

Falls City Engineer

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U.S. ARMY CORPS OF ENGINEERS
LOUISVILLE DISTRICT

*Corps reopens river
after emergency
closure at Dam 52*
page 3

*Corps consults with
City of Cincinnati on
repair process after
flood event*
page 4



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On the cover: The sun sets over the wicket dam at Locks and Dam 52 on the Ohio River at Brookport, Illinois.



**Please conserve:
Think before you print.**

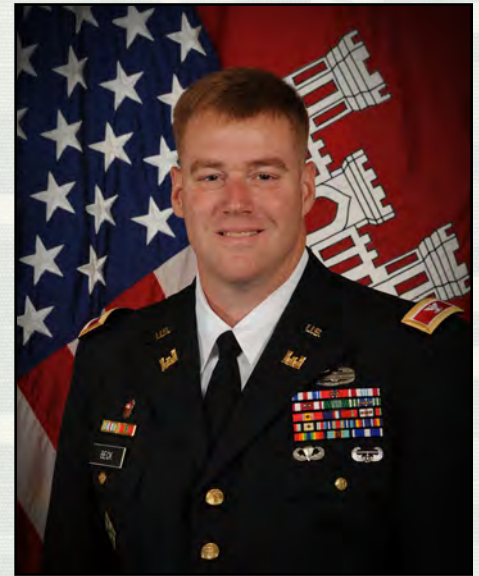
Commander's Comments

Ladies and Gentlemen,

Wrapping up fiscal year 2016 we had some significant things at the end of year that are highlighted in this issue. Several teams responded to challenges at Locks and Dam 52 as well as Duck Creek in Cincinnati. Both of these projects showed our teams' creativity to develop solutions, responsiveness and positive attitude. We also saw a large increase in our Interagency and International Services program this year, and that is based on the strong reputation you all are part of building for the district.

As fiscal year 2016 closes and we roll into fiscal year 2017, I want to congratulate all of you! We had another successful year awarding more than \$231 million in our military program, more than \$377 million in our civil works program, and more than \$53 million in our environmental program. We were in the top three districts in contracting actions and top 10 in two different small business categories. By all metrics, we were successful, but we also started several programs to take care of our employees which I am very proud of for the team.

One of the most significant changes starting Oct. 1 was that the Louisville Repair Station (LRS – Fleet) transitioned to a regional asset and under the direct command and control of the Huntington District. These folks have been a great asset to our district and to the region each and every year. While it is unfortunate they are no longer a Louisville District asset, fleet regionalization was the right step to increase overall efficiency, and the former LRS team will be a great asset for



Col. Christopher G. Beck
Commander and District Engineer
Louisville District
U.S. Army Corps of Engineers

the region.

Looking forward to fiscal year 2017, we have many challenges ahead of us, but I am excited about tackling these like we always do and continually showing why the Louisville District is such an asset.

Thanks again for all that you do!

Building Strong and Taking Care of
People!

Chris

Contents

Corps reopens river after emergency closure, hopes for best, prepares for worst	3
Corps consults with City of Cincinnati on repair process after flood event	4
All sealed up: Lockbourne landfill cap complete	5
IIS program growing in Louisville	6
Greensboro ARC nears completion	6

