



Illinois Department of Natural Resources

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Bruce Rauner, Governor
Wayne A. Rosenthal, Acting Director

January 28, 2015

Rick Bolliger
MWH Americas, Inc.
175 West Jackson Boulevard
Suite 1900
Chicago, IL 60604

RE: Albany Park Stormwater Diversion Tunnel
Project Number(s): 1503848 [N20140158]
County: Cook

Dear Mr. Bolliger:

This letter is in reference to the above mentioned project submitted for consultation on behalf of the Chicago Department of Transportation. The purpose of the project is to alleviate overbank flooding issues in the North Branch of the Chicago River (NBCR).

The project involves the construction of an 18' diameter rock tunnel that extends 5,800' from Eugene Field Park to the North Shore Channel (NSC), generally under Foster Avenue. The inlet shaft will drop approximately 110' vertically and rise vertically again at the outlet shaft. The system will function as an inverted siphon and will be designed to operate during 100-year storm events. After a flood subsides, the tunnel will be pumped out with two redundant trash pumps. The inlet and outlet will be equipped with trashracks with 4" spacing to prevent debris and people from entering the tunnel system. Two sluice gates with 2" trashrack spacing will be installed at the inlet. Additionally, boater safety facilities will be installed at the inlet facility, including warning signs and a fence above the weir.

The Department has identified many concerns in regards to this proposed project, which are listed below:

Public/Boater safety:

- Appendix E (Impacts on Fisheries and Potential Mitigation Actions) mentions that backflow through the system may occur during flood events with a recurrence of 5 months or greater. However, it is not clear if boater safety equipment will be installed at the outlet in the NSC. Please clarify if boater safety equipment is proposed at the outlet structure or explain why none is necessary.
- Recreational activities on the Chicago Area Waterway System (CAWS), such as boating, kayaking, fishing, and etc.) has increased dramatically in recent years due to public

investment in water quality improvements and providing safe access. As you explained in an email correspondence dated January 26, 2015, little impact to recreational users is expected because there is no access at both the inlet or outlet sites, limited use of the NBCR during high flows, and ability for watercraft to pass by the outlet structure on the opposite bank of the NSC without major effect. However, with an increase in recreational use of the CAWS likely in the near future resulting from additional water quality improvements (due to recently revised regulations); the Department recommends an Adaptive Management Plan be initiated so that any unforeseen adverse impacts or safety concerns for recreational users can be identified and mitigated. Also, please note that the North Branch Dam may be removed in the future and the resulting changes to recreational use in the NSC and NBCR should be considered.

- West River Park is used by urban anglers and IDNR surveys have found abundant largemouth bass and sunfish populations in this area. Presence of the outlet just upstream could have a disruptive impact on fish populations and angling success. Mitigation of any impacts on angling at West River Park should be considered.

Fisheries Impacts:

- Appendix E (page 2) characterized available fish data for the North Shore Channel (NSC) and North Branch Chicago River (NBCR) as “very limited...and dated”, see below:

“Data on the fish fauna in the NBCR and NSC in the vicinity of the Project are very limited and dated. (The most recent sampling data were obtained in 2005.) All available information was obtained by MWRD and the data in the Project area are taken from two sources: Dennison et al (2001) and MWRD (2005).”

The use of these data has resulted in the fisheries impact analysis being out-of-date and invalid. A wealth of current data has been published by both IDNR Fisheries and the IDNR Asian Carp Monitoring Program (ACMP) for the NSC and NBCR. Lake Michigan Basin Survey reports from 1996 – 2006 and 2001 – 2011, as well as Asian carp survey reports from 2011, 2012, 2013 and raw data were recently provided to you. Basin survey sampling stations HCCA-02, HCCA-04, and HCC-02, and Asian carp fixed monitoring stations 4 & 5 (including random sites) are within the NSC in the project vicinity. Sampling sites HCCC-04 and HCCC-08 represent the nearest Basin Survey sites in the NBCR. Because a wealth of more recent and valid data exists, the Department requests that the fisheries impact analysis be re-evaluated.

