Ohio Environmental Protection Agency

John R. Kasich, Governor
Mary Taylor, Lt. Governor
Scott J. Nally, Director

May 31, 2011

FINDING OF NO SIGNIFICANT IMPACT TO ALL INTERESTED CITIZENS, ORGANIZATIONS, AND GOVERNMENT AGENCIES

Columbus 5th Avenue Dam Removal and River Restoration
Franklin County
WPCLF #: WR390274-0150

The purpose of this notice is to seek public input and comments on Ohio EPA's preliminary decision that a Supplemental Environmental Study is not required to implement the recommendations discussed in the attached Environmental Assessment of a stream restoration plan submitted by the City of Columbus.

How were environmental issues considered?	The Water Pollution Control Loan Fund program requires the inclusion of environmental factors in the decision-making process. Ohio EPA has done this by incorporating a detailed analysis of the environmental effects of the proposed alternatives in its review and approval process. Environmental information was developed as part of the facilities plan, as well as through the facilities plan review process and during site inspections. The Agency's preliminary Environmental Assessment found that the project does not require the preparation of a Supplemental Environmental Study.
Why is a Supplemental Environmental Study not required?	Our environmental review concluded that significant environmental impacts will not result from the action. Any adverse impacts have either been eliminated by changes in the facilities plan or will be reduced by the implementation of the mitigative measures discussed in the attached Assessment.

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How do I get more information?	A map depicting the location of the project is included as part of the Environmental Assessment. The Environmental Assessment presents additional information on the project, alternatives that were considered, impacts of the action, and the basis for our decision. Further information can be obtained by calling or writing the contact person listed at the end of the Environmental Assessment.
How do I submit comments?	Any comments supporting or disagreeing with this preliminary decision should be submitted to me at the letterhead address. We will not take any action on this facilities plan for 30 calendar days from the date of this notice in order to receive and consider any comments.
What happens next?	In the absence of substantive comments during this period, our preliminary decision will become final. Columbus will then be eligible to receive loan assistance from this agency.

Please bring any information that you feel should be considered to our attention. We appreciate your interest in the environmental review process.

Sincerely,

Gregory H. Smith, Chief
Division of Environmental & Financial Assistance

Attachment

ENVIRONMENTAL ASSESSMENT

A. **Project Identification**

Name: Columbus 5th Avenue Dam Removal and River Restoration

Address: Tatyana Arsh, PE, Director
Columbus Department of Public Utilities
910 Dublin Road
Columbus, OH 43215

WPCLF #: WR390274-0150

B. **Proposed Project**

1. Summary

The City of Columbus in Franklin County has requested $4,000,000 from the Ohio Water Resource Restoration Sponsor Program (WRRSP) to remove the 5th Avenue low-head dam on the Lower Olentangy River and restore the river channel and streambanks to free-flowing conditions similar to those upstream and downstream (Figure 1). The city-owned dam impounds a pool of water approximately 9,000 feet long that prevents the river from achieving its "Warmwater Habitat" (WWH) aquatic life use designation. The project will re-create a narrower channel with riffles, pools, and habitat structures and vegetated areas along the banks.

The project has been developed over many years and designed with U.S. Army Corps of Engineers (COE) funds and Clean Water Act (CWA) Section 319 funds. Construction and restoration will be financed with $1,188,000 of in-kind contribution from Columbus as its Supplemental Environmental Project (SEP) in lieu of paying a fine for a previously-incurred environmental penalty; a $625,000 Section 319 grant; and approximately $3,138,000 available through the WRRSP based on Columbus's Water Pollution Control Loan Fund (WPCLF) sponsoring loan (the $90,000,000 "OSIS Augmentation and Relief Sewer (OARS) Phase 2" project; additional information on the sponsoring project is available from the person named at the end of this document).

The proposed dam-removal project involves no direct cost to Columbus residents and, with planned mitigation and environmental protections, will have a beneficial effect on water quality, habitat, and biology of the Lower Olentangy River.

2. Project Background

The 5th Avenue Dam, 460 feet long and 8 feet high, is on the Lower Olentangy River approximately 2 miles upstream from its confluence with the Scioto River near downtown Columbus. The dam pool extends upstream through the main campus of The Ohio State University. The dam was constructed in 1935 to provide a pool of water

for the intake of cooling water for the university's power plant, which no longer uses river water. The dam pool currently provides flat water that is used for rowing practice and is a background landscape feature of the campus. The east bank of the river in the entire project area is constrained by a flood levee.