Corps reopens river after emergency closure, hopes for best, prepares for worst

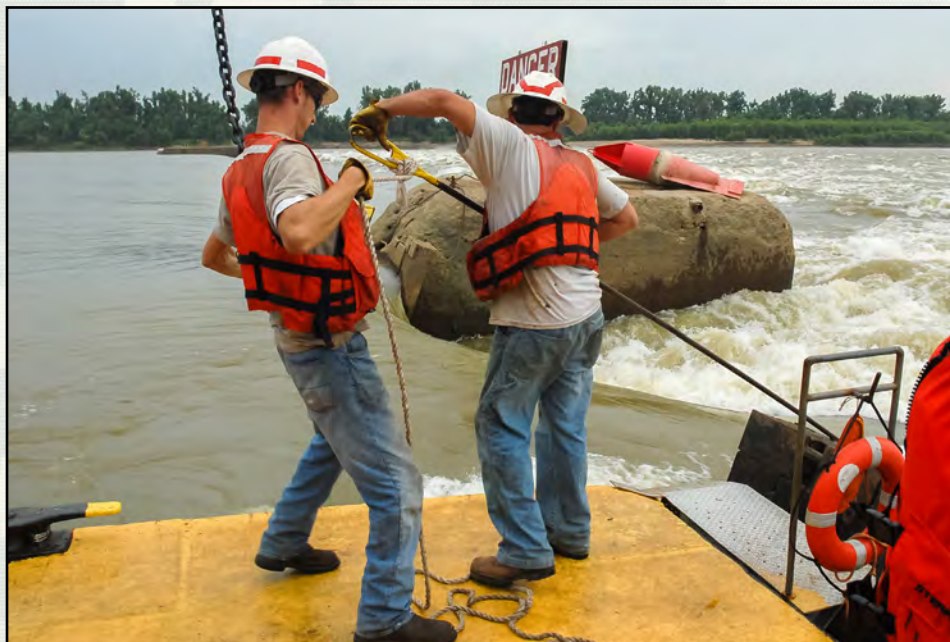
Todd Hornback, public affairs

In a proactive move to deter another river closure caused by aging infrastructure, U.S. Army Corps of Engineers, Louisville District, contractors installed anchors in the lower Ohio River bed at Locks and Dam 52, Brookport, Illinois, to assist the Corps workboat when raising the wicket dam during less-than-favorable conditions.

The Corps workboat is able to attach to the anchors to steady the vessel and cross gaps from missing wickets when raising the 1920s dam, preventing a reprise of the situation in September when three missing wickets caused navigation to cease.

The three-wicket hole had prevented the Corps workboat from crossing the dam to continue raising wickets—increasing safety concerns on already hazardous work. The new anchor system will help the workboat straddle this formerly unfordable stretch safely and to keep the river open to navigation.

“Every day is a challenge here; new problems arise just as we fix a previous problem,” Luther Helland, Locks and Dam 52 lockmaster, said. “Last year we were dealing with a similar situation with holes in the dam. With Mother Nature working with us, we had an opportunity to do three open water dives at three different times. This year we haven’t been so lucky to have that opportunity to do open water diving due to either it’s too wet or too dry.”



Staff at Locks and Dam 52 on the lower Ohio River work to raise a wicket on the 1920s-era dam.

Katie Newton

The uncooperative river and weather continue to delay the repair of the missing wickets. Until the river levels rise to allow the dam to be lowered and divers to make repairs, the Corps will continue to keep the dam up to sustain the pool for navigation.

“Locks and Dam 52 is a remnant of the 1920s river system, and the 1200-foot lock, built in the 1970s, was a temporary chamber to last for up to 15 years. It is well past its life expectation,” Col. Christopher Beck, commander, Louisville District, U.S. Army Corps of Engineers, said. “We continue Olmsted Locks and Dam construction which is planned to be

in operation in 2018. Then, Locks and Dams 52 and 53 can be removed from operation.”

The Corps closed the locks at 52 on Sept. 14 around 5 a.m. The dam lost three wickets in August when their base connections failed and attempts to raise remaining wickets were unsuccessful because of river and dam conditions.

“Although the district was monitoring and developing corrective actions to maintain the required nine-foot navigation channel, with falling river forecasts, this became a critical issue that caused loss of pool,” Chuck Oliver, Louisville District emergency operations chief, said. “Loss of pool impacted navigation on the Ohio, Tennessee, and Cumberland rivers and could have had impacts to water intakes, along with other commercial interests and stake holders in the area.”

To minimize impacts, the Corps chose to lower the pool level by reducing releases from Smithland Locks and Dam—approximately 25 miles upstream. This action offered lower river velocities for Corps workers to raise additional wicket gates to sustain pool. An alternate choice—to let nature take its course—could have caused impacts to navigation for weeks. The gamble paid off.

The economic impacts to the navigation industry associated with a



The workboat raises wickets on Dam 52. At right the three-wicket gap in the dam is visible.

Jack Sweeney

Continued on page 4

Continued from page 3

Locks and Dam 52 closure are significant. According to a Corps Olmsted Locks and Dam economic analysis where Locks and Dam 52 is closed for three to seven days, the closure impacts would likely be in the ballpark of \$800,000 to \$2.3 million.

“Our goal was to minimize impacts to the navigation industry and communities,” Waylon Humphrey, chief, Louisville District Corps locks and dams, said. “We held daily conference calls to update industry and to hear their suggestions on locking plans prior to closing the locks.”

