Act of 3 March 1909, Sixtieth Congress, 2nd Session. Flood Control Act of 1944 and amendments.

#### FY23 Activities:

Louisville District, in coordination with Huntington District, reformatted the initial draft Master Plan to fit the description of "integrated" vs "stand alone" Environmental Assessment.

#### FY24 Planned Activities:

The District quality control reviews are planned prior to public release and review of the draft report. Once public and agency review of the draft report is complete, the Districts will address public comments and finalize the report. The Master Plan update is scheduled for completion in July 2024.

#### **Issues and Other Information:**

The Louisville District is executing the Master Plan update on behalf of the Huntington District.

#### Congressional Interest:

Greenup – Mitch McConnell (KY), Rand Paul (KY), Sherrod Brown (OH), J.D Vance, (OH), Thomas Massie (KY-4), Hal Rogers (KY-5), Bill Johnson (OH-6)

Meldahl – Sherrod Brown (OH), J.D. Vance, (OH), Mitch McConnell (KY), Rand Paul (KY), Brad Wenstrup (OH-2), Thomas Massie (KY-4)

RC Byrd – Joe Manchin (WV), Shelley Moore Capito (WV), Sherrod Brown (OH), J.D. Vance, (OH), Carol Miller (WV-1), Bill Johnson (OH-6)

Willow Island – Sherrod Brown (OH), J.D. Vance, (OH), Joe Manchin (WV), Shelley Moore Capito (WV), Bill Johnson (OH-6), Carol Miller (WV-1)

Racine – Joe Manchin (WV), Shelley Moore Capito (WV), Sherrod Brown (OH), J.D. Vance, (OH), Bill Johnson (OH-6), Carol Miller (WV-1)

Belleville – Joe Manchin (WV), Shelley Moore Capito (WV), Sherrod Brown (OH), J.D. Vance, (OH), Carol Miller (WV-1), Alexander Mooney (WV-2), Bill Johnson (OH-6)



# **Emergency Action Plan Template Kentucky**

#### U.S. ARMY CORPS OF ENGINEERS

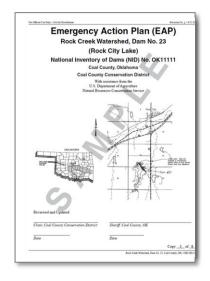
**BUILDING STRONG®** 

**AUTHORIZATION:** Section 206 of the Flood Control Act of 1960 (86-645)

**PROJECT SPONSOR:** Kentucky Emergency Management (KYEM)

**LOCATION:** Industries in the Commonwealth of Kentucky





Buffalo Trace Distillery on the Kentucky River

Congressional Member Interest	Key Stakeholder Interest
SEN Mitch McConnell (KY)	National Weather Service
SEN Rand Paul (KY)  U.S .Geological Services	
REP Thomas Massie (KY-4) Kentucky Division of Water	
REP Andy Barr (KY-6) Environmental Protection Agency	
REP Brett Guthrie (KY-2)	Beam Suntory

#### PROJECT DESCRIPTION AND BACKGROUND:

Because of recent repeated flooding impacting one of Kentucky's largest industries, the Kentucky Silver Jackets Team would like to develop a Flooding Related Emergency Action Plan (EAP) Template Process for the Commonwealth to provide to industries and non-residential facilities located in or near the floodplain.

In many cases, non-residential facilities have inadequate flood warning and lack the knowledge and expertise on how to obtain flood warning related information or how to adequately use that information to mitigate, respond to or operate during flooding. The district has identified pilot facilities to partner within this effort: the Buffalo Trace Distillery, the Jim Beam Distillery located along the Kentucky River, and Jim Beam's Clermont, Kentucky distillery.

Bourbon distillation is one of the fastest growing industries in Kentucky due to its economic impact, job creation, and tax revenue. These historic facilities were built in the floodplain because their operations require large quantities of water. Due to their historic nature, relocation is not a viable option.

#### **BUDGET INFORMATION:**

Authorized Total Project Cost	\$145,000
Non-Federal Sponsor Cost	\$0
Federal Cost	\$145,000
Funding Received to Date	\$22,500

#### **CURRENT STATUS:**

The Louisville District started the project with a kickoff meeting in December 2022. This effort will develop a Template Process that will assist the Commonwealth in helping non-residential facilities and structures to develop or update flood related EAPs to be more resilient as floods occur.

An EAP template will allow the Commonwealth to assist manufacturers in this industry, other industries, and non-residential facilities in developing their own EAP, further decreasing flood risk, and associated economic impacts due to flooding. One of the key topics at the 2022 Annual Bourbon Industry Conference was the need for distilleries to develop and/or improve EAPs for their facilities. In addition, the Commonwealth will host virtual workshops to interested facilities to help disseminate information on the process and can work with the Kentucky Association of Manufacturing and other statewide non-residential organizations to further disseminate the information.

#### **Project POC:**

John Bock Deputy District Engineer john.r.bock@usace.army.mil (502) 315-6104



# Eastern KY Flooding, Planning Assistance To States (PAS)

#### U.S. ARMY CORPS OF ENGINEERS

**BUILDING STRONG®** 

**AUTHORIZATION:** Planning Assistance to States (PAS) Section 22 of the Water Resources Development Act (WRDA) of 1974 (Public Law 93-251), as amended

PROJECT SPONSOR: Commonwealth of Kentucky Division of Water

**LOCATION:** Eastern, Kentucky



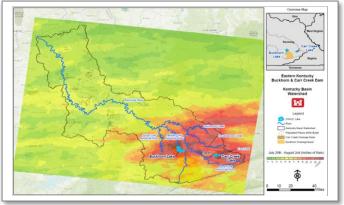


Image of flooding in Jackson, KY from July 2022.

Rainfall intensity map from July 2022 storms.

Congressional Member Interest	Key Stakeholder Interest
SEN Mitch McConnell (KY)	Affected counties and communities
SEN Rand Paul (KY)	Commonwealth of Kentucky
REP Hal Rogers (KY-5)	

**PROJECT DESCRIPTION AND BACKGROUND:** The project is located within Eastern Kentucky, and will encompass numerous counties including Breathitt, Clay, Estill, Harlan, Knott, Lee, Leslie, Letcher, Owsley, Perry, and Wolfe Counties.

