

# CONSERVATION PLAN

State-endangered Species: Higgins Eye Pearly Mussel (*Lampsilis higginsii*)  
And  
State-threatened Species: Black Sandshell Mussel (*Ligumia recta*),  
and Butterfly Mussel (*Ellipsaria lineolata*)

## Application for an Incidental Take Authorization

CF Industries Sales, LLC – Albany (IL) Terminal  
23300 River Road N  
Cordova, Illinois 61242

**SUBMITTED TO:** Illinois Department of Natural Resources

**PREPARED BY:** Helms and Associates, Bellevue, Iowa  
CF Industries Sales, LLC, Deerfield, Illinois

**PROJECT APPLICANT:** CF Industries Sales, LLC, Deerfield, Illinois

**PROJECT NAME:** Albany Terminal New Breasting Dolphins (CEMVR-OD-P-2015-709)

**COUNTY:** Rock Island, IL

**IMPACT AREA:** Mississippi River Mile 510

July 24, 2017 (Revised)

VIA CERTIFIED MAIL

July 25, 2017

Jenny Skufca  
Incidental Take Authorization Coordinator  
Illinois Department of Natural Resources  
One Natural Resources Way  
Springfield, IL 62702

RE: Conservation Plan – Application for an Incidental Take Authorization  
CF Industries Sales, LLC – Albany (IL) Terminal  
New Breasting Dolphins Project (USACE CEMVR-OD-P-2015-709)  
Project Area - Mississippi River Mile 510

Dear Ms. Skufca,

CF Industries Sales, LLC (CF) operates a fertilizer storage and distribution terminal in Cordova, Illinois (Albany Terminal). Please find enclosed a revised Conservation Plan – Application for an Incidental Take Authorization (ITA) related to the installation of two new breasting dolphins to provide impact protection to the dock cell platform at the terminal. This revised Conservation Plan (CP) takes into account comments received from Illinois Department of Natural Resources (IDNR) regarding CF's original submittal. This CP also addresses a plan for mussel incidental take mitigation. CF is requesting the ITA from IDNR to obtain necessary authorization to initiate and complete the project scope. This request follows completion of surveys and assessments of potentially affected species by our consultant (Helms & Associates), receipt of a Letter of Permission and a Letter of Verification from the US Army Corps of Engineers, and a Biological Opinion from the US Fish and Wildlife Service, all related to this project.

CF looks forward to working with IDNR to complete review and approval of the Conservation Plan – Application for an Incidental Take Authorization. If you have any questions, please contact me at 847-405-2615.

Sincerely,



Stanislaus J. Zagula, CESCO  
Manager, Environmental Engineering

Enclosures

cc: Dan Herrig (attachments sent electronically)  
Mike Heavener (attachments sent electronically)  
Raymond Kwong (attachments sent electronically)  
Don Helms, Helms & Associates (attachments sent electronically)

**Illinois Department of Natural Resources**  
**CONSERVATION PLAN**  
**State-endangered Higgins Eye Pearly Mussel (*Lampsilis higginsii*)**  
**And**  
**State-threatened species: Black Sandshell Mussel (*Ligumia recta*),**  
**and Butterfly Mussel (*Ellipsaria lineolata*)**

**Application for an Incidental Take Authorization<sup>1</sup>**  
**CF Industries Sales, LLC – Albany (IL) Terminal**

**PREPARED BY:** Helms and Associates, Bellevue, Iowa  
CF Industries Sales, LLC, Deerfield, Illinois

**PROJECT APPLICANT:** CF Industries Sales, LLC  
**PROJECT NAME:** Albany Terminal New Breasting Dolphins (H&A #1622)  
**COUNTY:** Rock Island, IL  
**AMOUNT OF IMPACT AREA:** Mississippi River Mile 510

## **1. Description of the impact likely to result from the proposed taking**

### **A) Legal description of the project area.**

CF Industries Sales, LLC (CF Industries) owns and operates a liquid fertilizer terminal in Cordova, Illinois along the Mississippi River at River Mile 510 in Rock Island County, Illinois (41°45'45.70"N, 90°16'48.32"W) at 23300 River Road, Cordova, Section 33, Township 21 North, Range 2 East (Figure 1).

### **Existing Facility**

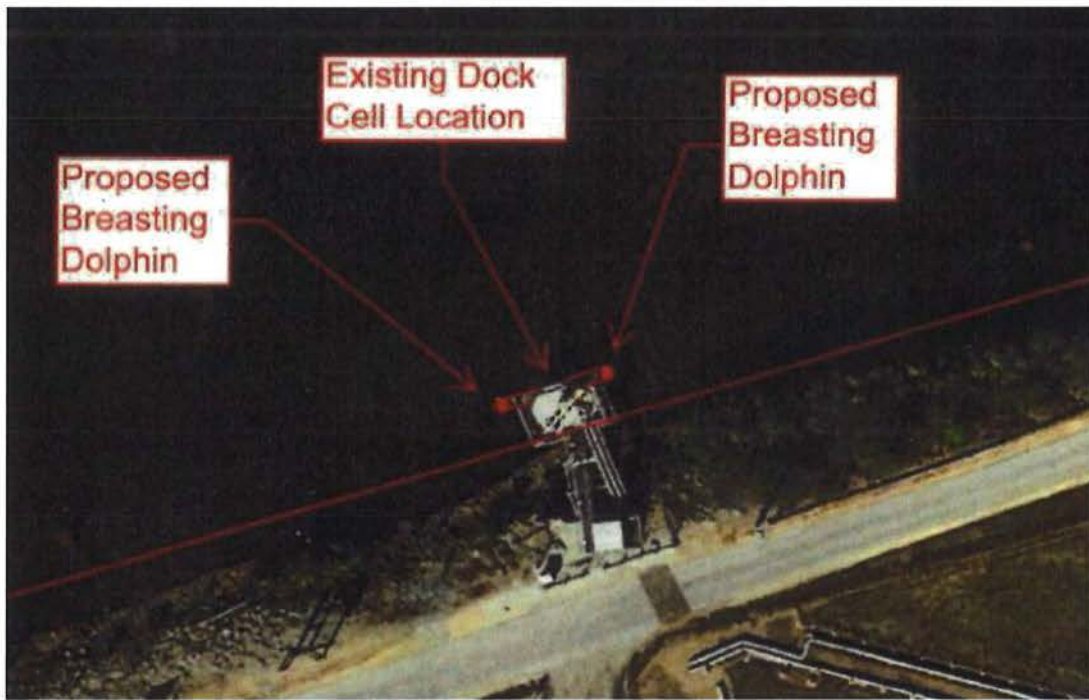
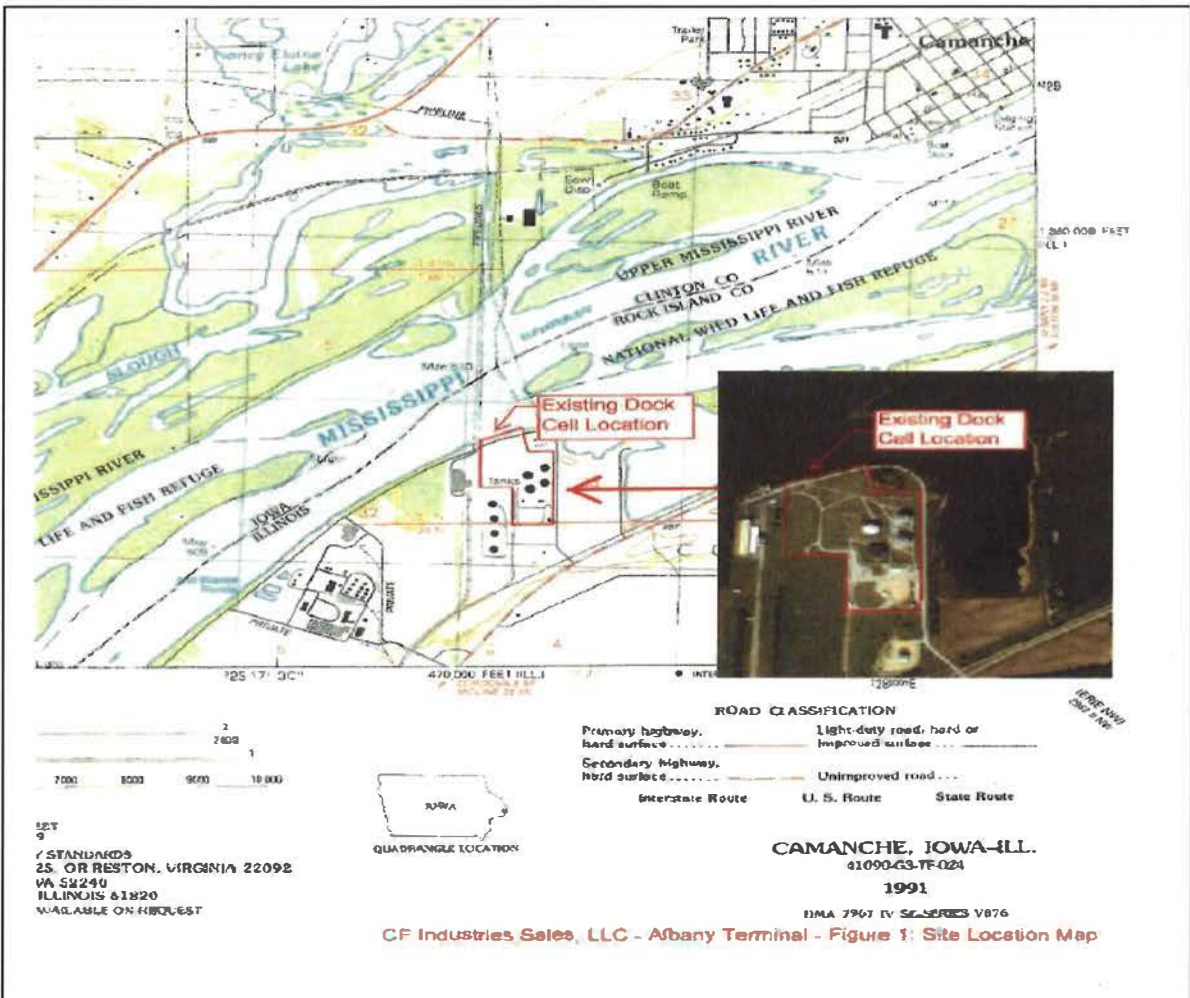
This is a barge facility where liquid fertilizer is inbounded from the river barges to the storage tanks. Currently during unloading operations a river barge would moor to the two existing dolphin structures, which are located about 360 feet apart, and the dock is located between the two dolphins. Due to the large distance between the two mooring dolphins, the river barge has a tendency to drift under the elevated dock platform. As liquid fertilizer is unloaded, the barge gets lighter and floats higher and will often become wedged under the dock platform or cause damage to the dock platform where operators are stationed.

### **Proposed Project**

Two new breasting dolphins are proposed to be installed to provide impact protection to the dock platform (Figure 2).

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<sup>1</sup> <https://www.dnr.illinois.gov/conservation/NaturalHeritage/Pages/ApplyingforanIncidentalTakeAuthorization.aspx>



Figures 1 and 2. Site location (Figures provided by CF Industries), and positions of breasting dolphins at CF Industries Sales, LLC - Albany Terminal.

## Action Area

The Action Area for this project in Pool 14 of the Mississippi River at River Mile 510 in Rock Island County, Illinois will include the following:

- the footprint of each of the two 48-in diameter dolphin structures,
- a 10-ft buffer around each of the two dolphin structures,
- the footprint of each of the two 36-in diameter work barge spud locations,
- a 5-ft buffer around each of the two work barge spud locations,
- the staging areas for construction materials, including an on-shore site immediately adjacent to the construction area and the existing dock structure, and
- access routes between the staging areas and the proposed dolphin locations.

The total area of impact within the Mississippi River is approximately 108.72 square meters.

## B) Biological Description of Affected Species: Higgins eye pearly mussel (*Lampsilis higginsii*), Black Sandshell (*Ligumia recta*), Butterfly (*Ellipsaria lineolata*), and American Eel (*Anguilla rostrata*).

Higgins eye, black sandshell, and butterfly are freshwater mussels that spend most of their lives buried in gravel, sand, or mud at the bottom of rivers, lakes, streams, and ponds. Many freshwater mussels have a life span of 20 to 100 years. Mussels serve as an important food source for many aquatic and terrestrial animals. Since mussels are filter feeders, they improve water quality by filtering out contaminants, sediments, and nutrients from rivers and streams. Freshwater mussels are dependent on host fish to complete their complicated life cycle. Higgins eye is listed as an endangered species in Illinois while black sandshell and butterfly are listed as threatened due to the continuing decline in habitat conditions associated with management of the Mississippi River as a navigational canal, and with non-point and point source water and sediment pollutions. Dams, channelization, and dredging increase siltation, physically alter habitat conditions, and block the movement of fish hosts.

### Higgins eye

Higgins eye is on both the federal and Illinois endangered species lists. It inhabits sand or gravel in the Mississippi River and other large tributaries. The Higgins eye is yellowish brown with green rays. The shell shape is rounded to slightly elongated, thick, smooth, and inflated. The posterior ends in male Higgins eyes are blunt while in females the posterior end is truncated. Length is up to 4 inches (10.2 cm). Host fish species include sauger (*Stizostedion canadense*), freshwater drum (*Aplodinotus grunniens*) (Surber 1912, Wilson 1916, Coker et al. 1921, Hove and Kapuscinski 2002), largemouth bass (*Micropterus salmoides*), smallmouth bass (*Micropterus dolomieu*), walleye (*Sander vitreus*), yellow perch (*Perca flavescens*), northern pike (*Esox lucius*) (Waller and Holland-Bartels 1988), and black crappie (*Pomoxis nigromaculatus*) (Hove and Kapuscinski 2002).

### Black sandshell

Black sandshell is widely distributed but uncommon in much of the Midwest. The black sandshell inhabits medium to large rivers in riffles or raceways in gravel or firm sand. It is known to occur in the Mississippi River in Rock Island County, Illinois. The black sandshell has an elongated shell, pointed on the posterior end. The smooth and shiny shell may be dark green,

brown, or black with green rays visible on some individuals. Length is up to eight inches (20.3 cm). Host fish species include rock bass (*Ambloplites rupestris*), common carp (*Cyprinus carpio*), bluegill (*Lepomis macrochirus*), largemouth bass (*Micropterus salmoides*), and white crappie (*Pomoxis annularis*) (Cummings and Mayer 1992 pp136).

### **Butterfly**

Butterfly is widespread but only locally abundant. Disappearing from many areas where it formerly occurred. Butterfly is state-threatened species in Illinois. The butterfly inhabits large rivers in sand or gravel. The butterfly has somewhat triangular shell, sharply angled posterior ridge, and yellowish brown, with broken brown rays. Length is up to four inches (10.2 cm). Host fish species include freshwater drum (*Aplodinotus grunniens*), sunfish (*Lepomis* spp.), and sauger (*Stizostedion canadense*) (Cummings and Mayer 1992 pp106).

### **American Eel**

According to the U.S. Fish and Wildlife Service (USFWS), American eel is the only species of freshwater eel found in North America. They begin their life cycle in the Sargasso Sea, travel to freshwater for maturation, and return to the Sargasso Sea for spawning and death. “American eels were once considered to be catadromous fish- meaning born in the ocean, mature in freshwater, and return to the ocean to spawn. But new discovery of eels in both marine and estuarine habitats has lead biologists to categorize the American eel as facultative catadromy, meaning that American eel may be found in freshwater or saltwater during maturation” (USFWS 2011). While the American eel transforms itself through many stages of metamorphoses (Leptocephali, Glass eel, Elvers, Yellow eels, and Silver eels) in correspondence to habitat change, the metamorphoses stages of the Yellow eels inhabit freshwater areas such as the project area for the new breasting dolphins.

Yellow eels are nocturnal, sexually immature adults that are yellow green to olive brown in color. They inhabit freshwater streams, lakes, ponds, brackish waters, or marine waters, while feeding on insects, fish, mollusks, crustaceans, and dead animal matter. Yellow eels can spend 3 to 40 years before becoming sexually mature. Yellow eels that remain in marine waters will mature earlier than yellow eels inhabiting freshwater (USFWS 2011).

### **Initial Mussel Survey**

Helms & Associates conducted a mussel survey at the site on October 13, 2015. The mussel survey recovered one federally and state endangered Higgins eye and forty-two state threatened black sandshell. Two dead shell specimens of the state threatened butterfly were collected. Ten other relatively common species were also found (Helms & Associates 2015).

The sampling approach was to conduct substrate samples and timed searches within the areas surrounding the two pile sites and a buffer area around their perimeter. The area surveyed was rectangular, measuring 100 feet long by 50 feet wide. This area extended along the front side of the dock and centered over the two piles (Figure 3).

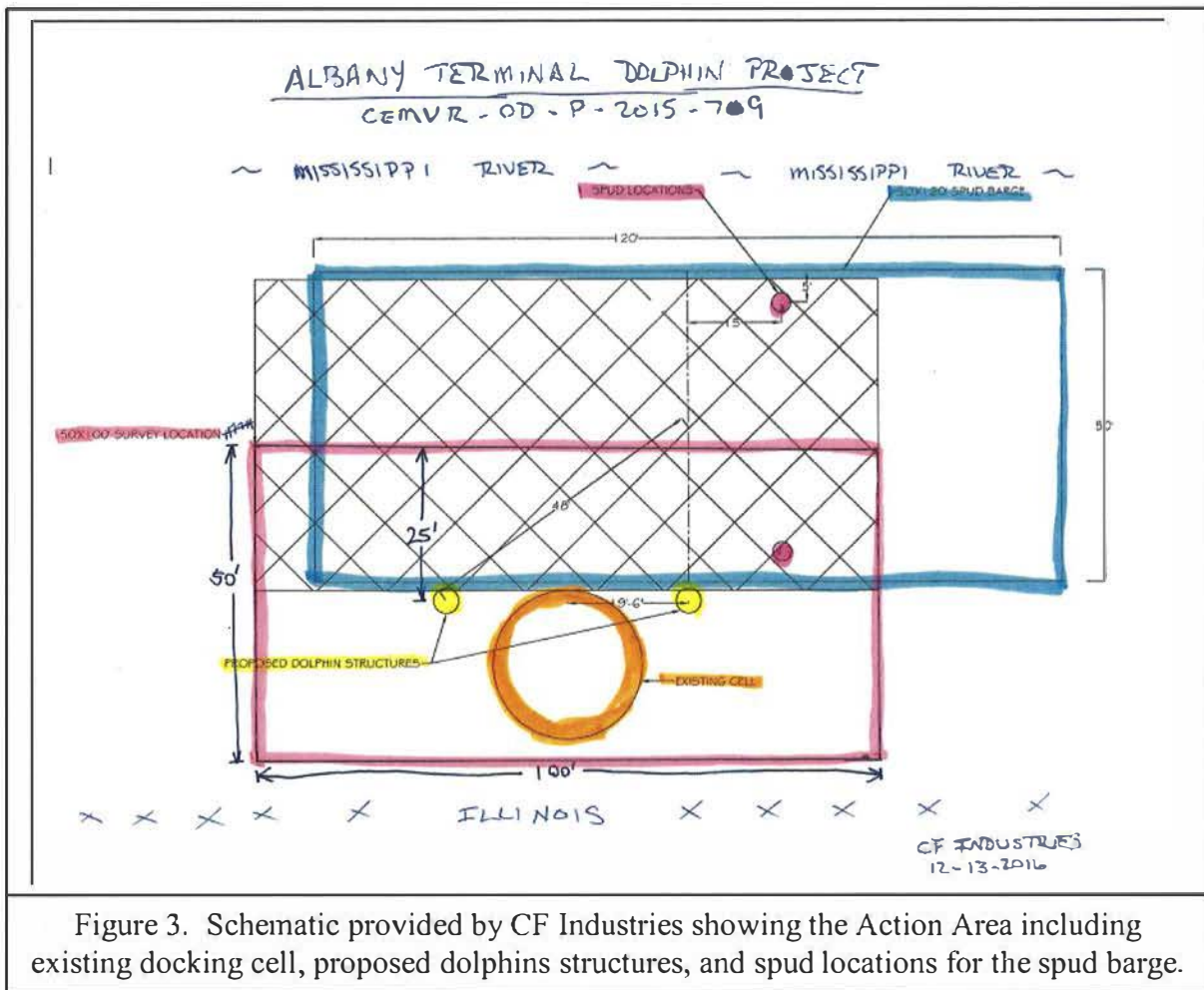


Figure 3. Schematic provided by CF Industries showing the Action Area including existing docking cell, proposed dolphins structures, and spud locations for the spud barge.

Substrate sampling provided both quantitative and qualitative samples, while timed searches provided qualitative samples. Quantitative sampling consisted of four quarter-meter samples at each of 11 locations (including the two pile placement locations). Qualitative sampling consisted of five-minute timed dive searches at five of the locations. Thus, sampling effort totaled 44 quarter-meter substrate samples (11 m<sup>2</sup>) of surface area and 25 minutes of timed dive searches. One hundred seven mussels representing twelve species were collected at this site. These included two live species of threatened or endangered mussels. Black sandshell (threatened in Illinois) contributed 39.3 % of the catch (n = 42) and Higgins eye (federal and state endangered) contributed 0.9 % (n = 1). Methodology, results and conclusions are presented in the report “Mussel Survey for CF Industries Sales, LLC – Albany Terminal New Breasting Dolphins – Helms & Associates 2015”.

The comprehensive survey was performed in a grid pattern throughout the survey area. For substrate samples, the substrate was removed to a depth of 10.2 to 15.2 cm (4 to 6 inches) and brought to the surface where the sample was sieved through a series of screens, the smallest mesh of which was 6.35 mm (1/4 inch). Material retained on each screen was examined for live mussels. For timed searches, the diver was instructed to collect as many mussels as he could find within each five-minute search while remaining near the targeted sampling location. Data collected at all sample locations included depth, water temperature, air, temperature, current

velocity, substrate type, presence of zebra mussels (*Dreissena polymorpha*), Asian clams (*Corbicula* sp.), and location coordinates. All mussels were counted, identified, measured, and returned to the river.

### **EcoCAT Review - American Eel**

CF Industries submitted an EcoCAT Review to IDNR in January, 2017 to maintain compliance with the *Illinois Endangered Species Protection Act*. The review found the existence of records from 2015 indicating the state-threatened American eel occurs approximately one (1) mile upstream from the project area. Due to the distance of the American eel record from the project area and the short duration of the project, it was concluded that the project will not impact the American eel. On April 3, 2017, IDNR (under 17 IAC Part 1075) terminated consultation on the American eel.

### **C) Description of activities that will result in take.**

#### **Proposed Facilities and Construction**

Two new breasting dolphins are proposed to be installed to provide impact protection to the dock platform. Each breasting dolphin will be a single pile and are to be installed about 39 feet apart from each other, measuring center to center. Each pile will be approximately 90 feet tall, embedded into the river bed approximately 40 feet and stand approximately 50 feet above the river bed. They will be located on each side of the dock cell and each would be connected to the existing dock with beams (Figure 4).

Each pile will be made with 48” diameter piping welded together to make 90 feet in length; the pipe will be driven into the river bed using impact force from a pile hammer. The vibratory hammer is planned to be used for installation of the new dolphins (piling) over two (2) to four (4) days between the hours of 7 AM to 5 PM. Once the desired depth of 40 feet is reached, the water will be pumped out from the pipe, and then the pipe will be filled with concrete. The second piling will be constructed in the same way. After that, the structural I-beam will be welded in place between the new pilings and the existing structure above water level to provide impact support for the new breasting dolphins. The working barge will be secured with two (2) spuds, 36” diameter each, during new dolphin placement. Figure 4 depicts the existing dock cell, the planned location of the two (2) new dolphins, the planned location of the two (2) barge spuds, and the survey location.

#### **Timeline**

The initial site survey was conducted in October 2015 by Helms & Associates. The mussel survey recovered one federally endangered Higgins eye and forty-two state threatened black sandshell. CF Industries has received a Biological Opinion (BO) from the USFWS (dated January 23, 2017) associated with a Letter of Permission Permit (dated January 25, 2017; CEMVR-OD-P-2015-709a) from the United States Army Corp of Engineers (USACE). In addition, CF Industries has received a verification letter (dated January 25, 2017; CEMVR-OD-P-2015-709b) from the USACE that elements of the project scope are also covered under Nationwide Permit No. 25. CF Industries will submit this Conservation Plan to the Illinois Department of Natural Resources (IDNR) with the intent of receiving an Incidental Take Authorization (ITA) from the State of Illinois.



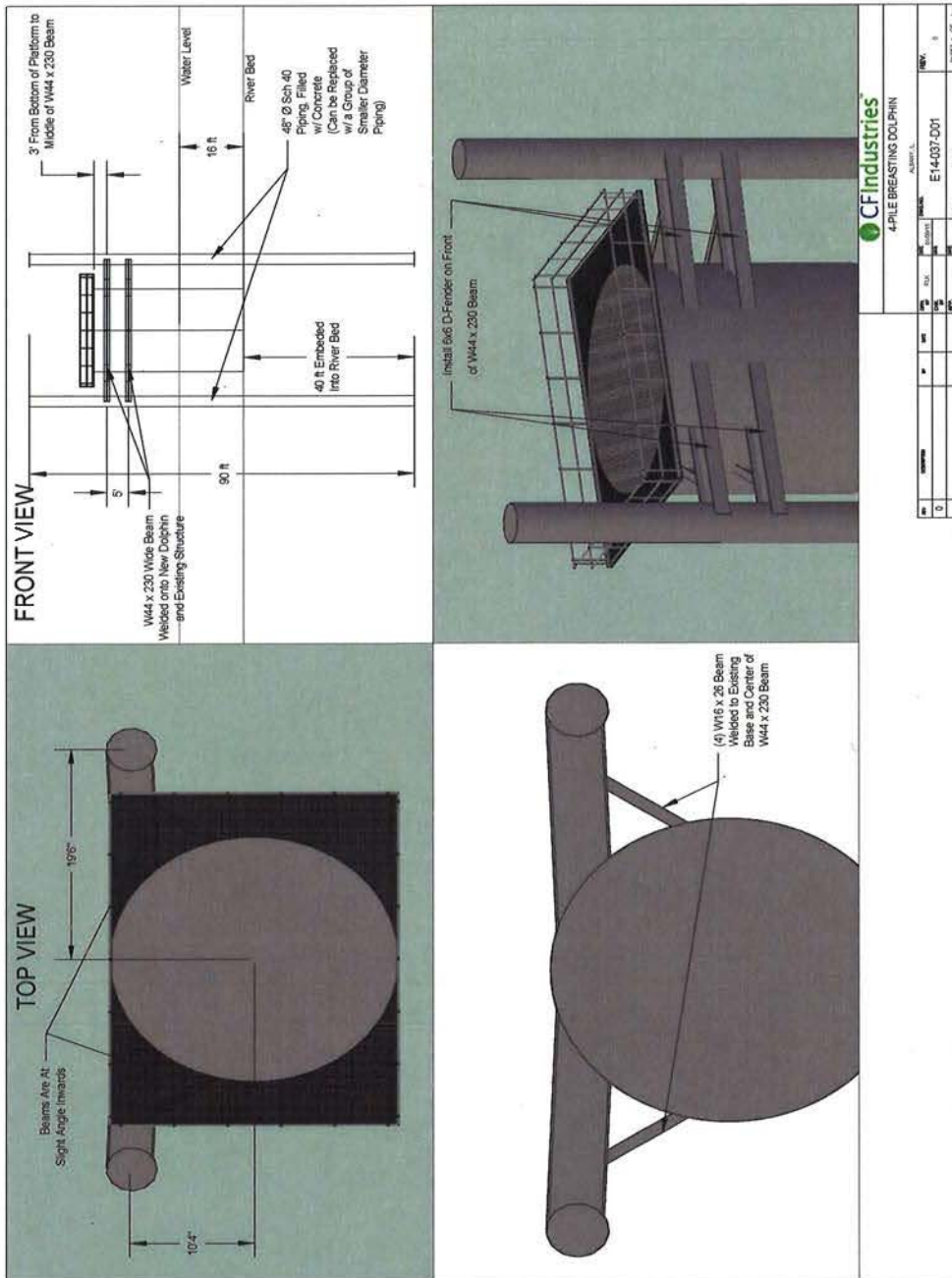


Figure 4. Single Pile Breasting Dolphins (Top & Front Views).  
(Figure provided by CF Industries)

The project is scheduled to begin in the early Fall 2017. The first step will be to identify a suitable relocation area for the mussels that will be removed from the Action Area. Identification of a release area is expected to take one day. Results will be provided to the USFWS and IDNR. Their review process is expected to take up to two weeks. Once the release site has been identified and approved by the USFWS and IDNR, relocation can begin. The relocation is expected to take up to three days. A report of the relocation effort will be submitted to USFWS and IDNR within 30 days of relocation completion. Construction of the proposed dolphins is scheduled for early Fall 2017 and is expected to last approximately three weeks.

