

2015

River Riparian Connectivity & Habitat - Section 506 GLFER

Appendix A – Draft FONSI, 404/401 and Coordination

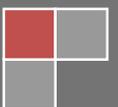
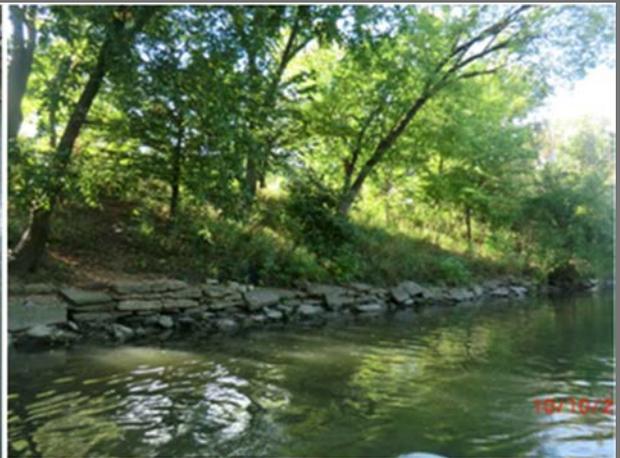


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A1 – SECTION 404(B)(1) EVALUATION for REGIONAL PERMIT 5 & 7 CERTIFICATION

Regional Permit 5 (RP5) authorizes the restoration, creation and enhancement of wetlands and riparian areas, and the restoration and enhancement of rivers, creeks and streams, and open water areas on any public or private land. Wetland and stream restoration and enhancement activities include the removal of accumulated sediments; installation, removal and maintenance of small water control structures, dikes and berms; installation of current deflectors; enhancement, restoration, or creation of riffle and pool structures; placement of in-stream habitat structures; modifications of the stream bed and/or banks to restore or create stream meanders; backfilling of artificial channels and drainage ditches; removal of existing drainage structures; construction of open water areas; activities needed to reestablish vegetation, including plowing or discing for seed bed preparation; mechanized land-clearing to remove undesirable vegetation; and other related activities. This RP may be used to relocate aquatic habitat types on the project site, provided there are net gains in aquatic resource functions and values. Authorization under RP5 is subject to the following requirements which shall be addressed in writing and submitted with the notification:

- a. All projects will be processed under Category I.
- b. This permit does not authorize activities to relocate or channelize a linear waterway such as a river, stream, creek, etc.
- c. This permit cannot be used for the conversion of a stream or creek to another aquatic use, such as the creation of an impoundment for waterfowl habitat.
- d. This permit cannot be used to authorize the conversion of natural wetlands to another aquatic use, such as creation of waterfowl impoundments where a forested wetland previously existed, or the conversion of waterfowl impoundments and wildlife habitat areas.
- e. A management and monitoring plan shall be required for the restoration, creation or enhancement of aquatic resources. Upon the District's approval, the management and monitoring plan may be designed to be site specific, with the duration of the plan determined on a case-by-case basis.
- f. For a project site adjacent to a conservation area, forest preserve holdings, or village, city, municipal or county owned lands, the permittee shall request a letter from the organization responsible for management of the area. The response letter should identify recommended measures to protect the area from impacts that may occur as a result of the development. A copy of the request and any response received from the organization shall be submitted to the District with the notification.
- g. For projects receiving State or Federal grants or funding sources, the permittee shall submit a copy of the document disclosing the expiration date for use of the funds and the expected calendar date for commencement of the project in order to meet funding deadlines.

These conditions were agreed to and certified for 401 Water Quality Certification by the Illinois Environmental Protection Agency (ILEPA) in a letter dated 02 April 2012 and is effective until 2017.

The following 404(b)(1) Analysis provides documentation that the River Riparian Section 506 project is in compliance with RP5, and would result in improvements in water quality and riverine and riparian habitat quality. All construction activities to achieve the restoration goals were determined to have short term, negligible effects on current water quality, habitat and the human environment.

Regional Permit 7 (RP7) authorizes temporary structures and discharges necessary for construction activities, access fills and dewatering of construction sites. Authorization under RP7 is subject to the following requirements which shall be addressed in writing and submitted with the notification:

- a. All projects will be processed under Category I.
- b. The temporary impact to waters of the U.S. shall not exceed 0.25 acres.
- c. Fill shall be composed of non-erodible materials and be constructed to withstand expected high flows.

- d. Low ground-pressure equipment is recommended for work in wetlands. However, after careful consideration, if the District accepts a proposal to use heavy equipment to accomplish the work, the placement of timber mats or other protective measures shall be utilized to minimize soil disturbance.
- e. All materials used for temporary construction activities shall be moved to an upland area immediately following completion of the construction activity.
- f. The permittee is required to restore the construction area to pre-construction conditions including grading to original contours and revegetating disturbed areas with appropriate native vegetation immediately upon completion of the project. A restoration plan shall be submitted with the notification.
- A 1-foot contour topographic map of the project area may be required on a case-by-case basis.
- g. This permit does not authorize the use of earthen cofferdams or other practices that would result in a release of sediment into waters of the U.S. Cofferdams shall be constructed of non-erodible materials only. Acceptable practices include, but are not limited to: pre-fabricated rigid cofferdams, sheet piling, inflatable bladders, sandbags and fabric-lined basins.
- h. For projects that require installation and operation of a cofferdam, the cofferdam method and a detailed construction sequence shall be specified in the project narrative, and clearly labeled on the construction plans. Please see our website at www.lrc.usace.army.mil/Portals/36/docs/regulatory/pdf/cofferdam.pdf for "Requirements for In-Stream Construction Activities".
- i. The following requirements will be adhered to for any project requiring in-stream work and shall be incorporated into the soil erosion and sediment control plans for the project:
- 1) Work in the waterway should be timed to take place during low or no-flow conditions. Low flow conditions are at or below the normal water elevation.
 - 2) Water shall be isolated from the in-stream work area using a cofferdam constructed of non-erodible materials (steel sheets, aqua barriers, rip rap and geotextile liner, etc.). Earthen cofferdams are not permissible.
 - 3) The cofferdam must be constructed from the upland area and no equipment may enter the water at any time. If the installation of the cofferdam cannot be completed from shore and access is needed to reach the area to be coffered, other measures, such as the construction of a causeway, will be necessary to ensure that equipment does not enter the water. Once the cofferdam is in place and the isolated area is dewatered, equipment may enter the coffered area to perform the required work.
 - 4) If bypass pumping is necessary, the intake hose shall be placed on a stable surface or floated to prevent sediment from entering the hose. The bypass discharge shall be placed on a non-erodible, energy dissipating surface prior to rejoining the stream flow and shall not cause erosion. Filtering of bypass water is not necessary unless the bypass water has become sediment laden as a result of the current construction activities.
 - 5) During dewatering of the coffered work area, all sediment-laden water must be filtered to remove sediment. Possible options for sediment removal include baffle systems, anionic polymers systems, dewatering bags, or other appropriate methods. Water shall have sediment removed prior to being re-introduced to the downstream waterway. A stabilized conveyance from the dewatering device to the waterway must be identified in the plan. Discharge water shall not result in a visually identifiable degradation of water clarity.
 - 6) The portion of the side slope that is above the observed water elevation shall be stabilized as specified in the plans prior to accepting flows. The substrate and toe of slope that has been disturbed due to construction activities shall be restored to proposed or pre-construction conditions and fully stabilized prior to accepting flows.

I. Project Description

a. Location

The River Riparian Connectivity and Habitat Restoration study area consists of three contiguous parks that straddle the Chicago River (see Detailed Project Report Section 1.4 for maps and figures). All three parks are leased, maintained and managed by the Chicago Park District, but currently owned by the Metropolitan Water Reclamation District of Greater Chicago (MWRDGC). The three parks are named Ronan Park (13-acres), River Park (30-acres) and Legion Park (50-acres), totaling over 2-miles of contiguous river. The confluence of the North Branch Chicago River (NBCR) and the North Shore Channel (NSC) occurs at River Park, which is also the location of a grade control dam owned by the MWRDGC. The parks were integrated into the Chicago Park District system between 1917 and 1934. In

the 1990s, the park district began to lease additional MWRDGC land and upgrading the walking and bike riding trails through much of the parks lining the river.

b. Authority and Purpose

This study is authorized under Section 506 of the Water Resources Development Act (WRDA) of 2000, Great Lakes Fishery and Ecosystem Restoration. Authority is given to plan, design, and construct projects to restore the fishery, ecosystem, and beneficial uses of the Great Lakes. Projects are justified by ecosystem benefits alone, while considering affects to the human environment including public health, safety, economic benefits, recreational or any combination of these.

The Chicago Park District holds many natural areas within the Chicago City limits, many in which have remnant habitats that exemplify the Chicago Region. The CPD has in turn requested that the Chicago District, USACE initiate a study under the Section 506 WRDA 2000, Great Lakes Fishery and Ecosystem Restoration (GLFER) authority to ascertain the feasibility of restoring important fish passage and migratory bird and wildlife habitat within the study area. This report has evaluated the feasibility and environmental effects of restoring hydrology, hydraulics, riverine substrates and geomorphic features, and riparian plant communities. The main purpose of the DPR is to recommend a plan, including consideration of the No Action Plan, for ecological restoration of the identified study area.

When evaluating the entire suite of species that utilize the river and riparian corridor within the study area, it becomes clear that many native insect, fish, amphibian, reptile and bird species are limited due to the need functional and connected habitat zones. The lack of riparian savanna connecting to bank, connecting to the stream has resulted in the loss of native species, primarily amphibians, reptiles and birds. The habitat quality assessments of the riverine and riparian habitats utilizing the QHEI and FQA, respectfully, provided a qualitative basis for confirming these holistic and chronic problems.