The study will focus on the flooding that ravaged Eastern Kentucky in March of 2021 and July of 2023. The study will examine the hydrology and hydraulics associated with these flood events in the North Fork of the Kentucky River and its tributaries to develop possible flood mitigation strategies and improve flood warning systems & emergency evacuation procedures when applicable. The study will also look to capture, and model observed flood data in response to Eastern Kentucky flood events, and potential development of inundation mapping capability to support responses to future flood events.

#### **BUDGET INFORMATION:**

Authorized Total Project Cost	\$1,000,000 (estimate)
Non-Federal Sponsor Cost	\$500,000 (estimate)
Federal Cost	\$500,000 (estimate)
Funding Received to Date	\$0

**CURRENT STATUS:** The Louisville District and the Commonwealth of Kentucky are negotiating the final scope of work and will look to begin work on the study in FY 23. The Commonwealth of Kentucky will be utilizing in-kind resources as their cost share. The Water Resources Development Act of 2022 contained authorities in Section 8103 and Section 8201 in response to the flooding in Eastern Kentucky, but no funding has been appropriated yet.

#### **Project POC:**

John Bock Deputy District Engineer john.r.bock@usace.army.mil (502) 315-6104

## Ohio River Shoreline, Paducah, KY Reconstruction Project



Pump Station #2 pipes and pumps supported by scaffolding.

#### **Current Phase:**

Construction

#### **Location and Description:**

The Paducah, Kentucky Local Flood Protection Project is located in McCracken County, Kentucky, on the left bank of the Ohio River, 934.4 miles below Pittsburgh, Pennsylvania.

The project consists of rehabilitation work to the existing floodwall/levee, which will involve repair/replacement of aging pumping station equipment, corrugated metal pipes, concrete, and other appurtenant features.

#### Authorization:

Section 5077 of the Water Resources Development Act (WRDA) of 2007, Public Law 110-114; Section 7002 of the Water Resources Reform and Development Act (WRRDA) 2014; and Section 1401 of the Water Infrastructure Improvement (WIIN) Act of 2016, Public Law 114-322

#### Sponsor:

City of Paducah, Kentucky

#### FY 23 Activities:

The Louisville District continued work on rehabilitating pump stations on both the Phase I and Phase II contracts. Project completion was delayed due to delays in the manufacturing of the pumps.

#### **Summarized Financial Data:**

Estimated Federal Cost	\$24,247,473
Estimated Non-Federal Cost	\$13,056,332
Total Estimated Project Cost	\$37,303,805
Allocation thru FY23 (Federal)	\$24,309,900
Balance to Complete after FY23	\$0
FY24 Capability (FED)	\$0
FY25 President's Budget	N/A

#### **FY 24 Planned Activities:**

Construction will continue and both Phase I and Phase II are scheduled to be completed in FY24. Continue to review and certify Work In-Kind submitted by the local sponsor.

Issues and Other Information: The Paducah, Kentucky Local Flood Protection Project was removed from the Rehabilitation Inspection Program under Public Law 84-99 in the Fall of 2007 because of corroded metal drainage pipes. The City of Paducah risked FEMA decertification of their local flood protection project if they did not quickly repair the corroded metal pipes that drain normal storm water runoff through the earthen levee and into the river. Failure of those drainage pipes could cause interior flooding or breach the earthen levee, and thus threaten the local population and damage properties. The City completed repair of the pipes and was recertified in the Rehabilitation Inspection Program in January 2010. Section 5077 of WRDA 2007 provided authority for the project and contained language indicating that the "Secretary shall complete a feasibility report" and, if feasible, "carry out the project at a total cost of \$3,000,000." Section 2003 of WRDA 2007 provides non-Federal interests may receive in-kind credit for costs of planning, design, management, mitigation, construction, and construction services. After the District executed the PPA in July 2017, these Work In-Kind (WIK) costs were credited towards the sponsor's contribution of matching funds.

#### Congressional Interests:

SEN Mitch McConnell (KY) SEN Rand Paul (KY) REP James Comer (KY-1)

#### City of Ledbetter, Livingston County, Kentucky Emergency Streambank Stabilization (CAP Section 14)



Summarized Financial Data:	<u>(D&amp;I)</u>
Estimated Federal Cost	\$562,900
Estimated Non-Federal Cost	\$303,100
Total Estimated Project Cost	\$866,000
Allocation thru FY23 (Federal)	\$239,308
Balance to Complete after FY23	\$323,592
FY24 Capability (FED)	\$323,592
FY25 President's Budget	N/A

#### **Current Phase:**

Design and Implementation (D&I)

#### **Location and Description:**

The project is located within the corporate city limits of Ledbetter in Livingston County, Kentucky along Riverside Drive.

The Feasibility Phase was completed in FY22 at full Federal expense and recommended approximately 160 feet of shoreline stabilization on the Ohio River near Riverside Drive. The principal cause of the erosion at this location is scouring of the bank due to the high velocities that concentrate along the left bank of the river during high flow conditions.

#### **Authorization:**

Section 14 of the 1946 Flood Control Act, as amended.

Sponsor: Livingston County, Kentucky

#### **FY23 Activities:**

The Project Delivery Team initiated design of the recommended plan (riprap on the bank) to address the erosion issue. Draft plans and specifications were completed.

#### **FY24 Planned Activities:**

Finalize plans and specifications. Real estate acquisition. Advertise and award a construction contract once the real estate is acquired. Award of the contract will occur in late FY24 or in FY25 depending on the length of time needed for real estate acquisition.

#### **Issues and Other Information:**

Geotechnical drillings and lab results took longer than expected and delayed start of design approximately one to two months.

#### **Congressional Interest:**

SEN Mitch McConnell (KY) SEN Rand Paul (KY) REP James Comer (KY-1)

#### Wabash River Dikes



**Project Area** 

#### **Current Phase:**

Construction

#### **Location and Description:**

The project area is located in the Ohio River near the confluence with the Wabash River along the Illinois and Kentucky banks.

The FY19 Supplemental (O&M) Bill authorized \$26M for the design and construction of river dikes in the Ohio River near the confluence of the Wabash River. In 2008, the Wabash River cut-through reduced the river by 13 miles. This has resulted an annual dredging of the Ohio River near the mouth of the Wabash River at a cost of \$1.5M (2016 dollars) annually. Prior to 2008 (1932-2007), the average annual dredging cost was only \$86K (2016 dollars). Construction of the river dikes will reduce the amount of dredging needed in this area.

