



US Army Corps  
of Engineers®  
Rock Island District

# BRANDON ROAD INTERBASIN PROJECT



QUARTERLY UPDATE

January 2022

## The PROJECT

The Brandon Road Interbasin Project is a complex ecosystem protection effort designed to prevent upstream movement of invasive carp and other aquatic nuisance species into the Great Lakes from the Illinois Waterway.

Brandon Road Lock and Dam near Joliet, Illinois, has been identified as the critical pinch point where layered technologies could be used to prevent movement of invasive carp populations into the Great Lakes.

## The PLAN

The recommended plan involves a layered system of structural and non-structural control measures.

Structural measures could include technologies such as a flushing lock, an engineered channel with electric barrier, underwater acoustic deterrent, and air bubble curtain.

Non-structural measures, implemented in conjunction with other federal agencies, could include public education and outreach, monitoring, integrated pest management, manual or mechanical removal, and research and development.

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## Project Status Update

Since the first quarterly update was published in September 2021, considerable progress has been made on preconstruction engineering and design of the Brandon Road Interbasin Project. Collaborative sessions held in October included a second navigation workshop with the Illinois River Carriers' Association and the U.S. Coast Guard, and a fourth design charrette, which focused on deterrent features of the project.

A second facilitated partnership meeting, which involved senior leaders from the USACE Mississippi Valley Division and Rock Island District, and the states of Illinois and Michigan, was held in November to outline planning activities for the upcoming year and discuss potential risks or challenges that lie ahead for the project. Additionally, the team met virtually with representatives from the Great Lakes States and Provinces to provide an update on project progression.

Data gathering efforts including ongoing acoustic deterrent testing at Lock 19 on the Mississippi River and an underwater speaker test at the electric barrier in Romeoville, Illinois, are helping the team better understand the complex details of the project's features and aid the overall design of the project. A contract for geotechnical surveys was also awarded

in the last quarter that will aid the structural design.

Computer simulation and physical modeling of the project features has also advanced significantly over recent months. In December, members of the team traveled to the USACE Engineer Research and Development Center (ERDC) to get a first-hand look at large-scale models of the flushing lock and engineered channel features. Assistant Secretary of the Army for Civil Works, Michael Connor, and the USACE Deputy Commanding General for Civil and Emergency Operations, Maj. Gen. William Graham, also made a visit to the Brandon Road Lock and Dam facility and met with team members to get a detailed overview of the project and learn about its ongoing preconstruction engineering and design.



On Dec. 16, Assistant Secretary of the Army for Civil Works, Michael Connor, and the USACE Deputy Commanding General for Civil and Emergency Operations, Maj. Gen. William Graham, visited the Brandon Road Lock and Dam in Joliet, Illinois, to learn about the Brandon Road Interbasin Project and see first-hand how the project features could be implemented at the site when constructed.



## Physical Models Built for Design Evaluation

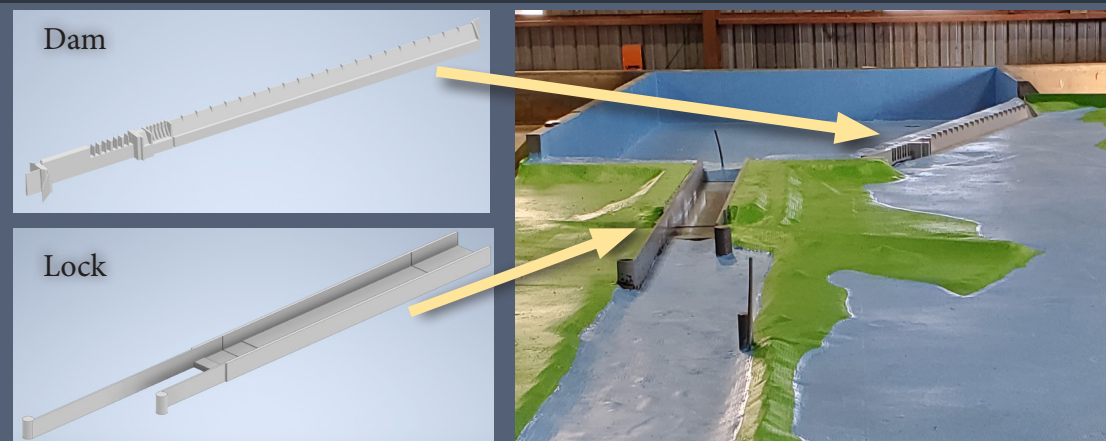
Computer-aided design and modeling plays an important role in the engineering process, however testing and evaluation of complex designs, like the Brandon Road Interbasin Project, calls for a higher level of simulation. For this reason, the Brandon Road Project delivery team requested support from the USACE Engineer Research and Development Center (ERDC) Coastal and Hydraulics Laboratory to assist in evaluation of the engineered channel and flushing lock features for the project.

Since June, construction of two large-scale physical models has been underway at the ERDC Coastal and Hydraulics Laboratory and recently the team traveled to Vicksburg, Mississippi, to have a look at the progress. The largest model, which is a 1:100 scale version of the Brandon Road Lock and Dam and its downstream approach will be used to evaluate elements of the engineered channel design. The other model, which is a 1:25 scale acrylic replica of the lock chamber at Brandon Road, will be used for

hydraulic testing of the proposed filling and emptying system for the flushing lock.

Over the next year to 18 months, these models will be used to test and evaluate how various elements of each design will perform in real-world applications. Specialized dye testing will be used in the flushing lock model to look at exchange rates in the water and remote-controlled towboats with barges will be used to test approach conditions in the engineered channel design.

## Digital Design to Working Model



At the USACE Engineer Research and Development Center Coastal and Hydraulics Laboratory in Vicksburg, Mississippi, computer-generated models of the Brandon Road Lock and Dam have been used to create a working 1:100 scale physical model to assist in design evaluation.

## Completed EVENTS

 **OCTOBER 2021**

*Design Charrette #4*

*Navigation Workshop #2*

 **NOVEMBER 2021**

*Facilitated Partnering Session #2*

 **DECEMBER 2021**

*ERDC Working Session #1*

*ASA(CW) Visit to Brandon Road*

## Upcoming EVENTS

 **JANUARY 2022**

*Design Charrette #5*

*Quarterly Update Webinar*

## Stay CONNECTED

Looking for more information about the Brandon Road Interbasin Project? Click the website link below or scan the QR code with the camera app on your mobile device to learn more about the project's next steps, key leadership involved, and how to contact the project team.

<https://go.usa.gov/xtCV7>



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