Based on site qualitative and quantitative investigations and aside from the massive hydrogeomorphic changes to the system, the main aquatic resource problems within the NBCR in which the 506 Authority may take opportunity to address are as follows:

- Lack of passage for mussel and fish species to access habitat within the NBCR
 - Mussels depend on fish passage for dispersal, fish being glochidial (larval) hosts
- Lack of riverine (lotic/flowing) velocities and forces that riverine species require
- Lack of natural sediment (substrate) transport
 - Impaired substrate composition and sorting
 - Lack of natural macro-habitat features
 - Islands, deep pools, riffles, native aquatic vegetation, bars, undercut banks
 - Eliminated ability to naturally filter and clean water and sediments (substrates)
 - Moving water facilitates cleansing as substrates (sediment) move through the river becoming exposed to saprophytes (animals, bacteria, fungi) and oxygen
- Lack of native species richness and composition of riparian zone plant communities
 - Poor structural diversity (monotypic thickets)
 - Poor food sources from non-seed/berry producing trees and shrubs
 - Noxious chemical sources from non-native plants (i.e. Buckthorn, Garlic Mustard)
 - Poor/eliminated longitudinal (along the river) and lateral (up the bank) connectivity

c. General Description

Alternative _ was selected as the National Ecosystem Restoration (NER) (synonymous with the Preferred Plan and Tentatively Selected Plan). Rationale for selecting the NER/Preferred Plan is presented in Section 4.6. Alternative Plan consists of the following measures presented in Section 4.1: _____. The implementation of all of these measures would restore riverine fish habitat and connectivity, riverine aquatic bed, and riparian savanna. The implementation of these features is generally described as follows and according to the measures descriptions in Section 4.1. More detail would be added to the plan should this project commence to the design and implementation phase, for example, specifying spatial distribution of native plugs within a given zone and species clumping, planting centers, soil amendment percentages, temporary predator controls, and establishment activities. General construction activities and sequencing would include:

(1) Site Preparation – The first task would be to install safety fencing, signage and other safety features in order to keep the public out of the site during heavy construction. Staging areas and access roads would be demarcated. Instructive signage for workers would be set up as well to signify off limit work areas and site restrictions.

(2) Invasive Species Eradication – All invasive plant species would be physically and if need be, chemically eradicated from the planting zones. A “No Invasive Species Clearing” window between 01 March and 01 October which is typically established for all USACE, Chicago District ecosystem projects in conjunction with the Region 3 USFWS and the local birding community. All woody species removed not selected for Large Woody Debris habitat would be chipped and utilized for project features or appropriately recycled. Based on lessons learned from Chicago District restoration projects, the addition of these wood chips greatly aids in starting a plant community where soils lack or have no organic material, aiding as well in soil water retention for early plant establishment phases. Those species having allelopathic chemicals or the potential to provide an invasive species seed source would be destroyed on site via fire or appropriately disposed; such species include European Buckthorn, Black Alder, Walnut, etc. Herbicide application would also be employed; all required permits for licensed herbicide application practices near water ways would be applied for and adhered to.

(3) Geomorphic Contouring – Once targeted woody and invasive species are removed, NSC banks would be graded to provide a suitable hydrogeomorphology for establishing native riparian plant species. These areas will be contoured and all excess soils will be incorporated into the landscape design; all materials will be managed on site and not removed. Grading activities would be limited to areas along the bank where they are too steep to plant native riparian communities. Graded areas will be planted with native seeds, plugs or shrubs and immediately stabilized to prevent erosion. Large boulders, dolomitic limestone slabs and woody debris would be placed at various locations along the NSC where severe erosion points exist or the opportunity for providing sustainable habitat structure is available. The stone and large woody debris material would not intrude into the navigation channel or impede or attenuate flood-flows. Aquatic soil amendments identified above would be placed along the toe of the North Shore Channel in slackwater areas where emergent and submergent aquatic macrophytes can be established. These would be place by small machines or hand from the bank to achieve the appropriate hydrogeomorphic setting and to provide a kick-start growth medium for native aquatic macrophytes.

(4) Concrete Channel Removal – Recent and past fish surveys show that there are usually no fish present with in the reaches of the NBCR that have a concrete lined channel. The V-shaped smooth concrete channel therefore would be broken and removed in order to restore natural riverine substrates and morphology. A temporary coffer-dam system or pipe by-pass system would be used to pass half the channel flows through the 390-foot restoration zone in order to work in the dry; any system implemented would impact less than .25-ac, be quickly removable prior to imminent flooding and would not increase

any stage of flows. In order to increase channel stability and reduce project costs, removed concrete would be cleaned and crushed on site and then line the newly exposed channel before it is covered and top-dressed with natural riverine substrates and morphologic features. Excess concrete not needed for the channel design would be appropriately removed from site and recycled.

(5) North Branch Channel Restoration – After the concrete channel is removed, turned to rubble, and placed as a bedding layer, riverine morphologic features of riffles and step-pools would be installed. These riffles and step-pools would be created from large boulders and cobbles that are locked into the channel bed and banks. Remaining channel areas outside these riffles and step-pools would be lined with natural riverine substrates of sand, gravel and cobbles as well; these will be placed based on predicted channel velocities for the bank-full width condition and adaptive management during construction.

(6) Concrete Dam Removal – After the channel above the dam is restored and stabilized with riffles, step-pools and stone material, the grade control dam would be removed, turned to rubble, and placed in the large scour hole caused by the dam. All rebar and foreign material would be removed and properly disposed of. A final large fluvial stone riffle and apron would be placed over where the dam and scour hole formerly existed. The combination design of the dam removal and channel restoration would provide a) fish and mussel passage, b) fish and mussel habitat and c) canoe passage and access.

(7) Native Plant Community Establishment – Next would be to establish native plant communities of aquatic bed and riparian savanna over the remaining 4 years of the construction period. Planting lists are presented as Future With-Project Planting Lists located in Appendix B. Zones would be seeded and planted with seed and live plugs. Live plug areas will require predatory control, primarily stringing and caging to prevent Beaver, Canada Goose and Common Carp predation. Again, the duration of the construction contract would primarily be for spot herbicide application and additional planting; most activities similar to public landscaping activities.

(8) BMPs – Soil erosion and sediment control measures would be incorporated into the design documents and will comply with local and federal environmental requirements. A 5 year period of BMPs and erosion prevention would be implemented by the contractor. The minimum measures required at the project site may include:

- Hydroseeding, seeding, and mulching to stabilize disturbed areas
- Installation of silt fences around graded slopes and stockpile areas
- Protection of the waterway where grading occurs with silt fencing prevent sediments from traveling into the waterway
- Stabilizing construction entrances to limit soil disturbance at the ingress/egress from the site
- Installing erosion blanket over unprotected finished grades that are to be unplanted for at least two weeks

(9) Recreational Features – Specific components of recreation are not specified for this project. Incidental recreational benefits of canoe passage are inherent with most dam removal projects.

d. General Description of Fill Material

1) General Characteristics and Purpose of Material

The North Shore Channel and the North Branch of the Chicago River within the affected study area are both man-made features, with the NSC being completed created and the NBCR being moved and lined with concrete. The result of creating and moving these waterways eliminated vast acres of marsh and wet prairie. It is not possible to fill in these waterways and create the wetlands that are now Chicago

neighborhoods; therefore, the need for fill material is to reestablish habitat that can provide higher levels of native ecosystem richness, abundance and function within the induced riverine and riparian zone conditions. Fill material for this project would consist of reused cleaned and crushed concrete removed from the river channel and dam, glacio/fluvial stone (sand, gravel, cobble, boulder), aquatic soils for riverine wetlands, quarried limestone slabs/flags and large woody debris. Temporary fill would consist of small to medium size machinery, designed specifically for marine work, to dismantle the concrete channel and restore natural riverine features. These machines would be able to navigate on the concrete channel bottom and have no impact on natural riverine substrates or morphology.

2) Quantity of Material

Permanent Fill Needed for Restoration of Habitat

- Cleaned & Processed Channel/Dam Concrete = 970-cyd
- Glacial/Fluvial Stone Total = 960-cyd
 - Sand = 400-cyd
 - Gravel = 500-cyd
 - Cobble = 50-cyd
 - Boulder = 10-cyd
- Riffle Boulder/Cobble = 2,500 tons
- Limestone Slabs/Flags = 2,500-tons
- Woody Debris = ~200 trees
 - Rootwads, Trunks, Large Limbs, Whole Trees
- Stone for Woody Debris Revetments = 4,000-tons

Temporary Flow By-Pass (removed *in toto* upon completion)

Design Phase would provide final determination of flow redirecting structure. It is preferred to use the prefabricated, easily deployable/removable small coffer dams as opposed to a rock weir. Site conditions will further be investigated and coordinated with ILDNR OWR for which method is most effective.

- Option 1: Use Prefab Port-a-Dam (preferred)
- Option 2: Temporary Rock Weir = 4,500-cyd (not preferred)
- By-Pass Pipes = (2) 4' diameter pipes running along the both toes of the bank

3) Source of Material

All concrete reused to line the channel bottom would be derived from the channel itself and the small grade control dam. All glacial, fluvial and dolomitic stone material would be purchased from a licensed vendor. All large woody debris materials would be harvested from the project site as native riparian tree canopy structure is restored. Aquatic soil parts of sand, compost and silt would be delivered on site, then mixed before placing in areas in which riverine wetland shelf would be established.

4) Material Quality

Recycled Channel/Dam Concrete: processed, cleaned and crushed (cobble size) on site. Any strange or obviously foreign material other than limestone based concrete would be removed and appropriately disposed or recycled. This layer will be beneficial in providing a solid base for the stream restoration to be placed upon.

Glacial/Fluvial Stone: rounded, clean, inert stone materials derived from glacial or fluvial processes indicative of the ecoregion and ecotype.

Limestone Slabs/Flags: clean, calcareous, dolomitic limestone slabs derived from the Niagaran Escarpment (usually obtained from Wisconsin vendors).

Woody Debris: hardwood species not having an allelopathic nature or to provide an invasive species seed source. Species to exclude would be Buckthorn, Black Alder, Walnut, etc.

e. Description of Proposed Discharge Site

1) Location

There would be no discharge of aqueous materials. A survey upstream of the dam revealed that there are no sediments of any nature impounded by the dam, and the channel is solid concrete for the restoration under this potential project.

