

# Corps construction project commences early at fraction of projected cost

By Jenn Domashevich, public affairs

After the discovery of an undocumented dump site delayed a high-profile U.S. Army Corps of Engineers (USACE) Louisville District project at Fort Campbell, Ky., construction site, preparation resumed 30 days earlier than expected at half the projected cost.

During site preparations waste was discovered below the construction site in late January. The district was building a battalion headquarters and multiple company operations centers on Fort Campbell.

Even though the waste was determined to be primarily construction-related material, the site had to be remediated by virtue of Kentucky state law which forbids stockpiling trash in an open area that is not an approved landfill.

Thanks to a collaborative effort among the Louisville and Fort Worth districts, U.S. Army Environmental Command, the Directorate of Public Works and environmental managers at Fort Campbell, and on-site construction managers, the environmental investigation work was completed in one day and resulted in a \$9 million cost-avoidance.

"We wanted to start as quickly as we could, because when [the Louisville District's construction division] suspended construction, it cost \$5,000 per day, and they estimated 90 days of downtime," said Glen Beckham, Louisville District project manager.

The initial idea was to perform a series of test trenches. This involved using a backhoe to dig around the area at random to identify where the problem might be, but construction division expressed concerns about digging up the area, Beckham said.

A suggestion arose if there was any way to use a geophysical device to identify where these areas might be instead of random trenching. Geophysical devices are normally used to locate munitions items because they detect magnetic anomalies.

"I said I've never been involved with a project where they have done that, but maybe so," said Beckham. Beckham knew a geophysicist working at the Corps' Fort Worth District, Eric Kirwan, and



An EM-61 mounted to an all-terrain vehicle is used during the geophysical investigation at Fort Campbell, Ky., in March 2010. The effectiveness of the EM61 for this geophysical investigation has prompted discussions on potentially implementing its use as a standard practice.

the two of them along with Eric Cheng, Louisville District environmental engineer and Nathaniel Peters, Louisville District senior technical manager and contracting officer representative began to investigate the idea.

The first method investigated was to use a ground-penetrating radar that measures soil densities.

"But it was identified that clay acts as a barrier to the radar and is not effective," said Beckham. "This area is known to have clay in the soil, so a better device was identified called an EM-61."

The EM-61 measures magnetic anomalies and soil density disturbances. It is not affected by clay and can be geo-referenced to centimeter accuracy.

The project was originally projected to take 10 days to perform the geophysical investigation and five days to perform verification. Verification would be done by digging a limited number of test trenches to confirm the geophysical results.

"We set some aggressive goals," Beckham said, "We were in the field three days after the contract was awarded which was very fast. So this work was initiated and completed within three days after the contract award."

The project began in early March. It took approximately a month to assess the site conditions, award the contract and get

out into the field.

The contract was awarded to Battelle of Oak Ridge, Tenn., a subcontractor to GeoConsultants, LLC.

"GeoConsultants really helped us get out there and get things done fast," said Peters. They were also able to get the contractors out to the site on a Saturday instead of waiting until Monday.

"These guys came out and knew just what they were doing," said Beckham. "They used an ATV (all-terrain vehicle) to pull this device over 100 percent of the area, and they basically did it all in one day."

After the geophysical investigation was completed, it was determined that the main building design was sitting right on top of the dump site, which was actually three times larger than what was first suspected.

"Instead of being 30,000 cubic yards and costing \$3 million in remediation costs, it was 90,000 cubic yards and \$9 million," Beckham said. "That's what this investigation revealed in one day."

Designers decided the best approach would be to shift the whole design 185 feet southeast into a clean area away from the dump site, avoiding virtually all contamination. Initially, it was anticipated that there would be 90 days of construction. (Continues on Page 15)

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*-Glen Beckham, Louisville District project manager*

tion downtime, but the contractor was able to remobilize 30 days earlier than expected.

“They avoided a \$9 million remediation, and we’ve estimated the remediation cost to be \$550,000 or less,” Beckham said.

“We think the remediation time will require less than two months which is

less time than we originally thought, and because of the locations, we can remediate them concurrently with construction. So that’s going to save time and money.”

The effectiveness of the EM-61 for this geophysical investigation has prompted discussions on potentially implementing its use as a standard practice.

“Aside from the cost-savings,” Beck-

ham said. “I think the other great success was the value of the collaboration on it and the way we worked so well with the Army Environmental Command, with Fort Campbell staff and with the Corps of Engineers staff to quickly reach a solution.”

## IENC partnering meeting brings together federal agencies, industry leaders

*By Denise LaDue, emergency operations*

On Wednesday, May 5, an Inland Electronic Navigational Chart (IENC) partnering meeting was held in the Romano Mazzoli Federal Building. Representatives from the U.S. Army Corps of Engineers Headquarters, Engineer Research and Development Center (ERDC), Army Geospatial Center and 15 Corps districts), the U.S. Coast Guard (USCG), the U.S. Navy, towing industry professionals and electronic chart system manufacturers participated in the meeting. This relatively informal meeting allowed for an open exchange of ideas and a forum to provide comments and constructive criticisms about the IENCs and other relevant inland navigation issues.

Presentations were made by the Corps regarding Lock Operations Management Application (LOMA), currently under development by ERDC and the status of buoys on IENCs. Additionally, discussions regarding Coast Guard light list changes, river mile and sailing line locations and symbols on the charts also occurred.

The Coast Guard made a presentation regarding the use of Corps hydrographic surveys in the placement of buoys, specifically the time savings that occurs when Corps surveys are provided. The USCG Bridge Department also provided a briefing regarding the policy and protocol used to construct, remove or modify a bridge

crossing an inland waterway.

The meeting which was attended by approximately 60 people, was well received and proved to be a successful open exchange of topics and ideas relating to inland navigation. The goal of next year’s meeting (IENC Partnering III) is to have more participation from towing industry professionals.

### **IENC Background**

The IENC program was developed in 2001 when Congress directed the Corps to develop and publish electronic navigation charts for the inland waterways. Pilot projects supporting the Mississippi River and tributaries began that year. Since then, 93 IENCs have been published for the following rivers: Allegheny, Arkansas, Atchafalaya, Black Warrior-Tombigbee, Cumberland, Green, Illinois, Kanawha, Lower Mississippi, Monongahela, Ohio, Red, Tennessee, Tennessee-Tombigbee and Upper Mississippi.

These large-scale, accurate and up-to-date IENCs enable electronic charting systems to provide precise and real-time display of vessel positions relative to waterway features, improve voyage planning and monitoring, aid in new personnel training tools and integrate displays of river charts, radar and automatic identification systems overlays.

Today, more than 5,700 miles of navigable rivers covering 15 Corps districts have been electronically charted. IENCs for the following rivers are available for free download and use from the Corps’ E-Charting web site at [www.agc.army.mil/echarts](http://www.agc.army.mil/echarts). IENCs for the Alabama, Kaskaskia, Missouri, Ouachita rivers and Upper Tennessee tributaries are currently under development with completion scheduled in 2010.



Barry Vessels

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