#### **D) Explanation of the anticipated adverse effects on the listed species.**

Construction of the dolphin pilings will result in a permanent loss of a small area of habitat for the mussels equal to the footprint of each of the two 48" diameter dolphin structures (approximately 2.33 m<sup>2</sup> combined). There will also be temporary effects from the construction including vibration and sediment disturbances that could affect mussels and their fish hosts. Indirect effects of short-term changes in water quality and substrate are not expected to alter the overall distribution of these effected species. The vibrations during the dolphin construction can cause increased stress for mussels and their fish hosts. Wysocki et al. (2006) and Gutreuter et al. (2006) observed fish with stress symptoms and reduced fish abundance in areas of persistent noise and vibration. With the duration of the vibrations only lasting two to four days, the vibrations may still cause temporary stress and loss of reproductive opportunities of mussels and the behavioral avoidance in potential fish hosts, but these effects should be minimal.

If the mussel individuals, including Higgins eye, black sandshell, and butterfly, were not to be relocated out of the project area prior to construction, the mussels could be buried, crushed, or killed by the installation of the breasting dolphins and barge spud piles.

## **2. Measures to minimize and mitigate that impact**

### **A) Plans to minimize the area affected by the proposed action, the estimated number of individuals of each endangered or threatened species that will be taken, and the amount of habitat affected.**

#### **Plans to minimize the area affected**

To minimize the effects of the proposed action on the listed species, CF Industries will ensure that the contractor performing the work will only conduct construction activities within the defined Action Area. In addition, all mussels will be collected by hand from within the project's direct impact areas and a buffer zone and relocated to a site approved by USFWS and IDNR. The removal and relocation work will be performed by a qualified malacologist and will include the footprint and a buffer zone of all permanent and temporary piling including the "spud piles". A 5' diameter buffer for the spud piles and a 10' diameter buffer for the two new 48" diameter breasting dolphins are considered sufficient. The total area of impact within the Mississippi River is approximately 108.72 square meters.

During the 2015 mussel survey Helms & Associates determined the mussel density at this site to be 5.73 mussels / m<sup>2</sup>. One hundred seven (107) mussels representing twelve (12) species were collected at this site. These included two live species of threatened or endangered mussels.

Black sandshell (threatened in Illinois) contributed 38.1 % of the catch (n = 24) and Higgins eye (federal and state endangered) contributed 1.6 % (n = 1). Although no live specimens of the butterfly were collected at this site in 2015, Helms & Associates did recover dead shell specimens. Thus, there is potential that live individuals of this species could also be present the Action Area.

Based on the relationship in the Helms & Associates' 2015 site survey between number of individuals and number of species collected, had there been 1,000 individuals collected, we would expect to have collected six or seven additional species. The relocation is projected to move 623 individuals. Thus, based on this relationship, we can project that these 623 individuals will include approximately 15 species. The three additional species could include butterfly.

### **Number of individuals that will be taken**

Using the above criteria, approximately 623 mussels will be relocated. This will include an estimated 10 individuals of Higgins eye and 237 individuals of black sandshell. Since no live specimens of butterfly were collected in 2015, we utilized relative abundance data from three surveys conducted by Helms & Associates in the project site vicinity: J.T. Cullen barge docking site survey and subsequent monitoring from 2001 through 2012; Crossroads Logistics site survey in 2014; and Cordova ramp/jetty modification site survey and relocation conducted in 2000.

The J.T. Cullen barge docking site survey and subsequent monitoring from 2001 through 2012 was located near Mississippi River Pool 14, RM 518.8 in Whiteside County, Illinois. "The October 2001 IDNR survey collected two specimens of butterfly (threatened in Illinois). They contributed 3.7 % to the catch. Our initial site survey did not produce any living specimens, but 52 (0.9 %) were relocated in 2002 prior to dredging. Two (0.6 %) were collected during the 2004 monitoring effort, and none were collected in the 2007 survey. The 2012 survey produced 4 (1.1 %)" (Helms & Associates 2012). A total of 6919 individuals were collected in these six survey efforts. Of these, there were a total of 60 specimens of butterfly for a relative abundance of 1.1%.

The Crossroads Logistics, LLC site is located in Mississippi River Pool 14, at approximate River Mile 510 along the right bank, in Clinton County, Iowa. The October 2014 survey produced 8 specimens of butterfly, which contributed 0.7% to the total catch of 1215 (Helms & Associates 2014).

The Cordova ramp/jetty modification site is located in Mississippi River Pool 14 (UMR Mile 503.6) in Cordova, Whiteside County, Illinois. The initial survey was conducted in May 2000 and the relocation in June 2000. "In the initial survey, no specimens of this species were collected. However, in this effort, 14 individuals (0.64 % of the catch) were relocated" (Helms & Associates 2000). Total catch between the two efforts was 2189 with butterfly contributing 0.6%.

All three of these mussel surveys and relocation efforts were conducted in Mississippi River Pool 14 within nine river miles of the project site that is the subject of this Conservation Plan. The range of relative abundance for butterfly is 0.6% to 1.1%. Utilizing the information from all three, there was a total of 10,452 mussels collected. Of these there were 82 specimens of butterfly. Thus butterfly contributed to 0.8% of the relative abundance of all mussels

collected. Using 0.8%, we are estimating that there will be 5 individuals of butterfly relocated from the Action Area.

**B) Plans for management of the area affected by the proposed action that will enable continued use of the area by endangered or threatened species.**

The proposed installation of two single-pile breasting dolphins is not expected to have any impact on the listed species continued use of the area. At this time there are no planned maintenance activities that would be expected to impact the mussel resource. Mussels will likely re-colonize any area where they have been removed from near the piles.

**C) Description of all measures to be implemented to avoid, minimize, and mitigate the effects of the proposed action on endangered or threatened species.**

Prior to construction, all mussels will be collected by hand from within the project's direct impact areas and a buffer zone and relocated to a site approved by USFWS and IDNR. The relocation will occur no more than 30 days prior to the start of construction activities. The relocation will be to an area with suitable stable substrate, depth, flow, conditions, and low to no zebra mussel infestations. Samples will be collected in advance of the relocation to document its suitability.

During the relocation, mussels may be temporarily held in containers that allow the animals to remain moist and uncrowded. All mussel relocation protocols will be followed. To meet water and air temperature restrictions for mussel handling, the relocation will occur between April 1 and November 1. A report of the relocation effort will be submitted to IDNR within 30 days of relocation completion.

CF Industries will ensure that the contractor performing the work will only conduct construction activities within the defined Action Area. The vibratory hammer is planned to be used for installation of the new dolphins (piling) over two (2) to four (4) days between the hours of 7 AM to 5 PM. Construction of the proposed dolphins is scheduled for early Fall 2017 and is expected to last approximately 3 weeks.

In addition to the measures CF Industries will employ to avoid and/or minimize the effects of the proposed action on endangered or threatened species, CF Industries will also provide mitigation to freshwater mussels via a partnership with RiverWatch, a public outreach program of the National Great Rivers Research and Education Center (NGRREC) located in East Alton, Illinois. The mitigation will include a "train-the-trainer" seminar conducted by RiverWatch to train educators and researchers how to facilitate and lead Mussel Workshops. Once trained as facilitators, these educators and researchers will lead Mussel Workshops for volunteer citizens, training them to monitor water quality in Illinois rivers and streams, conduct mussel surveys, and gather data on mussel habitation and eco-systems. Supplies to facilitate the seminar and conduct in-stream mussel surveys and monitoring will be provided as part of the project. This mitigation project will be funded by CF Industries in the amount of \$5600, exceeding the quantified mitigation determined by IDNR after review of the proposed actions.

**D) Plans for monitoring the effects of the measures implemented.**

Monitoring of the survey site and relocation area will be performed in years 1, 3, and 6 (2018, 2020, and 2023) following the proposed installation of two single-pile breasting dolphins, which is scheduled to occur in 2017. Impacts of monitoring methods and criteria will be established prior to construction.

It is proposed that monitoring efforts include the initial area that was surveyed in October 2015 by Helms & Associates. This rectangular area, measuring 100 feet long by 50 feet wide, extended along the front side of the dock and centered over the two proposed dolphin piles. Sampling methodology including the location and quantity of substrate samples and amount of timed searches will be consistent with the original survey. By using this approach, the initial survey becomes a baseline that can be compared to the future monitoring efforts. Monitoring efforts will include the relocation area to assess survival of the transplanted mussels and to help determine if there is a change in the mussel resource in the area that is unrelated to the project site. A comparison of the live versus dead marked mussels including threatened and endangered species will be made during the monitoring efforts.

Results of the monitoring surveys will be coordinated with the USFWS and IDNR. Monitoring reports will be submitted to USFWS and IDNR within 60 days after each monitoring effort.

**E) Adaptive management practices that will be used to deal with changed or unforeseen circumstances that affect the effectiveness of measures instituted to minimize or mitigate the effects of the proposed action on endangered or threatened species.**

Potential mussel relocation areas will be carefully assessed to assure that habitat is suitable for transfer of mussels and that risks of external threats to the relocation beds (siltation, chemical spills) are minimized. The relocation will be done according to accepted standards to minimize mussel mortality.

In the event that one or more live individuals of any species that is listed with the State of Illinois other than the Higgins eye, black sandshell, or butterfly, is collected during the relocation efforts, the following persons will be notified immediately: Jenny Skufca - Incidental Take Authorization Coordinator and Nathan Grider – IDNR. If a federal listed species other than Higgins eye is collected during the relocation efforts, the following persons will be notified immediately: Kristen Lundh – Rock Island Ecological Service Field Office and Sara Schmuecker and/or Kraig McPeek – USFWS.

**F) Verification that funding exists to support mitigation activities described in the conservation plan.**

CF Industries, as the project sponsor, is responsible for the implementation and operation of the barge facility. CF Industries funded the mussel survey of 2015. CF Industries is committed to fund mussel relocation and mitigation, project construction, and subsequent monitoring surveys.

### **3. Alternative actions that would not result in the take**

An alternative to the proposed action and take would be to not install the project which will provide impact protection to the dock platform. With this approach (to not install the project), there would be no need to relocate the mussels from the Action Area. However, this “No Action” alternative would leave the existing dock and mooring structures vulnerable to damage due to shifting of barges during material transfer operations. As described in the “Existing Facility” section, as material is unloaded, the barge gets lighter and floats higher and will often become wedged under the dock platform or cause damage to the dock platform where operators are stationed. This lodging results in the potential for damage to the off-loading station and safety risks for the operators.

### **4. Data and information to assure that the proposed taking will not reduce the likelihood of the survival of the species**

According to the Illinois Natural Heritage Database, Higgins eye occur in 5 Illinois counties, and Rock Island County contains 9 occurrence records. Black sandshell are found in 32 Illinois counties, and Rock Island County contains 15 occurrence records. Butterfly occur in 15 Illinois counties, and Rock Island County contains 10 occurrence records. American eel occurs in 51 Illinois counties, and Rock Island County contains 5 occurrence records (IDNR 2016).

Due to the small area affected by installation of the two dolphins and two barge spuds and the relocation of the mussels from affected areas by construction activities, it is expected that these four listed species will continue to exist in this area of the Mississippi River.

### **5. Implementing agreement**

#### **A) Names and signatures of all participants in the execution of the conservation plan.**

Please see the end of this Section for the names and signatures of participants in the execution of this Conservation Plan.

#### **B) The obligations and responsibilities of each of the identified participants.**

The Illinois Department of Natural Resources is responsible for the review of the conservation plan and for the subsequent issuance of the Incidental Take Authorization.

CF Industries Sales, LLC is responsible for securing authorization for the Incidental Take Authorization and for implementing the proposed Conservation Plan, which will include hiring a qualified contractor to conduct the mussel relocation and monitoring surveys. CF Industries is also responsible for securing all necessary permits and authorizations to execute this Conservation Plan.

Helms & Associates is the consulting company retained by CF Industries to assist with the preparation of the Incidental Take Application (IDNR). They conducted the initial mussel survey for this project in October 2015 and will likely be responsible for the identification of a suitable release area, mussel relocation work, and subsequent monitoring.

Project construction is anticipated to begin in early Fall 2017 or once the ITA has been granted and mussel relocation is complete. It is expected to be completed by Fall 2017. Relocation will be conducted no more than 30 days prior to the installation of the two (2) barge spuds and two (2) new dolphins.

**C) Certification that each participant in the execution of the conservation plan has the legal authority to carry out their respective obligations and responsibilities under the conservation plan.**

By their signature, participants listed at the end of this Section certify that prior to starting work on the project their respective organizations will obtain the necessary permits, authorizations, and permissions to carry out their respective obligations and responsibilities under the Conservation Plan.

**D) Assurance of compliance with all other federal, State and local regulations pertinent to the proposed action and to execution of the conservation plan.**

CF Industries and its contractors will comply with all applicable federal, state, and local regulations. CF Industries and its contractors will comply with all conditions and requirements associated with the authorizations and permits obtained to execute this project and this Conservation Plan.

**E) Copies of any final federal authorizations for a taking already issued to the applicant, if any.**

An initial site survey was conducted in October 2015 by Helms & Associates. The mussel survey recovered one federally endangered Higgins eye and forty-two state threatened black sandshell. A biological assessment was submitted to the USFWS in May 2016 to address the Higgins eye. CF Industries has received a Biological Opinion (BO) from the USFWS (dated January 23, 2017) associated with a Letter of Permission Permit (dated January 25, 2017; CEMVR-OD-P-2015-709a) from the United States Army Corp of Engineers (USACE). CF Industries has also received a verification letter (dated January 25, 2017; CEMVR-OD-P-2015-709b) from the USACE stating that elements of the project scope are also covered under Nationwide Permit No. 25.

**Participants in the execution of the Conservation Plan:**


**CF Industries Sales, LLC**

Shawn Carmine  
General Manager – Distribution Facilities  
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\_\_\_\_\_  
Signature

7/24/17  
Date

Stan Zagula, CESCO  
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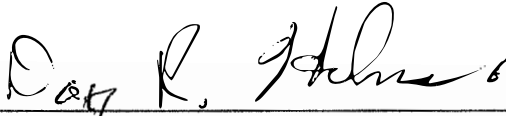
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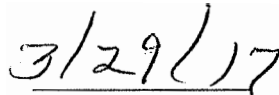


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Signature

  
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## 6. Attachments

- Attachment 1 Helms & Associates. 2015. Mussel survey for CF Industries Sales, LLC– Albany terminal, new breasting dolphins, OWR S20150133 (1513567), CEMVR-OD-P 2015-709 (1512619). Prepared for CF Industries Sales, LLC, Deerfield, IL. 11 pp + Appendices.
- Attachment 2 Letter of Permission – CEMVR-OD-P-2015-709a, United States Army Corps of Engineers, January 25, 2017.
- Attachment 3 Biological Opinion – CEMVR-OD-P-2015-709, United States Fish & Wildlife Service, January 23, 2017.
- Attachment 4 Nationwide Permit No. 25 within Fact Sheet No. 7 (IL) – CEMVR-OD-P-2015-709b, United States Army Corps of Engineers, January 25, 2017.

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# **Attachment 1**

Helms & Associates. 2015

Mussel survey for CF Industries Sales, LLC– Albany terminal, new breasting dolphins, OWR S20150133 (1513567), CEMVR-OD-P 2015-709 (1512619). Prepared for CF Industries Sales, LLC, Deerfield, IL. 11 pp + Appendices.

**Mussel Survey  
for  
CF Industries Sales, LLC – Albany Terminal  
New Breasting Dolphins  
OWR S20150133 (1513567)  
CEMVR-OD-P 2015-709 (1512619)  
County: Rock Island**

**Helms & Associates # 1522**

Prepared for

**CF Industries Sales, LLC,  
Deerfield, IL**

Prepared by

**Don R. Helms  
Helms & Associates  
Bellevue, Iowa**

November 2015



**The CF Industries Sales, LLC - Albany Terminal area surveyed in 2015  
View from river - downstream (IMG\_0653)**

**Mussel Survey  
for  
CF Industries Sales, LLC – Albany Terminal  
New Breasting Dolphins  
OWR S20150133 (1513567)  
CEMVR-OD-P 2015-709 (1512619)  
County: Rock Island  
Helms & Associates # 1522**

Prepared for

**CF Industries Sales, LLC,  
Deerfield, IL**

Prepared by



Don R. Helms

November 10, 2015

Date

**Helms & Associates**  
Bellevue, Iowa

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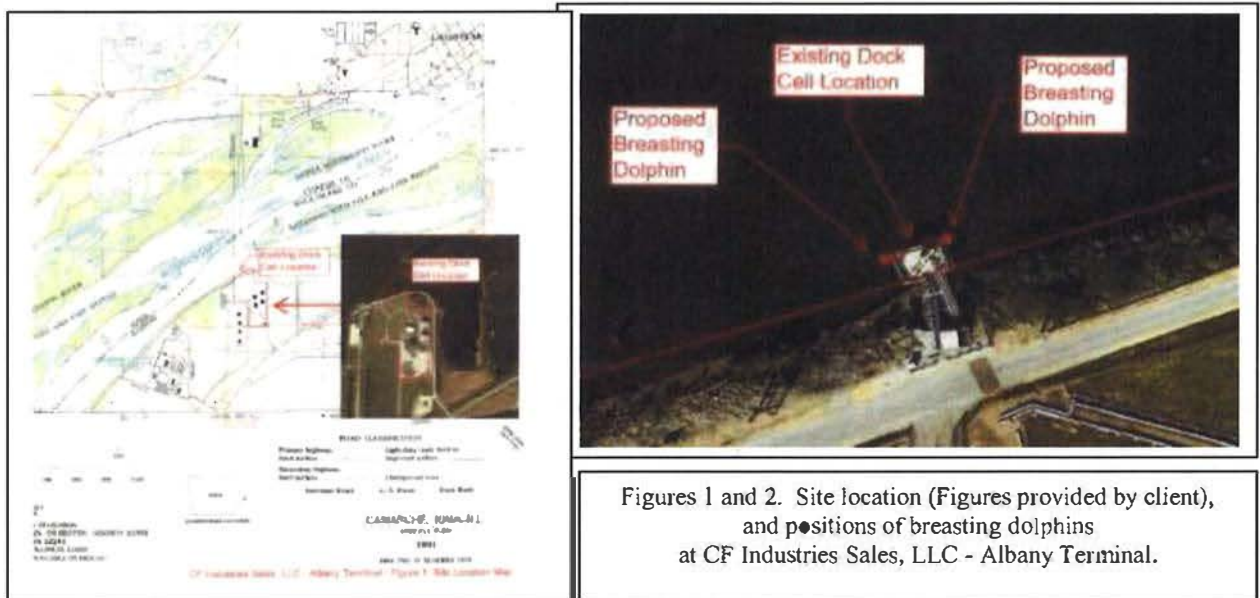
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## 1.0 INTRODUCTION

This report is for a mussel survey near two new breasting dolphins adjacent to an existing dock platform. CF Industries Sales, LLC owns and operates a liquid fertilizer terminal in Cordova, Illinois along the Mississippi River at River Mile 510 in Rock Island County, Illinois (41°45'45.70"N, 90°16'48.32"W) (Figure 1). This is a barge facility where liquid fertilizer is inbounded from the river barges to the storage tanks.

Each breasting dolphin will have a single pile made with 48" diameter piping. They are to be installed about 39 feet apart from each other and will be located on each side of the dock cell (Figure 2). The piles will be connected to the existing dock with beams.



Figures 1 and 2. Site location (Figures provided by client), and positions of breasting dolphins at CF Industries Sales, LLC - Albany Terminal.

Of particular significance at this site is the potential presence of federal and/or state (Illinois) threatened or endangered mussel species. Higgins pearly mussel (*Lampsilis higginsii*), a federally endangered species, is known to occur in the area.

This work was conducted under contract with CF Industries Sales, LLC, Deerfield, Illinois.

## 2.0 METHODOLOGY

Sampling protocol was quantitative and qualitative, following that of Miller and Payne (1994). Our sampling approach was to conduct substrate samples and timed searches within the areas surrounding the two pile sites and a buffer area around their perimeter. The area proposed for survey is rectangular, measuring 100 feet long by 50 feet wide. This area extended along the

front side of the dock and centered over the two piles (Figure 3). Substrate sampling provided both quantitative and qualitative samples, while timed searches provided qualitative samples.

Quantitative sampling consisted of four quarter-meter samples at each of 11 locations (including the two pile placement locations). Qualitative sampling consisted of five-minute timed dive searches at five of the locations (Figure 3). Thus, sampling effort totaled 44 quarter-meter substrate samples (11 m<sup>2</sup>) of surface area and 25 minutes of timed dive searches.

For substrate samples, the substrate was removed to a depth of 10.2 to 15.2 cm (4 to 6 inches) and brought to the surface where the sample was sieved through a series of screens, the smallest mesh of which will be 6.35 mm (1/4 inch).

Material retained on each screen was examined for live



Figure 3. Area and locations sampled for mussels at CF Industries Sales, LLC - Albany Terminal by Helms & Associates. Substrate samples were collected at eleven locations and timed searches were conducted at five locations.

mussels. For timed searches, the diver was instructed to collect as many mussels as he could find within each five-minute search while remaining near the targeted sampling location.

Mussels were handled in a manner acceptable to the Illinois Department of Natural Resources and included guidelines recommended by the US Fish and Wildlife Service for handling endangered species. All mussels encountered were identified, enumerated, and measured. Captured mussels were kept in shaded ambient water during sample processing. Ancillary data included substrate type, depth, stream velocity, temperature, water clarity, etc. Each location sampled was identified by GPS coordinates. All specimens collected were released near the point of capture.

References used for field identification included Cicerello and Schuster (2003), Cummings and Mayer (1992), and Stietman (2003). Nomenclature followed Turgeon et al.

(1998). Shell length (total shell length) of living individuals was measured to the nearest millimeter, and age was estimated by counting annular growth marks on the shell.

Depths along with water and air temperatures were recorded at each sampling location. Substrate was examined at the time each sample was processed. The diver also described substrate and other phenomena as he collected samples. Information for each sample location was recorded on individual data sheets. Following collection, data sheets were arranged in an orderly sequence (upstream to downstream) and assigned page numbers. Copies of field data sheets are presented as Appendix A. Field data are summarized in Appendix B. GPS coordinates for each location are presented with catch and physical parameters in Table 1.

### **3.0 RESULTS**

#### **3.1 Physical Parameters**

Sampling was completed October 13, 2015. On this day, Pool 14 surface elevation recorded at Mississippi River at Lock and Dam 13 (Fulton, IL)<sup>1</sup> was 4.63 ft (573.4 msl), and flow was 23,300 cfs. Surface velocity at the survey site was generally low and ranged between 0.01 and 1.20 f/s. Low surface velocities were influenced by the presence of the dock where flow was blocked. Substrate was a mix of varying amounts of rubble, gravel, and mud with an abundance of zebra mussel shells. Water temperature was 60 ° F, and air temperature ranged between 54 and 68 ° F. Depths ranged from 4.2 to 15.5 feet (Table 1).

#### **3.2 Mussel Density and Distribution**

Density was determined from 44 quarter-meter substrate samples (11 square meters), which produced 63 live native mussels. Overall density (Table 2) was 5.73 (+ or – 2.53,  $p>.05$ ) mussels /m<sup>2</sup>. Range was 10 (1 to 11) mussels /m<sup>2</sup>. The 25 minutes of timed searches yielded 44 mussels. Mean catch rate was 1.76 (+ or – 1.73,  $p=.05$ ) with a range of 0.4 to 3.6 mussels /minute.

---

<sup>1</sup> <http://rivergages.mvr.usace.army.mil/WaterControl/>

**Table 1. Physical parameters and mussels collected at the CF Industries Sales, LLC - Albany Terminal, New Breasting Dolphins by Helms & Associates October, 2015. (Locations shown in Figure 3)**

Location			Coordinates		Depth (ft.)	Water Temp (°F)	Flow (f/s)	Secchi	Substrate rated 1 to 10, X = Present, T = Trace							Zebra mussels		Mussels					
Order No.	Location	Garmin 238 No.	Latitude	Longitude					Bedrock	Boulder	Rubble	Gravel	Sand	Mud	Dead Shells	Zebra Shells	Debris	Live	Dead	#/m <sup>2</sup>	#/min	T & E	
1	2	2235	N41.76275	W90.28000	12.6	60	0.96	19				4		2	X	4		abundant	very abundant	5	11.6	7 Black sandshell	
2	1	2236	N41.76269	W90.27997	4.2	60	0.19					7		X		3		abundant	very abundant	2		1 Black sandshell	
3	3	2237	N41.76268	W90.28000	5.3	60	0.32				2	4		X	X	4		abundant	very abundant	7		4 Black sandshell	
4	Pile #1	2238	N41.76271	W90.28002	11.2	60	0.99					4		1		5		abundant	very abundant	9	2.6	5 Black sandshell, 1 Higginsi	
5	4	2239	N41.76274	W90.28006	14.8	60	1.15					3		1		6		abundant	very abundant	6		1 Black sandshell	
6	5	2240	N41.76271	W90.28012	14.5	60	1.06				2	1		1		6		abundant	very abundant	11	0.0	3 Black sandshell	
7	7	2241	N41.76270	W90.28027	15.5	60	1.20	17						1	X	9		abundant	very abundant	11		6 Black sandshell	
8	Pile #2	2242	N41.76264	W90.28022	13.8	60	0.49				4	3				3		abundant	very abundant	3	1.8	9 Black sandshell	
9	6	2243	N41.76261	W90.28019			0.01					5		1		4		abundant	very abundant	1		1 Black sandshell	
10	Around dolphin	na	na	na	na				No substrate sample													1.3	
11	9	2244	N41.76266	W90.28035	14.2	60	1.20				1	4		X		5		abundant	very abundant	1	0.4	2 Black sandshell	
12	10	2245	N41.76258	W90.28031	9.4	60	0.14					5		1		4	X	abundant	very abundant	4			

Table 2. Catch statistics for mussels collected at the CF Industries Sales, LLC - Albany Terminal, New Breasting Dolphins by Helms & Associates October, 2015.			
Statistic	Density	Catch rate	
	#/m <sup>2</sup>	#/5min	Adj to 1 min
Mean	5.73	8.80	1.76
Standard Error	1.14	3.12	0.62
Median	6	9	1.8
Standard Deviation	3.77	6.98	1.40
Sample Variance	14.22	48.70	9.74
Range	10.00	16	3.2
Minimum	1.00	2	0.4
Maximum	11	18	3.6
Sum	63.0	44.0	8.8
Count	11	5	1
Confidence Level (95.0%)	2.53	8.67	1.73
Upper limit	8.26	17.47	3.49
Lower limit	3.19	0.13	0.03

### 3.3 Species Composition and Relative Abundance

This survey produced a total (substrate and timed searches combined) of 107 living mussels of 12 species. Relative abundances by collection method are presented in Table 3. Black sandshell dominated the catch with 42 individuals contributing 39.3 % of the total. It was followed by threeridge at 28 (26.2 %), and plain pocketbook 15 (14.0 %). The remaining nine species were represented by four or fewer specimens contributing less than 4 % each. Representation by species within each of the two sampling techniques was similar. Photos of each species are presented in Appendix C.