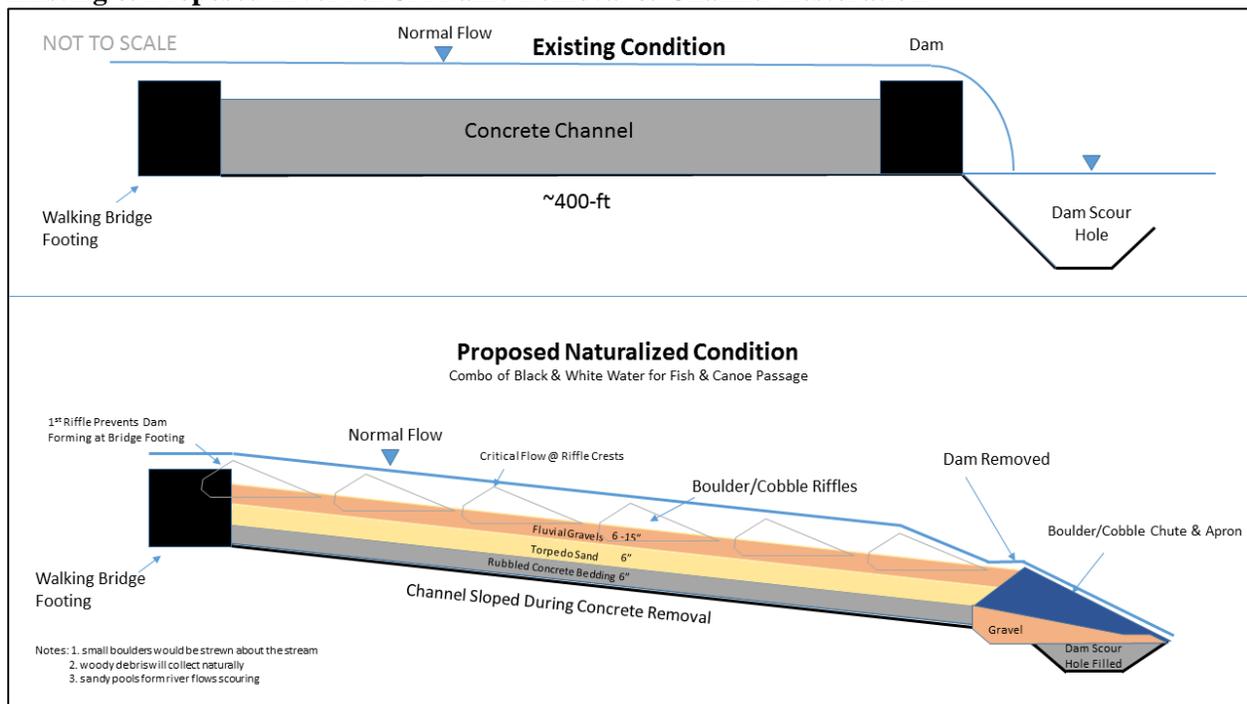
Recycled Channel/Dam Concrete would be placed in the large scour hole currently located below the dam and within the ~400 foot channel in which the concrete channel is being removed.

Glacial/Fluvial Stone: rounded, clean, inert stone materials derived from glacial or fluvial processes indicative of the ecoregion and ecotype.

Limestone Slabs/Flags: clean, calcareous, dolomitic limestone slabs derived from the Niagaran Escarpment.

Woody Debris: hardwood species not having an allelopathic nature or to provide an invasive species seed source. Species to exclude would be Buckthorn, Black Alder, Walnut, etc.

Existing & Proposed River NBCR Dame Removal & Channel Restoration



2) Size, Type, Habitat and Wetland Delineation

See Section 2.3 of Detailed Project Report for habitat descriptions and delineation map:

Existing Condition

Canal (5.3-ac) – Man-made excavation. The canal communities were devoid of vegetation during the survey. Steep slopes and concrete armoring of the streambanks have prevented any vegetative growth.

Stream (1.0-ac) – Original stream channel moved and filled. Engineered channel filled with concrete. The stream community was completely devoid of vegetation during the survey. The concrete lined channel bottom is not currently amenable to supporting vegetation.

River Banks (14.2-ac) – Man-made fill. Most of the river banks in the project area are dominated by non-native invasive brush and a very limited suite of native species. Non-native invasive species such as European Buckthorn (*Rhamnus cathartica*) and Amur Honeysuckle (*Lonicera maackii*) have proliferated and are suppressing much of the other vegetative growth. In less invaded areas, common weedy trees such as Box Elder (*Acer negundo*) and Cottonwood (*Populus deltoides*) compose the canopy. In very limited areas beneath these trees where a small floodplain shelf exists some moderately conservative species such as sneezeweed (*Helenium autumnale*), Green-Head Coneflower (*Rudbeckia laciniata*), and Rice Cut Grass (*Leersia oryzoides*) were observed. In portions of the project area prior restoration efforts have removed invasive brush from river banks and replaced it with a basic suite of native species and Oak (*Quercus spp.*) saplings.

Park Land (29.2-ac) – Man-made fill. Floristic composition of the park land within the project area varies by its use. A few small areas have been planted to native dominated communities and have a basic suite of native prairie species such as big bluestem (*Andropogon gerardii*), yellow Indian grass (*Sorghastrum nutans*), and Oswego tea (*Monarda fistulosa*) present. Other areas are dominated by Kentucky blue grass lawns (*Poa pratensis*) with a mix of native and non-native trees.

Future With-Project Condition

Canal > Aquatic Bed (5.3-ac)

Stream > Stream (1.0-ac)

River Banks > River Banks (14.2 ac)

Park Land > Riparian Savanna (29.2-ac)

Net Gains/Losses

There would be no net loss in wetland or habitat quantity, whether it be manmade or naturally occurring. The increase in habitat quality would be great based on before and after conditions of the Floristic Quality Assessment for plant communities and Qualitative Habitat Evaluation Index for stream habitat (see DPR Section 4.1.3).

3) Timing and Duration of Discharge

USACE ecosystem restoration projects are typically 5-years. In the first couple months to year, all of the physical and heavy construction work would be completed. Years 1 – 5 would be establishment of native plant communities. All earthwork, concrete removal, dam removal, substrate placement and large woody debris placement would be completed within the first year of the construction contract. All materials would be placed during weather dry enough not to cause flooding or erosion.

f. Description of Placement Method

Small bobcat/skit-steer/backhoe like vehicles and handwork would be the primary means of placing and contouring materials. All materials would be placed and not dropped from distance to elevations specified in the contract documents.

II. Factual Determinations

a. Physical Substrate Determinations

1) Substrate Elevation and Slope

Waterway slopes are nearly 0%, with the slightest of pitch south. The North Shore Channel bank slope is fairly steep (2:1), and will be gentled between 5 and 10:1 in order to promote wetland plant growth and turtle passage.

2) Sediment Type

The NSC canal and banks were excavated and piled in the early 1900s; all natural materials have been mixed with different kinds of natural and imported fills and soils. The canal and bank materials are typically inorganic soil materials with various rock and concrete deposits. There were no sediments or substrates discovered above the dam on the NBCR; the channel is concrete.

3) Fill Material Movement

All stone and large woody debris materials would not move. Stone materials would be sized appropriately to remain where placed in the channel. Large woody debris will be embedded, anchored, and/or tethered to the bank to prevent movement. Fluvial sands and gravels placed in the restored NBCR restoration reach will have moderate movement to achieve equilibrium within the reach. System-wide sediment transport within the Chicago River is minimal to negligible, and no changes to the current condition are expected.

4) Physical Effects on Benthos

The creation of the NSC and moving of the NBCR caused massive adverse effects to the wetland benthologic community and micro fungal/bacteria that naturally occurred. Since the natural conditions were already destroyed within the study area, adverse effects to naturally occurring ecosystems is not possible from any type of project. Effects to the benthologic community currently living in the muddy sediments of the North Shore Channel or concrete lined channel of the CRNB would be a positive change. The removal of the concrete channel and dam with replacement with fluvial stone substrates within the NBCR, and the establishment of aquatic bed and large woody debris habitat within the NSC would increase richness and abundance of aquatic macroinvertebrates and other benthos.

5) Other Effects

There would be no other significant sediment/substrate impacts since there are no remaining natural riverine or wetland conditions within the study area. Also, the project will greatly reduce erosion of banks within the study area, especially on the NSC.

6) Actions Taken to Minimize Impacts

Although there are no significant or resources of quality to project within the study area, special measures would be taken to minimize the temporary impacts on physical substrates associated with the proposed activity. These include the timing of particular restoration measures, silt control, biodegradable erosion control fabric and lots of native plants. This project itself is restoring aspects that the Clean Water Act protects, which is primarily habitat quality improvements.

b. Water Circulation, Fluctuation, and Salinity Determinations

1) Water

(a) Salinity

Not applicable, although the waterway ecosystems within the study area are adversely affected by unnatural salinity inputs.

(b) Water Chemistry

Since inert substrates indicative of the ecoregion are being used, no adverse water chemistry changes are expected. Existing substrates of urban muck and concrete have less value to self-cleansing water processes than natural woody debris and fluvial stone.

(c) Clarity

No effects are expected due to the small nature of the project, however the establishment of dense native plant communities within the canal, banks and upper riparian zone will drastically improve the overland filtering capabilities during rainstorms and snowmelt.

(d) Color

This project would contribute towards shifting the river from being less green.

(e) Odor

This project would contribute in reducing the sewage smells emanating from the waterway.

(f) Taste

No effects are expected, the water is already highly ruined for taste via the discharge of waste water.

(g) Dissolver Gas Levels

Localized increases in dissolved oxygen are expected from the change in substrates from concrete to natural fluvial stone and large woody debris. Aquatic bed establishment within the canal would also help regulate aquatic gas via photosynthesis and respiratory properties of aquatic macrophytes.

(h) Nutrients

Native ecosystems, plant communities, are adversely affected by raw nutrients, such as those derived from agriculture (Nitrogen, Phosphorus) or waste water treatment. Native ecosystems sequester nutrients

from organic carbon sources and aerial Nitrogen. This project contributes to shifting nutrient sequestration by plants back towards organic carbons and aerial Nitrogen instead of effluent derived N and P.

(i) Eutrophication

Same as (h), this project contributes to shifting away from cultural eutrophication.

(j) Other

All project aspects support the Clean Water Act principles and intent.

2) Current Patterns and Circulation

See Section 2.2.3 of Detailed Project Report for description of Site Hydrology.

(a) Current Patterns and Flow

No change due to project implementation.

(b) Velocity

No change within the NSC except locally around large woody debris habitat structures where the velocities would diversify as water flows through and around the structure, and the structure takes the brunt of the force to protect vulnerable bank erosion areas. Change of velocities within the channel above and **directly below** the current dam structure would be highly beneficial. Currently, the dam maintains one velocity through the channel at low to normal flow conditions. Removal of the dam would allow the diversification of velocities as the water now has to drop over riffles and natural channel features. There would be no affects to flow during large flood events over the bank-full width scenario.

(c) Stratification

There are no expected affects to limnic or lotic stratification due the project area occurring within a shallow waterway.