Ohio EPA surveys show the impounded segment of river is not meeting biological and water quality standards. The free flowing segments of the river downstream of the dam and upstream of the pool scored much higher Qualitative Habitat Evaluation Index (QHEI) scores. The QHEI measures characteristics that are important to fish communities. These macrohabitat characteristics are physical factors that affect fish communities and are also important to aquatic invertebrates. The average QHEI score of the free-flowing portions of the lower Olentangy River was 68.1 ("good"), indicating that they can support warmwater habitat (WWH) species (the Olentangy River's designated aquatic life use). The impounded sections scored an average QHEI of 30.8 ("poor").

A mussel survey in 2010 found no threatened or endangered species in the dam pool; populations of special interest mussel species were found downstream of the dam and upstream of the dam pool. Because mussels are considered generally pollution-intolerant, their presence in a stream can indicate good to excellent water quality and their absence can suggest poor water quality. One-third of the mussel species historically found in the Olentangy River have disappeared due to human activities (increased siltation, impoundments and channel modifications).

A regional non-profit group, Friends of the Lower Olentangy Watershed, developed "The Lower Olentangy Watershed Action Plan" in 2003. The plan, endorsed by the Ohio Department of Natural Resources and the Ohio Environmental Protection Agency, presents a credible, integrated strategy for protecting and improving the Olentangy River and tributaries in Delaware and Franklin counties. Specifically, the plan recommends removal of low-head dams to increase dissolved oxygen and fish passage, increase the ability of the river to assimilate pollutants, allow normal sediment transport, and remove hidden dangers to canoeists, anglers, and waders. The 5th Avenue Dam is one of those specifically targeted for removal.

3. Selected Alternative

The goal of removing the 5th Avenue Dam is the restoration of WWH conditions in the stream segment now impounded and the elimination of a threat to public safety. Dam removal will occur during a low-flow period, following sequential partial breaching of the east half of the dam to slowly lower the level of the pool and minimize transport of fine-grain sediment downstream. After the pool is lowered to the stream base flow elevation, the east half of the dam will be demolished and removed. The west half will remain to help stabilize the in-river and west bank State Route 315 bridge piers and will be integrated into the restored floodplain and wetland complex.