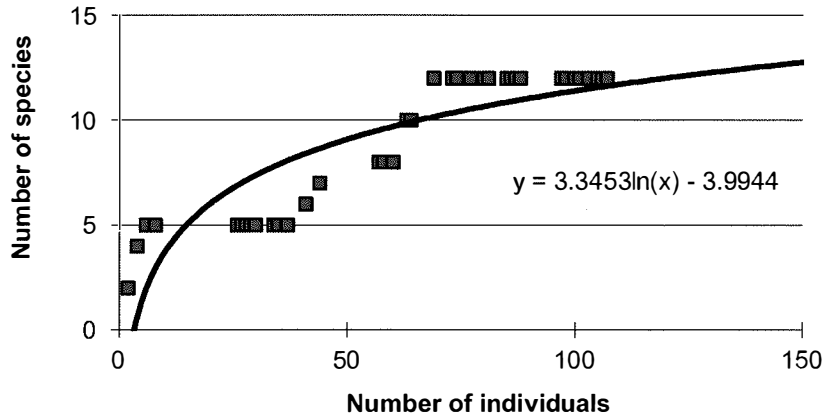
**Table 3. Species and relative abundance of mussels sampled using substrate sampling and timed searches at CF Industries Sales, LLC - Albany Terminal October, 2015 by Helms & Associates.**

Common name	Scientific name	Substrate samples		Timed searches		Combined catch	
		Number	Percent	Number	Percent	Number	Percent
<b>Black sandshell</b>	<i>Ligumia recta</i>	<b>24</b>	<b>38.1%</b>	<b>18</b>	<b>40.9%</b>	<b>42</b>	<b>39.3%</b>
Threeridge	<i>Amblyma plicata</i>	15	23.8%	13	29.5%	28	26.2%
Plain pocketbook	<i>Lampsilis cardium</i>	10	15.9%	5	11.4%	15	14.0%
Washboard	<i>Megalonaias nervosa</i>	2	3.2%	2	4.5%	4	3.7%
Threehorn wartyback	<i>Obliquaria reflexa</i>	3	4.8%			3	2.8%
Fragile papershell	<i>Leptodea fragilis</i>	3	4.8%			3	2.8%
Mapleleaf	<i>Quadrula quadrula</i>	1	1.6%	2	4.5%	3	2.8%
Pink heelsplitter	<i>Potamilus alatus</i>			3	6.8%	3	2.8%
Hickorynut	<i>Obovaria olivaria</i>	1	1.6%	1	2.3%	2	1.9%
White heelsplitter	<i>Lasmigona complanata</i>	2	3.2%			2	1.9%
Yellow sandshell	<i>Lampsilis teres</i>	1	1.6%			1	0.9%
<b>Higgins pearly mussel</b>	<i>Lampsilis higginsii</i>	<b>1</b>	<b>1.6%</b>			<b>1</b>	<b>0.9%</b>
	Totals	63	100.0%	44	100.0%	107	100.0%
	Total living species	11		7		12	

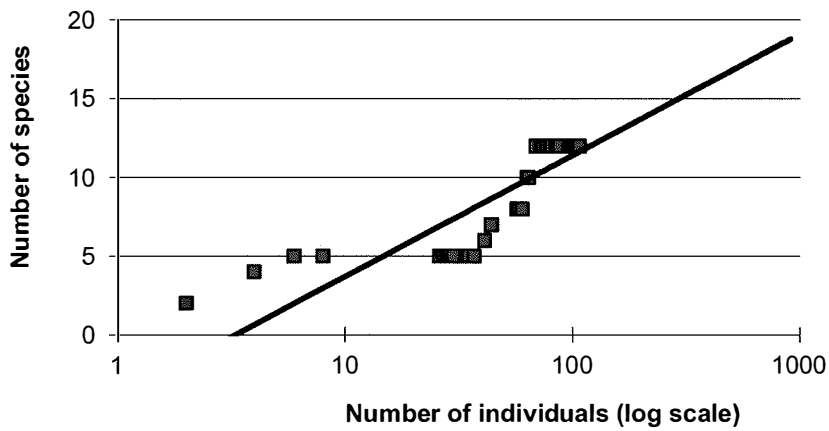
### 3.4 Cumulative Species

Cumulative species were plotted against cumulative individuals to determine the likelihood of having collected all or most of the species present. A graphical display of this relationship is presented in Figure 4. Exhibited in this manner, slope of the curve for a typical data set is initially steep when species are first encountered. After most of the species have been collected, the slope tends to flatten. However, the continued slight upward trend suggests there may be additional species present. By extending the trend line on a log scale (Figure 5), we would expect to have found as many as six or seven additional species if we had collected 1,000 individuals.

**Figure 4. Cumulative species of mussels versus cumulative number of individuals collected at the CF Industries Albany Terminal, 2015.**



**Figure 5. Cumulative species of mussels versus cumulative number of individuals (log scale) collected at the CF Industries Albany Terminal, 2015.**



### 3.5 Recruitment

Size distribution can be used as an indicator of recruitment of young individuals into a population. The presence of small individuals indicates that reproduction is taking place and recruitment from that source is occurring. In order to make this determination, all 107 individuals collected were measured for length (Table 4). Of these, only three (2.8 %) were less than 30 mm in length. This suggests there is very little recruitment occurring at this site.



**Table 4. Lengths (mm) of 107 mussels collected  
at the CF Industries Sales, LLC - Albany Terminal  
by Helms & Associates October, 2015.**

Species	Black sandshell	Fragile papershell	Hickorynut	Higgins pearly mussel	Mapleleaf	Pink heelsplitter	Plain pocketbook	Threehorn wartyback	Threeridge	Washboard	White heelsplitter	Yellow sandshell	Total	
	mm	42	3	2	1	3	3	15	3	28	4	2	1	107
5														0
10														0.0%
15														
20						1		2						3
25														2.8%
30	2													104
35							1							97.2%
40			2											
45								1						
50		2							1					
55			2				1			1			1	
60					2				2					
65							1		5					
70		1		1		1			7					
75							2		9					
80							1		1					
85							1		2					
90							3		1					
95	2					1	1							
100	2						2							
105	2									1				
110	1									2				
115	7					1	2							
120	10													
125	6													
130	2										1			
135	6													
140	2													
145											1			
150														

### **3.6 Endangered and Threatened Species**

#### **3.6.1 State and Federal Species**

We found one live specimen of the federally endangered Higgins pearly mussel. It contributed 0.9 % of the total catch. In addition, we found two state threatened species, black sandshell and butterfly. Black sandshell contributed 39.3 % of the catch. Butterfly was only observed as dead shell specimens. All live specimens except one were etched with a unique number (H 19 through H 37). One black sandshell was too small to mark. A representative photo of each species is shown in Appendix C, and information for each specimen is presented in Appendix D. No other federal or state listed mussel species were observed.

#### **3.7 Introduced Nuisance Species**

##### **3.7.1 Zebra mussels**

Both live and dead zebra mussels (*Dreissena polymorpha*) were ranked abundant and very abundant respectively in all samples (Table 1). Only 15 of the 107 mussels collected were without zebra mussels attached – an infestation rate of 86.0 %. Most of the infested mussels had five or more zebras attached.

##### **3.7.2 Asian clams**

Although dead shell specimens were common, no living specimens of the Asian clam (*Corbicula* sp.) were observed, and they are not a problem at this site.

### **4.0 SUMMARY AND CONCLUSIONS**

On October 13, 2015, Helms & Associates surveyed the dock at the CF Industries Sales, LLC - Albany Terminal where modifications are being considered. Overall density based on substrate samples was 5.73 (+ or – 2.53,  $p > .05$ ) mussels /m<sup>2</sup>. Catch rate for timed searches was 1.76 (+ or – 1.73,  $p = .05$ ) with a range of 0.4 to 3.6 mussels /minute.

One hundred seven mussels representing twelve species were collected at this site. These included two species of threatened or endangered mussels. Black sandshell (threatened in Illinois) contributed 39.3 % of the catch (n = 42) and Higgins pearly mussel (federal and state endangered) contributed 0.9 % (n = 1). Projections based on a species versus numbers collected curve suggest that a collection of 1,000 individuals might produce an additional six or seven species and may include additional listed species. The presence of these threatened and endangered species will require alternatives to provide protection before construction can proceed.

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## **6.0 APPENDICES**

Appendix A. Field data sheets. (12 pages)

Appendix B. Catch by species for each collection at the CF Industries Sales, LLC - Albany Terminal by Helms & Associates October, 2015.

Appendix C. Photos of representative mussel species collected at the CF Industries Sales, LLC - Albany Terminal by Helms & Associates October, 2015. (2 pages)

Appendix D. Field data for threatened and endangered mussels collected at the CF Industries Sales, LLC - Albany Terminal by Helms & Associates October, 2015. (3 pages)

## **Appendix A.**

**Field data sheets. (12 pages)**

H&A Proj # 1522 Albany	*Area:	Location: <u>2-2</u>	Date: ( <u>10 / 13 / 2015</u> )
Illinois Form	*Type of sample: Initial Inspection ( ) ; Substrate ( <u>X</u> ) ; Timed Search ( <u>X</u> ) ; Relocation ( )		*Order: <u>1</u>
41°45'45.70"N, 90°16'48.32"W	Start Time: <u>10:11</u>	End Time: <u>10:32</u>	Total Time: <u>21 min</u>
Location Comments: <u>Creeping if the shells do not have zebra!</u>			*Garmin No: <u>2235</u>
			*Depth: <u>12.6</u>
			Air Temp: <u>54</u>
			Water Temp: <u>60</u>
*Crew : Don ( <u>X</u> ), Scott ( <u>X</u> ), Jeff ( <u>X</u> ), Josh ( <u>X</u> ), Susan ( )		Weather: <u>clear</u>	Flow: <u>0.96</u>
*Substrate composition ranked (1-10) in increasing contribution:		<u>windy</u>	Secchi: <u>19</u>
BdRk ( ) , Bldr ( ) , Rubl ( ) , Grav ( <u>4</u> ) , Sand ( ) , Mud ( <u>2</u> ) , Dead Shells ( <u>X</u> ) , Zebra Shells ( <u>4</u> ) , Debris ( )			
General Comments: <u>dead zebra mussels, mud-silt mix, 1-3" zebra's then rip rap</u>			Photos: <u>2524 - 2527, 2528</u> <u>2529 - 2534</u>

Length (mm) & Age or Number in each increment, Circle if zebra's PRESENT or NOT present										
IL	Common name	Rep #1	Rep #2	Rep #3	Rep #4	TS	Totals			
S-T	Black sandshell		<u>138</u>	<u>(34)</u>	<u>(104)</u>	<u>118 (170) 106 137 (122)</u>				<u>10</u>
S-T	Butterfly					<u>(109) (20)</u>				
	Creeper									
	Deertoe									
	Fat mucket									
	Fawnsfoot									
	Fragile papershell									
	Giant floater									
	Hickory nut									
F-E	Higgins									
	Lilliput									
	Mapleleaf	<u>22</u>				<u>62</u>				<u>2</u>
	Monkeyface									
	Mucket									
	Paper pondshell									
	Pimpleback									
	Pink heelsplitter									
	Pink papershell									
	Plain pocketbook			<u>86</u>	<u>80</u>	<u>92</u>				<u>3</u>
	Rock-pocketbook									
F-E	Sheepnose									
F-E	Spectaclecase									
S-T	Spike									
	Threehorn wartyback									
	Threeridge		<u>66</u>			<u>78, 78, 64, 80, 66, 7, 72</u>				<u>9</u>
	Wabash pigtoe					<u>69</u>				
	Wartyback									
	Washboard	<u>113</u>				<u>112</u>				<u>2</u>
	White heelsplitter									
	Yellow sandshell									
	Corbicula									
Totals										
	*Live Zebra mussel:	Very Abundant	<u>Abundant</u>	Common	Sparse	Absent				
	*Dead Zebra mussel:	<u>Very Abundant</u>	Abundant	Common	Sparse	Absent				

H&A Proj # 1522 Albany		*Area:		Location: <u>Z</u>		Date: ( 10 / 13 /2015)	
Illinois Form		*Type of sample: Initial Inspection ( ); Substrate (X); Timed Search ( ); Relocation ( )				*Order: <u>2</u>	
41°45'45.70"N, 90°16'48.32"W		Start Time: <u>10:50</u> End Time: <u>11:02</u> Total Time: <u>12 min</u>				*Garmin No: <u>2236</u>	
Location Comments:						*Depth: <u>4.2</u>	
						Air Temp: <u>55</u>	
						Water Temp: <u>60</u>	
*Crew: Don (X), Scott (X), Jeff (X), Josh (X), Susan ( )				Weather: <u>Clear</u>		Flow: <u>0.19</u>	
*Substrate composition ranked (1-10) in increasing contribution:				<u>windy</u>		Secchi:	
BdRk( ), Bldr( ), Rubl( ), Grav( <u>7</u> ), Sand( ), Mud( <u>X</u> ), Dead Shells( ), Zebra Shells( <u>3</u> ), Debris( )							
General Comments: <u>Zebra mussels, rubble, creeps</u>						Photos: <u>2540</u>	
Length (mm) & Age or Number in each increment, Circle if zebras PRESENT or NOT present							
IL	Common name	Rep #1	Rep#2	Rep#3	Rep #4	TS	Totals
S-T	Black sandshell	<u>1</u>	<u>133</u>		<u>0</u>		<u>1</u>
S-T	Butterfly						
	Creeper						
	Deertoe						
	Fat mucket						
	Fawnsfoot						
	Fragile papershell						
	Giant floater						
	Hickory nut						
F-E	Higgins						
	Lilliput						
	Mapleleaf						
	Monkeyface						
	Mucket						
	Paper pondshell						
	Pimpleback						
	Pink heelsplitter						
	Pink papershell						
	Plain pocketbook			<u>119</u>			<u>1</u>
	Rock-pocketbook						
F-E	Sheepnose						
F-E	Spectaclecase						
S-T	Spike						
	Threehorn wartyback						
	Threeridge						
	Wabash pigtoe						
	Wartyback						
	Washboard						
	White heelsplitter						
	Yellow sandshell						
	Corbicula						
Totals							
*Live Zebra mussels:		Very Abundant	<u>Abundant</u>	Common	Sparse	Absent	
*Dead Zebra mussels:		Very Abundant	Abundant	Common	Sparse	Absent	

H&A Proj # 1522 Albany		*Area:		Location: 3		Date: ( 10 / 13 / 2015 )	
Illinois Form		*Type of sample: Initial Inspection ( ); Substrate ( X ); Timed Search ( ); Relocation ( )				*Order: 3	
41°45'45.70"N, 90°16'48.32"W		Start Time: 11:03		End Time: 11:22		Total Time: 19 min	
Location Comments: upstream of dolphin cove						*Garmin No: 2237	
						*Depth: 5.3	
						Air Temp: 55	
						Water Temp: 60	
*Crew : Don (X), Scott (X), Jeff (X), Josh (X), Susan ( )				Weather: clear		Flow: 0.32	
				windy		Secchl:	
*Substrate composition ranked (1-10) in increasing contribution:							
BdRk ( ), Bldr ( ), Rubl ( 2 ), Grav ( 4 ), Sand ( ), Mud ( X ), Dead Shells ( X ), Zebra Shells ( 4 ), Debris ( )							
General Comments: 7 mussels, Pen Grams, rubble						Photos: 2544 - 2548	
Length (mm) & Age or Number in each increment, Circle if zebraes PRESENT or NOT present							
IL	Common name	Rep #1	Rep #2	Rep #3	Rep #4	TS	Totals
S-T	Black sandshell	136	99	(36)	(16)		4
S-T	Butterfly						
	Creoper						
	Deertoe						
	Fat mucket						
	Fawnsfoot						
	Fragile papershell						
	Giant floater						
	Hickory nut						
F-E	Higginsl						
	Liliiput						
	Mapleleaf						
	Monkeyface						
	Mucket						
	Paper pondshell						
	Pimpleback						
	Pink heelsplitter						
	Pink papershell						
	Plain pocketbook						
	Rock-pocketbook						
F-E	Sheepnose						
F-E	Spectaclecase						
S-T	Splke						
	Threehorn wartyback						
	Threeridge			(54), 74, 90			3
	Wabash pigtoe						
	Wartyback						
	Washboard						
	White heelsplitter						
	Yellow sandshell						
	Corbicula						
Totals							
*Live Zebra mussels:		Very Abundant	Abundant	Common	Sparse	Absent	
*Dead Zebra mussels:		Very Abundant	Abundant	Common	Sparse	Absent	



H&A Proj # 1522 Albany		*Area:		Location: <u>Pile 1</u>		Date: <u>10 / 13 / 2015</u>	
Illinois Form		*Type of sample: Initial Inspection ( ) ; Substrate ( <input checked="" type="checkbox"/> ); Timed Search ( <input checked="" type="checkbox"/> ); Relocation ( )				*Order: <u>4</u>	
41°45'45.70"N, 90°16'48.32"W		Start Time: <u>11:24</u>		End Time: <u>11:45</u>		Total Time: <u>21 min</u>	
*Garmin No: <u>2238</u>		*Depth: <u>11.2</u>		Air Temp: <u>57</u>		Water Temp: <u>60</u>	
*Crew: Don (X), Scott (X), Jeff (X), Josh (X), Susan ( )		Weather: <u>Clear</u>		Flow: <u>0.99</u>		Secchi:	
*Substrate composition ranked (1-10) in increasing contribution:				Photos: <u>2548-2558</u>			
BdRk ( )		Bldr ( )		Rubi ( )		Grav ( <u>4</u> )	
Sand ( )		Mud ( <u>1</u> )		Dead Shells ( )		Zebra Shells ( <u>5</u> )	
Debris ( )		General Comments: <u>2 mussels,</u>					
Length (mm) & Age or Number in each increment, Circle if zebras PRESENT or NOT present							
IL	Common name	Rep #1	Rep #2	Rep #3	Rep #4	TS	Totals
S-T	Black sandshell	<u>98</u>			<u>135</u>	<u>125, 118, 103</u>	<u>5</u>
S-T	Butterfly			<u>5</u>			
	Creeper						
	Deertoe						
	Fat mucket						
	Fawnsfoot						
	Fragile papershell		<u>54, (51)</u>				<u>2</u>
	Giant floater						
	Hickory nut						
F-E	Higgins		<u>DS-SV</u>		<u>72</u>		<u>1</u>
	Lilliput						
	Mapleleaf					<u>62</u>	<u>1</u>
	Monkeyface						
	Mucket						
	Paper pondshell						
	Pimpleback						
	Pink heelsplitter					<u>(71)</u>	<u>1</u>
	Pink papershell						
	Plain pocketbook				<u>78</u>	<u>94, 90, 58</u>	<u>4</u>
	Rock-pocketbook						
F-E	Sheepnose						
F-E	Spectaclecase						
S-T	Spike						
	Threehorn wartyback						
	Threeridge	<u>76</u>	<u>(60), 70</u>			<u>76, 67, 75, 73, 88</u>	<u>8</u>
	Wabash pigtoe						
	Wartyback						
	Washboard						
	White heelsplitter						
	Yellow sandshell						
	Corbicula						
Totals							
*Live Zebra mussels:		Very Abundant	Abundant	Common	Spase	Absent	
*Dead Zebra mussels:		Very Abundant	Abundant	Common	Spase	Absent	

H&A Proj # 1522 Albany		*Area:		Location: 4		Date: ( 10 / 13 / 2015 )	
Illinois Form		*Type of sample: Initial Inspection ( ); Substrate (X); Timed Search ( ); Relocation ( )				*Order: 5	
41°45'45.70"N, 90°16'48.32"W		Start Time: 11:54		End Time: 12:06		Total Time: 12 min	
Location Comments:						*Garmin No: 2239	
						*Depth: 14.8	
						Air Temp: 61	
						Water Temp: 60	
*Crew : Don (X), Scott (X), Jeff (X), Josh (X), Susan ( )				Weather: Clear windy		Flow: 1.15	
*Substrate composition ranked (1-10) in increasing contribution:							
BdRR ( ), Bldr ( ), Rubl ( ), Grav (3), Sand ( ), Mud ( ), Dead Shells ( ), Zebra Shells (6), Debris ( )							
General Comments: 2 mussels						Photos: 2560, 2561-2563	
Length (mm) & Age or Number in each increment, Circle if zebras PRESENT or NOT present							
IL	Common name	Rep #1	Rep #2	Rep #3	Rep #4	TS	Totals
S-T	Black sandshell	141	Q				
S-T	Butterfly						
	Creeper						
	Deertoe						
	Fat mucket						
	Fawnsfoot						
	Fragile papershell						
	Giant floater						
	Hickory nut						
F-E	Higgins						
	Lilliput						
	Mapleleaf						
	Monkeyface						
	Mucket						
	Paper pondshell						
	Pimpleback						
	Pink heelsplitter						
	Pink papershell						
	Plain pocketbook						
	Rock-pocketbook						
F-E	Shesep nose						
F-E	Spectaclecase						
S-T	Spike						
	Threehorn wartyback						46
	Threeridge		Q	78			89
	Wabash pigloe						
	Wartyback						
	Washboard		Q	106			
	White heelsplitter						
	Yellow sandshell						59
	Corbicula						
Totals							
*Live Zebra mussels:		Very Abundant	Abundant	Common	Sparse	Absent	
*Dead Zebra mussels:		Very Abundant	Abundant	Common	Sparse	Absent	

H&A Proj # 1522 Albany		*Area:		Location: 5		Date: ( 10 / 13 / 2015 )	
Illinois Form		*Type of sample: Initial Inspection ( ) ; Substrate ( X ); Timed Search ( ) ; Relocation ( )				*Order: 6	
41°45'45.70"N, 90°16'48.32"W		Start Time: 12:10		End Time: 12:22		Total Time: 12 min	
Location Comments: Front corner of dolphin		*Depth: 14.5		Air Temp: 62		Water Temp: 60	
*Crew : Don ( X ), Scott ( X ), Jeff ( X ), Josh ( X ), Susan ( )				Weather: clear		Flow: 1.06	
*Substrate composition ranked (1-10) in increasing contribution:						Secch:	
BdRk ( )		Bldr ( )		Rvbl ( 2 )		Grav ( 1 )	
Send ( )		Mud ( 1 )		Dead Shells ( )		Zebra Shells ( 0 )	
Debris ( )		General Comments: 2 mussels. silt					
						Photos: 2565 -	
Length (mm) & Age or Number in each increment. Circle if zebras PRESENT or NOT present							
IL	Common name	Rep#1	Rep#2	Rep#3	Rep#4	ITS	Totals
S-T	Black sandshell	140	130	129			3
S-T	Butterfly						
	Creeper						
	Deertoe						
	Fal mucket						
	Fawnsfoot						
	Fragile papershell		72				1
	Giant floater						
	Hickory nut		(41)				1
F-E	Higgins						
	Lilliput						
	Mapleleaf						
	Monkeyface						
	Mucket						
	Paper pondshell						
	Pimpleback						
	Pink heelsplitter						
	Pink papershell						
	Plain pocketbook				66		1
	Rock-pocketbook						
F-E	Sheepnose						
F-E	Spectaclecase						
S-T	Spike						
	Threehorn wartyback						
	Threeridge		60	78, 78, 72			4
	Wabash pigtoe						
	Wartyback						
	Washboard						
	White heelsplitter		131				1
	Yellow sandshell						
	Corbicula						
Totals							
*Live Zebra mussels:		Very Abundant	Abundant	Common	Sparse	Absent	
*Dead Zebra mussels:		Very Abundant	Abundant	Common	Sparse	Absent	

H&A Proj # 1522 Albany		*Area:		Location: 7		Date: ( 10 / 13 /2015)	
Illinois Form		*Type of sample: Initial Inspection ( ) ; Substrate ( X ); Timed Search ( ) ; Relocation ( )				*Order: \$ 7	
41°45'45.70"N, 90°16'48.32"W		Start Time: 12:40		End Time: 1:00		Total Time: 20 min	
Local/On Comments:						*Garmin No: 2241	
						*Depth: 15.5	
						Air Temp: 60	
						Water Temp: 60	
*Crew : Don (X), Scott (X), Jeff (X), Josh (X), Susan ( )				Weather: Clear		Flow: 1.20	
*Substrate composition ranked (1-10) in increasing contribution:				windy		Secchi: 17	
BdRk ( ), Bldr ( ), Rubl ( ), Grav ( ), Sand ( ), Mud ( 1 ), Dead Shells ( X ), Zebra Shells ( 9 ), Debris ( )							
General Comments: Z. muss. gravel						Photos: 2569 - 2577	
Length (mm) & Age or Number in each increment, Circle if zebras PRESENT or NOT present							
IL	Common name	Rep#1	Rep#2	Rep#3	Rep#4	TS	Totals
S-T	Black sandshell	127, 119, 121,		122	124, 136		6
S-T	Butterfly			205			-
	Creeper						
	Deertoe						
	Fat mucket						
	Fawnsfoot						
	Fragile papershell						
	Giant floater						
	Hickory nut						
F-E	Higgins				DS		-
	Lilliput						
	Mapleleaf						
	Monkeyface						
	Mucket						
	Paper pondshell						
	Pimpleback						
	Pink heelsplitter						
	Pink papershell						
	Plain pocketbook		63		164		2
	Rock-pocketbook						
F-E	Sheepnose						
F-E	Spectaclecase						
S-T	Spike						
	Threehorn wartyback						
	Threeridge		70, 72				2
	Wabash pigtoe						
	Wartyback						
	Washboard						
	White heelsplitter				147		1
	Yellow sandshell						
	Corbicula						
Totals							
*Live Zebra mussels:		Very Abundant	Abundant	Common	Sparse	Absent	
*Dead Zebra mussels:		Very Abundant	Abundant	Common	Sparse	Absent	

H&A Proj # 1522 Albany		*Area:		Location: <u>Pile 2</u>		Date: ( <u>10/13</u> /2015)	
Illinois Form		*Type of sample: Initial Inspection ( ); Substrate ( <u>X</u> ); Timed Search ( <u>X</u> ); Relocation ( )				*Order: <u>8</u>	
41°45'45.70"N, 90°16'48.32"W		Start Time: <u>1:03</u>		End Time: <u>1:20</u>		Total Time:	
Location Comments:						*Garmin No: <u>2242</u>	
						*Depth: <u>13.8</u>	
						Air Temp: <u>65</u>	
						Water Temp: <u>60</u>	
*Crew : Don (X), Scott (X), Jeff (X), Josh ( ), Susan ( )				Weather: <u>clear</u>		Flow: <u>0.49</u>	
*Substrate composition ranked (1-10) in increasing contribution:						Secchi:	
BdRk ( ), Bldr ( ), Rubl ( <u>4</u> ), Grav ( <u>3</u> ), Sand ( ), Mud ( ), Dead Shells ( ), Zebra Shells ( <u>3</u> ), Debris ( )						Photos: <u>2578, 2579</u>	
General Comments: <u>7 mussels, rubble</u>						<u>2580</u>	
Length (mm) & Age or Number in each increment, Circle if zebrae PRESENT or NOT present							
IL	Common name	Rep #1	Rep #2	Rep #3	Rep #4	TS	Totals
S-T	Black sandshell	<u>1</u>		<u>(119)</u>	<u>125</u>	<u>112, 23, 127, 124, 128</u>	<u>9</u>
S-T	Butterfly					<u>(124) 118</u>	
	Creeper						
	Deertoe						
	Fat mucket						
	Fawnsfoot						
	Fragile papershell						
	Giant floater						
	Hickory nut					<u>44</u>	<u>1</u>
F-E	Higginsl						
	Lilliput						
	Mapleleaf						
	Monkeyface						
	Mucket						
	Paper pondshell						
	Pimpleback						
	Pink heelsplitter						
	Pink papershell						
	Plain pocketbook		<u>119</u>			<u>97</u>	<u>2</u>
	Rock-pocketbook						
F-E	Sheepnose						
F-E	Spectaclecase						
S-T	Spike						
	Threehorn wartyback						
	Threeridge						
	Wabash pigtoe						
	Wartyback						
	Washboard						
	White heelsplitter						
	Yellow sandshell						
	Corbicula						
Totals							
*Live Zebra mussels:		Very Abundant	Abundant	Common	Sparse	Absent	
*Dead Zebra mussels:		Very Abundant	Abundant	Common	Sparse	Absent	

H&A Proj # 1522 Albany		*Area:		Location: 6		Date: ( 10 / 13 /2015)	
Illinois Form		*Type of sample: Initial Inspection ( ) ; Substrate ( X ); Timed Search ( ) ; Relocation ( )				*Order: 9	
41°45'45.70"N, 90°16'48.32"W		Start Time: 1:03		End Time: 1:42		Total Time: 39 min	
Location Comments:						*Garmin No: 2243	
						*Depth:	
						Air Temp:	
						Water Temp:	
*Crew: Don (X), Scott (X), Jeff (X), Josh (X), Susan ( )				Weather: 15%		Flow: 0.0	
*Substrate composition ranked (1-10) in increasing contribution:						Secchi:	
BdRk ( )		Bldr ( )		Rubi ( 5 )		Grav ( )	
Sand ( )		Mud ( 1 )		Dead Shells ( )		Zebra Shells ( 4 )	
Debris ( )							
General Comments: Sand, rubble						Photos: 2589 - 2592	
Length (mm) & Age or Number in each increment. Circle if zebra PRESENT or NOT present							
IL	Common name	Rep#1	Rep#2	Rep #3	Rep#4	TS	Totals
S-T	Black sandshell	<input checked="" type="checkbox"/>	32	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		1
S-T	Butterfly	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
	Creeper						
	Deertoe						
	Fat mucket						
	Fawnsfoot						
	Fragile papershell						
	Giant floater						
	Hickory nut						
F-E	Higgins						
	Lilliput						
	Mapleleaf						
	Monkeyface						
	Mucket						
	Paper pondshell						
	Pimpleback						
	Pink heelsplitter						
	Pink papershell						
	Plain pocketbook						
	Rock-pocketbook						
F-E	Sheepnose						
F-E	Spectaclecase						
S-T	Spike						
	Threehorn wartyback						
	Threeridge						
	Wabash pigtoe						
	Wartyback						
	Washboard						
	White heelsplitter						
	Yellow sandshell						
	Corbicula						
Totals							
*Live Zebra mussels:	Very Abundant	Abundant	Common	Sparse	Absent		
*Dead Zebra mussels:	Very Abundant	Abundant	Common	Sparse	Absent		