(d) Hydrologic Regime

The hydrology of the study area is dictated by an impervious urban watershed, stormwater inputs and waste water treatment discharge. No affects to the hydrologic regime are expected. There would be no change induced to the water surface profile, flood profiles, groundwater, or open acres of water. This project primarily targets in-channel hydraulics and geomorphology to improve natural ecosystem structure and functions.

3) Normal Water Level Fluctuations

Water level fluctuations at the site are influence by precipitation, evapotranspiration, urban runoff, and Lake Michigan; however, the water levels within the Chicago River system within the study are primarily controlled by the Chicago and Lockport Lock & Dam Controlling works. This project would have no affect the operation of these locks in maintaining pool hydrology.

4) Salinity Gradients

Not applicable to freshwater environments, although the system is adversely affected via the use of road salts.

5) Actions that will be Taken to Minimize Impacts

No special measures would be taken to minimize the temporary impacts on water circulation and fluctuation since there are no predicted adverse effects. The purpose of the project is to restore native habitat structure and function within the parameters of the Chicago Waterway System where hydrology is fixed.

c. Suspended Particulate/Turbidity Determinations

1) Expected Changes in Suspended Particulates and Turbidity Levels in Vicinity of Fill Site

There would be negligible to minor increases in suspended particulates and turbidity levels in the immediate area of the proposed fill activity during construction, most of which would be significantly less than any given summer thunderstorm.

2) Effects on Chemical and Physical Properties of the Water Column

(a) Light Penetration

No effects are expected.

(b) Dissolved Oxygen

No effects are expected.

(c) Toxic Metals and Organics

No effects are expected.

(d) Pathogens

No effects are expected.

(e) Aesthetics

Positive effects are expected via removing concrete from the river and restoring slumped and scoured banks to gently sloping plant communities.

(f) Other

No effects are expected.

3) Effects on Biota

(a) Primary Production, Photosynthesis

Primary production would increase via the restoration of natural stones, woody debris, aquatic macrophytes, and high quality sources of organic input (allochthonous material) of native plants instead of noxious shrubs and trees.

(b) Suspension/Filter Feeders

Suspension and filter feeders are expected to increase due to the increase in a balanced primary production of zoo and phytoplankton. Improvement in saprophyte species richness such as shredding macroinvertebrates and crayfishes are expected due to expected increases in primary productions from substrate and velocity reestablishment, and high quality sources of organic input (allochthonous material).

(c) Sight Feeders

Expected contributions to clarifying water inputs via increased coverage in native plant species, increased large woody debris and converting concrete channel to natural stone stream channel.

4) Actions Taken to Minimize Impacts

Timing and methods of fill placement, use of biodegradable erosion control fabric, silt fencing and native plantings would be implemented to minimize the temporary turbidity impacts associated with the proposed activity. All proposed activities would be well under the turbidity threshold caused by a moderate rain storm. Also, the sequencing of the dam removal is so that there should be no instance in which materials would be able to move downstream, primarily from restoring the stream channel first, then removing the dam after the entire area has been stabilized. In addition, there were no mobile sediments located upstream of dam due to the concrete channel.

d. Contaminant Determinations

The proposed fill material would not introduce any new contaminants into the Chicago River, or release any significant amounts of existing contaminants (if any are present) through bottom disturbance in the construction zone.

e. Aquatic Ecosystem and Organism Determinations

1) Effects on Plankton

Beneficial effects to planktonic organisms are expected due to expected increases in primary productions from substrate and velocity reestablishment, and high quality sources of organic input (allochthonous material) of native plants instead of noxious shrubs and trees.

2) Effects on Benthos

Existing benthos directly beneath where materials would be placed would be negligible since benthic communities inhabiting concrete channels and urban muck deposits are typically highly tolerant, i.e. Chironomids (Bloodworms and Midge). These species immediately colonize anything in any type of stream. Beneficial effects to benthologic communities are expected due to expected increases in primary productions from substrate and velocity reestablishment and high quality sources of organic input (allochthonous material) of native plants instead of noxious shrubs and trees.

3) Effects on Nekton

Fish eggs and larvae would not be smothered by the proposed fill activity since the anticipated construction activities will occur during non-reproductive or rearing seasons and fish do not spawn in the affected areas due to the current adverse conditions.

4) Effects on Aquatic Food Web

Beneficial improvements to the food web are expected due to increases in native plant coverage and diversity, high quality allochthonous inputs, and the diversification of substrate and in-channel velocities.

5) Effects on Special Aquatic Sites

- a) Sanctuaries and Refuges – NA
- b) Wetlands – No natural wetlands present within study area; converting canal to aquatic bed
- c) Mud Flats – none present; no significant impact
- d) Vegetated Shallows – converting canal to aquatic bed
- e) Freshwater Reefs – addition of large woody debris to canal
- f) Riffle and Pool Complexes – riffles and pools to replace concrete channel

6) Threatened and Endangered Species

Federal T&E Species

Federally-listed Threatened, Endangered, Proposed and Candidate Species were reviewed for the project area by the Chicago District (<http://www.fws.gov/midwest/endangered/section7/index.html>). The following federally listed species, status and their critical habitats are identified by the USFWS as occurring within Cook County:

- Northern long-eared bat (*Myotis septentrionalis*) – Threatened – Hibernates in caves and mines - swarming in surrounding wooded areas in autumn. Roosts and forages in upland forests and woods.
- Piping Plover (*Charadrius melodus*) – Endangered – Wide, open, sandy beaches with very little grass or other vegetation.
- Eastern Massasauga (*Sistrurus catenatus*) – Candidate – Graminoid dominated plant communities (fens, sedge meadows, peatlands, wet prairies, and shrublands).
- Hine’s Emerald Dragonfly (*Somatochlora hineana*) – Endangered – Spring fed wetlands, wet meadows, and marshes.
- Eastern Prairie Fringed Orchid (*Platanthera leucophaea*) – Threatened – Moderate to high quality wetlands, sedge meadow, marsh, and mesic to wet prairie.
- Leafy-Prairie Clover (*Dalea foliosa*) – Endangered – Prairie remnants on thin soil over limestone.
- Mead’s Milkweed (*Asclepias meadii*) – Threatened – Late successional tallgrass prairie, tallgrass prairie converted to hay meadow, and glades or barrens with thin soil.

Based on the information listed above and site assessments, federally endangered and threatened species or their critical habitats do not occur within the study area. The study team has coordinated with the U.S. Fish & Wildlife Service and expects concurrence with USACE's determination of "no effects".

State T&E Species

The Illinois Natural Heritage Database was queried on 16 September 2015 for important resource areas and State Listed Species. An ILDNR EcoCAT #1603286 report was submitted and processed for the study area under investigation within. Boundaries for the report consisted of the park boundaries for River Park, Legion Park and Ronan Park along the North Branch of the Chicago River and North Shore Channel. The EcoCAT report can be found in **A-4** of this document, with the results summarized as follows: The Illinois Natural Heritage Database contains no record of State-listed threatened or endangered species, Illinois Natural Area Inventory sites, dedicated Illinois Nature Preserves, or registered Land and Water Reserves in the vicinity of the project location. Although the EcoCAT report identifies no State T&E species, USACE biologists observed Black-Crown Night-Heron within the entire study area along the waterway hunting; this species is not known to nest along this river system. This species' presence and hunting is ubiquitous and abundant throughout the Chicago River system and Lake Michigan shoreline.

7) Other Wildlife

No other wildlife would be adversely impacted by the proposed activity. This project would provide about 50-acres of restored native aquatic bed and riparian savanna habitat for migratory birds and fishes, and provide access to an additional 58 miles of North Branch Chicago River for fish and mussels.

8) Actions to Minimize Impacts

General construction scheduling and sequencing would minimize impacts to reproducing macroinvertebrates and fishes. Erosion control fabric, silt fencing, silt curtains and native plantings would be implemented to minimize the temporary turbidity impacts associated with the proposed activity. A No Tree Clearing Window will be established in the contract set that would protect migratory birds between 01 March and 01 October.

f. Proposed Disposal/Discharge Site Determinations

1) Mixing Zone Determination

A mixing zone is not applicable to this project as no violation of applicable water quality standards is expected during construction.

2) Determination of Compliance with Applicable Water Quality Standards

The proposed activity would not cause significant or long-term degradation of water quality within the Chicago River and would comply with all applicable water quality standards. This project has clear benefits to water quality and aquatic habitats.

3) Potential Effects on Human use Characteristics

(a) Municipal and Private Water Supply

No effects expected.

(b) Recreational and Commercial Fisheries

Positive effect expected due to increase in productivity through the food chain and additions of structural habitat.

(c) Water Related Recreation

Positive effects are expected due to improvements in migratory bird habitat, fish habitat, and native aesthetics of communities, water quality improvement and safe access and passage for canoeing.

(d) Aesthetics

Positive effects are expected via unsightly steep eroded bank repair, concrete channel removal, and native plant community restoration.

(e) Parks, National and Historical Monuments, National Seashores, Wilderness Areas, Research Sites, and Similar Preserves

All protected historical and cultural resources would not be affected by this project since there are none within the affected study area.

g. Determination of Cumulative Effects on the Aquatic Ecosystem

The proposed project would restore aquatic and riparian habitat structure and function. There are no significant adverse effects expected; however, there are important beneficial affects expected. See Section 5.5 of Detailed Project Report for Cumulative Effects Assessment.

h. Determination of Secondary Effects on the Aquatic Ecosystem

No adverse significant impacts to the Chicago River ecosystem are expected as a result of the proposed activity.

III. Findings of Compliance or Non-Compliance with Restrictions on Discharge

a. No adaptation of the Section 404(b)(1) guidelines was made for this evaluation.

b. No practical alternatives are available that produce fewer adverse aquatic impacts than the proposed plan.

c. The proposed project would comply with applicable water quality standards.

d. The project is in compliance with applicable Toxic Effluent Standards under Section 307 of the Clean Water Act; with the Endangered Species Act of 1973; with the National Historic Preservation Act of 1966; and with the Marine Protection, Research, and Sanctuaries Act of 1972.

e. The proposed fill activity would have no significant adverse impact on human health or welfare, including municipal and private water supplies, recreational and commercial fisheries, plankton, fish, shellfish, or wildlife communities (including community diversity, productivity, and stability), special aquatic sites, or recreational, aesthetic, and economic values.

f. Typical erosion control measures would be taken to minimize construction impacts other than selection of the least environmentally damaging construction alternative.

g. On the basis of the Guidelines, the proposed site for the discharge of fill material is specified as complying with the requirements of these guidelines and those set forth in Regional Permit 5, with the inclusion of appropriate and practical conditions to minimize pollution or adverse impacts to the aquatic ecosystem.