The locks re-opened in around 15 hours—much sooner than the anticipated 96 hours. The first commercial tow locked through at Sept. 14 at 8:35 p.m.

“Thanks to the U.S. Coast Guard, river industry, the Kentucky emergency operations center, and Nashville District Corps of Engineers for their support during this emergency shutdown of the Locks and Dam 52 pool,” Beck said. “I also want to thank the Louisville District employees who raised the wickets—difficult and hazardous work—to reopen the river to commercial navigation.”

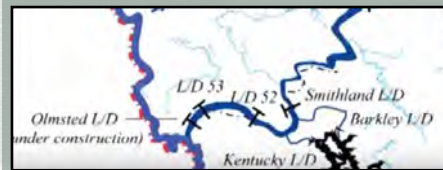
Helland agreed and emphasized the importance of the project’s home team.

“The crew, which has done an excellent job, has devoted an immense amount of time and pride to keep this facility operating and moving commodities,” Helland said.

Videos



Raising the Dam at 52
<https://youtu.be/OA7aueKsFdA>



History of Locks and Dams 52 & 53
https://youtu.be/ls-_SKgQmIE

Corps consults with City of Cincinnati on repair process after flood event



Pictured is a segment of the precast concrete arch culvert the Corps constructed as part of the flood risk management project in Cincinnati. The joints between the sections have separated and the alignment has shifted. Erosion is also present at right.

Carol Labashosky, public affairs

The Corps of Engineers Louisville District is working with the City of Cincinnati to assess damages to a short section of the Duck Creek Levee System. The Duck Creek project was damaged by heavy rains from a storm that passed through the area on Aug. 28. Construction of the project was complete in 2011.

A team from the Corps of Engineers met with the local sponsor representatives at the end of August to discuss the way ahead to potentially fund repairs and assess damages.

According to weather reports,

approximately five inches of rain fell in a two to three hour timeframe. The project was designed to safely carry storm water up to an elevation which has an estimated one percent chance of occurring in any given year. This is commonly called the “base flood elevation.” The storm on Aug. 28 exceeded this capacity and caused impacts to the project.

A Louisville District Corps of Engineers response team went to Cincinnati on Sept. 1 to examine damages to the concrete arched culvert, located near the intersection of Duck Creek Road and Kennedy Avenue. The team found

that flood waters appeared to have lifted several of the precast concrete sections of the culvert off the foundation slab, and the sections had separated. They were no longer in their original alignment. Additionally, severe erosion removed backfill along the sides of the culvert, creating deep trenches. The culvert is part of the Duck Creek Levee system and is approximately 260 feet long, 20 feet wide and eight feet tall. Representatives from Louisville District’s Engineering Division including Levee Safety Section and Hydraulics & Hydrology Section, the Emergency Operations Center, and the Public Affairs Office were on the initial site visit.

A site visit by the Louisville District Corps of Engineers in 2014 showed no issues with the culvert.

The City of Cincinnati has requested assistance under the Corps Rehabilitation Program (PL 84-99), which is managed by the Emergency Operations Center. The Rehabilitation Program provides emergency federal assistance to eligible levee systems for the repair of major flood related damages.

“We are excited to coordinate with the USACE Great Lakes and Ohio River Division to exercise the updated Project Information Report process and provide a rapid resolution to the customer,” said Chuck Oliver, Chief, Emergency Management and Security Branch.

All sealed up: Lockbourne landfill cap complete



Contractors seed the soil cover at the former Lockbourne landfill, Columbus, Ohio, in August.

Katie Newton, public affairs

The U.S. Army Corps of Engineers, Louisville District, is putting the finishing touches on a 23-acre landfill cap, at the former Lockbourne Air Force Base in Columbus, Ohio.

“Seeding is now complete and additional vegetation will be planted this fall. During the spring and summer of 2017 the cap will be assessed to determine if proper vegetation coverage has been established,” said Kevin Mieczkowski, Louisville District environmental engineer.

Investigations showed the landfill was used for general trash from Air Force base housing and administrative buildings, construction and demolition debris and lime sludge from the base water treatment plant from 1951 to 1979, making it eligible for the Formerly Used Defense Sites (FUDS) program, which cleans up contamination on properties that were formerly owned, leased, possessed, or used by the Department of Defense.