#### Authorization:

P.L. 116-20

#### Sponsor:

N/A

#### **Summarized Financial Data:**

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Estimated Federal Cost	\$26,000,000
Estimated Non-Federal Cost	\$0
Total Estimated Project Cost	\$26,000,000
Allocation thru FY23 (Federal)	\$9,815,104
Balance to complete after FY23	\$0
FY24 Capability (FED)	\$0
FY25 President's Budget	N/A

#### **FY23 Activities:**

The Project Delivery Team addressed real estate issues relating to an easement with the Natural Resource Conservation Service (NRCS). A full Notice-to-Proceed (NTP) was issued to the contractor. Construction was initiated.

#### **FY24 Planned Activities:**

The current scheduled completion date for construction is the 2<sup>nd</sup> Quarter of FY24. Close-out the project.

#### <u>Issues and Other Information:</u>

The construction contract amount was significantly lower than the estimated federal cost resulting in a savings to the Government.

#### **Congressional Interest:**

SEN Todd Young (IN)

SEN Mike Braun (IN)

SEN Mitch McConnell (KY)

SEN Rand Paul (KY)

SEN Richard J. Durbin (IL)

SEN Tammy Duckworth (IL)

REP Larry Bucshon (IN-08)

REP James Comer (KY-01)

REP Mary Miller (IL-15)

Construction

#### John T. Myers Locks and Dam, IN and KY



J.T. Myers 600' Lock Extension

#### **Current Phase:**

Construction

#### **Location and Description:**

The project is located on the right bank of the Ohio River at river mile 846.0 approximately 3.5 miles downstream of Uniontown, KY, with the lock chambers towards the Indiana shore.

The John T. Myers Lock Extension Project will extend the existing 600-foot long auxiliary lock chamber to a 1,200-foot long lock chamber. This effort will give the navigation facility twin 1,200-foot locks for inland navigation tow traffic. This additional lock capacity will enable the facility, in operation since 1969, to manage tow traffic during planned and unscheduled main lock closures without significant delays to inland navigation. Many contracts are required to design and construct the project. Preconstruction, Engineering and Design (PED) efforts since 2000 have included hydraulic model studies and engineering analysis and foundation explorations towards preparation of project plans and specifications.

#### **Authorization:**

Water Resources Development Act (WRDA) 2000, Public Law 106-541

#### **FY23 Activities:**

No activities were completed in FY23 since no Federal funds were received.

#### **FY24 Planned Activities:**

If FY24 funds are received, they would be used to initiate a General Reevaluation Report (GRR) to evaluate the cost and economics of the current approved plan.

#### **Issues and Other Information:**

In September 2004, the Corps awarded the first site preparation contract for construction of an Operations

#### **Summarized Financial Data:**

	Construction
Estimated Federal Cost	\$226,561,000
Estimated Non-Federal Cost	\$216,239,000
Total Estimated Project Cost	\$442,800,000
Allocation thru FY23 1/	\$19,456,946
Balance to Complete After FY23	\$423,343,054
FY24 Capability (FED)	\$400,000
FY25 President's Budget	TBD

1/ Includes funds (\$10,110,000) provided by the American Recovery and Reinvestment Act of 2009 (ARRA), Public Law 111-5, which are not cost shared with IWTF appropriations.

Support Facility. Those construction activities were completed in late 2005. The remaining site preparation contracts will include: a) excavation of the river bank to widen the upper lock approach; b) construction of a Resident Engineer's building; c) miter gate storage area, with spare gate; and d) implementation of aquatic mitigation. Based upon physical modeling, it is necessary to widen the upper approach area for downbound entry of commercial towing vessels into the extended auxiliary lock chamber. The spare miter gate will allow the Corps to expedite both scheduled maintenance activities and emergency repairs to the existing lock miter gates. Environmental mitigation will involve installation of a series of in-water features, over three consecutive summer and fall low water seasons, to enhance aquatic habitat in the nearby vicinity of the project. Upon receipt of additional funding the District would proceed towards award of the remaining contracts. The District plans to award two contracts to construct the lock extension and its new approach walls.

The Corps of Engineers has suspended design of the project until receipt of additional funds. The American Recovery and Reinvestment Act of 2009 provided the Corps of Engineers with funding to award the contracts for construction of the upper lock approach widening and Resident Engineer's building. The approach widening contract was awarded on December 17, 2009 and was substantially complete in July 2012. The Resident Engineer's Building was awarded on March 31, 2010, and was substantially complete in December 2011.

Construction of the remaining work will be accomplished by award of both fully and incrementally-funded contracts. The schedule will be developed upon receipt of additional funds.

The John T. Myers project passes the highest tonnage of all the Ohio River high lift locks with a 600-foot auxiliary chamber. Approximately 73 million tons of commodities were shipped through the J. T. Myers locks in 2010. The project authorization was a product of the Ohio River Mainstem Systems Study, which used a regional systems approach to address the investments needed to provide an efficient navigation system on the

Ohio River Mainstem through 2060. This project represents a reinvestment in the river transportation infrastructure.

#### **Congressional Interests:**

SEN Mitch McConnell (KY)

SEN Rand Paul (KY)

SEN Todd Young (IN)

SEN Mike Braun (IN)

SEN Richard J. Durbin (IL)

SEN Tammy Duckworth (IL)

REP Mary Miller (IL-15)

REP Larry Bucshon (IN-8) REP James Comer (KY-1)

# Locks and Dam 52 and 53 Replacement Project (Olmsted Locks and Dam), IL and KY



**Project Area** 

#### **Current Phase:**

Construction

#### **Location and Description:**

The project consists of two 110' X 1200' locks adjacent to the Illinois bank, and a dam comprised of five Tainter gates, 1400' of boat-operated wickets and a fixed weir. The proposed replacement structure will eliminate Ohio River Locks & Dams 52 & 53. Locks & Dams 52 & 53 were completed in 1929 and the temporary 1,200' long lock chambers were added in 1969 at Locks & Dam 52 and 1979 at Locks & Dam 53. The antiquated design and age of these structures make it impossible to meet current traffic demands without significant delays. The existing structures have deteriorated structurally and are overstressed during normal operating conditions. Existing wicket dam has missing sections and wickets that will not raise making it very difficult to maintain pool during low water. The temporary locks at Locks & Dam 52 & 53 have significantly passed their 15-year design life.