A2 – 404 / 401 Regional Permit 5 Category I Requirements

The following is a checklist of items to be provided to the Illinois EPA for notice of intent of Regional Permit 5 use:

A. Cover Letter

The cover letter for this notification is provided in [Section A3](#).

B. Joint Application Form

The joint application for this notification is not provided for Regional Permit use since all of the information is provided in this document and the Detailed Project Report.

C. Special Measures

See Section [II e\) 8](#)) of 404b1 Analysis for special measures.

D. Project Purpose & Need

See Section [I c](#)) of 404b1 Analysis for Purpose & Need.

E. Regional Permit Used

The U.S. Army Corps of Engineers, Chicago District Regional Permit 5 Wetland & Stream Restoration and Enhancement & 7 Temporary Construction Facilities permits the restoration, creation and enhancement of wetlands and riparian areas, and the restoration and enhancement of rivers, creeks and streams, and open water areas on any public or private land; and RP7 authorizes the temporary coffer-dam or by-pass pipe for concrete and dam removal. Wetland and stream restoration and enhancement activities include the removal of accumulated sediments; installation, removal and maintenance of small water control structures, dikes and berms; installation of current deflectors; enhancement, restoration, or creation of riffle and pool structures; placement of in-stream habitat structures; modifications of the stream bed and/or banks to restore or create stream meanders; backfilling of artificial channels and drainage ditches; removal of existing drainage structures; construction of open water areas; activities needed to reestablish vegetation, including plowing or discing for seed bed preparation; mechanized land-clearing to remove undesirable vegetation; and other related activities. This RP may be used to relocate aquatic habitat types on the project site, provided there are net gains in aquatic resource functions and values.

F. Area of Impact

The area of impacted is about 0.8-acres of the North Branch Chicago River for dam removal and natural stream substrate and riffle placement. The area of impacted is about 5.3-acres of the North Shore Channel for aquatic soil placement and bank grading to establish aquatic bed wetlands. The impact is beneficial since the project replaces man-made structures with natural habitat and increased acres of wetland. There is a total of about 6.1-acres of stream and wetland gained with no loss of open water. The restoration project is planned and designed based on a 50-year period of analysis, however, it is the intention that the restoration features last perpetually.

G. Fill Type & Quantity

See Section [I.d](#) for types and quantity of fill material.

H. Project Area Map

See **Figure 13** in the Detailed Project Report and **Appendix B** for project mapping.

I. Site Coordinates

41°58'26.36"N 87°42'17.35"W

J. Site Documentation

See **Chapter 2 Inventory & Forecasting** of the Feasibility Report for a complete description of current physical, ecological and cultural resources, which includes photos of the site.

K. Wetland Delineation

See **Chapter 2 Inventory & Forecasting** of the Feasibility Report for a complete description of current physical and ecological resources, which describes the plant communities to be restored. The wetlands within the project area do not meet the criteria for soils, hydrology and hydrophytic plants required, as the open water areas are part of the Chicago Waterway System for navigation and waste water discharge. See [Section A5](#) for Florist Quality Assessment.

L. Farmed Wetlands

There are no farmed wetlands within the project area.

M. Plat of Survey

Property boundaries and real estate are presented in **Appendix E**. All project real estate is owned by the Chicago Park District or Metropolitan Water Reclamation District of Greater Chicago leases the lands to the Chicago Park District.

N. Engineering Drawings

Engineering design drawings are presented in **Appendix B – Civil Design**.

O. Schedule

φ 30 Day Public Review Start	Mar 2016
φ 30 Day Public Review Ends	Apr 2016
φ Final FS Report for Approval	May 2016
φ Design Complete	Jun 2016
φ Open Bids	Jul 2016
φ Contract Award	Sep 2016
φ Notice to Proceed	Fall 2016

P. Soil Erosion Sediment Control Plan

The affected area of disturbance is greater than 1-acre; however, significant erosion and sediment release is not expected. The SESC plan is part of the plans and specifications, and consists of BMP measures such as silt fencing, and biodegradable erosion control fabric and permanent project features such as native vegetation.

Q. Federally Threatened & Endangered Species

See Section [II e\) 6\)](#) of 404b1 Analysis.

R. State Threatened & Endangered Species

See Section [II e\) 6\)](#) of 404b1 Analysis.

S. Illinois Historic Preservation Agency

Correspondence with the ILSHPO is provided in [Section A4](#).

T. Applicable Watershed Plans

This study is in congruence with the identified studies in Section 1.5 Prior Studies & Projects, of the Feasibility Report.

U. After the Fact Permit

NA

V. Mitigation Plan

This is a restoration plan that requires no mitigation since lost resources are being recovered and water quality improved.

W. Project Funding Source

This project is federally funded 65% by the USEPA managed GLRI appropriations and 35% by the Chicago Park District.

X. Regional Permit 5 Guidelines

Authorization under RP5 is subject to the following requirements which shall be addressed in writing and submitted with the notification:

a. All projects will be processed under Category I.

This project would be processed under Category I.

b. This permit does not authorize activities to relocate or channelize a linear waterway such as a river, stream, creek, etc.

This project is rectifying past impacts of moving the Chicago River North Branch, damming it, and lining the channel with concrete. This project is also naturalizing the North Shore Channel, which is a manmade canal that did not exist before 1900. See Section [1b](#).

c. This permit cannot be used for the conversion of a stream or creek to another aquatic use, such as the creation of an impoundment for waterfowl habitat.

Canal system is being restore to stream. See Section [1b](#).

d. This permit cannot be used to authorize the conversion of natural wetlands to another aquatic use, such as creation of waterfowl impoundments where a forested wetland previously existed, or the conversion of waterfowl impoundments and wildlife habitat areas.

Conversion of an impounded concrete channel to a free flowing cobble stream. Conversion of manmade canal margins to aquatic beds of Eel Grass and native pondweeds (*Potamogeton* spp.). See Section [1b](#).

e. A management and monitoring plan shall be required for the restoration, creation or enhancement of aquatic resources. Upon the District's approval, the management and monitoring plan may be designed to be site specific, with the duration of the plan determined on a case-by-case basis.

Monitoring is required under the GLFER Authority. The monitoring plan is presented in **Appendix H**.

f. For a project site adjacent to a conservation area, forest preserve holdings, or village, city, municipal or county owned lands, the permittee shall request a letter from the organization responsible for management of the area. The response letter should identify recommended measures to protect the area from impacts that may occur as a result of the development. A copy of the request and any response received from the organization shall be submitted to the District with the notification.

The non-Federal sponsor will be responsible for the maintenance and protection of the restoration project per the legally binding Project Partnership Agreement to be signed after this Feasibility Study is approved and before construction commences. This intent is confirmed by the **Letter of Intent** provided by the Chicago Park District.

g. For projects receiving State or Federal grants or funding sources, the permittee shall submit a copy of the document disclosing the expiration date for use of the funds and the expected calendar date for commencement of the project in order to meet funding deadlines.

The expiration date for USEPA managed GLRI funds to be used for this project is September 2016.

A3 - Agency Coordination



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
CHICAGO DISTRICT, U.S. ARMY CORPS OF ENGINEERS
231 SOUTH LA SALLE STREET, SUITE 1500
CHICAGO IL 60604

Planning Branch
Environmental Formulation Section

Kenneth Westlake, Chief
Environmental Review Branch
U.S. EPA ME-19J
77 West Jackson
Chicago, IL 60604

15 SEP 2015

Dear Sir:

The Chicago District is preparing a National Environmental Policy Act (NEPA) document on impacts of an ecosystem restoration project for the Chicago Park District located within the City of Chicago, Cook County, Illinois. As part of the scoping process the Chicago District would appreciate your comments. Attached is a list of State and Federal Agencies and Tribal Nations receiving this request (enclosure 1). A map of the project area is also enclosed (enclosure 2).

The River Riparian Restoration study site consists of three contiguous parks, Ronan Park, River Park, and Legion Park that straddle over two miles of contiguous river frontage along the North Branch of the Chicago River and the North Shore Channel.

The project may include the removal or modification of the River Park Dam, removal of non-native invasive plants, river bank restoration and grading, concrete removal from both the North Branch of the Chicago River and the North Shore Channel, and the planting of native plant species. Additionally alluvial substrates, boulder clusters, and riffles may be added to the North Branch of the Chicago River.

Comments must be received within 30 days of receipt of this letter to be considered for incorporation into the draft NEPA document and may be sent to Peter Bullock, U.S. Army Corps of Engineers, 231 South La Salle Street Suite 1500, Chicago, Illinois 60604, or by email at peter.y.bullock@usace.army.mil. Questions should be directed to Mr. Bullock at 312/846-5587.

Sincerely,

151

Susanne J. Davis, P. E.
Chief of Planning Branch

Bullock PM-PL-E
7 9/15/15
Fleming PM-PL-E

Enclosures as stated

Buczek PM KAB 9/15/15
Davis PM-PL 878 9-15-15



AGENCY LIST

Kenneth Westlake, Chief
Environmental Review Branch
U.S. EPA ME-19J
77 West Jackson
Chicago, IL 60604

Louise Clemency
US Fish and Wildlife Service
Chicago Illinois Field Office
1250 South Grove, Suite 103
Barrington, Illinois 60010

Director Wayne Rosenthal
Illinois DNR
One Natural Resource Way
Springfield, IL 62702-1271

Keith Shank, Acting Division Manager
Office of Resource Review
Illinois DNR
One Natural Resource Way
Springfield, IL 62702-1271

Nathan, Grider
IDNR, Office of Realty and Environmental Planning
1 Natural Resource Way
Springfield, IL 62702

Director Daniel Injerd
Illinois DNR/OWR
160 N. LaSalle St,
Suite S-700
Chicago, Illinois 60601

James Casey
Illinois DNR
Illinois Coastal Management Program
160 N. LaSalle St,
Suite S-700
Chicago, Illinois 60601

Dan Heacock
Illinois EPA
Water Pollution Division
1001 N. Grand
Springfield, IL 62794

Enclosure 1

Pat Malone
Illinois DNR – Realty/Planning
One Natural Resource Way
Springfield, IL 62702-1271

Rachel Leibowitz
Illinois Hist. Pres. Agency
1 Old State Capitol Plaza
Springfield, IL 62701