H&A Proj # 1522 Albany		*Area:		Location: <i>around dolphin</i>		Date: <i>( 10 / 13 /2015)</i>	
Illinois Form		*Type of sample: Initial Inspection ( ) ; Substrate ( ) ; Timed Search ( <input checked="" type="checkbox"/> ); Relocation ( )				*Order: <i>10</i>	
41°45'45.70"N, 90°16'46.32"W		Start Time: <i>1:44</i>		End Time: <i>1:49</i>		Total Time: <i>5 min</i>	
Location Comments: <i>No # on map. Dolphin S side</i>		*Garmin No: <i>around 10</i>				*Depth:	
		Air Temp:				Water Temp:	
*Crew: Don (X), Scott (X), Jeff (X), Josh ( <input checked="" type="checkbox"/> ) , Susan ( )				Weather: <i>°C 10°</i>		Flow:	
*Substrate composition ranked (1-10) in increasing contribution:						Secchi:	
BdRk ( ), Bldr ( ), Rubl ( ), Grav ( ), Sand ( ), Mud ( ), Dead Shells ( ), Zebra Shells ( ), Debris ( )							
General Comments:						Photos:	
Length (mm) & Age or Number in each increment. Circle if zebras PRESENT or NOT present							
IL	Common name	Rep#1	Rep #2	Rep #3	Rep#4	TS	Totals
S-T	Black sandshell						
S-T	Butterfly						
	Creeper						
	Deertoe						
	Fat mucket						
	Fawnsfoot						
	Fragile papershell						
	Giant floater						
	Hickory nut						
F-E	Higginsii						
	Lilliput						
	Mapleleaf						
	Monkeyface						
	Mucket						
	Paper pondshell						
	Pimpleback						
	Pink heelsplitter	<i>95, 16</i>					<i>2</i>
	Pink papershell						
	Plain pocketbook						
	Rock-pocketbook						
F-E	Sheepnose						
F-E	Spectacle case						
S-T	Spike						
	Threehorn wartyback						
	Threeridge						
	Wabash pigtoe						
	Wartyback						
	Washboard						
	White heelsplitter						
	Yellow sandshell						
	Corbicula						
Totals							
*Live Zebra mussels:		Very Abundant	Abundant	Common	Sparse	Absent	
*Dead Zebra mussels:		Very Abundant	Abundant	Common	Sparse	Absent	

H&A Proj # 1522 Albany		*Area:		Location: 9		Date: ( 10 / 13 /2015)	
Illinois Form		*Type of sample: Initial Inspection ( ) ; Substrate (X); Timed Search (X); Relocation ( )				*Order: 11	
41°45'45.70"N, 90°16'48.32"W		Start Time: 1:52		End Time: 2:15		Total Time: 23 min	
Location Comments:						*Garmin No: 2244	
						*Depth: 14.2	
						Air Temp: 62	
						Water Temp: 60	
*Crew : Don (X), Scott (X), Jeff (X), Josh (X), Susan ( )				Weather: PC 20%		Flow: 1.20	
*Substrate composition ranked (1-10) in increasing contribution:						Secchi:	
BdRk ( )		Bldr ( )		Rubi ( 1 )		Grav ( 4 )	
Sand ( )		Mud ( X )		Dead Shells ( )		Zebra Shells ( 5 )	
Debris ( )							
General Comments: Z mussels. gravel						Photos: 2593-5, 2596-97	
Length (mm) & Age or Number in each increment, Circle if zebrae PRESENT or NOT present							
IL	Common name	Rep #1	Rep #2	Rep #3	Rep #4	TS	Totals
S-T	Black sandshell	186	<del>1</del>	<del>1</del>	<del>1</del>	115	2
S-T	Butterfly						
	Creeper						
	Deertoe						
	Fat mucket						
	Fawnsfoot						
	Fragile papershell						
	Giant floater						
	Hickory nut						
F-E	Higgins						
	Lilliput						
	Mapleleaf						
	Monkeyface						
	Mucket						
	Paper pondshell						
	Pimpleback						
	Pink heelsplitter						
	Pink papershell						
	Plain pocketbook						
	Rock-pocketbook						
F-E	Sheepnose						
F-E	Spectaclecase						
S-T	Spike						
	Threehorn wartyback						
	Threeridge						
	Wabash pigtoe						
	Wartyback						
	Washboard					58	
	White heelsplitter						
	Yellow sandshell						
	Corbicula						
Totals							
*Live Zebra mussels:		Very Abundant	Abundant	Common	Sparse	Absent	
*Dead Zebra mussels:		Very Abundant	Abundant	Common	Sparse	Absent	



H&A Proj # 1522 Albany		*Area:		Location: 10		Date: ( 9 / 13 /2015)	
Illinois Form		*Type of sample: Initial Inspection ( ); Substrate ( X ); Timed Search ( ); Relocation ( )				*Order: 12	
41°45'45.70"N, 90°16'48.32"W		Start Time: 2:17		End Time: 2:30		Total Time: 13 min	
Location Comments:						*Garmin No: 2245	
						*Depth: 9.4	
						Air Temp: 65	
						Water Temp: 60	
*Crew : Don (X), Scott (X), Jeff (X), Josh (X), Susan ( )				Weather: PL 20%		Flow: 0.14	
*Substrate composition ranked (1-10) in increasing contribution:							
BdRk ( ), Bldr ( ), Rubi ( ), Grav ( 5 ), Sand ( ), Mud ( 1 ), Dead Shells ( ), Zebra Shells ( 4 ), Debris ( X )							
General Comments: silt, mud, 2 mussels or per gram						Photos: <del>XXXXXXXXXX</del>	
Length (mm) & Age or Number in each increment, Circle if zebras PRESENT or NOT present							
IL	Common name	Rep #1	Rep #2	Rep #3	Rep #4	TS	Totals
S-T	Black sandshell				( 0 )		
S-T	Butterfly						
	Creeper						
	Deertoe						
	Fat mucket						
	Fawnsfoot						
	Fragile papershell						
	Giant floater						
	Hickory nut						
F-E	Higgins						
	Lilliput						
	Mapleleaf						
	Monkeyface						
	Mucket						
	Paper pondshell						
	Pimpleback						
	Pink heelsplitter						
	Pink papershell						
	Plain pocketbook		39	78			2
	Rock-pocketbook						
F-E	Sheepnose						
F-E	Spectaclacase						
S-T	Spike						
	Threehorn wartyback	21, 10					2
	Threeridge						
	Wabash pigtoe						
	Wartyback						
	Washboard						
	White heelsplitter						
	Yellow sandshell						
	Corbicula						
Totals							
*Live Zebra mussels:		Very Abundant	Abundant	Common	Sparse	Absent	
*Dead Zebra mussels:		Very Abundant	Abundant	Common	Sparse	Absent	

## **Appendix B.**

**Catch by species for each collection at the CF Industries Sales, LLC - Albany  
Terminal by Helms & Associates October, 2015.**

**Appendix B. Catch by species for each collection at the CF Industries Sales, LLC - Albany Terminal, New Breasting Dolphins by Helms & Associates October, 2015.**

Location	Garmin No.	Replicate	Black sandshell	Butterfly	Fragile papershell	Hickorynut	Higgins pearly mussel	Mapleleaf	Pink heelsplitter	Plain pocketbook	Threehorn wartyback	Threeridge	Washboard	White heelsplitter	Yellow sandshell	Total number	Cumulative numbers	Cumulative species	No. per location (Substrate samples)	Density (#/per m <sup>2</sup> )	No. per location (Timed searches)	Catch rate (#/min.)	
2	2235	1						1					1			2	2	2					
		2	1									1				2	4	4					
		3	1													2	6	5					
		4	1								1					2	8	5	8	8.00			
		TS	7					1		1			8	1			18	26	5			18	3.60
1	2236	1														0	26	5					
		2	1													1	27	5					
		3								1						1	28	5					
		4														0	28	5	2	2.00			
		TS	na													0	28	5					
3	2237	1	1													1	29	5					
		2	1													1	30	5					
		3	1										3			4	34	5					
		4	1													1	35	5	7	7.00			
		TS	na													0	35	5					
Pile #1	2238	1	1													2	37	5					
		2			2		ds					2				4	41	6					
		3														0	41	6					
		4	1				1		1							3	44	7	9	9.00			
		TS	3					1	1	3		5				13	57	8			13	2.60	
4	2239	1	1													1	58	8					
		2														0	58	8					
		3										1	1			2	60	8					
		4										1	1	1		3	63	10	6	6.00			
		TS	na													0	63	10					
5	2240	1	1													1	64	10					
		2	1		1	1						1		1		5	69	12					
		3	1										3			4	73	12					
		4									1					1	74	12	11	11.00			
		TS	na													0	74	12			0	0.00	
7	2241	1	3													3	77	12					
		2											2			3	80	12					
		3	1	ds												1	81	12					
		4	2				ds								1	4	85	12	11	11.00			
		TS	na													0	85	12					
Pile #2	2242	1														0	85	12					
		2														1	86	12					
		3	1													1	87	12					
		4	1													1	88	12	3	3.00			
		TS	7				1				1					9	97	12			9	1.80	
6	2243	1														0	97	12					
		2	1													1	98	12					
		3														0	98	12					
		4														0	98	12	1	1.00			
		TS	na													0	98	12					
Around Dolphin	na	1	na													0	98	12					
		2	na													0	98	12					
		3	na													0	98	12					
		4	na													0	98	12					
		TS								2						2	100	12			2	0.13	
9	2244	1	1													1	101	12					
		2														0	101	12					
		3														0	101	12					
		4														0	101	12	1	1.00			
		TS	1											1		2	103	12			2	0.40	
10	2245	1									2					2	105	12					
		2								1						1	106	12					
		3								1						1	107	12					
		4														0	107	12	4	4.00			
		TS	na													0	107	12					
<b>Totals</b>			<b>42</b>		<b>3</b>	<b>2</b>	<b>1</b>	<b>3</b>	<b>3</b>	<b>15</b>	<b>3</b>	<b>28</b>	<b>4</b>	<b>2</b>	<b>1</b>	<b>107</b>			<b>63</b>	<b>5.73</b>	<b>44</b>	<b>1.47</b>	
<b>Percent</b>			<b>39.3%</b>		<b>2.8%</b>	<b>1.9%</b>	<b>0.9%</b>	<b>2.8%</b>	<b>2.8%</b>	<b>14.0%</b>	<b>2.8%</b>	<b>26.2%</b>	<b>3.7%</b>	<b>1.9%</b>	<b>0.9%</b>	<b>100.0%</b>							

## **Appendix C.**

**Photos of representative mussel species collected at the CF Industries Sales, LLC - Albany Terminal by Helms & Associates October, 2015. (2 pages)**

**Appendix C. Photos of representative mussel species collected at the CF Industries Sales, LLC - Albany Terminal by Helms & Associates October, 2015. (2 pages)**



Black sandshell IMG\_0575



Higgins pearly mussel IMG\_0599



Fragile papershell IMG\_0598



Mapleleaf IMG\_0606



Hickorynut IMG\_0634



Pink papershell IMG\_0604



Plain pocketbook IMG\_0616



Washboard IMG\_0641



Threehorn wartyback IMG\_0610



White heelsplitter IMG\_0613



Threeridge IMG\_0590



Yellow sandshell IMG\_0608

## **Appendix D.**

**Field data for threatened and endangered mussels collected at the CF Industries Sales, LLC - Albany Terminal by Helms & Associates October, 2015. (3 pages)**

Appendix (D), Page (1)

Data collected for threatened and endangered mussel species by Helms & Associates, 2015.

Species	Specimen No.	Date	Time collected	Time released	Location collected (Garmin #)	Location released (Garmin #)	Length (mm)	Width (mm)	Depth (mm)	Age	Sex	Zebras present	Photo No.
Black Sandshell	H 18	10/13/15	10:20	10:47	2235	2235	138	43	59	10+	F	11	2529
Black Sandshell	NA "H"	10/13/15	10:24		2235		34	8	13	1+	IM	0	2530
Black Sandshell	H 19	10-13-15	10:27		2235		104	35	38	8+	F	0	2531, 2532
B.S.	H 20	10-13-15	10:30		2235		118	41	53	~10	F	5	2537
B.S.	H 21	10-13-15	10:30		2235		120	38	53	10+	F	0	2535
B.S.	H 22	10-13-15	10:30		2235		106	34	50	~8+	M	25+	2538
B.S.	H 23	10-13-15	10:30		2235		137	41	58	10+	M	10	2534
B.S.	H 24	10-13-15	10:30		2235		122	38	54	10+	F	0	2533
B.S.	H 25	10-13-15	10:30		2235		108	36	51	~8	M	0	2539
B.S.	H 26	10-13-15	10:30	↓	2235	↓	120	39	55	~9	F	0	2536
B.S.	H 27	10-13-15	10:55	11:00	2236	2236	133	42	67	10+	M	~15	2540
B.S.	H 28	10-13-15	11:09	11:12	2237	2237	136	44	55	10+	F	14	2544
B.S.	H 29	10-13-15	11:11	11:22	2237	2237	98	32	44	~9	M	16	2545
B.S.	H 30	10-13-15	11:18	11:22	2237	2237	136	43	56	10+	M	0	2546
B.S.	H 31	10-13-15	11:20	11:22	2237	2237	118	37	51	10+	F?	0	2547



Appendix (D), Page (2)

Data collected for threatened and endangered mussel species by Helms & Associates, 2015.

Species	Specimen No.	Date	Time collected	Time released	Location collected (Garmin #)	Location released (Garmin #)	Length (mm)	Width (mm)	Depth (mm)	Age	Sex	Zebras present	Photo No.
B.S.	H32	10-13-15	11:28	11:38	2238	2238	98	28	48	5+	M	6	2548
Higgins1	-	10-13-15	11:33	-	2238	Specimen retained	-	-	-	-	-	-	2549 2550
Higgins1	H33	10-13-15	11:39	11:52	2238	2238	72	34	50	6+	M	3	2552
B.S.	H34	10-13-15	11:38		2238		135	40	56	10+	F	20+	2553
B.S.	H35	10-13-15	11:44		2238		125	38	50	~10	F	10+	2554
B.S.	H36	10-13-15	11:44		2238		118	35	51	6	M	15+	2555
B.S.	H37	10-13-15	11:44	↓	2238	↓	103	32	<del>47</del> <sup>46</sup>	6	M	20+	2556
B.S.	H38	10-13-15	11:58	12:11	2239	2239	141	44	61	10+	M	7	2560
B.S.	H39	10-13-15	12:15	12:26	2240	2240	140	45	57	10+	F	20+	2564
B.S.	H40	10-13-15	12:17	↓	2240	↓	130	43	59	10+	F	2	2567
B.S.	H41	10-13-15	12:21	↓	2240	↓	129	41	51	10+	F	15+	2568
B.S.	H42	10-13-15	12:46	1:00	2241	2241	127	41	53	10+	F	5	2572
B.S.	H43	10-13-15	12:46		2241		119	38	51	10+	F	10+	2573
B.S.	H44	10-13-15	12:49		2241		121	42	52	10+	F	20+	2574
B.S.	H45	10-13-15	12:50		2241		122	38	53	10+	M	7	2575

Appendix (D), Page (3)

Data collected for threatened and endangered mussel species by Helms & Associates, 2015.

Species	Specimen No.	Date	Time collected	Time released	Location collected (Garmin #)	Location released (Garmin #)	Length (mm)	Width (mm)	Depth (mm)	Age	Sex	Zebras present	Photo No.
B.S.	H46	10-13-15	12:54	↓	2241	↓	124	43	53	10+	F	1	2576
B.S.	H47	10-13-15	12:54	↓	2241	↓	136	38	56	10+	F		2577
Higgins Eye	DS	10-13-15	-	-	2241	Retained	-	-	-	-	F	-	<del>22-15-70</del> 22-70,71
B.S.	H48	10-13-15	1:07	1:48	2242	2242	119	43	53	10+	F	0	2578
B.S.	H49	10-13-15	1:15	↓	2242	↓	125	41	52	10+	F	9	2579
B.S.	H50	↓	1:20	↓	↓	↓	112	39	48	10+	F	15+	2580
B.S.	H51	↓	↓	↓	↓	↓	123	40	50	↓	M	12	2581
B.S.	H52	↓	↓	↓	↓	↓	123	38	53	↓		10+	2582
B.S.	H53	↓	↓	↓	↓	↓	129	44	55	↓		10+	2583
B.S.	H54	↓	↓	↓	↓	↓	128	42	54	↓		20+	2584
B.S.	H55	↓	↓	↓	↓	↓	124	42	54	↓		0	2585
B.S.	H56	10-13-15	1:20	↓	2242	↓	118	38	54	10+	M	30+	2586
B.S.	"H"	10-13-15	1:40	↓	2243	↓ 2243	32	8	12	1	1M	1	2589, 2590 2591, 2592
B.S.	H57	10-13-15	2:01	↓	2244	↓	126	43	58	10+	M	14	2593, 2596
B.S.	H58	10-13-15	2:12	↓	2244	↓	115	39	52	10+	F	20+	2597

## **Attachment 2**

Letter of Permission – CEMVR-OD-P-2015-709a  
United States Army Corps of Engineers, January 25, 2017.



**DEPARTMENT OF THE ARMY**  
CORPS OF ENGINEERS, ROCK ISLAND DISTRICT  
P.O. BOX 2004 CLOCK TOWER BUILDING  
ROCK ISLAND, ILLINOIS 61204-2004

REPLY TO  
ATTENTION OF

January 25, 2017

Operations Division

SUBJECT: CEMVR-OD-P-2015-709a

Mr. John A. Foster  
CF Industries Sales, LLC  
4 Parkway North, Suite 400  
Deerfield, Illinois 60015

Dear Mr. Foster:

You are authorized by this LETTER OF PERMISSION to perform work in accordance with the terms, conditions, plans, and attachments specified below.

**Project Description:** Install two (2) new single pile breasting dolphins to protect an existing dock from future barge damage, Rock Island County, Illinois. The piles will be ninety (90) feet long welded steel pipe columns, forty-eight (48) inches in diameter, with concrete infill. The piles will be driven into the Mississippi River bottom using impact force from a pile hammer. The dolphins will be located 360 feet apart. A structural I-beam will be welded in place between the new pilings and the existing structure.

**Project Location:**

Section 33, Township 21 North, Range 2 East, 4<sup>th</sup> PM  
23300 River Road N, Cordova, Illinois 61242  
Rock Island County, Illinois, Illinois River, RM 510  
USGS Quad: IL-Camanche  
LAT 41.76268811, LON -90.280090  
UTM Zone 15, X 4627004.18467, Y 726101.1640

This LETTER OF PERMISSION is subject to the attached plans and General and Special conditions. The decision regarding this action is based on information found in the administrative record, which documents the District's decision-making process, the basis for the decision, and the final decision.

This Corps permit does not authorize you to take an endangered species, in particular the Higgins eye pearl mussel (*Lampsilis higginsii*). In order to legally take a listed species, you must have separate authorization under the Endangered Species Act (e.g. an ESA Section 10 permit, or a Biological Opinion (BO) under ESA Section 7, with "incidental take" provisions with which you must comply). The enclosed U.S. Fish and Wildlife Service (USFWS) BO, dated January 23, 2017, contains mandatory terms and conditions to implement the reasonable and prudent measures that are associated with "incidental take" that is also specified in the BO. The incidental take statement is incorporated by reference into this permit.

You may accept this Letter of Permission and initiate work in accordance with the terms and conditions contained herein.

If you do not accept the terms and conditions of this Letter of Permission, you may decline and request that this Letter of Permission be modified by following procedures outlined in Section I.A. of the attached Notification of Appeals Process. If you decline, however, you are not authorized to commence work until you receive the appropriate Department of the Army authorization. Your request must be received by the Rock Island District Engineer by **March 27, 2017**, at the following address:

District Engineer  
U.S. Army Corps of Engineers, Rock Island District  
ATTN: Regulatory Branch  
Clock Tower Building  
P.O. Box 2004  
Rock Island, Illinois 61204-2004

If you find that a material change in the authorized plans or work is necessary, you must submit revised plans and receive approval from this office before beginning such work.

Please notify this office prior to starting and completion of work. You are required to complete and return the enclosed "Complete Work Certification" upon completion of your project. A representative of this office will make periodic inspections of the work.

We appreciate your cooperation in the processing of your application as well as the future compliance with your permit.

The Rock Island District Regulatory Branch is committed to providing quality and timely service to our customers. In an effort to improve customer service, please take a moment to complete the attached postcard and return it or go to our Customer Service Survey found on our web site at [http://corpsmapu.usace.army.mil/cm\\_apex/f?p=regulatory\\_survey](http://corpsmapu.usace.army.mil/cm_apex/f?p=regulatory_survey). (Be sure to select "Rock Island District" under the area entitled: Which Corps office did you deal with?)

Should you have any questions, please contact our Regulatory Branch by letter or telephone Mr. Gene Wassenhove (309)794-5368.

The issuing officer for this Letter of Permission is Craig S. Baumgartner, Colonel, U.S. Army, Commander and District Engineer, Rock Island District.

BY AUTHORITY OF THE SECRETARY OF THE ARMY and in accordance with CEMVR-OD-P appointment order dated 25 July 2016:



Gene W. Walsh  
Project Manager  
Illinois/Missouri Section  
Regulatory Branch

Enclosures

Copies Furnished: (w/enclosures)

Mr. Kraig McPeek, Field Supervisor  
U.S. Fish and Wildlife Service  
Rock Island Ecological Services Field Office  
1511 47th Avenue  
Moline, Illinois 61265

Mr. Kevin Pierard, Chief WW-16J  
Water Quality Branch, U.S. EPA, Region 5,  
[melgin.wendy@epa.gov](mailto:melgin.wendy@epa.gov)

Mr. Nathan Grider, Acting Permit Program Mgr.  
Illinois Department of Natural Resources  
Office of Realty/Environmental Planning  
[Nathan.grider@illinois.gov](mailto:Nathan.grider@illinois.gov)

Mr. Steve Altman, P.E.  
Illinois Department of Natural Resources  
[steve.altman@illinois.gov](mailto:steve.altman@illinois.gov)

Dr. Rachel Leibowitz, Deputy State Historic Preservation Officer  
Division Manager & Deputy SHPO  
Illinois Historic Preservation Agency  
Preservation Services Division  
#1 Old State Capitol Plaza  
Springfield, Illinois 62701-1507  
[HPA.Projectsbox@illinois.gov](mailto:HPA.Projectsbox@illinois.gov)

OD-PE (Wassenhove)

COMPLETED WORK CERTIFICATION

Permit Number: CEMVR-OD-P-2015-709

Name of Permittee: CF Industries, LLC

Date of Issuance: January 25, 2017

County/State: Rock Island/Illinois

Upon completion of the activity authorized by this permit and any mitigation required by the permit, sign this certification and return it to the following address:

U.S. Army Engineer District, Rock Island  
ATTN: Regulatory Branch  
Clock Tower Building  
Post Office Box 2004  
Rock Island, Illinois 61204-2004

Please note that your permitted activity is subject to a compliance inspection by an U.S. Army Corps of Engineers representative. If you fail to comply with this permit you are subject to permit suspension, modification, or revocation.

I hereby certify that the work authorized by the above reference permit has been completed in accordance with the terms and conditions of the said permit, and required mitigation was completed in accordance with the permit conditions.

\_\_\_\_\_  
Signature of Permittee

\_\_\_\_\_  
Date

EW

ATTACHMENT TO DEPARTMENT OF THE ARMY PERMIT

Permittee: CF Industries, LLC

Tel: 847-405-2439

Permit No: CEMVR-OD-P-2015-709

Effective Date: January 25, 2017

Expiration Date: **December 31, 2019**

NOTE: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

General Conditions:

1. The time limit for completing the work authorized ends on **December 31, 2019**. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before that date is reached.
2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.
3. If you discover any previously unknown historic or archaeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.
4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.
5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions. (Condition is not applicable for Section 10 Permits.)
6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

Special Conditions:

1. The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structures or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.



2. The permittee is responsible to undertake all reasonable and prudent measures to insure the proper disposition of the barge terminal at all times, and the safety of vessels, recreational craft, and people utilizing or traversing near the terminal. This includes, but is not limited to, proper maintenance, marking and lighting, and disposition during periods of non-use. During the non-boating season, removal of any seasonal structures from the waterway or measures adequate to protect the dock site from ice, fluctuating river stages, debris, and other river conditions are required.

3. The docking facility may be subject to damage by wave wash from passing vessels. The issuance of this permit does not relieve you from taking all proper steps to insure the integrity of the docking facility and the safety of boats moored to the dock from damage by wave wash. You shall not hold the United States liable for any such damage.

4. Your use of the permitted activity must not interfere with the public's right to free navigation on all navigable waters of the United States.

5. Boat mooring buoys and dock flotation units shall be constructed of materials that are clean and free of pollutants and will not become waterlogged or sink when punctured. Flotation units and devices must be composed of low density, closed cell, rigid plastic foam. Foam bead flotation will not be allowed unless commercially encapsulated and designed specifically for flotation purposes. Reconditioned plastic drums and metal barrels are allowed if they are first cleaned and filled with flotation foam. Barrels, drum, or containers that previously contained pesticide, herbicide, or other hazardous substances are not allowed.

6. The operation must conform to all US Coast Guard requirements.

#### Further Information:

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).

2. Limits of this authorization.

a. This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law.

b. This permit does not grant any property rights or exclusive privileges.

c. This permit does not authorize any injury to the property or rights of others.

d. This permit does not authorize interference with any existing or proposed Federal project.

3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:

a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.

b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.

c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.

d. Design or construction deficiencies associated with the permitted work.

e. Damage claims associated with any future modification, suspension, or revocation of this permit.