This strategic reach of the Ohio River provides a connection between the Mississippi River, Tennessee River and Cumberland River. More tonnage passes this point than any other place in America's inland navigation system. In 2011, 91 million tons (Locks & Dam 52), traversed this portion of the Ohio River. 25% of all coal shipped on the inland waterways transits Locks & Dam 52, destined for many of the 50 power plants located on the Ohio River System or the 17 power plants located in eight states on the Upper or Lower Mississippi River.

#### **Authorization:**

The Olmsted Locks & Dam project was authorized by Section 3(a)(6) of the Water Resources Development Act (WRDA) of 1988. The authorized project cost was increased on 17 October 2013 as part of a Continuing

#### **Summarized Financial Data:**

Authorized Total Project Cost \$2,867,296,000
Estimated Federal Cost \$1,856,981,000
Estimated Inland Waterways Trust Fund Funding received to date: \$2,853,403,115

Appropriations Act, 2014 to \$2,918,000,000. The project was funded 50%/50% from the General Treasury and the Inland Waterways Trust Fund (IWTF) through FY2013. The FY2014 Omnibus Appropriation Act changed the split of IWTF and General Treasury funds to 25%/75% for FY2014 only. Water Resources Reform and Development Act of 2014 changed the IWTF and General Treasury shares to 15%/85% beginning 1 Oct 2014.

Sponsor: Inland Waterways Trust Fund

#### Status:

Olmsted was put into service on 6 Sep 2018 ahead of the scheduled 1 Oct 2018 date, and 4 years ahead of the PACR milestone, to mitigate significant economic exposure to industry stakeholders given the failing condition of Locks & Dams 52 & 53. This early operational date and subsequent unseasonable extended high-water event impacted completion of several critical items of the dam to include isolation piles and shell patching. An additional \$63M was received through the FY20 Work Plan for project delays due to the high-water impact to the costreimbursement contract extension and procurement of remaining work. LRL continues to actively work towards completion of remaining work and to complete the project ahead of the Cost Scheduled Risk Analysis date of 2026. The Dam contract is now complete and the contractor has demobilized from the site.

#### **FY24 Planned Activities:**

The evaluation of a trench cleaning design is underway to develop a diver-less process to clean sediment and debris from the wicket trench. The evaluation of proposals is scheduled for the 1<sup>st</sup> Quarter of FY24. A contract for the development of a design is planned to be awarded with a follow-on construction contract to build and implement the diver-less trench cleaning process. All activities are scheduled to be complete in FY26.

#### **Issues and Other Information:**

The project has four pending REAs that are being evaluated.

#### **Congressional Interest:**

SEN Mitch McConnell (KY) SEN Rand Paul (KY)

#### Fort Campbell, KY



#### **Location and Description:**

Fort Campbell is a power projection platform and a major maneuver installation for the Army. It is also the home of the Army's most-deployed contingency forces.

Strategically located on the KY/TN State line, the installation has the unique ability to deploy mission-ready contingency forces by air, rail, highway and inland waterway. US Army Garrison (Fort Campbell) mission is to support expeditionary forces by providing equitable & efficient services that sustain Fort Campbell and enhance the well-being of the military community. According to latest Army projections, Fort Campbell will continue to support a large military population (comprising around 27,058 Active Component Soldiers) in the foreseeable future. Major units located at Fort Campbell include:

- 101st Airborne Division (Air Assault)
- 5th Special Forces Group (Airborne)
- 160th Special Aviation Operations Regiment
- 52nd Ordnance Group (EOD)
- Army Field Support BN Campbell
- US Army Medical Command
- 531st Hospital Center
- US Army Garrison Fort Campbell

#### **Authorization:**

Military Construction, Army Minor Construction, Army Operation and Maintenance, Army

#### **FY24 Activities:**

Design, procurement, and construction management activities. Including:

- 5 MILCON projects (Communication Facility, Operation & Mission Planning Center, Child Development Center, FY26&27 Barracks)
- 2 Minor MILCON project (Bldg Renovation, Consolidated Housing Furniture Storage Facility)
- 4 O&M Projects (Renovations, Swing Space, Repair Taxiway, Rectifier Replacement)

#### **FY25 Planned Activities:**

Design, procurement, and construction management activities and continued support of new projects.

#### Issues and Other Information:

**NSTR** 

#### **Summarized Financial Data:**

Construction

**Estimated Federal Cost** 

\$251,737,100

#### **Congressional Interest:**

Sen. Mitch McConnell (KY)

Sen. Rand Paul (KY)

Sen. Marsha Blackburn (TN)

Sen. Bill Hagerty (TN)

Rep. James Comer (KY)

Rep. Mark Green (TN)

# Green River Locks and Dams 3, 4, 5 & 6 and Barren River Lock and Dam 1 Disposal



Green River Lock and Dam 3 (Rochester, Kentucky)

#### **Current Phase:**

Disposal

#### **Location and Description:**

Five locks and dams on the Green and Barren Rivers in south-central Kentucky are no longer used for their original authorized purpose of commercial navigation. The Louisville District completed a Disposition Study in 2014 to evaluate the formerly used navigation facilities and to make recommendations regarding the possible deauthorization and/or disposal of the facilities.

All five projects were deauthorized in the 2016 Water Resources and Infrastructure Improvements to the Nation (WIIN) Act which included language directing disposal to identified recipients.

Section 1311 of the Water Resources Development Act (WRDA) 2018 clarified that Green River Lock & Dam 5 and Barren River Lock & Dam 1 may be removed under USACE ownership and that contributed funds could be used to accomplish the removal.

Statutory compliance with Section 106 of the National Historic Preservation Act and Section 7 of the Endangered Species Act are required prior to disposal.

#### **Authorization:**

Section 1315 of the Water Infrastructure Improvements for the Nation Act (WIIN) of 2016.

Section 1311 of the Water Resources Development Act (WRDA) 2018.

Summarized Financial Data:	<u>Disposal</u>
Estimated Federal Cost	\$285,000
Estimated Non-Federal Cost	\$0
Total Estimated Project Cost	\$285,000
Allocation thru FY23 (Federal)	\$285,000
Balance to Complete after FY23	\$0
FY24 Capability (FED)	\$0
FY25 President's Budget	TBD

#### **FY23 Activities:**

The Louisville District continued partnerships with the working group, completed the Section 106 coordination for all locks and dams, and continued working on a solution for the Edmonson County Water District (ECWD) intake located within the pool of Green River Lock and Dam 5. The District completed the deeds and disposal reports for the conveyance of Green River Lock and Dam 6 and Barren River Lock and Dam 1.