Ann Hanson
Federal Aviation Administration
Chicago Airports District Office, CHI-ADO-600
2300 East Devon Avenue
Des Plaines, Illinois 60018

Barry Cooper
Federal Aviation Administration
Chicago Airports District Office, CHI-ADO-600
2300 East Devon Avenue
Des Plaines, Illinois 60018

Scott Beckerman, State Director
TWS-Certified Wildlife Biologist(r)
USDA APHIS Wildlife Services
3430 Constitution Drive, Suite 121
Springfield, Illinois 62711

TRIBAL LIST

Kickapoo Tribe of Oklahoma
P.O. Box 70
McCloud, OK 74851

Kickapoo Of Kansas
1107 Goldfinch Rd.
Horton, KS 66434

Kickapoo Tribe of Texas
Box HC 1 9700
Eagle Pass, TX 78853

Miami Nation in Indiana
P.O. Box 41
Peru, IN 46970

Miami Tribe of Oklahoma
P.O. Box 1326
Miami, OK 74355
Attn: Mr. George Strack

Citizen Potawatomi Nation
1901 S. Gordon Cooper Dr.
Shawnee, OK 74801

Forest County Potawatomi Exec. Council
P. O. Box 340
Crandon, WI 54520

Nottawaseppi Huron Potawatomi Tribal Office
2221 One-and-a-half Mile Rd.
Fulton, MI 49052

Hannahville Potawatomi Comm., Council
N 14911 Hannahville Road
Wilson, MI 49896-9728

Prairie Band Potawatomi Tribal Council
16281 Q RD
Mayetta, KS 66509

Pokagon Band of Potawatomi Indians
P.O. Box 180
Dowagiac, MI 49047



Illinois Department of Natural Resources

One Natural Resources Way Springfield, Illinois 62702-1271
www.dnr.illinois.gov

Bruce Rauner, Governor
Wayne A. Rosenthal, Acting Director

September 22, 2015

Susanne J. Davis, P.E., Chief
Planning Branch
U.S. Army Corps of Engineers
Chicago District
231 South LaSalle Street, Suite 1500
Chicago, Illinois 60604

Ecosystem Restoration Project on the North Branch of the Chicago River and the North Shore
Channel by the Chicago Park District

Dear Ms. Davis:

This is in response to your letter of September 15, 2015 regarding the above-referenced project. I understand the project includes various improvements at Ronan Park, River Park and Legion Park located in the City of Chicago.

The proposed work as described in your letter is subject to several sets of rules administered by the Department. The North Shore Channel (NSC) and the North Branch of the Chicago River (NBCR) downstream of the confluence with the NSC are public bodies of water. As such, work within the public waters of these watercourses is subject to Regulation of Public Waters (Illinois Adm. Code Part 3704).

In addition, work within the flood ways of both the NSC and the NBCR is subject to Construction in Floodways of Rivers, Lakes and Streams (Illinois Adm. Code Part 3700). Please note that even though the NBCR has a delineated floodway upstream of the confluence with the NSC, the rules entitled Floodway Construction in Northeastern Illinois (Illinois Adm. Code Part 3708) are not applicable as the project site is located within the City of Chicago.

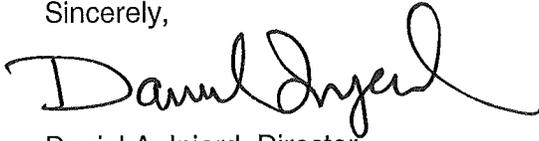
Also, the removal or modification of the River Park Dam requires a review under the Rules for Construction and Maintenance of Dams (Illinois Adm. Code Part 3702). Finally, some of the proposed work mentioned in your letter does not require a Department permit, such as the removal of non-native invasive plants, planting of native plant species, and the removal of debris.

Information on our regulatory programs, including the above-referenced rules, can be found on our web site at <http://www.dnr.illinois.gov/WaterResources/>.

Susanne J. Davis, P.E.
September 22, 2015
Page 2

If you have any questions, please contact Gary Jereb of the OWR Bartlett office at 847/608-3100 extension 32025 or at gary.jereb@illinois.gov.

Sincerely,

A handwritten signature in black ink that reads "Daniel Injerd". The signature is written in a cursive style with a large, looping "D" and "I".

Daniel A. Injerd, Director
Office of Water Resources

DAI:GWJ:

cc: Gary Jereb, IDNR/OWR - Bartlett



Illinois Historic Preservation Agency

SURVEY REQUEST

1 Old State Capitol Plaza, Springfield, IL 62701-1512

www.illinoishistory.gov

Cook County

PLEASE REFER TO: IHPA LOG #014091815

Chicago
Ronan Park - 3000 W. Argyle St., River Park - 5100 N. Francisco Ave., Legion Park - 3100 W. Bryn Mawr Ave.; Along the North Branch of the Chicago River and the North Shore Channel

COEC
Ecosystem Restoration, River Riparian Restoration

October 6, 2015

Peter Bullock
U.S. Army Corps of Engineers, Chicago District
231 S. LaSalle St., Suite 1500
Chicago, IL 60604

Dear Mr. Bullock:

Thank you for requesting comments from our office concerning the possible effects of the referenced project on cultural resources. Our comments are required by Section 106 of the National Historic Preservation Act of 1966 (16 USC 470), as amended, and its implementing regulations, 36 CFR 800: "Protection of Historic Properties".

Please provide photographic survey (ORIGINALS, not xerox copies) 35 mm or digital no smaller than 4" x 4" (not xerox) of all standing structures within the proposed project area. The project area has not been surveyed and may contain prehistoric/historic archaeological resources. Accordingly, a Phase I archaeological reconnaissance survey to locate, identify, and record all archaeological resources within the project area will also be required. This decision is based upon our understanding that there has not been any large-scale disturbance of the ground surface (excluding agricultural activities) such as major construction activity within the project area which would have destroyed existing cultural resources. If the area has been heavily disturbed prior to your project, please contact our office with the appropriate written and/or photographic evidence. The area that needs to be surveyed includes all areas that will be developed as a result of the issuance of the federal agency permits or the granting of the federal grants, funds, or loan guarantees that have prompted this review.

Enclosed you will find an attachment briefly describing Phase I surveys and a list of archaeological contracting services. A COPY OF THIS LETTER WITH THE IHPA LOG NUMBER SHOULD BE PROVIDED TO THE SELECTED PROFESSIONAL ARCHAEOLOGICAL CONTRACTOR TO ENSURE THAT THE SURVEY RESULTS ARE CONNECTED TO YOUR PROJECT PAPERWORK.

If you have any questions concerning standing structures please contact David Halpin at (217)785-4998, with questions concerning archaeology please contact Joe Phillippe at 217/785-1279.

Sincerely,

Rachel Leibowitz, Ph.D.
Deputy State Historic Preservation Officer

Enclosure



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

OCT 14 2015

REPLY TO THE ATTENTION OF:
E-19J

Sue Davis
U.S. Army Corps of Engineers – Chicago District
231 S. LaSalle Street
Suite 1500
Chicago, Illinois 60604

**RE: Scoping Comments – Preparation of an Environmental Assessment: North Branch
Chicago River/North Shore Channel Riparian Ecosystem Restoration Project; City of
Chicago, Cook County, Illinois**

Dear Ms. Davis:

The U.S. Environmental Protection Agency is in receipt of U.S. Army Corps of Engineers (USACE) correspondence dated September 15, 2015. We understand that USACE will be preparing an Environmental Assessment (EA) in accordance with the National Environmental Policy Act (NEPA) for a proposed riparian ecosystem restoration project within Ronan Park, River Park, and Legion Park along two miles of the North Branch of the Chicago River and the North Shore Channel in Chicago.

The North Shore Channel is a manmade waterway that extends from the Wilmette Locks at Lake Michigan to the North Branch of the Chicago River. The project may include the removal or modification of the River Park Dam, removal of non-native invasive plants, river bank restoration and grading, concrete removal from waterways, and the planting of native plant species. Alluvial substrates, boulder clusters, and rock riffles may also be added to the North Branch of the Chicago River. USACE has invited EPA to submit comments regarding the proposed action. Based on the limited information provided, EPA offers the following comments for consideration when preparing the EA for the proposed action.

Purpose and Need / Project Alternatives

EPA recommends that the forthcoming EA identify and substantiate the underlying problems with the channels and riparian ecosystems in their current, baseline state, that USACE proposes to solve with the proposed action. A purpose and need statement for the proposed action should be clear and concise for reviewers of the EA. After underlying problems have been identified and substantiated, the alternatives identified to solve the underlying problems should then be identified and explained. The no-action alternative and all action alternatives that would satisfy the substantiated purpose and need should be fully assessed in the EA. The EA should identify

any alternatives considered but dismissed from further consideration (if applicable), and should provide elimination criteria and clear explanations for their early elimination.

Waters / Wetlands / Aquatic Habitat

The figure provided for review, along with the project description, indicate that the project proposes work below the Ordinary High Water Mark (OHWM) of the waterways. There is the potential for impacts to wetlands adjacent to the waterways. With regard to information currently provided, EPA recommends that USACE complete the following items when preparing the Draft EA:

- Identify and label all study area water resources, including wetlands, on EA aerial photographs and figures;
- Identify and discuss the baseline quality of the streams and adjacent wetlands;
- Identify and discuss the baseline quality of the existing fishery in the waterways;
- Identify the proposed work within/impacts to the streams (and wetlands, if applicable);
- Present direct, indirect, and cumulative stream and wetland impacts information in a comparative format (such as a table), along with information on the existing in-stream dam, its history, current condition, its purpose and how it impacts the existing fishery;
- Discuss how the proposed project relates to water quality – including whether or not each waterway is listed on the Clean Water Act Section 303(d) list of impaired waterbodies;
- Discuss how the proposed removal of non-native invasive plants (specify the species) will benefit the ecosystems;
- Discuss how USACE proposes to restore native plant communities, and how that will benefit the ecosystems;
- Discuss what is meant by “river bank restoration and grading,” including measures to stabilize river banks and minimize erosion;
- Discuss the proposed dam modification or removal, as proposed;
- Include an evaluation, pursuant to Section 404(b)(1) of the Clean Water Act, for placing fill into Waters of the United States.

Construction Access

The Draft EA should discuss potential construction timeframes and seasons, and how park visitors and river users (canoers/kayakers) and current trails might be impacted based on typical uses of the area. Due to the likelihood of public involvement and site visitation during project implementation, we strongly encourage the installation of signage during project implementation (covering the different phases of construction, maintenance activities, and anticipated final results, among others).