4. Reliance on Applicant's Data: The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

5. Reevaluation of Permit Decision. This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:

a. You fail to comply with the terms and conditions of this permit.

b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (See 4 above).

c. Significant new information surfaces which this office did not consider in reaching the original public interest decision. Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. Extensions. General condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

\_\_\_\_\_  
Transferee

\_\_\_\_\_  
Date

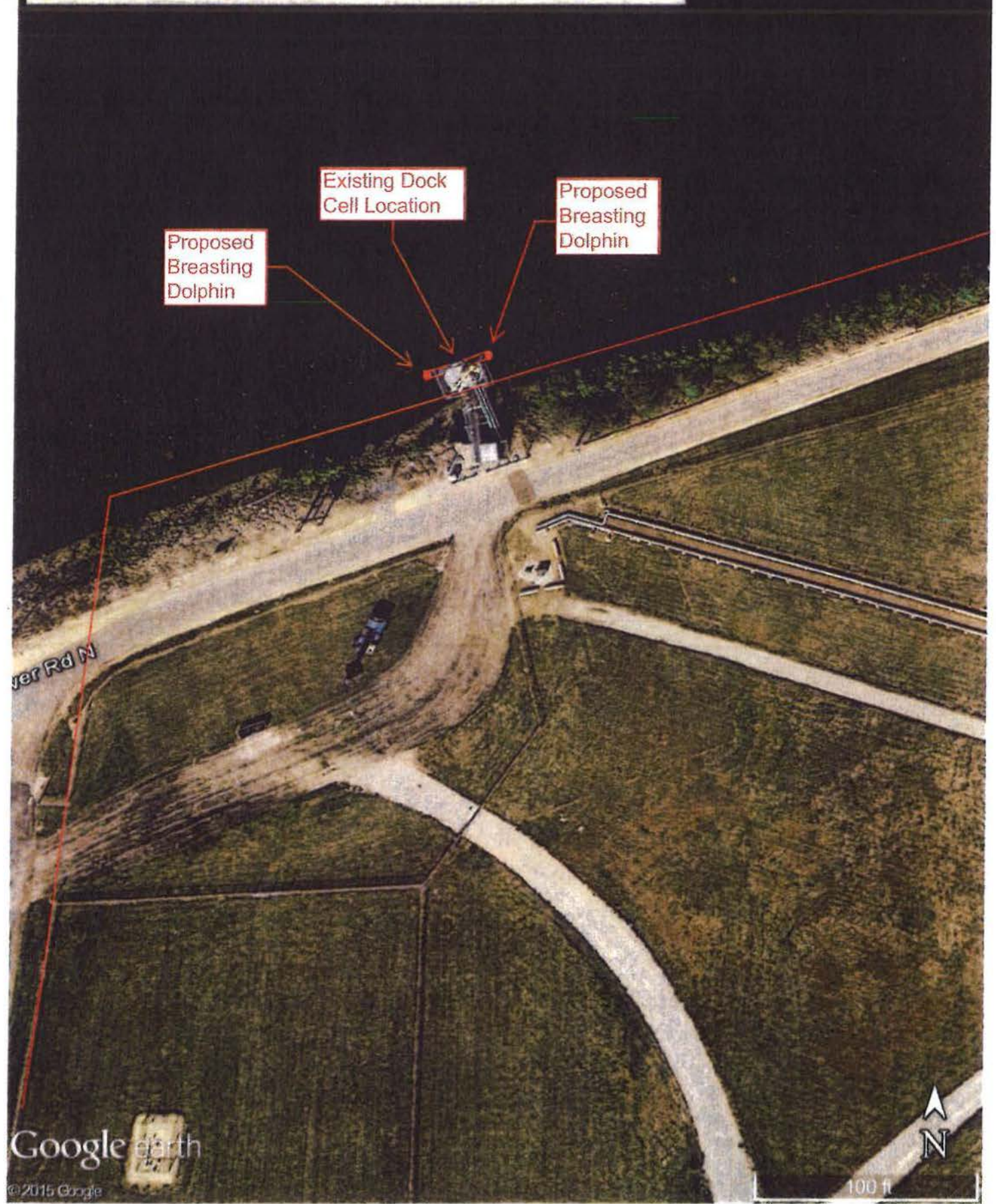
# CF Industries Sales, LLC - Albany Terminal

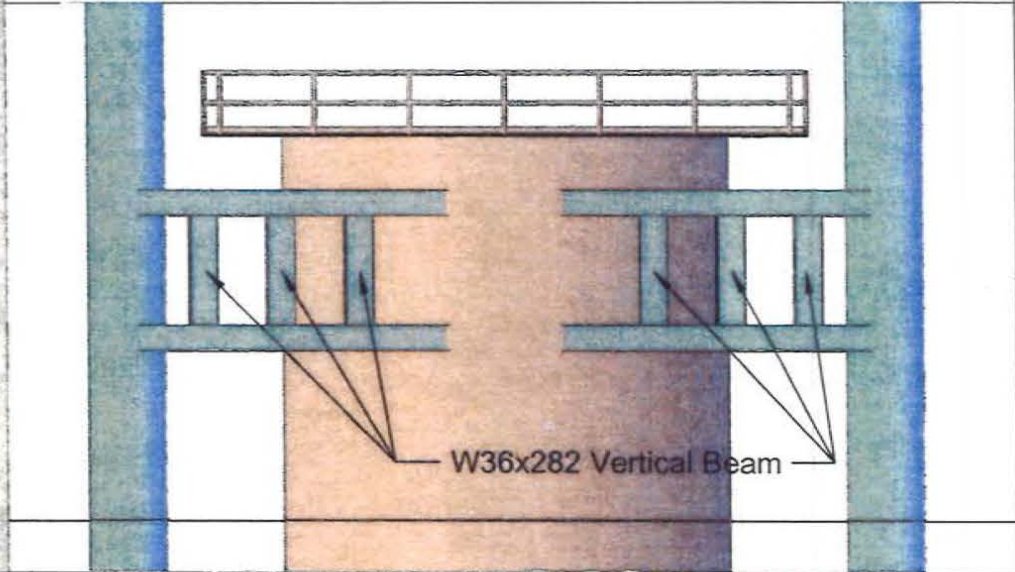
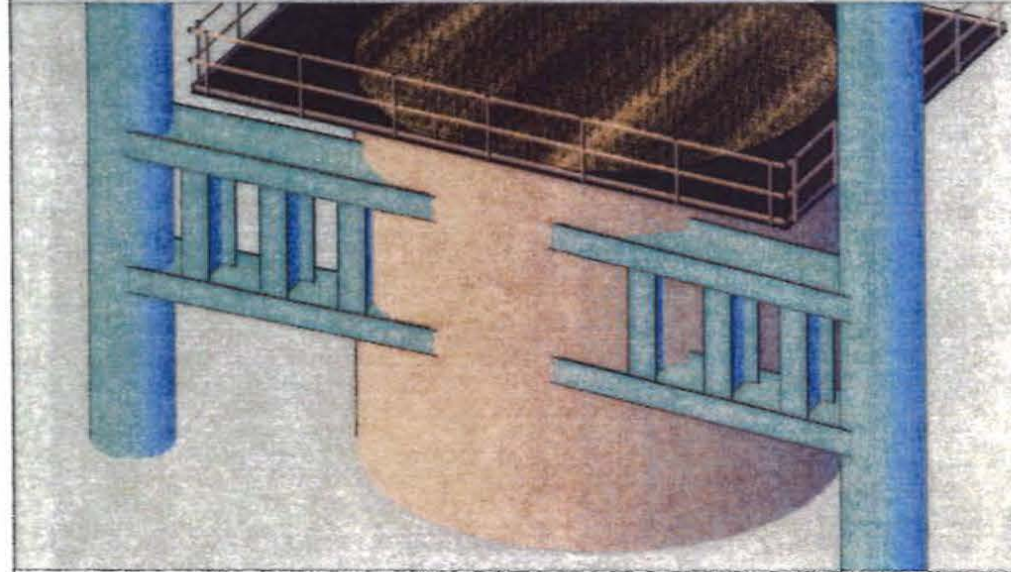
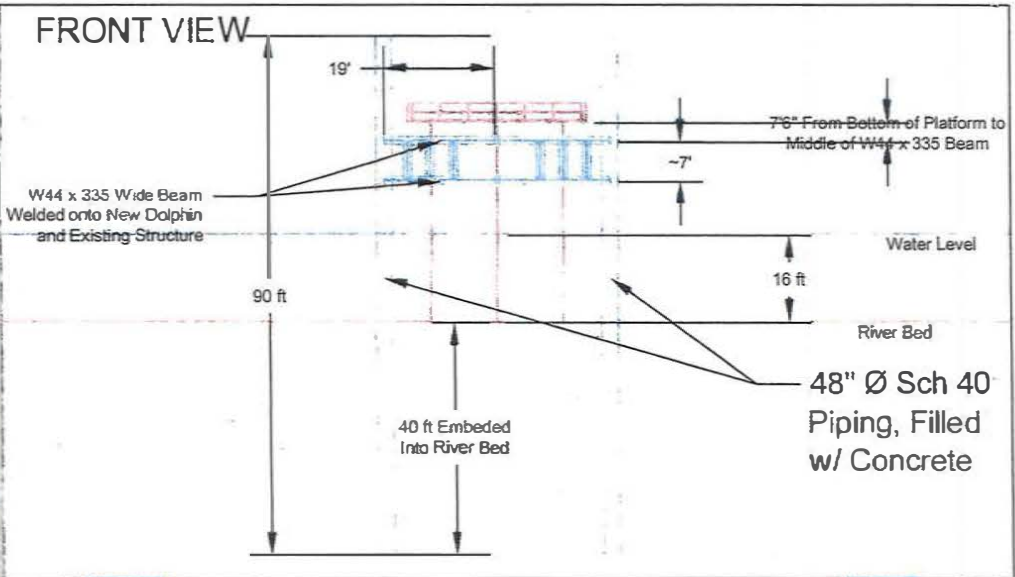
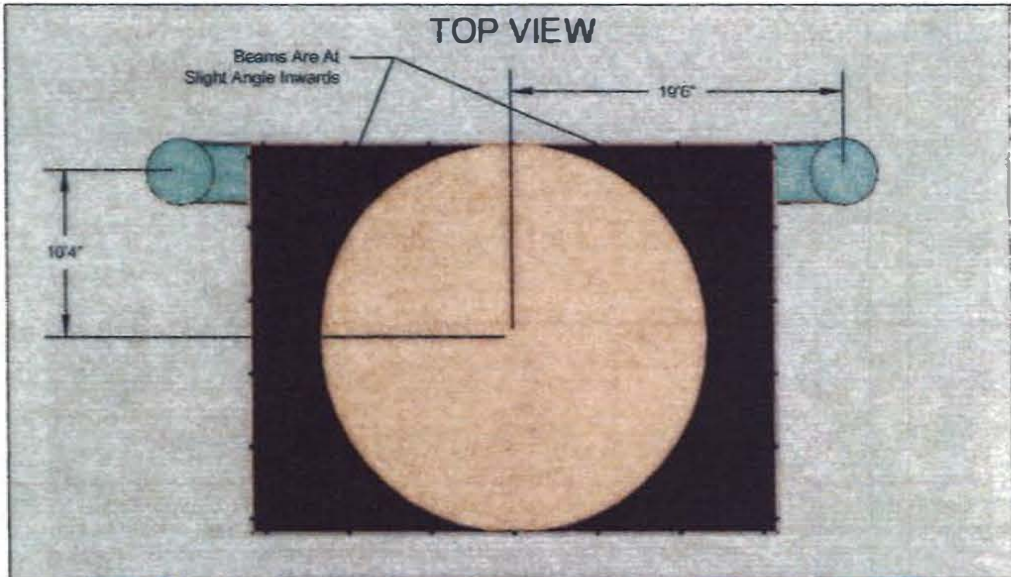
Figure 2 - Aerial Photograph of Vicinity



# CF Industries Sales, LLC - Albany Terminal

Figure 3 - Aerial Photograph of Project Area





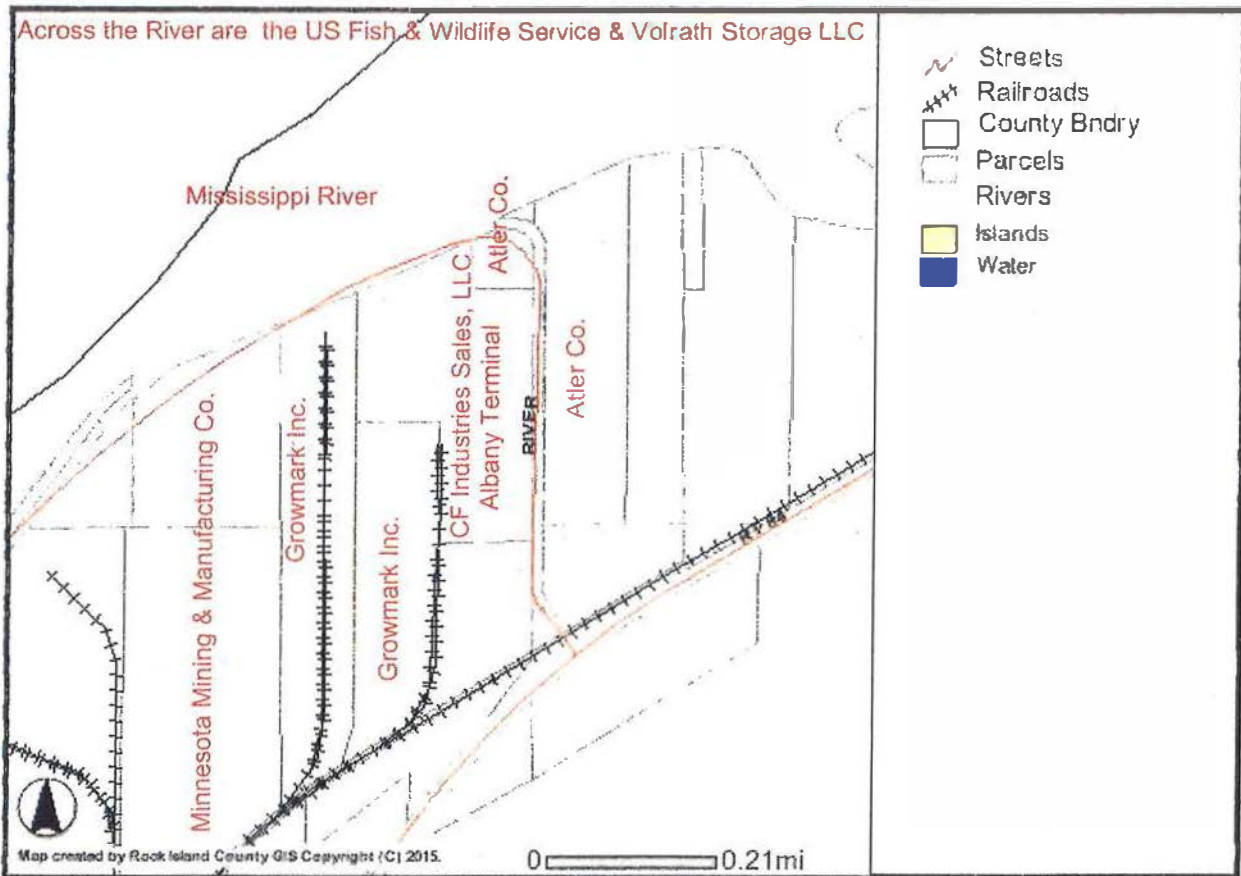
**CF Industries**

FIGURE 4: SINGLE PILE BREASTING DOLPHIN

ALBANY, IL

REV	DESCRIPTION	BY	CHK	DATE	SCALE	REVISIONS	REV.
0						E14-037-D01	0
					SCALE	NONE	SHEET 1 OF 1

### CF Industries Sales, LLC - Albany Terminal - Figure 5: Adjacent Property Boundaries



**DISCLAIMER:** The data displayed herein is neither a legally recorded map nor survey and should only be used for general reference purposes. Rock Island County assumes no liability as to the accuracy of any data displayed herein. Original source documents should be consulted for accuracy verification.

# **Attachment 3**

Biological Opinion – CEMVR-OD-P-2015-709  
United States Fish & Wildlife Service, January 23, 2017.



# United States Department of the Interior



FISH AND WILDLIFE SERVICE  
Rock Island Field Office  
1511 47<sup>th</sup> Avenue  
Moline, Illinois 61265  
Phone: (309) 757-5800 Fax: (309) 757-5807

IN REPLY REFER  
TO:

FWS/RIFO

January 23, 2017

JAN 24 2017

G. Ward Lenz, Chief Regulatory Branch  
Attn: Eugene Walsh  
U.S. Army Corps of Engineers  
Rock Island District  
Clock Tower Building, P. O. Box 2004  
Rock Island, Illinois 61204-2004

Dear Mr. Lenz:

This document transmits the U.S. Fish and Wildlife Service's (Service) biological opinion for the proposed installation of two new single-pile breasting dolphins in Pool 14 of the Mississippi River (RM 510.0) between Albany, Illinois and Clinton, Illinois, by CF Industries Sales, LLC (CF Industries). The U.S. Army Corps of Engineers (Corps) is proposing to authorize the placement of fill within waters of the United States under Section 404 of the Clean Water Act and Section 10 (Rivers and Harbors Act) for this project. Formal consultation under Section 7 of the Endangered Species Act (Act) was initiated by your office on July 1, 2016, since the project may impact the federally endangered Higgins eye pearl mussel (*Lampsilis higginsii*).

This biological opinion is based on Service records and existing literature concerning the distribution of mussel resources in the Upper Mississippi River as well as a biological assessment and information provided by your office and Helms & Associates. A complete administrative record of this consultation is on file at this office.

Sincerely,

Kraig McPeck  
Field Supervisor  
Illinois-Iowa Field Office

Enclosure

cc: ILDNR (Griders)





# United States Department of the Interior



IN REPLY REFER  
TO:

FISH AND WILDLIFE SERVICE  
Rock Island Field Office  
1511 47<sup>th</sup> Avenue  
Moline, Illinois 61265  
Phone: (309) 757-5800 Fax: (309) 757-5807

## Biological Opinion

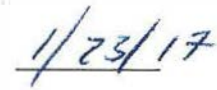
For the Proposed Installation of Two New  
Single-pile Breasting Dolphins in Pool 14 of the Mississippi River (RM 510.0) between Albany,  
Illinois and Clinton, Illinois, by CF Industries Sales, LLC  
CEMVR-OD-P-2015-709

Prepared by:  
U.S. Fish and Wildlife Service  
Illinois-Iowa Field Office

Submitted to:  
U.S. Army Corps of Engineers  
Rock Island District  
Clock Tower Building, P. O. Box 2004  
Rock Island, Illinois 61204-2004



Kraig McPeck  
Field Supervisor  
Illinois – Iowa Field Office



Date

## **BIOLOGICAL OPINION**

### **I. Description of Proposed Action**

The federal action evaluated in this Biological Opinion (BO) is the issuance of a Section 404 Clean Water Act permit by the United States (US) Army Corps of Engineers (the Corps) to the applicant, CF Industries Sales LLC (CF Industries) to authorize the placement of fill within Waters of the US and a section 10 (Rivers and Harbors Act) permit for construction of two dolphin structures within navigable waters of the US.

The U.S. Fish and Wildlife Service (the Service) is issuing this BO pursuant to section 7 of the Endangered Species Act (ESA). Direct and indirect effects of the proposed action and the interrelated or interdependent activities are analyzed to ensure they are not likely to jeopardize the continued existence of federally listed or proposed endangered or threatened species. Direct effects are immediate effects of the proposed action on the species or its habitat, including the effects of interrelated actions and interdependent actions. Indirect effects of a proposed action includes, "...effects that are caused by or result from the action, are later in time but are reasonably certain to occur..." Interdependent actions have no independent utility apart from the proposed action, and interrelated actions are part of a larger action and depend on the larger action for their justification (50 CFR §402.02).

#### **1.1 Project Description**

CF Industries is proposing to install two new breasting dolphins adjacent to an existing dock platform in Pool 14 of the Mississippi River (RM 510.0) at CF Industries' Albany Terminal located at 23300 River Road, Cordova, Section 33, Township 21 North, Range 2 East, Rock Island County, Illinois, which will require the 404 Clean Water Act permit and the Section 10 Rivers and Harbors Act permit. The Albany Terminal is a barge facility where liquid fertilizer is inbounded from river barges to storage tanks. The existing facility includes a dock structure entering Pool 14 of the Mississippi River near River Mile 510, located in between two dolphin structures, which are located approximately 360 feet apart. Due to the large distance between the two mooring dolphins, the docking barges have a tendency to drift under the elevated dock platform and become lodged as liquid fertilizer is off-loaded and the barge becomes lighter. This lodging results in the potential for damage to the off-loading station and safety risks for the operators.

The proposed project includes installation of two new breasting dolphins adjacent to the existing dock platform. Each breasting dolphin will consist of a single pile made with 48-inch diameter piping, and will function to provide impact protection to the existing dock platform. The dolphins are to be installed approximately 39 feet apart from each other and will be located on each side of the dock cell. Collectively, the two proposed dolphins comprise an area of approximately 25 square feet. The piles will be connected to the existing dock with beams above the water surface. The existing dolphins will not be removed.

The two 48-inch diameter pieces of piping will be staged on-shore for construction and the steel support structures will be staged on the existing dock structure adjacent to the action area. The piping and steel support structures will be loaded directly onto a work barge. All work will be completed from a barge equipped with two 36-inch spuds to secure the barge to the riverbed. No dredging will be necessary for the work barge to access the staging areas, even under low water conditions.

Each pile will be made with sections of 48-inch diameter piping welded together to make 90 feet in length. One pile will be installed on each side of the dock cell, approximately 39 feet apart from each other,

measuring center to center. The pipe will be driven approximately 40 feet into the river bed using impact force from a pile hammer, and will stand approximately 50 feet above the river bed. No dredging will be necessary for pipe installation. Once the desired depth of 40 feet is reached, the water will be pumped out of the pipe. The pipe will then be filled with concrete. Spoils collected during the installation of the pipes into the riverbed will be disposed of in an approved landfill. Finally, the structural I-beam will be welded in place between the new pilings and the existing dock structure above water level to provide impact support.

## 1.2 Action Area

The project will occur within Pool 14 of the Mississippi River near River Mile (RM 510), along the left descending bankline.

50 CFR §402.2 defines an “action area” as “all areas to be affected directly or indirectly by the federal action and not merely the immediate area involved in the action.” Therefore, all areas which could experience measurable environmental effects resulting from construction, operation, and maintenance of the dolphin structures will be considered part of the action area. All environmental effects that may provoke a response in federally endangered mussels are considered. Therefore, the action area of this project includes:

- the footprint of each of the two 48-in diameter dolphin structures,
- a 10-ft buffer around each of the two dolphin structures,
- the footprint of each of the two 36-in diameter work barge spud locations,
- a 5-ft buffer around each of the two work barge spud locations,
- the staging areas for construction materials, including an on-shore site immediately adjacent to the construction area and the existing dock structure, and
- access routes between the staging areas and the proposed dolphin locations.

The total area of impact within the Mississippi River is approximately 108.72 square meters. Higgins eye mussel Essential Habitat Areas (EHAs) are not included within the action area. A mussel relocation area has not yet been determined, but will be included within the action area once approval is obtained from the USFWS and the State of Illinois.

## 1.3 Conservation Measures

Conservation measures represent actions taken to benefit or promote recovery of the species. These actions taken by the federal agency and/or applicant serve to minimize or compensate for project effects on the species under review and are included as an integral portion of the proposed action.

The Service recognizes that, individually and/or cumulatively, these conservation measures could contribute to the avoidance and minimization of adverse effects to the Higgins eye, but that these measures do not necessarily eliminate all adverse effects that may result from the proposed actions.

To minimize the effects of the action on the Higgins eye pearly mussel (Higgins eye), CF Industries will ensure that the contractor performing the work will only conduct construction activities within the action area, as discussed herein, in order to minimize impacts to freshwater mussel resources.

To further minimize and mitigate the effects of the action on the Higgins eye mussel, CF Industries plans to relocate all mussels out of the action area prior to construction. All mussel relocation protocols will be adhered to, as follows: Helms and Associates shall conduct the relocation, utilizing personnel who possess expertise in collecting and identifying freshwater mussels. The search for mussels will occur within the footprint of each of the two proposed breasting dolphins, in addition to a 10-foot buffer, and the footprint of each construction barge spud, in addition to a 5-foot buffer. The method of hand-picking while wading or hand-picking while diving may be used, depending on the depth of the river. Mussels collected from the project location will be relocated to an area with suitable substrate, similar unionid assemblages, and low to no mussel infestations. The relocation area or areas will be determined by Helms and Associates prior to relocation efforts and approved by ILDNR and the Service. Relocation area(s) will be beyond the limits of the mussel search. The temporary holding of all collected mussels will be in containers that allow the animal to remain moist and uncrowded, such as mesh bags that will be placed in the river until the search is completed. The relocation will occur prior to construction during the summer months in 2017.

## **II. Status of the Higgins eye pearl mussel (*Lampsilis higginsii*) and Habitat**

### **2.1 Species/critical habitat description**

Higgins eye is the federally-listed species in or near the proposed action area that may be affected by the project. The Higgins eye is a medium-sized (approximately four inches in length) and oval or elliptical freshwater mussel with a smooth, yellow, yellowish green or brown outer shell and green rays (Baker 1928, USFWS 1983). The shells are thick, inflated, and sexually dimorphic. The shell is broadly rounded anterior and with a pointed posterior in males or sharply truncated with post-basal swelling in females (USFWS 2004, 2016). The elevated and swollen beak is forward of the central dorsal margin with sculpturing of a few ridges that are slightly looped (Baker 1928). The inside or nacre of the shell is silvery white or salmon-colored and iridescent (Baker 1928, USFWS 2016). The surface of the shell is marked with irregular growth lines that are well developed and darker during rest periods. The hinge is very large with erect pseudocardinals that can be triangular or pyramidal. Beak cavities are deep and contain the dorsal muscle scars. Anterior adductor scar is deeply excavated and the posterior scar is distinct (Baker 1928).

The Higgins eye feeds by filtering food particles from the water column using the large lamellibranch gills as feeding organs (USFWS 2004). The specific food habits of the species are unknown, but other juvenile and adult freshwater mussels have been documented to feed on detritus, diatoms, phytoplankton and zooplankton (Churchill and Lewis 1924). The diet of Higgins eye glochidia (larvae), like other freshwater mussels, is comprised of fish body fluids (once encysted).

The Higgins eye has been characterized as a large river mussel species. The species may be primarily adapted to large river habitats with low to moderate current of <1 m/s during low discharge periods (USFWS 2004). Davis and Hart (1995) indicated that it was found in the more "riverine" areas and in the tailwater reaches of other Mississippi River navigation pools.

Higgins eye has been found in various substrates from sand to boulders (USFWS 2004). In some studies, the species could be found in stable gravelly sand, but not in areas of unstable shifting coarse sands (Miller and Payne 1996, USFWS 2004). Fuller (1978) indicates this species may be found in 8-15 feet of water in mud with a mixture of gravel and stones. Cawley (1996) found that Higgins eye were most common in sand/gravel substrate. Miller and Payne (1996) considered substratum that was free of plants and consisted of stable, gravelly sand as suitable for this species; however, others have found the species within areas of

rooted plants (USFWS 2004) and in boulder substrates associated with bridge piers (ESI 2014, Helms 2006). Some substrates this species has not been associated with include firmly packed clay, flocculent silt, organic material, bedrock, or unstable moving sand (Wilcox et al. 1993). Information on habitat associations or requirements for the juvenile stage were not found.

Higgins eye is commonly found in dense mussel beds with various other species. The species has been found with a minimum of two and a maximum of 36 other species, according to Cawley (1996). The species typically accounts for a small percentage of the overall species diversity (USFWS 2004). Other species Higgins eye has been found with include threeridge (*Amblema plicata*), pimpleback (*Quadrula pustulosa*), Wabash pigtoe (*Fusconaia flava*), and plain pocketbook (*Lampsilis cardium*) (Heath 1995).

## 2.2 Life history

The reproductive cycle of the Higgins eye is similar to that of many native freshwater mussels (USFWS 2004). Males release sperm into the water column, often in packets known as volvocoid bodies. The sperm travel downstream and are taken in by the females through their incurrent siphons during feeding and respiration (Fuller 1978). The females retain fertilized eggs in their gills until the glochidia fully develop. Higgins eye is bradyctytic, meaning a long term brooder. Spawning occurs in the summer, observed by Baker (1928) to be between May and September and larvae are retained through winter (USFWS 2004). Glochidial release has been observed between May and September by Surber (1912) and during June and July by Waller and Holland-Bartels (1988). This species “lures” host fish by protruding its mantle and gills containing glochidia between the mantle flaps. When the gill tissue is attacked by a fish, glochidia are released. This process enhances the chances glochidia will find the gills of fish to parasitize. The glochidia must attach to the appropriate fish species, which they parasitize for a short time while developing into juvenile mussels. Juvenile development has been observed to take 4-6 weeks in captive breeding (MCT 2002). Reproduction begins early in Higgins eye, typically between age 1-3 years (Haag 2012).

Glochidia host fish were generalized by Waller and Holland-Bartels (1988) as being percids and centrarchids. Early studies indicated that sauger (*Sander canadensis*) and freshwater drum (*Aplodinotus grunniens*) were suitable glochidial fish hosts (Surber 1912, Wilson 1916, Coker et al. 1921, Hove and Kapuscinski 2002). Waller and Holland-Bartels (1988) found four species of fish were suitable hosts, due to a high number of glochidia transformation to juvenile, including largemouth bass (*Micropterus salmoides*), smallmouth bass (*Micropterus dolomieu*), walleye (*Sander vitreus*) and yellow perch (*Perca flavescens*). Other species had lower transformation glochidia to juvenile transformation rates and were considered marginal hosts. These species included green sunfish (*Lepomis cyanellus*), bluegill (*Lepomis macrochirus*), and northern pike (*Esox lucius*) (Waller and Holland-Bartels 1988). Hove and Kapuscinski (2002) later identified black crappie (*Pomoxis nigromaculatus*) as an additional host species.

## 2.3 Population Dynamics

It is difficult to locate information on populations of Higgins eye that are currently reproducing, however, information has been collected at some EHAs within the last 10 years. The Higgins eye population at Prairie du Chien, Wisconsin, on the upper Mississippi River, exhibited recruitment in 2005 and 2006, but evidence of recruitment was not observed during surveys in 2008 (Miller and Payne 2007, MCT 2008). In 2006, recruitment was also observed at the Cassville MRP 11 EHA on the UMR in Wisconsin. Gravid females and individuals ranging in age from 3–15 years old were present at this location (MCT 2007).

Miller and Payne (2007), in regards to Higgins eye, state in their reexamination paper:

*“In river reaches unaffected by zebra mussels Dreissena polymorpha, L. higginsii mean density ranged from 0.0 to 1.4 m<sup>-2</sup> (average = 0.25 m<sup>-2</sup>) and it comprised less than 2% of the unionid fauna. Recent distribution and abundance data indicate that the range of L. higginsii populations was misrepresented on historical maps and suggest that populations were in fact either absent or very uncommon both at the periphery of their historical range and in small tributaries where they were reported historically. Although this species has always been rare, it can usually be found in appropriate habitats within its current range. It was listed as endangered before there were data on its density, recruitment, and relative abundance. Although it was nearly extirpated by D. polymorpha in the late 1990s, L. higginsii appears to be resilient to zebra mussel infestations. A multi-agency conservation plan is now being implemented to reintroduce this species into small and medium-sized rivers within and outside its historical range. Our data indicate that this species is not in imminent danger of extinction, has always been rare, and is not adapted to small rivers. It would be more realistic, and beneficial to L. higginsii, to implement strategies that protect all unionid species and the habitats upon which they depend.”*

In other words, Miller and Payne (2007) observed Higgins eye populations to be persisting at the similar population percentages, despite the presence of zebra mussels.