#### **FY24 Planned Activities:**

The District has finalized disposal packages for Green River Lock & Dam 6 (going to Kentucky Department of Fish and Wildlife Resources and The National Park Service) and Barren River Lock & Dam 1 (going to the Kentucky Department of Fish and Wildlife Resources) and intends to submit them to HQUSACE for deed review. The District has identified temporary work packages to minimize identified safety hazards at Green River Lock & Dam 4 to allow for the disposal to Butler County. In addition, the District is currently working with U.S. Fish and Wildlife Resources to potentially remove the remaining portions of the dam and other improvements within the river. Green River Lock and Dam 5 is currently in a paused status until a viable solution for the Edmonson County Water District has been identified.

#### **Issues and Other Information:**

Regional low water coinciding with the removal of Green River Lock and Dam 5 delayed the complete removal of Green River Lock and Dam 5 when ECWD became alarmed at water levels and the potential impact to their intake located on the Green River. The Nature Conservancy (TNC) is contracted with Kimley-Horn Engineering to assist in identifying potential alternatives for the ECWD. Once a viable solution is developed and funding identified, removal efforts will resume.

#### **Congressional Interest:**

SEN Mitch McConnell (KY) SEN Rand Paul (KY) REP Brett Guthrie (KY-2) REP James Comer (KY-1) Green River Lake, Kentucky Master Plan Update



Green River Lake Dam - Campbellsville, Kentucky

#### **Current Phase:**

Master Plan Update

#### **Location and Description:**

Green River Lake is situated in Adair and Taylor counties, lying amidst rolling terrain, steep bluffs, and flowing streams in the section of Kentucky known as the Highland Rim. The dam, located on the Green River, is an 11-mile drive from the cities of Campbellsville, KY and Columbia, KY, and less than 100 miles from Louisville and Lexington, Kentucky.

The U.S. Army Corps of Engineers started construction in April 1964, and the lake was completed in June 1969. The project consists of 25,585 total acres (23,968-fee and 1,616-flowage easement). In addition to the Flood Risk Management mission, there is an extensive recreation and environmental stewardship program.

#### **Summarized Financial Data:**

Estimated Federal Cost	\$262,350
Estimated Non-Federal Cost	\$0
Total Estimated Project Cost	\$262,350
Allocation thru FY23 (Federal)	\$262,350
Balance to Complete after FY23	\$0
FY24 Capability (FED)	\$0
FY25 President's Budget	N/A

#### **Authorization:**

Flood Control Act approved 28 June 1938 (Public Law No. 761, 75<sup>th</sup> Congress, 3<sup>rd</sup> Session)

#### **FY23 Activities:**

The District completed the draft Master Plan and integrated Environmental Assessment. Stakeholder and general public reviews were initiated.

#### **FY24 Planned Activities:**

Completion of stakeholder and public review. Anticipate that final District Quality Control and leadership reviews/signatures will complete the Master Plan in the first quarter of FY24.

#### **Issues and Other Information:**

None

#### **Congressional Interest:**

Sen. Mitch McConnell (KY) Sen. Rand Paul (KY) Rep. James Comer (KY-1)

#### **Kentucky Silver Jackets Program**



#### **Current Phase:**

Active

#### **Location and Description:**

Projects are located throughout the Commonwealth of Kentucky.

Silver Jackets teams in states across the United States bring together multiple state, federal, and sometimes tribal and local agencies to learn from one another in reducing flood risk and other natural disasters. By applying their shared knowledge, the teams enhance response and recovery efforts when such events do occur. While some states do not use the "Silver Jackets" name, there are a growing number of states applying the Silver Jackets approach – the ultimate goal is a state-led interagency team in every state. No single agency has all the answers but leveraging multiple programs and perspectives can provide a cohesive solution.

Although each state Silver Jackets team is unique, common agency participants include state agencies with mission areas of hazard mitigation, emergency management, floodplain management, natural resources management or conservation, etc. Federal participation typically includes the U.S. Army Corps of Engineers and the Federal Emergency Management Agency and often others such as the National Weather Service and the U.S. Geological Survey.

#### **Authorization:**

**USACE Flood Risk Management Program** 

#### **Current Kentucky Silver Jackets FPMS Efforts:**

 Kentucky Emergency Action Plan Template Process
 This project is developing a template process that the Commonwealth of Kentucky will share with non-

- residential facilities located in a floodplain. These facilities can then use this template process to develop emergency action plans to reduce flood risk at their facilities. Two private sector businesses with manufacturing facilities in the floodplain will be assisting USACE with this effort.
- Kentucky Flooding & Flood Tools Outreach Campaign – This \$87.5K study will develop a series of workshops across the Commonwealth to better educate county judge executives, county magistrates, county surveyors, emergency/floodplain managers, and soil and water conservation personnel about flooding causes, available flood risk reduction tools, and potential mitigation best practices. These workshops will focus on flash, riverine, and stormwater flooding; climate change impacts, flood related regulations/best practices, and available FRM data and tools.
- Kentucky Stream & Lake Gage Prioritization Study This \$60K effort will develop a plan and strategy to optimize/prioritize stream and lake gage placement in Kentucky based on multiple factors and working with multiple partners. This effort would in turn lead to better stream and lake data, increased awareness, and reductions in flood risk across Kentucky.

#### Non-Federal Sponsors:

- Kentucky Division of Water
- Kentucky Emergency Management
- Kentucky Department for Local Government
- Kentucky Geological Service
- Kentucky Transportation Cabinet
- Kentucky Association of Mitigation Managers
- Multiple Local Governments and Agencies

#### Federal Sponsors:

- U.S. Army Corps of Engineers (USACE)
- Federal Emergency Management Agency (FEMA)
- Natural Resources Conservation Service (NRCS)
- U.S. Geological Survey (USGS)
- National Weather Service (NWS)
- Environmental Protection Agency (EPA)
- Tennessee Valley Authority (TVA)

#### **Activities for FY 2024:**

Continue to coordinate with state and federal agencies across the Commonwealth in order to better reduce flood risks in Kentucky. The Kentucky Silver Jackets team has been instrumental in coordinating resources, data, and information in response and recovery efforts for the flooding that ravaged Eastern Kentucky in July of 2022.