Capping the landfill was chosen as the best way to effectively remediate

the site. Since 2013 the contractor, Cape Environmental, Inc., out of Norcross, Georgia, has been working to install a cap with 24 inches of compacted soil and six inches of topsoil to the former landfill to create a barrier to prevent exposure to any contaminants.

In addition to the soil cover, passive gas vents, a perimeter seep prevention trench and erosion and sediment controls, will be maintained as needed during the follow-on long-term management phase.

Even though construction is wrapping up, the site will still have long-term management implemented later next year, which includes groundwater monitoring, inspections, maintenance, and an environmental covenant, which will restrict the future use of the landfill area in a manner to prevent exposure to onsite groundwater, intrusive activities and contact with waste.

“We’re looking forward to entering into the next phase of the process, which is the long-term monitoring phase of the project,” said Mieczkowski. “The long term monitoring phase will have monitoring, inspections, and maintenance to assure that the remedial efforts are protective of human health and the environment consistent with the selected remedy.”



The 23-acre Lockbourne landfill cap is now complete, comprised of 24 inches of compacted soil and six inches of topsoil to create a barrier to prevent exposure to any contaminants.

IIS program growing in Louisville



USACE rendering

The Corps is constructing a physical plant that will house four new boilers at the Hines Hospital in Chicago under the Interagency and International Services program.

Katie Newton, public affairs

The Louisville District Interagency and International Services program is growing. With 11 active projects totaling approximately \$69 million under the IIS umbrella in fiscal year 2016, the district is ensuring full visibility, transparency and leadership oversight on the program.

“USACE understands how important our IIS partners are and that we fill a critical need in this mission area,” said Joanne Milo, deputy chief, Louisville District Planning, Programs, and Project Management. “The Louisville District staff is uniquely equipped with both military and civil works expertise and experience and stands ready to deliver on

our commitments by providing quality IIS projects to our customers.”

IIS is a U.S. Army Corps of Engineers program that provides technical assistance to non-Department of Defense federal agencies, state and local governments, tribal nations, private U.S. firms, international organizations, and foreign governments.

Currently, the district is providing services to several outside agencies including the Department of Veterans Affairs, Department of Homeland Security, Department of Energy, Department of Agriculture, Federal Highway Administration and the Environmental Protection Agency.

“We are known as an engineering agency of choice across DOD, but the IIS program is the opportunity for us to serve the non-DOD community,” said Milo. “By delivering on our commitments, and providing quality projects for these agencies, we can further grow these professional relationships.”

Under the IIS program, non-Department of Defense agencies are able to access unique support capabilities from the Corps including regional and national experts from USACE laboratories and technical centers of expertise.

“In the Louisville District we have

years of engineering, project management, and construction experience from successfully executing the engineering and design of military facilities, implementing environmental restoration projects, and developing civil works solutions,” said Milo.

“Our current IIS work includes a broad spectrum of projects that require a varied range of skills.”

These projects range from smaller projects like replacing windows and fume hoods for the USDA Forest Products Laboratory and conducting Levee System Evaluation studies for local communities to larger, more complex projects like adding a columbarium at the Crown Hill Cemetery in Indianapolis for the VA’s National Cemetery Agency and improving medical facilities at Hines Hospital in Chicago and the Community Based Outpatient Clinic at Fort Knox for the VA. The district is also supporting the VA on future development of a new Veterans medical facility in Louisville, Kentucky.

“We fully recognize that through quality delivery we will establish and grow these trusted relationships,” said Milo. “These stakeholders and customers have a choice to use us or not. We must continue to demonstrate that USACE is the best choice for project execution.”

Reserve

Greensboro ARC nears completion

Carol Labashosky, public affairs

The U.S. Army Corps of Engineers Louisville District is constructing an Army Reserve Center in Greensboro, North Carolina. Approximately 600 Army Reserve soldiers will train at the center on weekends.

The training center has an inviting bold entrance flanked by administration wings.

The backdrop to the entrance will be a high-arched mass that serves to house the lobby vestibule and main entry corridor.

Reservists will be able to conduct business in a 3,200 square-foot assembly area and drill hall, and an administrative common space that is 6,300 square feet. The center includes an administrative



USACE

training center, vehicle maintenance shop, an unheated storage building and deployable medical system site. A physical fitness room with locker rooms is also

included. The facility is designed for LEED Silver rating level.

The Army Reserve will occupy the Reserve Center in early 2017.