Additionally, the Draft EA should identify where the project documents will be available for review (e.g., libraries, community centers, etc.). Because the project has potential to impact residents and visitors, EPA recommends that USACE reach out to both types of users (i.e., cross-coordination with the Chicago Park District and website and social media postings, in addition to other forms of notification). Canoe and kayak outfitters who service the Chicago River and North Shore Channel are among the parties that should be targeted for outreach. Public hearings may be warranted.

Threatened / Endangered Species

EPA recommends that, before plans are finalized, USACE coordinate with the U.S. Fish and Wildlife Service (USFWS) and the Illinois Department of Natural Resources (IDNR) to ensure any proposed work will not detrimentally affect any Federally-endangered or threatened species or critical habitat or any state-endangered or threatened species or critical habitat. These agencies may also provide advice on whether the ecosystem restoration alternatives may benefit listed species or their habitats.

Air Quality

The NEPA document should identify and discuss existing air quality at the project site and any air quality impacts to be expected with construction of the proposed project. The NEPA document should also document whether or not the project area is in non-attainment for any National Ambient Air Quality Standards (NAAQS). EPA encourages the use of clean diesel strategies (e.g., anti-idling measures, use of low sulfur fuels) during construction to reduce air pollution exposures to construction workers and nearby residents.

Monitoring / Adaptive Management

EPA recommends that a Monitoring and Adaptive Management Plan be developed. The plan should include a description of proposed monitoring activities at the project location, include quantifiable and measurable success criteria for the ecosystem restoration work, and should specify the length of the monitoring period(s).

Vegetation

Many of the river banks in the proposed project corridor are currently forested. The Draft EA should discuss if these forested areas will be impacted to implement the proposed project's preferred alternative, once selected. We encourage voluntary mitigation of upland tree losses.

Permits

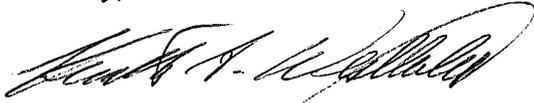
EPA recommends that the EA include information on permits that will be required from the Illinois Environmental Protection Agency (IEPA), IDNR, or from the county or municipality for work in waters or floodplains or for sediment and erosion control permits.

Agency Coordination

To document coordination efforts between agencies noted in this letter, including but not limited to the USFWS, IEPA, IDNR, the Metropolitan Water Reclamation District of Greater Chicago, and the State Historic Preservation Office (SHPO), EPA recommends that you provide all correspondence received from agencies as an appendix to the EA.

Thank you for the early solicitation of EPA's comments regarding the proposal. We are available to discuss our comments with you in further detail if requested. Please send one paper copy and one CD copy of the Draft EA once it becomes available. If you have any questions about this letter, please contact the NEPA reviewer for this project, Ms. Liz Pelloso, PWS, at 312-886-7425 or via email at pelloso.elizabeth@epa.gov.

Sincerely,



Kenneth A. Westlake, Chief
NEPA Implementation Section
Office of Enforcement and Compliance Assurance

cc (via email):

Rachel Leibowitz, Illinois Historic Preservation Agency
Nathan Grider, IDNR
Shawn Cirton, USFWS

From: [Cirton, Shawn](#)
To: [Bullock, Peter Y LRC](#)
Cc: [Liz Pelloso](#); [Murphy, Michael J LRC](#); [Veraldi, Frank M LRC](#)
Subject: [EXTERNAL] North Branch/North Shore Channel River Restoration study scoping comment request
Date: Thursday, October 15, 2015 9:50:49 AM
Attachments: [DEPARTMENT OF THE INTERIOR Mail - Re Public Notice for LRC-2014-409 \(UNCLASSIFIED\).pdf](#)

Peter,

We received your letter indicating that the Chicago District is preparing a National Environmental Policy Act (NEPA) document for the North Branch of the Chicago River and North Shore Channel River Restoration study. The only issue that we suggest should be considered during the scoping process regarding this project is the possible cumulative impacts from the Albany Park Diversion Tunnel project. The action area of that project overlaps with portions of your river restoration study and the Albany Park Diversion Tunnel project could potentially have adverse impacts on the actions mentioned in your scoping letter. Therefore, your NEPA document should consider the Albany Park Diversion Tunnel project.

The Albany Park Diversion Tunnel project is seeking a Corps Regulatory permit (the Corps #LRC-2014-409) and we provided comments for that project. Our comments are attached.

Sincerely,

Shawn Cirton
Fish and Wildlife Biologist
USFWS - Chicago Illinois Field Office
1250 South Grove Avenue, Suite 103
Barrington, IL 60010
(847)381-2253 xt.19
(847)366-2345 (work cell)
Wednesdays and Fridays - USACE - (312)846-5545
<http://midwest.fws.gov/chicago>



Illinois Department of Natural Resources

One Natural Resources Way Springfield, Illinois 62702-1271
www.dnr.illinois.gov

Bruce Rauner, Governor
Wayne A. Rosenthal, Director

October 16, 2015

Peter Bullock
U.S. Army Corps of Engineers
231 South LaSalle St.
Suite 1500
Chicago, IL 60604

**RE: Ecosystem Restoration – Ronan Park, River Park, & Legion Park
Project Number(s): 1509717**

Dear Mr. Bullock:

Thank you for the opportunity to provide comments during the scoping process on the above mentioned project.

Records exist in the North Shore Channel for the state-threatened banded killifish (*Fundulus diaphanus*). Please consider this species in project planning and coordinate with the Department further if the project may adversely affect this species. Care should be taken during instream work to avoid and minimize adverse impacts to this species. Instream habitat restoration work will likely benefit this species and removal of the River Park Dam will promote re-establishment of native fishes and ecosystem restoration in the North Branch of the Chicago River.

We also echo the comments from USFWS dated October 15, 2015 to consider the proposed Albany Park Diversion Tunnel during project planning. Attached are comments the Department provided on that project previously.

Thank you for the opportunity to comment. Please contact us if you have any questions and we look forward to further coordination on this project.

A handwritten signature in black ink that reads "Nathan Grider".

Nathan Grider
Impact Assessment Section
217-785-5500

cc: Dan Kirk – IDNR, DNH
Steve Pescitelli – IDNR, Fisheries
IDNR, Office of the Director
Elizabeth Pelloso – USEPA
Shawn Cirton – USFWS

ATCH: Albany Park Diversion Tunnel, Department Comments.

From: [Casey, James](#)
To: [Bullock, Peter Y LRC](#)
Subject: [EXTERNAL] River Riparian Study at Ronan, River and Legion Parks in the North Branch of The Chicago River and the North Shore Channel
Date: Tuesday, October 20, 2015 9:14:46 AM

Mr. Bullock,

In response to the U.S. Army Corps of Engineers letter dated September 15, 2015 concerning the proposed River Riparian Restoration study of Roan Park, River Park and Legion Park along the Chicago River North Branch and the North Shore Channel. The proposed work will require the following from the Illinois Department of Natural Resources (IDNR).

1. All work in floodplain of the Chicago River North Branch and the North Shore Channel may require an IDNR, Office of Water Resources (IDNR/OWR) permit. This work would be reviewed by the IDNR/OWR's Bartlett Office (847) 608-3100.
2. As the work is being done by a federal agency and falls within the boundaries of the Illinois Coastal Management Program (ICMP) a Federal Consistency Determination will be required. Information on submitting a Federal Consistency Determination can be found at [Blockedhttp://www.dnr.illinois.gov/cmp/Documents/ICMPFederalConsistencyReviewProcedures.pdf](http://www.dnr.illinois.gov/cmp/Documents/ICMPFederalConsistencyReviewProcedures.pdf).

If you have any questions, feel free to contact me.

Sincerely,

James P. Casey

Illinois Department of Natural Resources

Lake Michigan Management Section

160 N. LaSalle Street, Suite S-703

Chicago, IL 60601

312 793-5947

james.casey@illinois.gov



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
CHICAGO DISTRICT, U.S. ARMY CORPS OF ENGINEERS
231 SOUTH LA SALLE STREET, SUITE 1500
CHICAGO IL 60604

Planning Branch
Environmental Formulation Section

Illinois Hist. Pres. Agency
1 Old State Capitol Plaza
Springfield, IL 62701
ATTN: Rachel Leibowitz

28 DEC 2015

IHPA Log #023112414

Dear Ms. Leibowitz:

In accordance with 54 USC 306108 (formerly Section 106) of the National Historic Preservation Act and its implementing regulations, 36 CFR § pt 800, we are providing information for your review and concurrence regarding the above-referenced project. The River Riparian Project is subject to review under 24 CFR § pt (50 or 58) and through the Programmatic Agreement between IHPA and the U.S. Army Corps of Engineers.

Based on our research of the properties included in the project we have defined the Areas of Potential Effect (APE) as the property boundaries of the project in accordance with the definition contained in 36 CFR §800.16 (d). Thus in the case of the River Riparian Project (Map 1), the area of potential effect (APE) includes Ronan Park, River Park, and Legion Park as well as the temporary work and staging areas for a total of 48.8 acres.

All land areas within the APE were modified by filling and grading associated with either dam construction or park development and construction. They contain no intact archaeological features or deposits. No undisturbed areas will be affected by this project.

Located within the project APE is North Park Dam. We have determined that the existing dam is not eligible for listing on the National register of Historic Places, giving us a finding of "No Historic Properties Affected", pursuant to 36 CFR § 800.4 (d)(1) and "No Adverse Effect" pursuant to 36 CFR § 800.5 based on the following:

North Park Dam (Figures 1 and 2) is a grade control structure constructed in 1927 and located within River Park in northern Chicago, Cook County. The dam is approximately 4 Ft high. The main dam face has partially collapsed and abutments have deteriorated. In addition both river banks adjacent to the abutments are badly eroded.

A determination of not eligible for listing on the National Register of Historic Places has been made for the North Park Dam based on its deteriorated condition.

Other than North Park Dam, no other historic properties were identified within the APE. Attached for your review are photographs and maps showing the locales included in this project. This documentation satisfies requirements set forth at CFR §800.11(d). All of the temporary work areas are currently public park land.

Ronan Park is a 13 acre park located along both sides of the North Branch of the Chicago River south of its junction with the North Shore Channel. Begun in 1929, the park reached its current size in the 1990s. The entire park was rehabilitate to a limited degree in 2002, and a bike path added as part of a larger plan to create a recreational corridor along the river.