#### 2.4 Status and Distribution

The Higgins eye was listed as an endangered species by the Service on June 14, 1976 (Federal Register, 41 FR 24062 24067). The initial recovery plan (USFWS 1983) indicated that Higgins eye may have never been abundant within its range. Major reasons for listing Higgins eye as federally endangered were the decrease in both abundance and range of the species (USFWS 1983). The species depends on deep and free flowing rivers with clean water, which are rare due to the presence of lock and dams (USFWS 2016). Coker (1919) indicated that the species was becoming increasingly rare even at the end of the 1800s; however, Miller and Payne (2007) reviewed historical information and data and agreed with the initial recovery plan that Higgins eye was never abundant. There were few records of live specimens from the early 1900s until the enactment of the ESA in 1973 and this was a major factor in its listing in 1976. Currently, zebra mussels (*Dreissena polymorpha*) have been negatively impacting many mussel species within the upper Mississippi River, including Higgins eye. The zebra mussel can affect native mussel species by direct attachment to the outside shell surface which can limit their movement and their siphoning ability. Indirectly, zebra mussels represent competition for food and can affect water quality (USFWS 2004).

Higgins eye is the only freshwater mussel endemic to the Upper Mississippi province, which includes the entire Mississippi River system upstream of the mouth of the Ohio River (excluding most of the Missouri River system) (Haag 2012). The first Higgins eye recovery plan listed the historic distribution of the species to include the main stem of the Mississippi River north of St. Louis, Missouri and south of St. Paul, Minnesota; the Sangamon and Rock Rivers in Illinois; the Wisconsin and St. Croix Rivers in Wisconsin; and the Minnesota River in Minnesota (USFWS 1983). Recently, live Higgins eye have been found in parts of the following rivers: the UMR north of Lock and Dam 19 at Keokuk, Iowa, and in three tributaries of the Mississippi River - the St. Croix River between Minnesota and Wisconsin, the Wisconsin River in Wisconsin, and the lower Rock River in Illinois. The species' current range is about 50 percent of its historic distribution which extended as far south as St. Louis, Missouri, and in several additional tributaries of the Mississippi River (USFWS 2004). The historical distribution of Higgins eye is not known with certainty.

The 1983 recovery plan listed seven locations as primary habitats and nine locations as potential secondary habitats (USFWS 1983). The revised recovery plan lists 10 EHA, six of which are in the Mississippi River between RM 489 and 656 (USFWS 2004):

- Whiskey Rock (MRP 9; Lansing, Iowa)
- Harpers Slough (MRP 10; near Harpers Ferry, Iowa)
- Prairie du Chien, Wisconsin (MRP 10; main and east channel)
- McMillan Island (MRP 10; Guttenberg, Iowa)
- Cordova, Illinois (MRP 14)
- Sylvan Slough (MRP 15; Moline, Illinois)

EHAs are locations where Higgins eye are currently reproducing and the recovery plans have designated to be important for the recovery of the species. The revised recovery plan describes two main objectives that indicate the Service's current management direction (USFWS 2004):

- 1) Preserving the Higgins eye and its EHAs.
- 2) Enhancing the abundance and viability of the Higgins eye in areas where it currently exists and restoring populations within its historical range.

The greatest numbers of Higgins eye in the upper Mississippi River occur from MRP 6 to MRP 17 (Cawley 1996). This species has been extirpated from its more southerly locations, such as the Illinois River basin and from the Mississippi River between MRP 18 – 26. It was historically sampled in MRP 19, 20, 21, 23, and at the mouth of the Kaskaskia River south of the Lock and Dam system in Illinois (Stodola 2013).

In 2008, the Service designated four new EHAs for Higgins eye. One of these, the Hanson's Slough bed, is located along the Clinton, Iowa bank line, directly across the Mississippi River channel (RM 509.1-510, MRP 14) from the Action Area. In October, 2014, Helms & Associates conducted a mussel survey (#1422) at the Hanson Slough EHA, located directly across the Mississippi River from the project area. This survey identified four Higgins eye individuals.

Current extant populations of Higgins eye near the project area include a population in MRP 14 around the Quad Cities Station although no recruitment was observed for the species in surveys completed between 2006 and 2008. Eight Higgins eye adults  $\geq 5$  years were collected in 2004 in the Cordova Bed (density of 0.4/m<sup>2</sup>) and more were found in a 2006 survey of the same location as well as at an "Upstream" site. In the Albany and Hanson's Slough Beds in 2007, Higgins eye was "fairly common". Two individuals were found downstream of Steamboat Slough Bed in 2008 (ESI 2008).

Between 1998 and 2000, the Corps proposed the operation and maintenance of the existing 9-foot Channel Project on the UMR for another 50 years, which initiated formal consultation under Section 7 of ESA for impacts to Higgins eye. To avoid jeopardy to the species, the Service required the Corps to establish new

and viable populations of Higgins eye in areas of the upper Mississippi River and tributaries that are distanced from zebra mussels. Since 2000, 10 relocations and reintroductions have occurred in the MRP 2, 3, 4, and 16, and in the Wisconsin River, Rock River, Iowa River, Cedar River, and the Wapsipinicon River (MCT 2002, 2003). Roughly half of these reintroductions have been confirmed successful, including MRP 2 and 3 where mussels were scrubbed of zebra mussels affixed to their shells.

## 2.5 Analysis of the species/critical habitat likely to be affected

No critical habitat has been designated for this species.

Hanson's Slough has been identified as one of the EHAs identified for Higgins eye. As an EHA, this area is "of utmost importance for the conservation of Higgins eye" (USFWS 2008). This bed is located across the channel from the Action Area and is not expected to be impacted as a result of the construction action.

### III. Environmental Baseline Conditions in the Project Area

The purpose of this section is to analyze the effects on the species and/or critical habitat at the action level. For example, the following issues are considered:

- Percent or amount of the species range in the action area
- Whether effects are quantitative and/or qualitative
- The distribution of affected versus unaffected habitat

#### 3.1 Status of the species within the action area

The project area was surveyed by Helms and Associates on October 13, 2015 (see full results in Helms and Associates 2015 Mussel Survey Report). A 50 foot by 100 foot area was surveyed, centered over the two 48-inch diameter proposed dolphin structures, in addition to a buffer area. In accordance with the project layout map provided by the applicant on December 13, 2016, the survey area encompassed the action area, with exception of one work barge anchorage location. This 12-square meter area where the barge spud will impact the river bed, including a 5-ft buffer, is located approximately 20 feet riverward of the area surveyed. At the time of the survey, the surface flow varied throughout the site ranging from 0.01 ft/sec in areas obstructed by the dock structure and 1.20 ft/sec in open areas. The water depth ranged from 4.2 to 15.5 feet. The substrate consisted of varying mixtures of rubble, gravel, and mud. Invasive zebra mussel shells were abundant within the substrate.

Survey efforts included quantitative and qualitative sampling methodologies. Quantitative efforts included the use of quarter-meter substrate plots to collect four samples from each of 11 locations for a total search area of 11 square meters. Qualitative efforts included 5-minute timed searches at each of five locations for a total of 25 minutes of timed dive searches. Survey efforts resulted in the identification of an overall density of 5.73 ( $\pm 2.53$ ) mussels per square meter. Live zebra mussels were abundant throughout the survey. A total of 107 mussels of 12 species were collected. One federally endangered Higgins eye individual was collected (1.6% substrate samples, 0.9% total catch), along with 42 individuals of the State of Illinois threatened black sandshell (*Ligumia recta*). Black sandshell dominated the catch, comprising 39.3 percent of the total. The Higgins eye individual was found directly within the upstream proposed



breasting dolphin footprint. The remaining non-listed species were fairly common species of the Upper Mississippi River.

Two additional federally endangered mussel species have ranges overlapping the project area, the spectaclecase mussel (*Cumberlandia monodonta*) and the sheepsnose mussel (*Plethobasus cyphus*). As a result of neither of these species being identified within the mussel survey of the project area (Helms and Associates 2015) and the absence of recent records of these species occurring within the project vicinity, we concur with the USACE's determination that the project may affect, but is not likely to adversely affect, these species.

### 3.2 Percent or amount of the species range in the action area

In comparison to the other federally listed mussel species occupying the Upper Mississippi River, Higgins eye, which is limited to the UMR basin, is not as widely distributed. However, within its range it has been described as "widespread" and "common" (Miller and Payne 2007). Higgins eye generally comprises a very small proportion of the assemblage at any given site and is considered abundant when densities exceed 0.25/m<sup>2</sup> (USFWS 2008). The southern most viable reproductive population is believed to be in Sylvan Slough (Hornbach et al. 1995). The data of ESI (2014, 2015) were used to estimate population size in the vicinity of the EHA in Sylvan Slough using observed densities. The estimated size of the Higgins eye population in these areas is approximately 15,000 individuals. Although this potentially represents a fairly large population it is not an isolated example as several other populations of equal or greater size exist within its range. Surrounding populations immediately adjacent to the action area have not been surveyed or defined, with the exception of four Higgins eye individuals identified in Hanson's Slough EHA, located directly across the river from the project area, in a survey conducted by Helms & Associates in October, 2014.

### 3.3 Whether effects are quantitative, qualitative, or both

Direct effects from the proposed action such as cell placement and barge spudding are easily quantified. It is currently estimated that approximately 623 mussels will be affected by these activities, including 10 Higgins eye (USFWS unpublished estimates). Indirect effects from suspended sediment plumes, noise and vibration, lost reproductive opportunities, etc. can only be described qualitatively. Most of the indirect effects will be discrete localized events. Others, such as water quality effects from increased suspended sediment are expected to be minimal and not extend downstream of the mussel relocation buffer areas.

### 3.4 Factors Affecting Species within the Action Area

This analysis describes factors affecting the environment of the species within the action area. The baseline includes State, tribal, local, and private actions already affecting the species or that will occur contemporaneously with the consultation in progress. The environmental baseline also includes unrelated Federal actions affecting the species that have completed formal or informal consultation.

#### Sediment

Due to their filter feeding behavior, freshwater mussels take in chemicals within the water column and their gills, mantle, and kidneys are exposed to these pollutants. The specific organs within mussels in which heavy metals bioaccumulate seems to be dependent on the metal and may be related the presence of binding sites of tissues (Naimo 1995).

### Lock and Dam System

Lock and dam systems on large rivers may be negatively affecting Higgins eye by genetically isolating populations within man-made pools. Studies done on Higgins eye genetics observed a high degree of genetic variation within populations. The genetic variability is higher in Higgins eye than found in other endangered species. However, there have been relatively few studies done (USFWS 2004).

Increased sedimentation can occur in areas of the UMR due to lock and dam construction. Sediment deposition and siltation have occurred in various pools along the Mississippi River; however, Higgins eye is generally not affected by these factors. The sedimentation and siltation tend to occur on backwaters and Higgins eye habitats are found in the main channel or bordering the main channel (USFWS 2004).

### Zebra Mussels

Zebra mussels were discovered in the UMR in 1991. They are currently found in MRP 14, throughout the UMR system, in many of its tributaries, and inland lakes. Zebra mussels have contributed to a sharp decline in freshwater mussel populations since their introduction, competing for the same resources, and attaching directly to freshwater mussels using adhesive structures called byssal threads.

From 1992-1996, UMR Pool 8 saw increases of zebra mussel densities from  $1/m^2$  to  $15,000/m^2$  (USGS 2001). Farr and Miller (2003 unpublished data) recorded increasing zebra mussel densities in Pool 10 from 1993 up to four (4) years of densities  $\sim 10,000/m^2$  by 2002. Coinciding with zebra mussel increases, unionid densities decreased markedly from  $\sim 50/m^2$  to next to nothing in 2002. Concurrently, Higgins eye densities plummeted from nearly  $1/m^2$  in 1995 to next to nothing in 2001-2003. After initial invasion and as populations increased, zebra mussels had their greatest effects on native mussel communities by attaching to the hard substrata of native mussel shells and inhibiting filtration. After the initial stage of invasion, impacts are less predictable, and more likely to be caused by indirect effects through changes in the ecosystem (Karatayev & Burlakova 2015). While distribution of the invasive zebra mussel continues to expand in the US every year (USGS 2015), habitats where populations were established in the 1990's have already experienced the largest direct environmental impacts.

Zebra mussels were first established in MRP 14 in late 1991 or early 1992, becoming abundant in 1995. Zebra mussel shells currently compose a large amount of the substratum within the project area of MRP 14. Higgins eye has proven somewhat resilient to the zebra mussel invasion (Miller and Payne 2007), perhaps because of biological or behavioral differences.

## **IV. Effects of the Proposed Action**

“Effects of the action” refers to the direct and indirect effects of an action on ESA-listed species and designated critical habitat, together with the effects of other activities interrelated and interdependent with that action which will be added to the environmental baseline. The ESA defines direct effects as those immediate effects of the project on the species or its habitat. Indirect effects are those caused by the proposed action and that occur later in time, but are still reasonably certain to occur (50 CFR §402.2). Interrelated actions are those that are part of a larger action and depend on that larger action for their justification. Interdependent actions are those that have no independent utility apart from the action under consideration. When conducting an effects analysis, the Service must consider the direct and indirect effects of the proposed action in conjunction with the effects of other past and present federal, state, or

private activities within the action area. The Service must also consider the cumulative effects of future state or private activities that are reasonably certain to occur within the action area. Below, we assessed each of the various project components and their anticipated effects on the Higgins eye mussel. Avoidance and minimization measures are considered part of the proposed action, so the effects of these measure in reducing, or partially offsetting effects on the Higgins eye mussel are considered as well.

Within the action area, direct mussel habitat disturbance, in the form of work barge anchorage and dolphin installation are proposed adjacent to the existing CF Industries Albany Terminal location. Therefore, mussel relocation is proposed. In order to achieve mussel relocation requirements, Helms and Associates conducted a freshwater mussel survey of the area surrounding the proposed dolphin installations (Helms and Associates 2015). The freshwater mussel relocation will be the first step in the proposed project schedule and is expected to begin in late spring to early summer 2017. Construction of the proposed dolphins is scheduled to take place during the summer of 2017. The construction period is expected to last approximately 3 weeks. In-water work is expected to occur during the entire construction period.

The life cycle of mussels, including sedentary habits, filter feeding, and respiration through gills cause them to be vulnerable to instream construction. Short term effects of the construction include the vibration and localized sediment plumes generated from installing the dolphin structures into the riverbed. While most of the habitat impacts will be short term and occur during construction, long term effects are also expected including mussel relocation, a change in the substrate composition surrounding the new dolphin structures, loss of habitat in the footprint of the new dolphin structures, and changes in how the current moves around the new structures.

Relocation of mussels from this project area will reduce the density and species richness within the mussel bed in the aquatic action area and, as a result, Higgins eye will be adversely affected within the action area. Higgins eye is commonly found in densely populated mussel beds with various species present. Although a population of Higgins eye is present in Hanson Slough, across the channel from the project, this reduction in overall population size may compromise the long term stability of this species within the action area.

### Direct Effects

#### *Relocation*

CF Industries has agreed to re-survey the action area prior to construction, and to relocate all native mussels, including Higgins eye individuals, they find and monitor the success of these relocation efforts. The direct effects of the mussel relocation effort prior to dolphin construction include harassment, harm, and mortality to mussels, as well as loss of habitat. The direct effects to mussels during relocation will be partially offset by the minimization of lethal take to mussel individuals from construction and demolition activities. Any mussel removed from the action area will be subject to harassment from collection and handling. Based on the 2015 mussel survey densities report by Helms and Associates (2015), it is currently estimated that approximately 623 mussels will be relocated, including 10 Higgins eye (USFWS unpublished estimates). A 5% mortality rate for mussels during relocation is expected, though the percentage depends on the species. This low mortality percentage can be accomplished by following guidelines during relocation such as: avoidance of temperature extremes (both air and water), use of biologists with unionid experience for collection and relocation, minimization of the duration mussels are exposed to air (less than four hours), and selection of appropriate relocation areas for the species (Dunn et al. 1999).

The mussel collection areas will be searched by divers until at least 90 percent of all mussels >1 inch in length are collected. Although the area will be extensively searched, it is estimated that up to 10% of mussels >1 inch in length will likely be missed. Based on previous mussel density data from the action area, it is estimated that approximately one adult Higgins eye individual will not be relocated, thus being directly taken during project construction. The small mussels <1 inch will likely be missed altogether, and will therefore be directly impacted by project construction activities. A low amount of recruitment (2.8%) was identified during the 2015 mussel survey, with none of the <1 inch individuals being identified as Higgins eye. As a result, it is difficult to estimate mortality of mussels <1 inch in size, particularly of Higgins eye, but numbers are expected to be low. Mussels outside of the 10-ft diameter buffer of the dolphins and 5-ft diameter buffer of work barge spuds in the proposed dolphin construction area will be left in place. In addition to the direct mortality estimates above, it is estimated that approximately 52 adult mussels of various other species will be left in the construction area and subjected to potential direct disturbance and possibly mortality.

Direct take of Higgins eye will occur incidental to mussel relocation efforts in the form of stress on mussels, interruption of normal behavior patterns, and the potential for direct mortality. Furthermore, because previous surveys have demonstrated that it is difficult to find all specimens of Higgins eye in the river, additional take may occur as a result of construction activities. Direct mortality of any Higgins eye remaining after mussel relocation could occur as a result of installation of the two breasting dolphin structures, including localized vibration and sedimentation, and spudding of the work barges.

#### *Barges*

Direct effects to mussels from barges traveling to and placement of spuds for anchorage in the proposed dolphin construction area include mortality by crushing, burying, and scouring. Spudding barges will affect a 36-square inch area of the riverbed for each of the two spuds, in addition to a 5-ft buffer area. Barge spuds will only affect mussels left behind where mussel relocation efforts have been conducted because they are restricted to the area within the mussel relocation buffers.

#### *Dolphin Installation*

Dolphin installation will directly impact mussels left behind in the proposed construction footprint. They will likely be crushed and buried during pile hammer drilling, dewatering, and concrete pouring. The drilling will likely cause vibration for an extended period of time. There is little information on how vibration affects mussels, but a study by Aldridge et al. (1987) observed that frequent turbulence lowered mussel nitrogen excretion rates, which indicates they experienced reduced filter clearance rates, but it will likely be harmful in affecting their normal behavior. Habitat will be permanently lost within the footprints of the two dolphin structures, which is a direct effect to Higgins eye. At minimum, each dolphin is removing approximately 42 square meters of potential habitat for Higgins eye.

The permanent placement of the dolphin structures in the river will change localized patterns of flow divergence and convergence. Differences in velocity patterns would be limited to areas in the immediate vicinity of the piers. It is anticipated that changes in flow patterns and microhabitat variables (e.g., depth, velocity, substrate composition, sheer stress) important to mussels (Morales et al. 2006, Allen and Vaughn 2010) and their fish hosts (Aadland 1991) will be localized and minimal.

Mussels and their fish hosts may also be directly affected by vibration and other physical disturbances resulting from dolphin construction. Vibration resulting from pile hammer is anticipated to last two to four days, between the hours of 7 AM to 5 PM. Wysocki et al. (2006) and Gutreuter et al. (2006) observed fish with stress symptoms and reduced fish abundance in areas of persistent noise and vibration. Although the vibration duration is anticipated to be minimal, such stressors may cause behavioral avoidance in potential fish hosts. If suitable host fish are not in the location of gravid female mussels, due to construction activities causing vibrations in the water, increased suspended solids, and other undesirable environmental conditions for fish, reproductive opportunities will be lost, potentially affecting the viability of these populations in future years.

#### *Accidental Spills*

Pollution caused by spills of materials being loaded and unloaded at the staging areas could impact mussels near the dolphin construction area. Adult mussels are easily harmed by toxins and degraded water quality from pollution because of their sedentary life. This is likely a negligible effect.

#### Indirect Effects

Indirect effects may occur as a result of short term changes in water quality and substrate due to construction activities. Construction may result in changes in flow patterns which may alter existing substrates and habitat suitability; however, we do not anticipate any substantial long-term flow or substrate changes as a result of this project. These indirect effects would be difficult to quantify and are not expected to alter the overall distribution of mussels in the Mississippi River.

#### Beneficial Effects

Beneficial effects may result from the construction of the new breasting dolphins at CF Industries' Albany Terminal liquid fertilizer off-loading site. The increased protection to the dock structure, resulting from the new dolphin installations will reduce the potential for off-loading barges to become lodged under the dock as they off-load and gain buoyancy. This will reduce the likelihood of spills resulting from the liquid fertilizer off-loading activity and potential riverbed disturbances from dislodging barges. Barge traffic is not anticipated to increase as a result of the construction of the new breasting dolphins.

### **V. Cumulative Effects**

Cumulative effects include the effects of future state, tribal, local, or private actions that are reasonably certain to occur in the action area considered in this BO. Future federal actions that are unrelated to the proposed action are not considered in this section because they would require separate consultation pursuant to section 7 of the ESA. This section analyzes the added impact from cumulative effects.

The Service is unaware of any other tribal, state, local, or private actions presently occurring or that are reasonably certain to occur in the future, which would destroy, modify, or curtail the mussel habitat within the action area. Therefore, we do not anticipate significant cumulative effects from the proposed action, combined with other reasonably foreseeable non-federal actions.

Factors other than the proposed breasting dolphin construction which may affect mussel resources in the study area include industrial, urban, and agricultural pollutants; cumulative sedimentation and water quality problems associated with development and land use practices in the floodplain and watershed; and

climatic extremes (droughts and floods). These factors will continue to have impacts on native mussels and any other resources in the project area regardless of whether the two new breasting dolphins are constructed.

## **VI. Conclusion**

After reviewing the current status of the Higgins eye pearly mussel, the environmental baseline conditions for the action area, and the effects of the proposed action, it is the Service's biological opinion that the proposed action is not likely to jeopardize the continued existence of the species.

## **VII. Incidental Take Statement**

Section 9 of the Act and Federal regulation pursuant to Section 4(d) of the Act prohibits the take of endangered and threatened species without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such activity. Harm is further defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. Harass is defined by the Service as intentional or negligent actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding, and sheltering. Incidental take is defined as take incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of Section 7(b)(4) and Section 7(o)(2), take incidental to and not an intended part of the agency action is not considered prohibited taking under the Act, provided such taking is in compliance with the terms and conditions of this Incidental Take Statement.

The measures described below are non-discretionary and must be undertaken by the USACE, so that they become binding conditions of any grant, permit, or contract, as appropriate, for the exemption in Section 7(o)(2) to apply. The USACE has a continuing duty to regulate the activity covered by this incidental take statement through enforceable terms that are added to any grant, permit, or contract, the protective coverage of section 7(o)(2) may lapse. If the USACE fails to assume and implement the terms and conditions, the protective coverage of Section 7(o)(2) may lapse. In order to monitor the impact of incidental take, USACE must report the progress of the action and its impact on the species to the Service as specified in the incidental take statement (50 CFR, 402.14(I)(3)).

Because incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity, this Incidental Take Statement is valid only upon receipt by CF Industries and the Corps of all appropriate authorizations and permits from federal, state, and local permitting authorities. These permits/authorizations may include, but are not limited to, a permit under section 404 of the Clean Water Act from the Corps and a section 10 Rivers and Harbors Act permit.

### Amount or Extent of Take

The Service anticipates that take in the form of killing, harm, or harassment (as defined in 50 CFR §17.3) will occur as a result of the proposed actions. We anticipate that Higgins eye will be taken during the construction of the two new breasting dolphin structures through direct mortality, injury, and stress. Take will occur during mussel relocation and within the footprints of the two dolphin structures and the two barge anchorage locations. Mortality and injury may also occur outside these directly-affected areas during

and after relocation and construction due to sedimentation and changes to hydrology related to the new dolphin structures.

Stress, short-term reproductive impairment, and limited mortality, due to changes in hydrology and construction-induced deposition, are possible within the buffered areas. Stressors include low oxygen, decreased food and sperm availability in the water column, and increased silt and other suspended sediments. The project will also result in loss of mussel habitat within the footprint of the dolphin structures. These events could result in harm to Higgins eye and the glochidial life stage. The extent of these adverse effects is dependent on implementation of avoidance and minimization measures.

Take was estimated for listed and non-listed mussel species based on data gathered during a mussel survey within the action area in 2015 (Helms and Associates 2015). Helms and Associates (2015) estimated the number of mussels within a 50 by 100 foot section surrounding the proposed dolphin locations. This survey area include all anticipated areas of river bed impact, with the exception of one work barge anchorage location, as discussed in Section 3.1, above. Spatial data from the project area, mussel densities, and qualitative sampling data were used to estimate populations. The total take estimates are a result of both construction and relocation activities.

The Service anticipates 11 Higgins eye individuals could be taken as a result of this proposed action. This level of take includes individuals that are both relocated and missed, and assumes that the area of direct impact, including buffer areas, totals approximately 108.72 square meters, that the overall mussel density is 5.73 mussels per square meter, and that Higgins eye will make up 1.6 percent of the mussel community associated with the breasting dolphin installation project within Pool 14 of the Mississippi River (RM 510.0), located at 23300 River Road, Cordova, Rock Island County, Illinois (Helms & Associates, 2015). As a result of low recruitment within the action area and no evidence of Higgins eye recruitment, juveniles <1 inch in size are not included in this estimate.

#### Effect of the Take

The Service has determined that based on the proposed project and the conservation measures described, these levels of anticipated take are not likely to result in jeopardy to the Higgins eye mussel for the CF Industries Albany Terminal breasting dolphin construction project. No critical habitat will be affected by the project; therefore, the project will not result in adverse modification of critical habitat.

#### Reasonable and Prudent Measures

The Service believes the following reasonable and prudent measures are necessary and appropriate to minimize the effects of the project on Higgins eye pearlymussel.

1. Prior to construction in the river, relocate all unionids from within the action area to a suitable habitat area that will not be adversely influenced by the construction or other adverse impacts. Relocation must be conducted by a qualified malacologist.
2. Relocate removed mussels to an appropriate location after water and air temperatures have warmed to at least 40 degrees Fahrenheit in the spring/summer of 2017.
3. Monitoring of the existing mussel bed and the “marked transplants” will be performed in years 1, 3, and 6 (2018, 2020, and 2023). Monitoring methods and criteria will be established prior to construction.

Monitoring reports will be submitted to the Service and Illinois DNR after each monitoring effort.

4. At present, it is expected that no additional seasonal or temporary work pads will be built outside the work zone. Thus, this area does not need to be searched for mussels. However, should this design feature change, any previously undisturbed area within the new footprint plus a 10-foot buffer should be searched for mussels.

#### Terms and Conditions

To be exempt from the prohibitions of Section 9 of the Act, the Corps must comply with the following terms and conditions for implementation and reporting of the reasonable and prudent measures described above. These terms and conditions are non-discretionary.

1. The proposed project components (e.g., breasting dolphin installation and spudding of work barges) will occur as planned and as documented in the BA and the project plans.
2. The Corps will ensure that one or more qualified mussel biologists will undertake an intensive mussel salvage effort within the 2.34 square meter project impact area, as defined in the BMPs and Site Restoration section of this biological opinion.
3. Mussel relocation activities will be thoroughly coordinated with the construction contractor to ensure that the impact areas are properly identified and cleared of mussels. The Service will be notified prior to conducting the mussel survey and relocation.
4. A proposed relocation site will be identified by the mussel relocation contractor and submitted to the Service and the ILDNR for approval. Relocation activities must not commence prior to receipt of Service approval. To obtain approval, it must be demonstrated that the relocation area has suitable habitat for mussels (as determined by depth, flow, substrate, and presence of an existing mussel community).
5. All Higgins eye pearlymussel specimens will be uniquely marked on their shells, measured, aged, sexed, and noted as to their condition and extent of zebra mussel coverage. They will be cleaned of all visible zebra mussels, transported to the release site, and hand-placed in the substrate in a position appropriate for respiration of the animal. Locations will be recorded using Global Positioning System technology or another equally precise methodology.
6. A report will be provided to the Service within 30 days following the relocation effort indicating the number of Higgins eye pearlymussel individuals that were relocated, their original locations, where they were relocated to, their sizes, ages, sex, condition, and state of zebra mussel coverage. Habitat conditions at the relocation area must also be clearly documented.
7. The contractor conducting the relocation will secure the appropriate permits from the Service and the ILDNR and will comply with any terms and conditions stated in such permits.

#### **VIII. Conservation Recommendations**

Section 7(a)(I) of the Act directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of



a proposed action on listed species or critical habitat, to help implement recovery plans or to develop information.

In addition to the BMPs and the measures to minimize take, a mussel bed monitoring plan has been conceptualized to aid in adaptive management of the area for mussel bed preservation and/or enhancement. Mussel surveys would occur one, two and three years after construction is completed surrounding the new breasting dolphin structures and at the relocation site. The Service and ILDNR would receive the reports for their review and records.