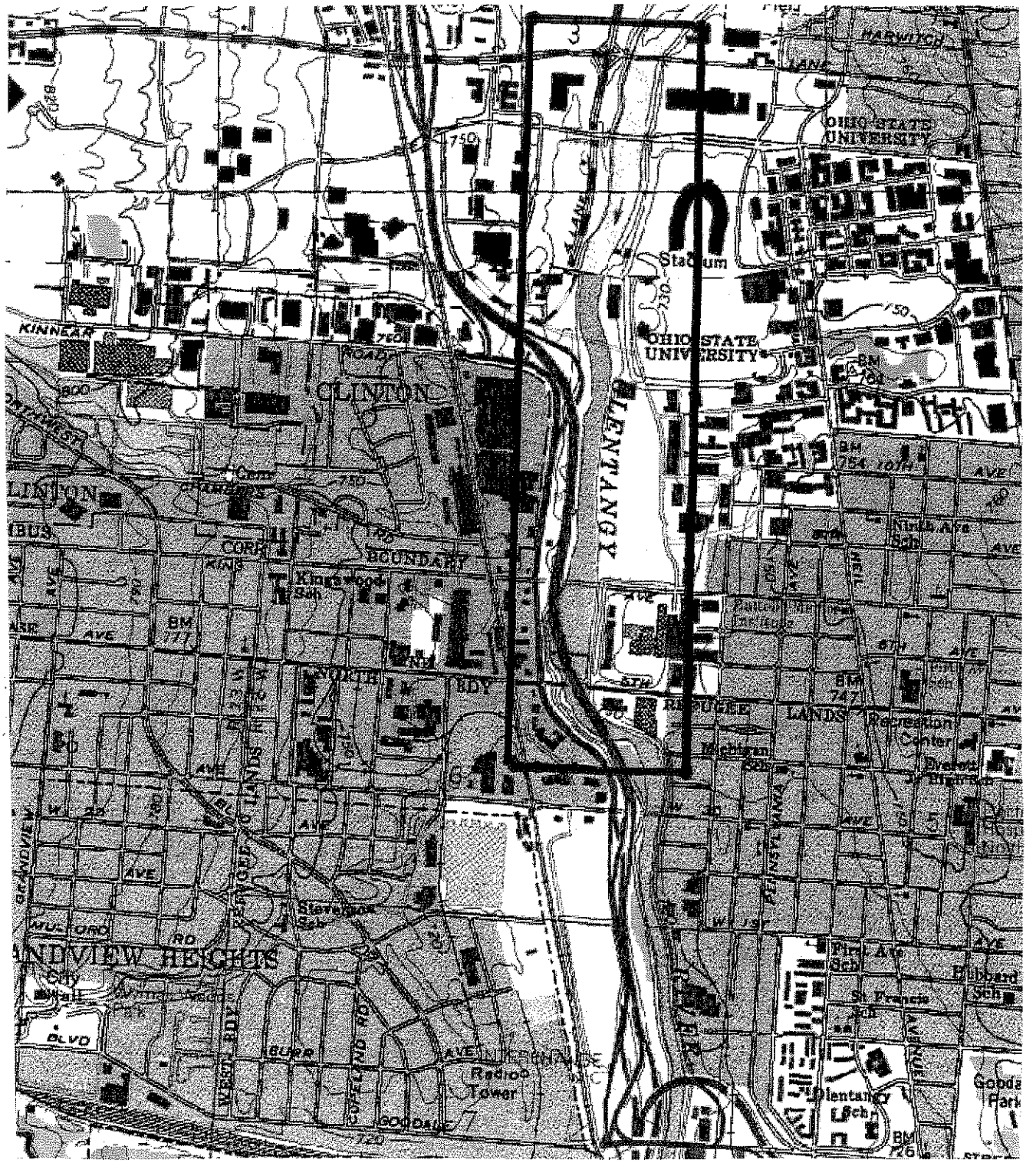

Figure 1 – Project Location

Following a period of sediment dewatering, contractors will shape and define the base flow channel and sculpt the floodplain topography prior to installing natural stone (gravel, cobble, boulders) to create in-stream structural diversity (riffles and runs) and habitat structures (root wads and bank toe structures). Plantings of the newly exposed streambanks, floodplain, and wetlands will help accelerate restoration of native riparian vegetation.

4. Project Implementation

Columbus intends to bid the project in early summer 2011 for dam demolition in late summer and early autumn 2011, and stream restoration and revegetation in 2012.

In exchange for sponsoring this water restoration project with the $90,000,000 OARS Phase 2 tunnel project WPCLF loan, Columbus will receive an interest rate reduction of 0.1%. Additionally, interest that otherwise would be charged to the wastewater loan will be advanced back to Columbus to help pay for the 5th Avenue Dam Removal project.

C. **Environmental Impacts of the Proposed Project**

This project to eliminate a dam and restore a stretch of river to free-flowing conditions will have no effect on local topography (restoration will involve minor grading of the re-exposed dry land), agriculture (the project area is all urban), land use (the project area will remain river and riverbank), air quality (the project adds no sources of air pollution), or energy use (the project adds no energy-consuming equipment).

The floodplain of the Olentangy River in the project area is constrained by SR 315 on the west bank and by a flood levee on the east bank. A low-head dam lacks controls and has no impact on flood levels. Elimination of the dam includes re-creation of floodplain in the area now pooled and re-establishment of floodplain features and floodplain vegetation in conjunction with re-establishment of wetland features and vegetation now absent in the project area. The dam removal is authorized through the U.S. Army Corps of Engineers Nationwide Permit 27 (Stream and Wetland Restoration Activities). Upon completion of the project, Columbus will coordinate with the Federal Emergency Management Agency to formally revise the Flood Insurance Rate Map covering the project area to reflect the new conditions.

There are no ground water supply wells in the vicinity of the project area. Therefore, this project will have no effect on ground water resources.

The 5th Avenue Dam's original purpose was the establishment of a reservoir source of cooling water for the university's power plant. The university no longer needs that source, and no other withdrawals from the dam pool exist. Surface water resources will change dramatically as a result of project implementation. The current, impounded stretch of river will be replaced by a narrower, shallower, free-flowing stream, very different in appearance and function from the current water body. This change is expected to be highly beneficial to water quality.