#### **Issues and Other Information:**

None

### Southern and Eastern Kentucky Environmental Infrastructure Program



Current Phase: Varies per project.

#### **Location and Description:**

Southern and Eastern Kentucky.

The Section 531 Program is cost shared with a non-Federal sponsor and requires a local match of 25%. The Huntington District, Corps of Engineers is the overall program manager, with responsibility for project implementation assigned to the Nashville, Huntington, and Louisville Districts, as determined by the location of the projects. Prior to design and/or construction of a Section 531 project, the Corps and the non-Federal sponsor enter into a Project Partnership Agreement (PPA) outlining the project scope, cost, and responsibilities for implementation.

#### **Authorization:**

Section 531 of the Water Resources Development Act of 1996 (Public Law 104-303), as amended.

#### **Summarized Financial Data:**

Authorized Program Limit \$40,000,000 FY 23 Allocation \$1,000,000

#### **Louisville District Section 531 Projects:**

- O City of Hyden, Leslie County The project entails design and construction of approximately three miles of sewer force main and 50 grinder pumps to fifty households in the City of Hyden. This project will mitigate environmental contamination by replacing the 25 failing septic systems and 14 straight pipe sewer systems within the project area. Total project cost is estimated at \$766,667. PPA executed on March 23, 2018. EA/FONSI signed in October 2020. Plans and Specs were approved by the District in July 2023 and Ready to Advertise is scheduled for March 2024.
- Roxana, Letcher County The project consists of design and construction of approximately 50,000 linear feet of 10-inch through a 3-inch water

transmission main along with elevated storage tank and booster pump station to support the construction and operation of an 800-acre Federal correctional facility in Roxana, Kentucky. The extension would provide access to potable water to approximately 100 households. Total project cost is estimated at \$1,433,333. PPA executed on March 21, 2018. EA/FONSI signed in February 2019. Currently waiting on OSMRE for their Environmental reviews before this can go to bid.

- Mount Vernon, Rock Castle County The project will consist of the design and construction of improvements to the public drinking water plant. Currently the public water is very unpalatable, and the improvements will directly increase the quality of life for residents. Total project cost is estimated at \$1,000,000. PPA executed on February 25, 2019. EA/FONSI signed in December 2020.Bids received in August of 2023 showed the estimate tripled in amount from original estimate. The sponsor will submit an application in Spring of 2024 for additional funding to help complete the project.
- O City of Hazard, Perry County The project will consist of the design and construction of improvements to the Buckhorn Dam Tailwater Channel Raw Water Intake Structure. Currently the public water is very unpalatable, and the improvement will directly increase the quality of life for residents. Total project cost is estimated at \$1,433,333. The PPA was signed in December 2022. The EA/FONSI has been through public review and currently in ATR review.
- Troublesome Creek Environmental Authority, Perry County – The project will consist of the design and construction of improvement of the Sewer Collection Project Phase III. Total project cost is estimated at \$623,333. The PPA is schedule to be executed in December 2023.
- Leeco Road, Leslie County sanitary sewer extension. The proposed project will include several miles of twoand four-inch force main, with a main pump station at
  the campground, and 40 individual grinders for 40
  homes along the proposed line. The proposed project
  will eliminate failing septic tanks located within the
  drainage of the existing Hyden-Leslie County Water
  Treatment Plant source water of the Middle Fork of
  the Kentucky River. PPA execution is expected in the
  2<sup>nd</sup> quarter of FY 24. The total project cost received is
  \$1,333.333.
- City of Jackson, Breathitt County This project will increase water storage in the current system and increase the system pressure in this area of the city's service area. It will replace an aging in-ground pump station and tank both located at King's Ridge. This project will serve a new housing development site for flood victims affected by the July 2022 Flood in

eastern Kentucky. The Kickoff meeting was in August 2023. The Total project cost is \$1,333.333.

#### **Issues and Other Information:**

None.

<u>Congressional Interest:</u> SEN Mitch McConnell (KY) SEN Rand Paul (KY) REP Harold (Hal) Rogers (KY)

#### Dam Safety, Kentucky Kentucky Dams - Special Studies



Barren Lake Dam, KY

#### **Summarized Financial Data:**

The Dam Safety Special Studies are part of a national program with funds distributed by the Corps of Engineers (USACE) Headquarters Dam Safety Office on a priority basis

#### **Current Phase:**

Study

<u>Project Location:</u> Barren Lake Dam, Buckhorn Lake Dam, Carr Creek Lake Dam, Cave Run Lake Dam, Green River Lake Dam, Nolin Lake Dam, Rough River Lake Dam, and Taylorsville Lake Dam (See next pages for site specific information)

#### **Study and Program Information:**

During normal operations, these dams are routinely inspected daily, weekly, and monthly by USACE Operations staff and annually by Louisville District Dam Safety staff. The dam also receives a comprehensive inspection every five years by a multi-discipline team of Louisville District engineers.

The USACE has instituted a "risk informed" dam safety program. The initial step was conducting a Screening Portfolio Risk Assessment (SPRA). A team of engineers conducted a screening level review of the dam's construction, performance history, and instrumentation to evaluate current dam behavior, as well as economic consequences and the population at risk of potential dam failure. After the initial screening, the risk is reevaluated every ten years as part of a routine Periodic Assessment (PA) in conjunction with the 5-year comprehensive site inspection. The findings are reviewed by the Dam Senior Oversight Group (DSOG) and a Dam Safety Action Classification (DSAC) rating is assigned based upon confirmed or unconfirmed dam safety issues and the combination of life or economic consequences should failure occur. The DSAC ratings are used to prioritize further study to confirm the proposed dam safety issues. If the DSAC rating is 1 through 3, an Interim Risk Reduction Measures (IRRM) Plan is established while further investigations are conducted and/or remedial actions are implemented as necessary.

The first study phase is an Issue Evaluation Study (IES) which confirms the dam safety issue. Should more information be necessary to confirm the issues, an IES Phase II study may be undertaken to gather the necessary data to reduce the uncertainty. The results of these studies are presented to the USACE Risk Management Center (RMC) and the DSOG. The results may indicate the need to progress to the next phase of study or reduce the DSAC rating for the dam. If the case is made that the dam needs remedial construction, then the project moves to the Dam Safety Modification Report (DSMR). The DSMR report analyzes potential remedial construction elements to determine the best "fix" to reduce the overall project risk. These studies and remedial construction are prioritized based upon the relative risk estimates at each stage to best make use of the available funding and resources.