1. Establish a policy with CF Industries to incorporate conservation measures for Higgins eye pearlymussel into barge traffic activities on the Mississippi River. Maintenance activities to be considered include the following:
  - a. Spill prevention associated with liquid fertilizer off-loading.
  - d. Avoiding or minimizing use of heavy equipment and fill material in the river channel.
2. Develop an inventory of potential transplant sites for Higgins eye pearlymussel in the Mississippi River.
3. Provide assistance to organizations and programs that work to restore Higgins eye pearlymussel in the Mississippi River.

In order for the Service to be kept informed of actions minimizing or avoiding adverse effects or benefiting listed species or their habitats, please notify our office of the implementation of any conservation recommendations.

#### **IX. Reinitiation Notice**

The Service believes approximately 11 Higgins eye pearlymussel individuals will be incidentally taken as a result of the proposed action. The reasonable and prudent measures, with their implementing terms and conditions, are designed to minimize the impact of incidental take that might otherwise result from the proposed action. If, during the course of the action, this level of incidental take is exceeded, such incidental take represents new information requiring reinitiation of consultation and review of the reasonable and prudent measures provided. The Federal agency must immediately provide an explanation of the causes of the taking and review with the Service the need for possible modification of the reasonable and prudent measures.

This concludes formal consultation with USACE on the action outlined in the request. As provided in 50 CFR 402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

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## **Attachment 4**

Nationwide Permit No. 25 within Fact Sheet No. 7 (IL) – CEMVR-OD-P-2015-709b  
United States Army Corps of Engineers, January 25, 2017.



DEPARTMENT OF THE ARMY  
CORPS OF ENGINEERS, ROCK ISLAND DISTRICT  
PO BOX 2004 CLOCK TOWER BUILDING  
ROCK ISLAND, ILLINOIS 61204-2004

REPLY TO  
ATTENTION OF

January 25, 2017

Operations Division

SUBJECT: CEMVR-OD-P-2015-709b

Mr. John A. Foster  
CF Industries Sales, LLC  
4 Parkway North, Suite 400  
Deerfield, Illinois 60015

Dear Mr. Foster:

Our office reviewed all information provided to us concerning the proposed construction of two breasting dolphins in the Mississippi River, Section 33, Township 21 North, Range 2 East, Rock Island County, Illinois. The two single pile metal structures were authorized under a letter of permission CEMVR-OD-P-2015-709a.

Your discharge of concrete into the two breasting dolphins is covered under Nationwide Permit No. 25, as published in the enclosed Fact Sheet No. 7 (IL), provided you meet the permit conditions for the nationwide permits, which are also included in the Fact Sheet. The Illinois Environmental Protection Agency (IEPA) also issued Section 401 Water Quality Certification with conditions for this nationwide permit. Please note these additional conditions included in the Fact Sheet. The decision regarding this action is based on information found in the administrative record, which documents the District's decision-making process, the basis for the decision, and the final decision.

This Corps permit does not authorize you to take an endangered species, in particular the Higgins eye pearlymussel (*Lampsilis higginsii*). In order to legally take a listed species, you must have separate authorization under the Endangered Species Act (e.g. an ESA Section 10 permit, or a Biological Opinion (BO) under ESA Section 7, with "incidental take" provisions with which you must comply). The enclosed U.S. Fish and Wildlife Service (USFWS) BO, dated January 23, 2017, contains mandatory terms and conditions to implement the reasonable and prudent measures that are associated with "incidental take" that is also specified in the BO. The incidental take statement is incorporated by reference into this permit.

This verification is valid until March 18, 2017, unless the nationwide permit is modified, reissued or revoked. It is your responsibility to remain informed of changes to the nationwide permit program. We will issue a public notice announcing any changes if and when they occur. Furthermore, if you commence or are under contract to commence this activity before the date the nationwide permit is modified or revoked, you will have twelve months from this date to complete your activity under the present terms and conditions of this nationwide permit.

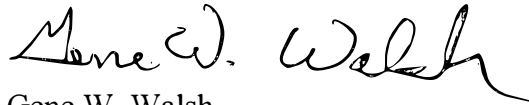
This authorization does not eliminate the requirement that you must still acquire other applicable Federal, state, and local permits. If you have not already coordinated your project with the Illinois Department of Natural Resources – Office of Water Resources, please contact them at 217/782-3863 to determine if a floodplain development permit is required for your project. You may contact the IEPA Facility Evaluation Unit at 217/782-3362 to determine whether additional authorizations are required from the IEPA. Please send any electronic correspondence to [EPA.401.bow@illinois.gov](mailto:EPA.401.bow@illinois.gov).

You are required to complete and return the enclosed "Completed Work Certification" upon completion of your project, in accordance with General Condition No. 30 of the nationwide permits.

The Rock Island District Regulatory Branch is committed to providing quality and timely service to our customers. In an effort to improve customer service, please take a moment to complete the attached postcard and return it or go to our Customer Service Survey found on our web site at [http://corpsmapu.usace.army.mil/cm\\_apex/f?p=regulatory\\_survey](http://corpsmapu.usace.army.mil/cm_apex/f?p=regulatory_survey). (Be sure to select "Rock Island District" under the area entitled: Which Corps office did you deal with?)

Should you have any questions, please contact our Regulatory Branch by letter, please contact me at 309/794-5674 or [Eugene.W.Walsh@usace.army.mil](mailto:Eugene.W.Walsh@usace.army.mil).

Sincerely



Gene W. Walsh  
Project Manager  
Illinois/Missouri Section  
Regulatory Branch

When the structure(s) or work authorized by this nationwide permit are still in existence at the time the property is transferred, the terms and conditions of this nationwide permit, including any special conditions, will continue to be binding on the new owner(s), of the property. To validate the transfer of this nationwide permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

\_\_\_\_\_  
Transferee

\_\_\_\_\_  
Date

Enclosures

Copies Furnished: (with enclosures)

Mr. Steve Altman, P.E.  
Office of Water Resources  
IL Department of Natural Resources  
One Natural Resources Way  
Springfield, Illinois 62701-1271  
[Steve.Altman@illinois.gov](mailto:Steve.Altman@illinois.gov) (email copy)

Dr. Rachel Leibowitz, Ph.D.  
Deputy State Historic Preservation Officer  
Illinois Historic Preservation Agency  
1 Old State Capitol Plaza  
Springfield, Illinois 62701-1507 (mail copy)  
[HPA.ProjectsBox@illinois.gov](mailto:HPA.ProjectsBox@illinois.gov) (email copy)

Mr. Dan Heacock  
Illinois Environmental Protection Agency  
Watershed Management Section,  
Permit Sec. 15  
1021 North Grand Avenue East  
Post Office Box 19276  
Springfield, Illinois 62794-9276  
[Epa.401.bow@illinois.gov](mailto:Epa.401.bow@illinois.gov) (email copy)

Mr. Kraig McPeck  
U.S. Fish and Wildlife Service  
Rock Island Ecological Services Office  
1511 47<sup>th</sup> Avenue  
Moline, Illinois 61265



**COMPLETED WORK CERTIFICATION**

Permit Number: CEMVR-OD-P-2015-709b

Name of Permittee: CF Industries, LLC

Date of Issuance: January 25, 2017

County/State: Rock Island/Illinois

Upon completion of the activity authorized by this permit and any mitigation required by the permit, sign this certification and return it to the following address:

U.S. Army Engineer District, Rock Island  
ATTN: Regulatory Branch  
Clock Tower Building  
Post Office Box 2004  
Rock Island, Illinois 61204-2004

Please note that your permitted activity is subject to a compliance inspection by a U.S. Army Corps of Engineers representative. If you fail to comply with this permit, you are subject to permit suspension, modification, or revocation.

I hereby certify that the work authorized by the above reference permit has been completed in accordance with the terms and conditions of the said permit, and required mitigation was completed in accordance with the permit conditions.

\_\_\_\_\_  
Signature of Permittee

\_\_\_\_\_  
Date

EW



# FACT SHEET NO. 7(IL)

US Army Corps  
of Engineers  
Rock Island District

NATIONWIDE PERMITS IN ILLINOIS

EFFECTIVE DATE: MARCH 19, 2012

On February 21, 2012, the Corps of Engineers published in the Federal Register (77 FR 10184), the Final Rule for the Nationwide Permits Program under the Rivers and Harbors Act of 1899; the Clean Water Act; and the Marine Protection, Research and Sanctuaries Act. These rules became effective on March 19, 2012.

The Nationwide Permit Program is an integral part of the Corps' Regulatory Program. The Nationwide Permits are a form of general permits issued by the Chief of Engineers and are intended to apply throughout the entire United States and its territories. A listing of the nationwide permits and general conditions is included herein. We encourage prospective permit applicants to consider the advantages of nationwide permit authorization during the preliminary design of their projects. Assistance and further information regarding all aspects of the Corps of Engineers Regulatory Program may be obtained by contacting the appropriate Corps of Engineers District at the address and/or telephone number listed on the last page of this Fact Sheet.

To ensure projects authorized by a Nationwide Permit will result in minimal adverse effects to the aquatic environment, the following **Regional Conditions** were developed for projects proposed within the state of Illinois (See NOTE regarding the Chicago District):

1. Stormwater management facilities shall not be located within a stream, except for NWPs 21, 44, 49, or 50.
2. For newly constructed channels through areas that are unvegetated, a riparian buffer strip planted in native grasses, trees and/or shrubs a minimum of 25 feet wide from the top of bank on ephemeral streams must be planted along both sides of the new channel. The buffer width will be a minimum of 50 feet wide from the top of bank on intermittent and perennial streams. A survival rate of 80 percent of desirable species with aerial coverage of at least 50 percent shall be achieved within 3 years of establishment of the buffer strip.
3. For a single family residence authorized under Nationwide Permit No. 29, the permanent loss of waters of the United States (including jurisdictional wetlands) must not exceed 1/4 acre.
4. For NWP 46, the discharge of dredged or fill material into ditches and canals that would sever the jurisdiction of an upstream water of the United States from a downstream water of the United States is not allowed.
5. For NWP 52, no project will be authorized within Lake Michigan. An individual permit will be required.

**NOTE:** The Chicago District has suspended many of the Nationwide Permits and established regional permits for work in McHenry, Kane, Lake, DuPage, Will and Cook Counties in Illinois. Information regarding Chicago District requirements can be accessed through their website at <http://www.lrc.usace.army.mil/co-r/>. If you have any questions regarding the Chicago District program, please contact the Regulatory Office by telephone at 312/846-5530, or e-mail [lrcregweb@usace.army.mil](mailto:lrcregweb@usace.army.mil).

Permits, issued by the Corps of Engineers, under the authority of Section 404 of the Clean Water Act may not be issued until the state (where the discharge will occur) certifies, under Section 401 of the Act, that the discharge will comply with the water quality standards of the State. On April 2, 2012, the Illinois Environmental Protection Agency (IEPA) issued their final Section 401 Water Quality Certification decision.

## DENIED NATIONWIDE PERMITS

The IEPA did not issue a generic water quality certification for the following nationwide permits which are listed by subject only:

21. Surface Coal Mining Activities
23. Approved Categorical Exclusions
30. Moist Soil Management for Wildlife
31. Maintenance of Existing Flood Control Facilities
34. Cranberry Production Activities
37. Emergency Watershed Protection and Rehabilitation
43. Stormwater Management Facilities
48. Commercial Shellfish Aquaculture Activities
49. Coal Remining Activities
50. Underground Coal Mining Activities

Since Nationwide Permits 21, 23, 31, 37, 48, 49, and 50 are applicable under both Section 10 and 404, the State Section 401 certification is only required for discharges of pollutants under these nationwide permits. Section 10 work not involving discharges of dredged or fill material continues to be authorized under these nationwide permits.

Authorization for discharges covered by all the above nationwide permits is denied without prejudice. Applicants wishing to conduct such discharges must first obtain either an individual water quality certification or waiver from:

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY  
1021 NORTH GRAND AVENUE EAST  
POST OFFICE BOX 19276  
SPRINGFIELD, ILLINOIS 62794-9276

If the state certifying agency fails to act on an application for water quality certification within 60 days after receipt, the certification requirement is presumed to be waived. The applicant must furnish the District Engineer (at the appropriate address listed on the last page of the Fact Sheet) with a copy of the certification or proof of waiver. The discharge may proceed upon receipt of the District Engineer's determination that the discharge qualifies for authorization under this nationwide permit. Details of this procedure are contained in 33 CFR 330.4, a copy of which is available upon request.

Nationwide Permits 3, 7, 8, 12, 13, 14, 17, 18, 21, 22, 23, 27, 29, 31, 33, 34, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 48, 49, 50, 51, and 52 require that the permittee notify the District Engineer at least 45 days prior to performing the discharge under certain circumstances. Specific instructions for these notifications are contained in General Condition 31, a copy of which is included.

For all other Nationwide Permits, the IEPA issued Section 401 Water Quality Certification with conditions. General Conditions 1, 2, and 3 apply to all nationwide permits for which certification was not denied and activities require authorization under Section 404 of the Clean Water Act. Other conditions specific to a Nationwide Permit are listed at the end of the subject nationwide permit.

**General Condition 1:** An individual 401 water quality certification will be required for any activities permitted under these Nationwide Permits for discharges to waters designated by the State of Illinois as Outstanding Resource Waters under 35 Ill. Adm. Code 302.105(b).

**General Condition 2:** Projects requiring authorization under Section 404 of the Clean Water Act must implement Best Management Practices (BMPs) to protect water quality, preserve natural hydrology and minimize the overall impacts to aquatic resources during and after construction. If the project involves a water with an approved Total Maximum Daily Load (TMDL) allocation for any parameter, measures which ensure consistency with the assumption and requirements of the TMDL shall be included. TMDL program information and water listings are available at [www.epa.state.il.us/water/tmdl/](http://www.epa.state.il.us/water/tmdl/). If the project involves an impaired water listed on the Illinois Environmental Protection Agency's Section 303(d) list for suspended solids, turbidity, or siltation, measures designed for at least a 25-year, 24-hour rainfall event shall be incorporated. Impaired waters are identified at [www.epa.state.il.us/water/tmdl/303d-list.html](http://www.epa.state.il.us/water/tmdl/303d-list.html).

**General Condition 3:** Prior to proceeding with any work in accordance with any Nationwide Permit, potential impacts to threatened or endangered species shall be identified through use of the State's Ecological Compliance Assessment Tool (EcoCAT) at <http://dnrecocat.state.il.us/ecopublic/>. If potential impacts to State threatened or endangered species are identified, the Illinois Department of Natural Resources shall be consulted with.

#### **Nationwide Permits and Conditions**

The following is a list of the nationwide permits, authorized by the Chief of Engineers, and published in the Federal Register (77 FR 10184) and (77 FR 16021). Permittees wishing to conduct activities under the nationwide permits must comply with the conditions published in Section C. The Nationwide Permit General Conditions found in Section C have been reprinted at the end of this Fact Sheet. The parenthetical references (Section 10, Section 404) following each nationwide permit indicate the specific authorities under which that permit is issued.

#### **B. Nationwide Permits**

**1. Aids to Navigation.** The placement of aids to navigation and regulatory markers which are approved by and installed in accordance with the requirements of the U.S. Coast Guard (see 33 CFR, chapter I, subchapter C, part 66). (Section 10)

**2. Structures in Artificial Canals.** Structures constructed in artificial canals within principally residential developments where the connection of the canal to a navigable water of the United States has been previously authorized (see 33 CFR 322.5(g)). (Section 10)

**3. Maintenance.** (a) The repair, rehabilitation, or replacement of any previously authorized, currently serviceable structure, or fill, or of any currently serviceable structure or fill authorized by 33 CFR 330.3, provided that the structure or fill is not to be put to uses differing from those uses specified or contemplated for it in the original permit or the most recently authorized modification. Minor deviations in the structure's configuration or filled area, including those due to changes in materials, construction techniques, requirements of other

regulatory agencies, or current construction codes or safety standards that are necessary to make the repair, rehabilitation, or replacement are authorized. Any stream channel modification is limited to the minimum necessary for the repair, rehabilitation, or replacement of the structure or fill; such modifications, including the removal of material from the stream channel, must be immediately adjacent to the project or within the boundaries of the structure or fill. This NWP also authorizes the repair, rehabilitation, or replacement of those structures or fills destroyed or damaged by storms, floods, fire or other discrete events, provided the repair, rehabilitation, or replacement is commenced, or is under contract to commence, within two years of the date of their destruction or damage. In cases of catastrophic events, such as hurricanes or tornadoes, this two-year limit may be waived by the district engineer, provided the permittee can demonstrate funding, contract, or other similar delays.

(b) This NWP also authorizes the removal of accumulated sediments and debris in the vicinity of existing structures (e.g., bridges, culverted road crossings, water intake structures, etc.) and/or the placement of new or additional riprap to protect the structure. The removal of sediment is limited to the minimum necessary to restore the waterway in the vicinity of the structure to the approximate dimensions that existed when the structure was built, but cannot extend farther than 200 feet in any direction from the structure. This 200 foot limit does not apply to maintenance dredging to remove accumulated sediments blocking or restricting outfall and intake structures or to maintenance dredging to remove accumulated sediments from canals associated with outfall and intake structures. All dredged or excavated materials must be deposited and retained in an area that has no waters of the United States unless otherwise specifically approved by the district engineer under separate authorization. The placement of new or additional riprap must be the minimum necessary to protect the structure or to ensure the safety of the structure. Any bank stabilization measures not directly associated with the structure will require a separate authorization from the district engineer.

(c) This NWP also authorizes temporary structures, fills, and work necessary to conduct the maintenance activity. Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable, when temporary structures, work, and discharges, including cofferdams, are necessary for construction activities, access fills, or dewatering of construction sites. Temporary fills must consist of materials, and be placed in a manner, that will not be eroded by expected high flows. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The areas affected by temporary fills must be revegetated, as appropriate.

(d) This NWP does not authorize maintenance dredging for the primary purpose of navigation. This NWP does not authorize beach restoration. This NWP does not authorize new stream channelization or stream relocation projects.

Notification: For activities authorized by paragraph (b) of this NWP, the permittee must submit a pre-construction notification to the district engineer prior to commencing the activity (see general condition 31). The pre-construction notification must include information regarding the original design capacities and configurations of the outfalls, intakes, small impoundments, and canals. (Sections 10 and 404)

Note: This NWP authorizes the repair, rehabilitation, or replacement of any previously authorized structure or fill that does not qualify for the Clean Water Act Section 404(f) exemption for maintenance.

NOTE: THE IEPA HAS CONDITIONED SECTION 401 WATER QUALITY CERTIFICATION APPLICABLE TO NATIONWIDE PERMIT 3. DEPARTMENT OF THE ARMY AUTHORIZATION PURSUANT TO SECTION 404 OF THE CLEAN WATER ACT (33 U.S.C. 1344) UNDER NATIONWIDE PERMIT 3 WILL BE SUBJECT TO THE THREE GENERAL IEPA CONDITIONS, THESE NATIONWIDE SPECIFIC CONDITIONS, AND THE CONDITIONS PUBLISHED IN SECTION C.

1. The applicant shall not cause:
  - A. violation of applicable provisions of the Illinois Environmental Protection Act;
  - B. water pollution defined and prohibited by the Illinois Environmental Protection Act;
  - C. violation of applicable water quality standards of the Illinois Pollution Control Board, Title 35, Subtitle C: Water Pollution Rules and Regulation; or
  - D. interference with water use practices near public recreation areas or water supply intakes.
2. Any spoil material excavated, dredged or otherwise produced must not be returned to the waterway but must be deposited in a self-contained area in compliance with all state statutes, as determined by the Illinois EPA.
3. Any backfilling must be done with clean material and placed in a manner to prevent violation of applicable water quality standards.
4. The applicant for Nationwide Permit 3 shall provide adequate planning and supervision during the project construction period for implementing construction methods, processes and cleanup procedures necessary to prevent water pollution and control erosion.
5. All areas affected by construction shall be mulched and seeded as soon after construction as possible. The applicant for Nationwide 3 shall undertake necessary measures and procedures to reduce erosion during construction. Interim measures to prevent erosion during construction shall be taken and may include the installation of sedimentation basins and temporary mulching. All construction within the waterway shall be conducted during zero or low flow conditions. The applicant for Nationwide 3 shall be responsible for obtaining an NPDES Storm Water Permit prior to initiating construction if the construction activity associated with the project will result in the disturbance of 1 (one) or more acres, total land area. An NPDES Storm Water Permit may be obtained by submitting a properly completed Notice of Intent (NOI) form by certified mail to the Agency's Division of Water Pollution Control, Permit Section.
6. The applicant for Nationwide 3 shall implement erosion control measures consistent with the "Illinois Urban Manual" (IEPA/USDA, NRCS; 2011).
7. Temporary work pads, cofferdams, access roads and other temporary fills shall be constructed of clean coarse aggregate or non-erodible non-earthen fill material that will not cause siltation. Sandbags, pre-fabricated rigid materials, sheet piling, inflatable bladders and fabric lined basins may be used for temporary facilities.

8. The applicant for Nationwide 3 that uses temporary work pads, cofferdams, access roads and other temporary fills in order to perform work in creeks, streams, or rivers shall maintain flow in these waters by utilizing dam and pumping, fluming, culverts or other such techniques.

**4. Fish and Wildlife Harvesting, Enhancement, and Attraction Devices and Activities.** Fish and wildlife harvesting devices and activities such as pound nets, crab traps, crab dredging, eel pots, lobster traps, duck blinds, and clam and oyster digging, fish aggregating devices, and small fish attraction devices such as open water fish concentrators (sea kites, etc.). This NWP does not authorize artificial reefs or impoundments and semi-impoundments of waters of the United States for the culture or holding of motile species such as lobster, or the use of covered oyster trays or clam racks. (Sections 10 and 404)

**5. Scientific Measurement Devices.** Devices, whose purpose is to measure and record scientific data, such as staff gages, tide and current gages, meteorological stations, water recording and biological observation devices, water quality testing and improvement devices, and similar structures. Small weirs and flumes constructed primarily to record water quantity and velocity are also authorized provided the discharge is limited to 25 cubic yards. Upon completion of the use of the device to measure and record scientific data, the measuring device and any other structures or fills associated with that device (e.g., foundations, anchors, buoys, lines, etc.) must be removed to the maximum extent practicable and the site restored to pre-construction elevations. (Sections 10 and 404)

**6. Survey Activities.** Survey activities, such as core sampling, seismic exploratory operations, plugging of seismic shot holes and other exploratory-type bore holes, exploratory trenching, soil surveys, sampling, sample plots or transects for wetland delineations, and historic resources surveys. For the purposes of this NWP, the term "exploratory trenching" means mechanical land clearing of the upper soil profile to expose bedrock or substrate, for the purpose of mapping or sampling the exposed material. The area in which the exploratory trench is dug must be restored to its pre-construction elevation upon completion of the work and must not drain a water of the United States. In wetlands, the top 6 to 12 inches of the trench should normally be backfilled with topsoil from the trench. This NWP authorizes the construction of temporary pads, provided the discharge does not exceed 1/10-acre in waters of the U.S. Discharges and structures associated with the recovery of historic resources are not authorized by this NWP. Drilling and the discharge of excavated material from test wells for oil and gas exploration are not authorized by this NWP; the plugging of such wells is authorized. Fill placed for roads and other similar activities is not authorized by this NWP. The NWP does not authorize any permanent structures. The discharge of drilling mud and cuttings may require a permit under Section 402 of the Clean Water Act. (Sections 10 and 404)

NOTE: THE IEPA HAS CONDITIONED SECTION 401 WATER QUALITY CERTIFICATION APPLICABLE TO NATIONWIDE PERMIT 6. DEPARTMENT OF THE ARMY AUTHORIZATION PURSUANT TO SECTION 404 OF THE CLEAN WATER ACT (33 U.S.C. 1344) UNDER NATIONWIDE PERMIT 6 WILL BE SUBJECT TO THE THREE GENERAL IEPA CONDITIONS, THESE NATIONWIDE SPECIFIC CONDITIONS, AND THE CONDITIONS PUBLISHED IN SECTION C.

1. The applicant shall not cause:
  - A. violation of applicable provisions of the Illinois Environmental Protection Act;
  - B. water pollution defined and prohibited by the Illinois Environmental Protection Act;
  - C. violation of applicable water quality standards of the Illinois Pollution Control Board, Title 35, Subtitle C: Water Pollution Rules and Regulation; or
  - D. interference with water use practices near public recreation areas or water supply intakes.
2. The applicant for Nationwide Permit 6 shall provide adequate planning and supervision during the project construction period for implementing construction methods, processes and cleanup procedures necessary to prevent water pollution and control erosion.
3. Material resulting from trench excavation within surface waters of the State may be temporarily sidecast adjacent to the trench excavation provided that:
  - A. Sidecast material is not placed within a creek, stream, river or other flowing water body such that material dispersion could occur;
  - B. Side cast material is not placed within ponds or other water bodies other than wetlands; and
  - C. Sidecast material is not placed within a wetland for a period longer than twenty (20) calendar days. Such sidecast material shall either be removed from the site, or used as backfill (refer to Condition 4 and 5).
4. Backfill used within trenches passing through surface water of the State, except wetland areas, shall be clean course aggregate, gravel or other material which will not cause siltation. Excavated material may be used only if:
  - A. Particle size analysis is conducted and demonstrates the material to be at least 80% sand or larger size material, using a #230 U.S. sieve; or
  - B. Excavation and backfilling are done under dry conditions.
5. Backfill used within trenches passing through wetland areas shall consist of clean material which will not cause siltation. Excavated material shall be used to the extent practicable, with the upper six (6) to twelve (12) inches backfilled with the topsoil obtained during trench excavation.
6. Temporary work pads shall be constructed of clean coarse aggregate or non-erodible non-earthen fill material that will not cause siltation. Sandbags, pre-fabricated rigid materials, sheet piling, inflatable bladders and fabric lined basins may be used for temporary facilities.
7. The applicant for Nationwide 6 that uses temporary work pads in order to perform work in creeks, streams, or rivers shall maintain flow in the these waters by utilizing dam and pumping, fluming, culverts or other such techniques.

**7. Outfall Structures and Associated Intake Structures.** Activities related to the construction or modification of outfall structures and associated intake structures, where the effluent from the outfall is authorized, conditionally authorized, or specifically exempted by, or otherwise in compliance with regulations issued under the National Pollutant Discharge Elimination System Program (Section 402 of the Clean Water Act). The construction of intake structures is not authorized by this NWP, unless they are directly associated with an authorized outfall structure.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity. (See general condition 31.) (Sections 10 and 404)

**8. Oil and Gas Structures on the Outer Continental Shelf.** Structures for the exploration, production, and transportation of oil, gas, and minerals on the outer continental shelf within areas leased for such purposes by the Department of Interior, Bureau of Ocean Energy Management. Such structures shall not be placed within the limits of any designated shipping safety fairway or traffic separation scheme, except temporary anchors that comply with the fairway regulations in 33 CFR 322.5(1). The district engineer will review such proposals to ensure compliance with the provisions of the fairway regulations in 33 CFR 322.5(1). Any Corps review under this NWP will be limited to the effects on navigation and national security in accordance with 33 CFR 322.5(f), as well as 33 CFR 322.5(1) and 33 CFR part 334. Such structures will not be placed in established danger zones or restricted areas as designated in 33 CFR part 334, nor will such structures be permitted in EPA or Corps designated dredged material disposal areas.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity. (See general condition 31.) (Section 10)

**9. Structures in Fleeting and Anchorage Areas.** Structures, buoys, floats and other devices placed within anchorage or fleeting areas to facilitate moorage of vessels where the U.S. Coast Guard has established such areas for that purpose. (Section 10)

**10. Mooring Buoys.** Non-commercial, single-boat, mooring buoys. (Section 10)

**11. Temporary Recreational Structures.** Temporary buoys, markers, small floating docks, and similar structures placed for recreational use during specific events such as water skiing competitions and boat races or seasonal use, provided that such structures are removed within 30 days after use has been discontinued. At Corps of Engineers reservoirs, the reservoir manager must approve each buoy or marker individually. (Section 10)

**12. Utility Line Activities.** Activities required for the construction, maintenance, repair, and removal of utility lines and associated facilities in waters of the United States, provided the activity does not result in the loss of greater than 1/2-acre of waters of the United States for each single and complete project.

Utility lines: This NWP authorizes the construction, maintenance, or repair of utility lines, including outfall and intake structures, and the associated excavation, backfill, or bedding for the utility lines, in all waters of the United States, provided there is no change in pre-construction contours. A "utility line" is defined as any pipe or pipeline for the transportation of any gaseous, liquid, liquescent, or slurry substance, for any purpose, and any cable, line, or wire for the transmission for any purpose of electrical energy, telephone, and telegraph messages, and radio and television communication. The term "utility line" does not include activities that drain a water of the United States, such as drainage tile or french drains, but it does apply to pipes conveying drainage from another area.