Low lying land at the junction of the North Branch of the Chicago River and North Shore Channel was set aside as River Park in 1920. In 1927 the whole park was reconfigured and modified with fill and blading as part of a landscape plan that included construction of North Park Dam (Figures 3 & 4).

Legion Park located along the North Shore Channel was considered industrial wasteland until park development began in the 1920s. Through the years canal maintenance has repeatedly modified the canal banks through filling and dredging. Attempts at bank consolidation along the canal have included the construction of stone retaining walls as well as the installation of both gabions and sheet pile walls backed with additional rubble, rock, and earth fill (Figures 5-12).

Plans for this project include approximately 14.2 acres of bank restoration through grading. Bank grading is planned for the east bank of River Park, the east bank of Legion Park and the portion of the west bank of Legion Park located between Bryn Mawr Avenue north to Peterson Avenue. No bank grading is planned for Ronan Park.

In both River Park and Legion Park the existing retaining walls will be removed. The banks to be graded will be sloped to ratio of 4:1 or less to both create a more natural landscape and to provide water access.

Due to the large amount of prior disturbance, it is very unlikely that the proposed project would affect cultural or historic resources. All of the construction activities will take place in previously disturbed areas along both the North Branch of the Chicago River and the North Shore Channel. The documentation provided from the site substantiates our position that no important resources

would be affected and a survey is not indicated. In the event of the accidental discovery of cultural resources, work will cease, the Illinois State Historic Preservation Agency will be contacted, and consultations will take place

In accordance with CFR §800.4(d)(1)(i), your office has thirty days to object to this finding. If you concur, please sign on the line below and return a copy of this letter by mail or email to Peter Bullock.

If you have any questions regarding these findings, please direct them to Peter Bullock, U.S. Army Corps of Engineers, 231 South La Salle Street Suite 1500, Chicago, Illinois 60604, by email at peter.y.bullock@usace.army.mil., or by phone at 312/846-5587.

Sincerely,

Enclosures. as stated

Susanne J. Davis, P. E.
Chief of Planning Branch

Concur

Bullock PM-PL-E *[Signature]*

Fleming PM-PL-E *[Signature]*

Davis PM-PL *[Signature]*

12/28/15

MEMORANDUM FOR RECORD

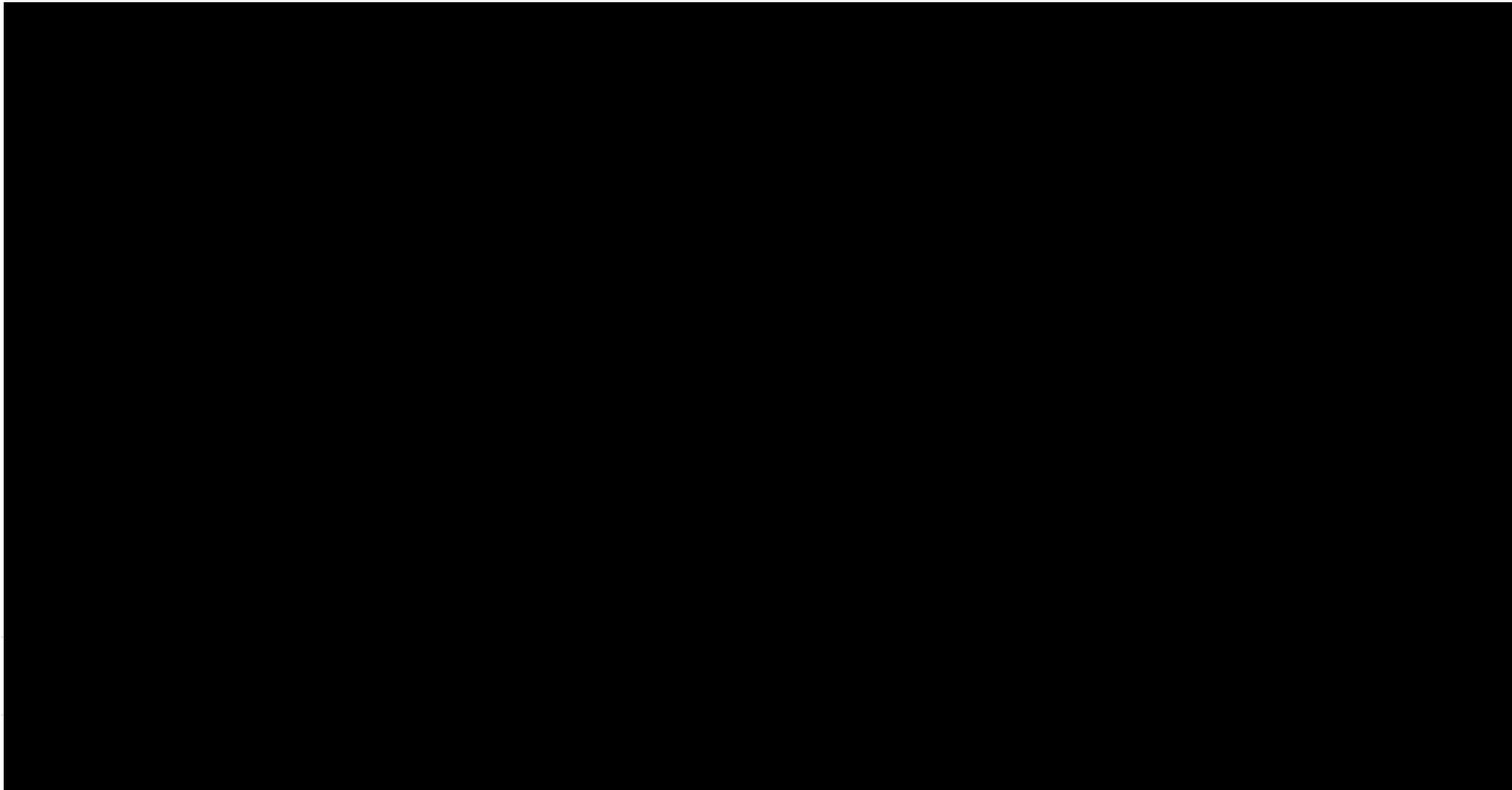
SUBJECT: Section 506 River Riparian Connectivity & Habitat Study – Dam Removal Stakeholder Meeting

Meeting Date: 29 January 2016, 12:00pm – 1:30pm

Attendees: Rick Gosch, ILDNR Office of Water Resources
Steve Pescitelli, ILDNR Fisheries
Joe Schuessler, MWRDGC Dam Owner
Margaret Frisbie, Friends of the Chicago River
Bob Foster, Chicago Park District
Frank Veraldi, USACE Lead Planner
Nick Barkowski, USACE Fisheries
Joel Schmidt, USACE H&H

1. This meeting was follow up meeting to the River Park Dam stakeholder kickoff on 10 November 2015 in which the same attendees were present.
2. A brief description of the Tentative Selected Plan was presented to the group by Frank Veraldi, primarily focused on the removal of the River Park Dam and subsequent habitat structures that will take its place to ensure channel stability. There were no objections to the naturalistic design and all parties felt the recommend plan is feasible, cost efficient, and highly beneficial to the North Branch Chicago River ecosystem and canoeing.
2. Letters of support would be provided by the Friends of the Chicago River and MWRDGC no later than the close of the agency and public review of the decision document and integrated Environmental Assessment.
3. Real estate easements and agreements between the Chicago Park District and the MWRDGC are on a separate track being coordinate by USACE Real Estate Section.

Frank Veraldi (PM-PL-E)
Lead Planner



[The text in this section is extremely faint and illegible due to low contrast and possible redaction. It appears to be a list or series of entries.]

A4 - Planning Information

Applicant: USACE
Contact: Frank Veraldi
Address: 231 S. LaSalle St, Suite 1500
Chicago, IL 60604

IDNR Project Number: 1603286
Date: 09/16/2015

Project: River Riparian Section 506 GLFER/GLRI
Address: Legion, River and Ronan Chicago Parks, Chicago

Description: To remove the River Park Dam, restore stream habitat, remove invasive plant species, plant and establish native riparian plant communities.

Natural Resource Review Results

This project was submitted for information only. It is not a consultation under Part 1075.

The Illinois Natural Heritage Database contains no record of State-listed threatened or endangered species, Illinois Natural Area Inventory sites, dedicated Illinois Nature Preserves, or registered Land and Water Reserves in the vicinity of the project location.

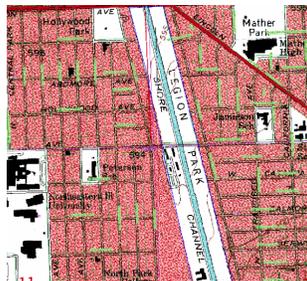
Location

The applicant is responsible for the accuracy of the location submitted for the project.

County: Cook

Township, Range, Section:

40N, 13E, 1
40N, 13E, 2
40N, 13E, 12



IL Department of Natural Resources Contact

Impact Assessment Section
217-785-5500
Division of Ecosystems & Environment

Disclaimer

The Illinois Natural Heritage Database cannot provide a conclusive statement on the presence, absence, or condition of natural resources in Illinois. This review reflects the information existing in the Database at the time of this inquiry, and should not be regarded as a final statement on the site being considered, nor should it be a substitute for detailed site surveys or field surveys required for environmental assessments. If additional protected resources are encountered during the project's implementation, compliance with applicable statutes and regulations is required.

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1. The IDNR EcoCAT website was developed so that units of local government, state agencies and the public could request information or begin natural resource consultations on-line for the Illinois Endangered Species Protection Act, Illinois Natural Areas Preservation Act, and Illinois Interagency Wetland Policy Act. EcoCAT uses databases, Geographic Information System mapping, and a set of programmed decision rules to determine if proposed actions are in the vicinity of protected natural resources. By indicating your agreement to the Terms of Use for this application, you warrant that you will not use this web site for any other purpose.

2. Unauthorized attempts to upload, download, or change information on this website are strictly prohibited and may be punishable under the Computer Fraud and Abuse Act of 1986 and/or the National Information Infrastructure Protection Act.

3. IDNR reserves the right to enhance, modify, alter, or suspend the website at any time without notice, or to terminate or restrict access.

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Unauthorized use, tampering with or modification of this system, including supporting hardware or software, may subject the violator to criminal and civil penalties. In the event of unauthorized intrusion, all relevant information regarding possible violation of law may be provided to law enforcement officials.

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