#### **Congressional Interests:**

SEN Mitch McConnell (KY) SEN Rand Paul (KY)

#### **Individual Project Status:**

#### Barren Lake Dam, KY

- \* SPRA (Screening for Portfolio Risk Analysis): 2007
- \* DSAC (Dam Safety Action Classification) Rating: Class 4
- \* IRRMP (Interim Risk Reduction Measures Plan): N/A since it is DSAC 4
- \* IES (Issue Evaluation Study): Not required since it is a DSAC 4
- \* FY2024 Planned Activities: Routine O&M surveillance and monitoring program.

#### **Buckhorn Lake Dam, KY**

- \* SPRA (Screening for Portfolio Risk Analysis): 2008
- \* DSAC (Dam Safety Action Classification) Rating: Class 3
- \* IRRMP (Interim Risk Reduction Measures Plan): Completed 15 April 2009
- \* IES (Issue Evaluation Study): In the queue for study. The IES Report will address concerns with unacceptable foundation conditions and associated seepage in order to remove uncertainty and lower project risk. This will determine if the work needs to continue to complete a full Dam Safety Modification Report (DSMR).
- \* FY2024 Planned Activities: Routine O&M surveillance and monitoring program.

#### Carr Creek Lake Dam, KY

- \* SPRA (Screening for Portfolio Risk Analysis): 2008
- \* DSAC (Dam Safety Action Classification) Rating: Class 4
- \* IRRMP (Interim Risk Reduction Measures Plan): N/A since it is DSAC 4
- \* IES (Issue Evaluation Study): Not required since it is a DSAC 4
- \* FY2024 Planned Activities: Routine O&M surveillance and monitoring program.

#### Cave Run Lake Dam, KY

- \* SPRA (Screening for Portfolio Risk Analysis): 2009
- \* DSAC (Dam Safety Action Classification) Rating: Class 4
- \* IRRMP (Interim Risk Reduction Measures Plan): Completed 27 July 2010
- \* IES (Issue Evaluation Study): Not required since it is a DSAC 4.
- \* FY2024 Planned Activities: Routine O&M surveillance and monitoring program.

#### Green River Lake Dam, KY

- \* SPRA (Screening for Portfolio Risk Analysis): 2006
- \* DSAC (Dam Safety Action Classification) Rating: Class 4
- \* IRRMP (Interim Risk Reduction Measures Plan): N/A since it is DSAC 4
- \* IES (Issue Evaluation Study): Not required since it is a DSAC 4
- \* Note: The findings from the previous Phase 2 IES risk analysis were presented to the Risk Management Center (RMC) in November 2011 and to the Dam Senior Oversight Group (DSOG) in February 2012. The RMC and DSOG agreed with the report recommendation that the project be reclassified to a DSAC 3 based on the results of the risk analysis. Remedial construction is not warranted at this time. This structure has been reprioritized in the risk study queue. The DSAC rating was subsequently revised to a 4 in 2017 after a Periodic Assessment.
- \* FY2024 Planned Activities: Routine O&M surveillance and monitoring program.

#### Nolin Lake Dam, KY

- \* SPRA (Screening for Portfolio Risk Analysis): 2006
- \* DSAC (Dam Safety Action Classification) Rating: Class 3
- \* IRRMP (Interim Risk Reduction Measures Plan): Completed 8 April 2008
- \* IES (Issue Evaluation Study): The findings of the Phase 2 IES risk analysis were presented to the Risk Management Center (RMC) in November 2011 and to the Dam Senior Oversight Group (DSOG) in February 2012. The RMC and DSOG agreed with the report recommendation that the project be reclassified to a DSAC 3 based on the results of the risk analysis. Other recommendations were to install additional instrumentation in right and left abutments, and to update the current IRRMs. Remedial construction is not warranted at this time. This structure has been reprioritized in the risk study queue.
- \* FY2024 Planned Activities: Routine O&M surveillance and monitoring program.

#### Rough River Lake Dam, KY (See detailed Fact Sheet for additional information)

- \* DSAC (Dam Safety Action Classification) Rating: Class 2
- \* IRRMP (Interim Risk Reduction Measures Plan): Completed 15 April 2008
- \* A Dam Safety Modification Report (DSMR) was completed in July 2012. The DSMR addressed unacceptable foundation conditions and associated seepage and identified a need for major rehabilitation in order to remove uncertainty and lower project risk. The Project Delivery Team (PDT) reevaluated design features as part of a Supplement to the previously approved DSMR. ASA(CW) endorsed the Supplemental DSMR on 20 October 2021.
- \* There is no emergency or imminent threat. However, failure of this dam from seepage/piping would result in catastrophic effects downstream including loss of life and significant economic losses.
- \* FY 2024 Planned Activities: The project design is complete. Additional funds are needed to advertise and award the contract. Once it is determined that additional funds will be available, the Plans and Specifications will need to undergo an updated BCOES certification and the package will be prepared for advertisement. These activities can be completed in FY24 with funds currently on hand.

#### Taylorsville Lake Dam, KY

- \* SPRA (Screening for Portfolio Risk Analysis): 2009
- \* DSAC (Dam Safety Action Classification) Rating: Class 4
- \* IRRMP (Interim Risk Reduction Measures Plan): N/A since it is DSAC 4
- \* IES (Issue Evaluation Study): Not required since it is a DSAC 4
- \* FY2024 Planned Activities: Routine O&M surveillance and monitoring program

## **Energy Resilience Conservation Investment Program**

#### **Location and Description:**

ERCIP projects are located at various Military Installations to include but not limited to: Fort Bliss, Fort Liberty, Fort Buchanan, Fort Cavazos, Fort Riley, Fort Sill, Fort Stewart, Lake City Army Ammunition Plant, Aberdeen Proving Ground, Anniston Army Depot, Joint Base Lewis-McChord, Camp Arijfan, Rock Island Arsenal, White Sands Missile Range, USAG Ansbach, Camp Buehring and Tooele Army Depot.

ERCIP is a subset of the Defense-Wide MILCON Program specifically intended to fund projects that improve energy and water resilience, contribute to mission assurance, save energy, and reduce DoD's energy costs. ERCIP accomplishes this through construction of new, high-efficiency energy systems and technologies or through modernizing existing energy systems.