- A brief review of some of the sampling sites was completed by the Department. During the 2011 Basin Survey sampling of HCCA-04, the site yielded 88 fishes representing 10 species. In other surveys (2001, 2006) at or near the outlet IDNR has reported up to 18 species at an individual site in the NSC. In 2013, the ACMP sampling of Fixed Site #4 yielded 3,177 fishes representing 26 species. ACMP sampling occurred monthly between March and October in 2013.
- While the report noted a lack of aquatic vegetation near the outlet, IDNR Fisheries Staff has observed dense beds of emergent and submergent plants in this area. Increased flow and

sedimentation could have impacts on these beds. Please consider this issue and investigate ways to mitigate adverse impacts to aquatic vegetation beds.

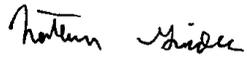
- In 2015, Friends of the Chicago River and IDNR Fisheries are planning to install fish habitat structures 1000 feet downstream of the proposed outlet structure. The structures will provide channel catfish spawning habitat as well as habitat for other near shore species (sunfishes and minnows). Increased turbidity and flow from the bypass outlet could disrupt spawning activities and cause excessive sedimentation at the proposed habitat structure project. The Department is re-evaluating the placement of this habitat in light of this project.
- It is unclear if fish entrainment will be mitigated at all times with the 2” trashracks on the sluice gates or if these gates would function only during maintenance. Four-inch trash racks are proposed at the project inlet and outlet. For projects involving the potential impingement or entrainment of fishes, the Department typically requests that flows at trashracks not exceed 1.5 ft/sec. and no more than 2” trashrack spacing. Diversion wedgewire screens may also be a practical application for this project. Please consider implementing these mitigation measures or justify why it would be impractical.
- Please describe how the proposed self-cleaning trashrack will operate and how often. Maintaining the trashrack clear of debris is important in reducing high velocities and fish entrainment and impingement.
- In Appendix E (page 5) it is noted that fish entrained into the diversion tunnel will likely suffer high mortality rates via the 110’ vertical drop, rapid increase in pressure, loss of equilibrium and predation at the outlet, or passage through the trash pumps during tunnel dewatering. Using the more recent fisheries data provided, estimate the number of fish expected to suffer mortality, including all species recorded in the vicinity and different size classes, and describe opportunities to mitigate the loss of these natural resources.
- The fisheries impact analysis should consider the potential removal of the North Branch Dam and changes in fish assemblages in the NBCR.

State-listed Species:

- Appendix E (page 5) notes that “None of the fish species in the NBCR are threatened or endangered.” However, the state-threatened Iowa darter (*Etheostoma exile*) was collected in the NBCR during the IDNR 2011 Basin Survey and the state-endangered banded killifish (*Fundulus diaphanus*) has been collected in the NSC during Asian carp monitoring. The fisheries impact analysis should include impacts on state-listed species and attempt to estimate the number of individuals that will experience mortality. Given the high likelihood of “take” occurring as defined by the *Illinois Endangered Species Protection Act* [520 ILCS 10/11], an application for Incidental Take Authorization (ITA) may be justified for this project. The Department will review the new fisheries impact analysis before making a final determination. Be advised, the ITA process can take up to six months to complete.
- The state-threatened black-crown night heron (*Nycticorax nycticorax*) is also reported to occur in the immediate vicinity of the proposed outlet in the NSC. Impacts to this species should also be considered and the likelihood of take analyzed.

Please contact me if you have any questions regarding this review. Consultation will remain open pending further information.

Sincerely,

A handwritten signature in black ink that reads "Nathan Grider". The signature is written in a cursive style.

Nathan Grider
Impact Assessment Section
217-524-0501

cc: Gary Jereb – IDNR, OWR
Steve Pescitelli – IDNR, Fisheries
Shawn Cirton – USFWS
Mike Murphy – USACE, Chicago District
Dan Heacock – IEPA