Some short-term, temporary adverse impacts to water quality are possible during the actual process of removing the dam, both due to the construction/demolition activities (accessing the dam with heavy equipment in the river, creating additional downstream sedimentation as part of the demolition and in-stream work process, etc.), and due to release of accumulated sediment from behind the dam as the structure is removed and the water level is lowered. Some of the measures planned to minimize these impacts include limiting in-stream construction work to seasonal low-flow periods (summer-fall), gradually lowering the dam to help contain impounded sediment to the greatest extent possible, and using appropriate construction best management practices such as rock and other clean-fill for creating temporary in-stream access and other sediment containment devices

Terrestrial habitat will be re-established by this project on land that is now beneath the dam pool. Restoration of the low-flow channel will re-create floodplain topography that includes pocket wetlands similar to the natural river upstream and downstream of the dam pool. Terrestrial habitat restoration includes planting a mix of native species. The project disturbance area includes no trees with features favored by endangered Indiana bats, nor is it likely to affect any other terrestrial threatened or endangered species.

Aquatic habitat will change in the project area from pooled conditions to free-flowing conditions. Pooled conditions generally have low dissolved oxygen and little structural diversity, and support fish and invertebrate species adapted to those conditions. Warmwater Habitat designated streams typically are free-flowing with higher dissolved oxygen and structural diversity (pools, riffles, runs), and support fish and invertebrates adapted to those conditions. The proposed change will produce a positive effect on the Olentangy River by re-establishing conditions that will lead to meeting the designated Warmwater Habitat criteria.

Although no endangered mussel species have been found in the project disturbance area, the project includes minimizing mussel mortality following dewatering by prompt removal and relocation of any exposed mussels found in the former dam pool area to safer nearby areas within the free-flowing stream.

Demolition and construction vehicle sounds audible in the immediate project area will be similar to background traffic noise from adjacent SR 315 and other local roads, and are unlikely to increase local noise levels. Traffic will be unaffected by this project that involves no work on roads. The Olentangy Multi-purpose Trail adjacent to the dam and dam pool will remain open during project activity. Public safety will be maintained by temporary construction fencing.

Local aesthetics will change due to the loss of two existing landscape features, the dam and the dam pool, which will be replaced with a more-natural free-flowing river with native vegetation on the re-emerged banks. The post-restoration landscape will appear more like the Olentangy River north and south of the university campus.

The Ohio Historic Preservation Office concurred with Columbus's (and Ohio EPA's) determination that the project will not cause a significant adverse effect to properties listed or eligible for listing in the National Register of Historic Places (archaeological and historical resources). In the event of archaeological finds during construction, Ohio Revised Code Section 149.53 requires contractors and subcontractors to notify the Ohio Historic Preservation Office of any archaeological discoveries in the project area, and to cooperate with the Office in archaeological and historic surveys and salvage efforts when appropriate. Work will not resume until a survey of the find and a determination of its value and effect has been made, and Ohio EPA authorizes work to continue.

The local economy will benefit from this project due to the 0.1% interest rate reduction available to Columbus for sponsoring this project with the OARS Tunnel WPCLF loan, which will allow Columbus to minimize the OARS project cost and its economic impact on the city's wastewater customers. The local economy could also potentially benefit from improved water quality and greater use of the river in the restored area.

D. **Public Participation**

Columbus has been developing the current version of this project for more than five years, in conjunction with The Ohio State University and Ohio EPA. The university rowing crew club opposes the project because it will eliminate convenient, on-campus flat water; the University administration supports the project. Ohio EPA is unaware of other opposition to or controversy about the project.

Columbus posted on its municipal web page information on the project.

The following agencies reviewed this project's planning information:

Ohio Environmental Protection Agency
Ohio Historic Preservation Office
Ohio Department of Natural Resources
U.S. Army Corps of Engineers, Louisville District
U.S. Fish and Wildlife Service

None of the agencies opposes the project.

E. **Reasons for a Preliminary Finding of No Significant Impact**

Based on its review of this project's planning information and detail plans, Ohio EPA concludes that no significant short-term or long-term adverse direct environmental impacts will result from the project as related to the environmental features discussed in this Environmental Assessment. This is because either these features do not exist in the project area, the features exist but will not be adversely affected, or the impacts of construction will be temporary and mitigated.

This project equally serves the entire Columbus community, so no particular segment of the community will be faced with additional adverse impacts or be deprived of environmental benefits, compared to any other segment.

For these reasons, this project, alone or in combination with other projects, is not expected to result in any significant indirect or cumulative short-term or long-term adverse environmental impacts.

Ohio EPA expects the economic impact of the project on the average user to be insignificant because it has no relationship to sewage rates and requires no rate increase.

The project is expected to re-establish a free-flowing stretch of the Olentangy River that will allow achievement of its Warmwater Habitat designation.

For further information, please contact:

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