#### **Authorization:**

Authority for the ERCIP program is established by 10 USC § 2914

#### **FY24 Activities:**

Design, procurement, and construction management activities for projects in the ERCIP program.

#### **FY25 Planned Activities:**

Design, procurement, and construction management activities for projects in the ERCIP program.

#### **FY26 Planned Activities:**

Design, procurement, and construction management activities for projects in the ERCIP program.

#### **Issues and Other Information:**

Real property transfer/conveyance rules conflict with installation contracts with privatized utilities.

#### Summarized Financial Data:

LRL Current Military Program
Estimated Federal Cost

\$1,197,645,000

Project	Description	Installation	PN	FY	PA
1	Construct Microgrid Controls, 690 kW PV, 275kW GEN, 570 kWh BESS	PR010 - Juana Diaz, Puerto Rico	95004	2022	\$ 12,190,000
2	Construct Microgrid Control System, 460 kW PV, 275kW GEN, 660 kWh BESS	PR013 – Ramey; Puerto Rico	95005	2022	\$ 10,120,000
3	Fort Liberty Emergency Water System	Fort Liberty	97484	2022	
4	Install Microgrid, 750 kWPV Array, 750 kWh BESS, and 680k Generator Set	Conroe ASF	93347	2023	\$ 9,600,000
5	Camp Arijfan ERCIP Power Generation and Microgrid	Camp Arifjan, Kuwait	94849	2023	\$ 26,850,000
6	Ft. Riley ERCIP Power Generation and Microgrid	Fort Riley	98161		\$ 25,780,000
7	Ft. Stewart HAAF ERCIP Power Generation and Microgrid	Fort Stewart HAAF	98162	2023	\$ 25,400,000
8	Ft. Cavazos Power Generation and Microgird	Fort Cavazos (Hood)	99143	2023	\$ 31,500,000
9	Camp Ruehring FY24 Microgrid	Camp Buehring, KW	94933	2024	\$ 18,850,000
10	Ft. Liberty Camp MacKall FY24 Microgrid	Ft Liberty (Bragg) - Camp MacKall	98901	2024	\$ 10,500,000
11	Microgrid and Backup Power	Fort Buchanan	99144	2024	\$ 56,000,000
12	JBLM DES FY24 Microgrid	Joint Base Lewis-McChord	99146	2024	\$ 49,850,000
13	Lake City FY24 Microgrid CHP	Lake City Army Ammo Plant	99147	2024	\$80,100,000
14	Ft. Cavazos FY24 Microgrid	Fort Cavazos (Hood)	99288	2024	\$ 18,250,000
15	Ft. Sill FY24 Microgrid	Fort Sill	101861	2024	\$ 76,650,000
16	Critical Water Storage	Fort Liberty	98977	2025	\$ 25,000,000
17	Anniston Army Depot (ANAD) Power Generation and Microgrid	Anniston Army Depot	100945	2025	\$ 54,000,000
18	Rock Island Arsenal Power Generation and Microgrid	Rock Island Arsenal	100946	2025	\$ 67,500,000
19	JBLM FY25 Grey Army Airfield (GAAF)	Joint Base Lewis-McChord	100947	2025	\$ 38,300,000
20	Aberdeen Proving Grounds (APG) 2MW Microgrid	Aberdeen Proving Ground	100949	2025	\$ 29,400,000
21	Power Generation and Microgrid	White Sands Missile Range	80635	2026	\$ 38,000,000
22	Water Distribution Lines, Potable Industrial Area	Hawthorne Army Depot	86677	2026	\$ 5,000,000
23	Install Microgrid, 575 KW PV, 300kW/1200kW Bat Energy Stor System (BESS), and Two 200kW Elec Turb	Ft. Sheridan	94042	2026	\$ 5,600,000
24	Install Microgrid, 450kW PV, and 500kW/2000kWh Bat Energy Storage Sys (BESS)	Belgium	95066	2026	\$ 17,000,000
25	Power Generation and Microgird	Camp Buerhing, KW	96153	2026	\$ 21,300,000
26	Main Potable Water Lines for Resilience	Tooele Army Depot	98650	2026	\$ 18,500,000
27	Construct Potable Water Purification System at Las Casas Lake	Fort Buchanan	98709	2026	\$ 17,500,000
28	Install Microgrid, 4MW PV, 2MW/8MWh Bat Energy Stor Sys (BESS), and 2MW Generator	Ft. Liberty (Bragg)	100873	2026	\$ 38,000,000
29	Install Microgrid, 1MW PV, 500kW/3MWh Bat Energy Stor Sys (BESS), and 500kW Generator	Joint Base Lewis-McChord	101472	2026	\$ 39,000,000
30	Install Microgrid with PV, Battery Energy Storage System (BESS), and Generation	USAG Ansbach (Katterbach), Germany	102238		\$ 26,000,000
31	Install Microgrid, PV, Battery Energy Storage System, and Generation	USAG Ansbach (Storck Barracks), Germany			\$ 27,000,000
32	Install 12 MW of Ground-Mounted Solar PV and 4MW/4MWh Bat Energy Stor Sys (BESS)	Ft. Sill			\$ 29,000,000
33	Install Microgrid, 500kW PV, 1MW/2MWh Bat Energy Stor Sys (BESS), and 2MW Generator	Ft. Liberty (Bragg)			\$ 15,500,000
34	Install Microgrid, 2.5 MW PV, 5 MWh Battery Energy Storage System (BESS)	Parks RFTA	102712	2026	\$ 37,000,000
35	Install 2.4 MW PV and 10 MWh Battery Energy Storage System	Camp Roberts Enclave			\$ 60,000,000
36	Power Generation and Microgrid	Ft. Carson			\$ 58,000,000
37	Redstone Electric Power, Microgrid	Redstone Arsenal			\$ 33,000,000
38	Install 1750 kW of Natural Gas Generators and Microgrid	Fort Bliss	93031		\$ 7,100,000
39	DPTMS Simulation Training Campus Microgrid	Fort Bliss			\$ 8,600,000
40	5 MW NG Generator - Resiliency, McGregor / Westbrook Ranges	Fort Bliss	98991		\$ 12,000,000
41	5 MW NG Generator - Resilency, East Bliss Substation	Fort Bliss	99008	2026	\$ 11,000,000