Material resulting from trench excavation may be temporarily sidecast into waters of the United States for no more than three months, provided the material is not placed in such a manner that it is dispersed by currents or other forces. The district engineer may extend the period of temporary side casting for no more than a total of 180 days, where appropriate. In wetlands, the top 6 to 12 inches of the trench should normally be backfilled with topsoil from the trench. The trench cannot be constructed or backfilled in such a manner as to drain waters of the United States (e.g., backfilling with extensive gravel layers, creating a french drain effect). Any exposed slopes and stream banks must be stabilized immediately upon completion of the utility line crossing of each waterbody.

Utility line substations: This NWP authorizes the construction, maintenance, or expansion of substation facilities associated with a power line or utility line in non-tidal waters of the United States, provided the activity, in combination with all other activities included in one single and complete project, does not result in the loss of greater than 1/2-acre of waters of the United States. This NWP does not authorize discharges into non-tidal wetlands adjacent to tidal waters of the United States to construct, maintain, or expand substation facilities.

Foundations for overhead utility line towers, poles, and anchors: This NWP authorizes the construction or maintenance of foundations for overhead utility line towers, poles, and anchors in all waters of the United States, provided the foundations are the minimum size necessary and separate footings for each tower leg (rather than a larger single pad) are used where feasible.

Access roads: This NWP authorizes the construction of access roads for the construction and maintenance of utility lines, including overhead power lines and utility line substations, in non-tidal waters of the United States, provided the activity, in combination with all other activities included in one single and complete project, does not cause the loss of greater than 1/2-acre of non-tidal waters of the United States. This NWP does not authorize discharges into non-tidal wetlands adjacent to tidal waters for access roads. Access roads must be the minimum width necessary (see Note 2, below). Access roads must be constructed so that the length of the road minimizes any adverse effects on waters of the United States and must be as near as possible to pre-construction contours and elevations (e.g., at grade corduroy roads or geotextile/gravel roads). Access roads constructed above pre-construction contours and elevations in waters of the United States must be properly bridged or culverted to maintain surface flows.

This NWP may authorize utility lines in or affecting navigable waters of the United States even if there is no associated discharge of dredged or fill material (See 33 CFR Part 322). Overhead utility lines constructed over section 10 waters and utility lines that are routed in or

under section 10 waters without a discharge of dredged or fill material require a section 10 permit.

This NWP also authorizes temporary structures, fills, and work necessary to conduct the utility line activity. Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable, when temporary structures, work, and discharges, including cofferdams, are necessary for construction activities, access fills, or dewatering of construction sites. Temporary fills must consist of materials, and be placed in a manner, that will not be eroded by expected high flows. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The areas affected by temporary fills must be revegetated, as appropriate.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity if any of the following criteria are met: (1) The activity involves mechanized land clearing in a forested wetland for the utility line right-of-way; (2) a section 10 permit is required; (3) the utility line in waters of the United States, excluding overhead lines, exceeds 500 feet; (4) the utility line is placed within a jurisdictional area (i.e., water of the United States), and it runs parallel to or along a stream bed that is within that jurisdictional area; (5) discharges that result in the loss of greater than 1/10-acre of waters of the United States; (6) permanent access roads are constructed above grade in waters of the United States for a distance of more than 500 feet; or (7) permanent access roads are constructed in waters of the United States with impervious materials. (See general condition 31.) (Sections 10 and 404)

Note 1: Where the proposed utility line is constructed or installed in navigable waters of the United States (i.e., section 10 waters) within the coastal United States, the Great Lakes, and United States territories, copies of the pre-construction notification and NWP verification will be sent by the Corps to the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), for charting the utility line to protect navigation.

Note 2: Access roads used for both construction and maintenance may be authorized, provided they meet the terms and conditions of this NWP. Access roads used solely for construction of the utility line must be removed upon completion of the work, in accordance with the requirements for temporary fills.

Note 3: Pipes or pipelines used to transport gaseous, liquid, liquescent, or slurry substances over navigable waters of the United States are considered to be bridges, not utility lines, and may require a permit from the U.S. Coast Guard pursuant to Section 9 of the Rivers and Harbors Act of 1899. However, any discharges of dredged or fill material into waters of the United States associated with such pipelines will require a section 404 permit (see NWP 15).

Note 4: For overhead utility lines authorized by this NWP, a copy of the PCN and NWP verification will be provided to the Department of Defense Siting Clearinghouse, which will evaluate potential effects on military activities.

NOTE: THE IEPA HAS CONDITIONED SECTION 401 WATER QUALITY CERTIFICATION APPLICABLE TO NATIONWIDE PERMIT 12. DEPARTMENT OF THE ARMY AUTHORIZATION PURSUANT TO SECTION 404 OF THE CLEAN WATER ACT (33 U.S.C. 1344) UNDER NATIONWIDE PERMIT 12 WILL BE SUBJECT TO THE THREE GENERAL IEPA CONDITIONS, THESE NATIONWIDE SPECIFIC CONDITIONS, AND THE CONDITIONS PUBLISHED IN SECTION C.

1. Case-specific water quality certification from the Illinois EPA will be required for:

A. activities in the following waters:

- i. Lake Calumet
- ii. Fox River (including the Fox Chain of Lakes)
- iii. Lake Michigan
- iv. All Public and Food Processing Water Supplies with surface intake facilities. The Illinois EPA's Division of Public Water Supply at 217/782-1020 may be contacted for information on these water supplies.

B. activities in the following waters if material is sidecast into waters of the State or wetlands:

- i. Chicago Sanitary and Ship Canal
- ii. Calumet-Sag Channel
- iii. Little Calumet River
- iv. Grand Calumet River
- v. Calumet River
- vi. South Branch of the Chicago River (including the South Fork)
- vii. North Branch of the Chicago River (including the East and West Forks and the Skokie Lagoons)
- viii. Chicago River (Main Stem)
- ix. Des Plaines River
- x. Saline River (in Hardin County)
- xi. Richland Creek (in St. Clair and Monroe Counties)
- xii. Rock River (in Winnebago County)
- xiii. Illinois River upstream of mile 229.6 (Illinois Route 178 bridge)
- xiv. Illinois River between mile 140.0 and 182.0
- xv. Pettibone Creek (in Lake County)
- xvi. DuPage River (including the East and West Branches)
- xvii. Salt Creek (Des Plaines River Watershed)
- xviii. Waukegan River (including the South Branch)

2. Section 401 water quality certification is hereby issued for all other waters, with the following conditions:

A. The applicant for Nationwide Permit 12 shall not cause:

- i. violation of applicable provisions of the Illinois Environmental Protection Act;
- ii. water pollution defined and prohibited by the Illinois Environmental Protection Act;
- iii. violation of applicable water quality standards of the Illinois Pollution Control Board, Title 35, Subtitle C: Water Pollution Rules and Regulation; or

- iv. interference with water use practices near public recreation areas or water supply intakes.
- B. The applicant for Nationwide Permit 12 shall provide adequate planning and supervision during the project construction period for implementing construction methods, processes and cleanup procedures necessary to prevent water pollution and control erosion.
- C. Material resulting from trench excavation within surface waters of the State may be temporarily sidecast adjacent to the trench excavation provided that:
  - i. Sidecast material is not placed within a creek, stream, river or other flowing water body such that material dispersion could occur;
  - ii. Side cast material is not placed within ponds or other water bodies other than wetlands; and
  - iii. Sidecast material is not placed within a wetland for a period longer than twenty (20) calendar days. Such sidecast material shall either be removed from the site (refer to Condition 2.F), or used as backfill (refer to Condition 2.D and 2.E).
- D. Backfill used within trenches passing through surface water of the State, except wetland areas, shall be clean coarse aggregate, gravel or other material which will not cause siltation, pipe damage during placement, or chemical corrosion in place. Excavated material may be used only if:
  - i. Particle size analysis is conducted and demonstrates the material to be at least 80% sand or larger size material, using a #230 U.S. sieve; or
  - ii. Excavation and backfilling are done under dry conditions.
- E. Backfill used within trenches passing through wetland areas shall consist of clean material which will not cause siltation, pipe damage during placement, or chemical corrosion in place. Excavated material shall be used to the extent practicable, with the upper six (6) to twelve (12) inches backfilled with the topsoil obtained during trench excavation.
- F. All material excavated which is not being used as backfill as stipulated in Condition 2.D and 2.E shall be stored or disposed in self-contained areas with no discharge to waters of the State. Material shall be disposed of appropriately under the regulations at 35 Il. Adm. Code Subtitle G.
- G. All areas affected by construction shall be mulched and seeded as soon after construction as possible. The applicant for Nationwide 12 shall undertake necessary measures and procedures to reduce erosion during construction. Interim measures to prevent erosion during construction shall be taken and may include the installation of sedimentation basins and temporary mulching. All construction within the waterway shall be conducted during zero or low flow conditions. The applicant for Nationwide 12 shall be responsible for obtaining an NPDES Storm Water Permit required by the federal Clean Water Act prior to initiating construction if the construction activity associated with the project will result in the disturbance of 1 (one) or more acres, total land area. An NPDES Storm Water Permit may be obtained by submitting a properly completed Notice of Intent (NOI) form by certified mail to the Agency's Division of Water Pollution Control, Permit Section.
- H. The applicant for Nationwide 12 shall implement erosion control measures consistent with the Illinois Urban Manual" (IEPA/USDA, NRCS; 2011).
- I. The use of directional drilling to install utility pipelines below surface waters of the State is hereby certified provided that:
  - i. All pits and other construction necessary for the directional drilling process are located outside of surface waters of the State;
  - ii. All drilling fluids shall be adequately contained such that they cannot cause a discharge to surface waters of the State. Such fluids shall be treated as stipulated in Condition 2.F; and
  - iii. Erosion and sediment control is provided in accordance with Conditions 2.B, 2.G, and 2.H.
- J. Temporary work pads, cofferdams, access roads and other temporary fills shall be constructed of clean coarse aggregate or non-erodible non-earthen fill material that will not cause siltation. Material excavated or dredged from the surface water or wetland shall not be used to construct the temporary facility. Sandbags, pre-fabricated rigid materials, sheet piling, inflatable bladders and fabric lined basins may be used for temporary facilities.
- K. The applicant for Nationwide 12 that uses temporary work pads, cofferdams, access roads or other temporary fills in order to perform work in creeks, streams, or rivers for construction activities shall maintain flow in the these waters during such construction activity by utilizing dam and pumping, fluming, culverts or other such techniques.
- L. Permanent access roads shall be constructed of clean coarse aggregate or non-erodible nonearthen fill material that will not cause siltation. Material excavated or dredged from the surface water or wetland shall not be used to construct the access road in waters of the state. The applicant for Nationwide 12 that constructs access roads shall maintain flow in creeks, streams and rivers by installing culverts, bridges or other such techniques.

**13. Bank Stabilization.** Bank stabilization activities necessary for erosion prevention, provided the activity meets all of the following criteria:

- (a) No material is placed in excess of the minimum needed for erosion protection;
- (b) The activity is no more than 500 feet in length along the bank, unless the district engineer waives this criterion by making a written determination concluding that the discharge will result in minimal adverse effects;
- (c) The activity will not exceed an average of one cubic yard per running foot placed along the bank below the plane of the ordinary high water mark or the high tide line, unless the district engineer waives this criterion by making a written determination concluding that the discharge will result in minimal adverse effects;



(d) The activity does not involve discharges of dredged or fill material into special aquatic sites, unless the district engineer waives this criterion by making a written determination concluding that the discharge will result in minimal adverse effects;

(e) No material is of a type, or is placed in any location, or in any manner, that will impair surface water flow into or out of any waters of the United States;

(f) No material is placed in a manner that will be eroded by normal or expected high flows (properly anchored trees and treetops may be used in low energy areas); and,

(g) The activity is not a stream channelization activity.

This NWP also authorizes temporary structures, fills, and work necessary to construct the bank stabilization activity. Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable, when temporary structures, work, and discharges, including cofferdams, are necessary for construction activities, access fills, or dewatering of construction sites. Temporary fills must consist of materials, and be placed in a manner, that will not be eroded by expected high flows. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The areas affected by temporary fills must be revegetated, as appropriate.

Invasive plant species shall not be used for bioengineering or vegetative bank stabilization.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity if the bank stabilization activity: (1) Involves discharges into special aquatic sites; or (2) is in excess of 500 feet in length; or (3) will involve the discharge of greater than an average of one cubic yard per running foot along the bank below the plane of the ordinary high water mark or the high tide line. (See general Condition 31.) (Sections 10 and 404)

NOTE: THE IEPA HAS CONDITIONED SECTION 401 WATER QUALITY CERTIFICATION APPLICABLE TO NATIONWIDE PERMIT 13. DEPARTMENT OF THE ARMY AUTHORIZATION PURSUANT TO SECTION 404 OF THE CLEAN WATER ACT (33 U.S.C. 1344) UNDER NATIONWIDE PERMIT 13 WILL BE SUBJECT TO THE THREE GENERAL IEPA CONDITIONS, THESE NATIONWIDE SPECIFIC CONDITIONS, AND THE CONDITIONS PUBLISHED IN SECTION C.

1. The bank stabilization activities shall not exceed 1000 linear feet.
2. Asphalt, bituminous material and concrete with protruding material such as reinforcing bars or mesh shall not be:
  - A. used for backfill;
  - B. placed on shorelines/streambanks; or
  - C. placed in waters of the State.
3. Any spoil material excavated, dredged or otherwise produced must not be returned to the waterway but must be deposited in a self-contained area in compliance with all state statutes, as determined by the Illinois EPA.
4. Any backfilling must be done with clean material and placed in a manner to prevent violation of applicable water quality standards.
5. The applicant shall consider installing bioengineering practices in lieu of structural practices of bank stabilization to minimize impacts to the lake, pond, river or stream and enhance aquatic habitat. The applicant shall document the selection process for the bank stabilization technique(s) and the basis for the selection of the bank stabilization practices. Bioengineering techniques may include, but are not limited to:
  - A. adequately sized riprap or A-Jack structures keyed into the toe of the slope with native plantings on the banks above;
  - B. vegetated geogrids;
  - C. coconut fiber (coir) logs;
  - D. live, woody vegetative cuttings, fascines or stumps;
  - E. brush layering; and
  - F. soil lifts.

**14. Linear Transportation Projects.** Activities required for the construction, expansion, modification, or improvement of linear transportation projects (e.g., roads, highways, railways, trails, airport runways, and taxiways) in waters of the United States. For linear transportation projects in non-tidal waters, the discharge cannot cause the loss of greater than 1/2-acre of waters of the United States. For linear transportation projects in tidal waters, the discharge cannot cause the loss of greater than 1/3-acre of waters of the United States. Any stream channel modification, including bank stabilization, is limited to the minimum necessary to construct or protect the linear transportation project; such modifications must be in the immediate vicinity of the project.

This NWP also authorizes temporary structures, fills, and work necessary to construct the linear transportation project. Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable, when temporary structures, work, and discharges, including cofferdams, are necessary for construction activities, access fills, or dewatering of construction sites. Temporary fills must consist of materials, and be placed in a manner, that will not be eroded by expected high flows. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The areas affected by temporary fills must be revegetated, as appropriate.

This NWP cannot be used to authorize non-linear features commonly associated with transportation projects, such as vehicle maintenance or storage buildings, parking lots, train stations, or aircraft hangars.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity if: (1) The loss of waters of the United States exceeds 1/10-acre; or (2) there is a discharge in a special aquatic site, including wetlands. (See general condition 31.) (Sections 10 and 404)

Note: Some discharges for the construction of farm roads or forest roads, or temporary roads for moving mining equipment, may qualify for an exemption under Section 404(f) of the Clean Water Act (see 33 CFR 323.4).

NOTE: THE IEPA HAS CONDITIONED SECTION 401 WATER QUALITY CERTIFICATION APPLICABLE TO NATIONWIDE PERMIT 14. DEPARTMENT OF THE ARMY AUTHORIZATION PURSUANT TO SECTION 404 OF THE CLEAN WATER ACT

(33 U.S.C. 1344) UNDER NATIONWIDE PERMIT 14 WILL BE SUBJECT TO THE THREE GENERAL IEPA CONDITIONS, THESE NATIONWIDE SPECIFIC CONDITIONS, AND THE CONDITIONS PUBLISHED IN SECTION C.

1. The affected area of the stream channel shall not exceed 300 linear feet, as measured along the stream corridor.
2. Any spoil material excavated, dredged or otherwise produced must not be returned to the waterway but must be deposited in a self-contained area in compliance with all state statutes, as determined by the Illinois EPA.
3. Any backfilling must be done with clean material and placed in a manner to prevent violation of applicable water quality standards.
4. The applicant shall not cause:
  - A. violation of applicable provisions of the Illinois Environmental Protection Act;
  - B. water pollution defined and prohibited by the Illinois Environmental Protection Act;
  - C. violation of applicable water quality standards of the Illinois Pollution Control Board, Title 35, Subtitle C: Water Pollution Rules and Regulation; or
  - D. interference with water use practices near public recreation areas or water supply intakes.
5. All areas affected by construction shall be mulched and seeded as soon after construction as possible. The applicant shall undertake necessary measures and procedures to reduce erosion during construction. Interim measures to prevent erosion during construction shall be taken and may include the installation of sedimentation basins and temporary mulching. All construction within the waterway shall be conducted during zero or low flow conditions. The applicant shall be responsible for obtaining an NPDES Storm Water Permit prior to initiating construction if the construction activity associated with the project will result in the disturbance of 1 (one) or more acres, total land area. An NPDES Storm Water Permit may be obtained by submitting a properly completed Notice of Intent (NOI) form by certified mail to the Agency's Division of Water Pollution Control, Permit Section.
6. The applicant shall implement erosion control measures consistent with the "Illinois Urban Manual" (IEPA/USDA, NRCS; 2011).
7. Temporary work pads, cofferdams, access roads and other temporary fills shall be constructed of clean coarse aggregate or non-erodible non-earthen fill material that will not cause siltation. Sandbags, pre-fabricated rigid materials, sheet piling, inflatable bladders and fabric lined basins may be used for temporary facilities.
8. The applicant for Nationwide Permit 14 that uses temporary work pads, cofferdams, access roads and other temporary fills in order to perform work in creeks, streams, or rivers shall maintain flow in these waters by utilizing dam and pumping, fluming, culverts or other such techniques.

**15. U.S. Coast Guard Approved Bridges.** Discharges of dredged or fill material incidental to the construction of a bridge across navigable waters of the United States, including cofferdams, abutments, foundation seals, piers, and temporary construction and access fills, provided the construction of the bridge structure has been authorized by the U.S. Coast Guard under Section 9 of the Rivers and Harbors Act of 1899 and other applicable laws. Causeways and approach fills are not included in this NWP and will require a separate section 404 permit. (Section 404)

NOTE: THE IEPA HAS CONDITIONED SECTION 401 WATER QUALITY CERTIFICATION APPLICABLE TO NATIONWIDE PERMIT 15. DEPARTMENT OF THE ARMY AUTHORIZATION PURSUANT TO SECTION 404 OF THE CLEAN WATER ACT (33 U.S.C. 1344) UNDER NATIONWIDE PERMIT 15 WILL BE SUBJECT TO THE THREE GENERAL IEPA CONDITIONS, THESE NATIONWIDE SPECIFIC CONDITIONS, AND THE CONDITIONS PUBLISHED IN SECTION C.

1. The applicant shall not cause:
  - A. violation of applicable provisions of the Illinois Environmental Protection Act;
  - B. water pollution defined and prohibited by the Illinois Environmental Protection Act;
  - C. violation of applicable water quality standards of the Illinois Pollution Control Board, Title 35, Subtitle C: Water Pollution Rules and Regulation; or
  - D. interference with water use practices near public recreation areas or water supply intakes.
2. The applicant shall implement erosion control measures consistent with the "Illinois Urban Manual" (IEPA/USDA, NRCS; 2011).
3. Any spoil material excavated, dredged or otherwise produced must not be returned to the waterway but must be deposited in a self-contained area in compliance with all state statutes, regulations and permit requirements with no discharge to waters of the State unless a permit has been issued by this Agency. Any backfilling must be done with clean material and placed in a manner to prevent violation of applicable water quality standards.
4. All areas affected by construction shall be mulched and seeded as soon after construction as possible. The applicant shall undertake necessary measures and procedures to reduce erosion during construction. Interim measures to prevent erosion during construction shall be taken and may include the installation of sedimentation basins and temporary mulching. All construction within the waterway shall be conducted during zero or low flow conditions. The applicant shall be responsible for obtaining an NPDES Storm Water Permit prior to initiating construction if the construction activity associated with the project will result in the disturbance of 1 (one) or more acres, total land area. An NPDES Storm Water Permit may be obtained by submitting a properly completed Notice of Intent (NOI) form by certified mail to the Agency's Division of Water Pollution Control, Permit Section.

**16. Return Water From Upland Contained Disposal Areas.** Return water from an upland contained dredged material disposal area. The return water from a contained disposal area is administratively defined as a discharge of dredged material by 33 CFR 323.2(d), even though the disposal itself occurs in an area that has no waters of the United States and does not require a section 404 permit. This NWP satisfies the technical requirement for a section 404 permit for the return water where the quality of the return water is controlled by the state through the section 401 certification procedures. The dredging activity may require a section 404 permit (33 CFR

323.2(d)), and will require a section 10 permit if located in navigable waters of the United States. (Section 404)

NOTE: THE IEPA HAS CONDITIONED SECTION 401 WATER QUALITY CERTIFICATION APPLICABLE TO NATIONWIDE PERMIT 16. DEPARTMENT OF THE ARMY AUTHORIZATION PURSUANT TO SECTION 404 OF THE CLEAN WATER ACT (33 U.S.C. 1344) UNDER NATIONWIDE PERMIT 16 WILL BE SUBJECT TO THE THREE GENERAL IEPA CONDITIONS, THESE NATIONWIDE SPECIFIC CONDITIONS, AND THE CONDITIONS PUBLISHED IN SECTION C.

1. The applicant shall not cause:
  - A. violation of applicable provisions of the Illinois Environmental Protection Act;
  - B. water pollution defined and prohibited by the Illinois Environmental Protection Act;
  - C. violation of applicable water quality standards of the Illinois Pollution Control Board, Title 35, Subtitle C: Water Pollution Rules and Regulation; or
  - D. interference with water use practices near public recreation areas or water supply intakes.
2. The applicant shall implement erosion control measures consistent with the "Illinois Urban Manual" (IEPA/USDA, NRCS; 2011).
3. Any spoil material excavated, dredged or otherwise produced must not be returned to the waterway but must be deposited in a self-contained area in compliance with all state statutes, regulations and permit requirements with no discharge to waters of the State unless a permit has been issued by this Agency. Any backfilling must be done with clean material and placed in a manner to prevent violation of applicable water quality standards.
4. Applicants shall obtain a Subtitle C State Construction and Operating Permit for construction and operation of any dredge material disposal facility.

**17. Hydropower Projects.** Discharges of dredged or fill material associated with hydropower projects having: (a) Less than 5000 kW of total generating capacity at existing reservoirs, where the project, including the fill, is licensed by the Federal Energy Regulatory Commission (FERC) under the Federal Power Act of 1920, as amended; or (b) a licensing exemption granted by the FERC pursuant to Section 408 of the Energy Security Act of 1980 (16 U.S.C. 2705 and 2708) and Section 30 of the Federal Power Act, as amended.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity. (See general condition 31.) (Section 404)

NOTE: THE IEPA HAS CONDITIONED SECTION 401 WATER QUALITY CERTIFICATION APPLICABLE TO NATIONWIDE PERMIT 17. DEPARTMENT OF THE ARMY AUTHORIZATION PURSUANT TO SECTION 404 OF THE CLEAN WATER ACT (33 U.S.C. 1344) UNDER NATIONWIDE PERMIT 17 WILL BE SUBJECT TO THE THREE GENERAL IEPA CONDITIONS, THESE NATIONWIDE SPECIFIC CONDITIONS, AND THE CONDITIONS PUBLISHED IN SECTION C.

1. The applicant shall not cause:
  - A. violation of applicable provisions of the Illinois Environmental Protection Act;
  - B. water pollution defined and prohibited by the Illinois Environmental Protection Act;
  - C. violation of applicable water quality standards of the Illinois Pollution Control Board, Title 35, Subtitle C: Water Pollution Rules and Regulation; or
  - D. interference with water use practices near public recreation areas or water supply intakes.
2. The applicant shall implement erosion control measures consistent with the "Illinois Urban Manual" (IEPA/USDA, NRCS; 2011).
3. Any spoil material excavated, dredged or otherwise produced must not be returned to the waterway but must be deposited in a self-contained area in compliance with all state statutes, regulations and permit requirements with no discharge to waters of the State unless a permit has been issued by this Agency. Any backfilling must be done with clean material and placed in a manner to prevent violation of applicable water quality standards.
4. An individual Section 401 water quality certification will be required for any project that is not previously approved by a Section 401 water quality certification issued by the Illinois EPA for a Federal Energy Regulatory Commission license or permit.

**18. Minor Discharges.** Minor discharges of dredged or fill material into all waters of the United States, provided the activity meets all of the following criteria:

(a) The quantity of discharged material and the volume of area excavated do not exceed 25 cubic yards below the plane of the ordinary high water mark or the high tide line;

(b) The discharge will not cause the loss of more than 1/10-acre of waters of the United States; and

(c) The discharge is not placed for the purpose of a stream diversion.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity if: (1) The discharge or the volume of area excavated exceeds 10 cubic yards below the plane of the ordinary high water mark or the high tide line, or (2) the discharge is in a special aquatic site, including wetlands. (See general condition 31.) (Sections 10 and 404)

NOTE: THE IEPA HAS CONDITIONED SECTION 401 WATER QUALITY CERTIFICATION APPLICABLE TO NATIONWIDE PERMIT 18. DEPARTMENT OF THE ARMY AUTHORIZATION PURSUANT TO SECTION 404 OF THE CLEAN WATER ACT (33 U.S.C. 1344) UNDER NATIONWIDE PERMIT 18 WILL BE SUBJECT TO THE THREE GENERAL IEPA CONDITIONS, THESE NATIONWIDE SPECIFIC CONDITIONS, AND THE CONDITIONS PUBLISHED IN SECTION C.

1. The applicant shall not cause:
  - A. violation of applicable provisions of the Illinois Environmental Protection Act;
  - B. water pollution defined and prohibited by the Illinois Environmental Protection Act;
  - C. violation of applicable water quality standards of the Illinois Pollution Control Board, Title 35, Subtitle C: Water Pollution Rules and Regulation; or
  - D. interference with water use practices near public recreation areas or water supply intakes.

2. Any spoil material excavated, dredged or otherwise produced must not be returned to the waterway but must be deposited in a self-contained area in compliance with all state statutes, regulations and permit requirements with no discharge to waters of the State unless a permit has been issued by this Agency. Any backfilling must be done with clean material and placed in a manner to prevent violation of applicable water quality standards.
3. The applicant shall implement erosion control measures consistent with the "Illinois Urban Manual" (IEPA/USDA, NRCS; 2011).

**19. Minor Dredging.** Dredging of no more than 25 cubic yards below the plane of the ordinary high water mark or the mean high water mark from navigable waters of the United States (i.e., section 10 waters). This NWP does not authorize the dredging or degradation through siltation of coral reefs, sites that support submerged aquatic vegetation (including sites where submerged aquatic vegetation is documented to exist but may not be present in a given year), anadromous fish spawning areas, or wetlands, or the connection of canals or other artificial waterways to navigable waters of the United States (see 33 CFR 322.5(g)). (Sections 10 and 404)

NOTE: THE IEPA HAS CONDITIONED SECTION 401 WATER QUALITY CERTIFICATION APPLICABLE TO NATIONWIDE PERMIT 19. DEPARTMENT OF THE ARMY AUTHORIZATION PURSUANT TO SECTION 404 OF THE CLEAN WATER ACT (33 U.S.C. 1344) UNDER NATIONWIDE PERMIT 19 WILL BE SUBJECT TO THE THREE GENERAL IEPA CONDITIONS, THESE NATIONWIDE SPECIFIC CONDITIONS, AND THE CONDITIONS PUBLISHED IN SECTION C.

1. The applicant shall not cause:
  - A. violation of applicable provisions of the Illinois Environmental Protection Act;
  - B. water pollution defined and prohibited by the Illinois Environmental Protection Act;
  - C. violation of applicable water quality standards of the Illinois Pollution Control Board, Title 35, Subtitle C: Water Pollution Rules and Regulation; or
  - D. interference with water use practices near public recreation areas or water supply intakes.
2. The applicant shall implement erosion control measures consistent with the "Illinois Urban Manual" (IEPA/USDA, NRCS; 2011).
3. Any spoil material excavated, dredged or otherwise produced must not be returned to the waterway but must be deposited in a self-contained area in compliance with all state statutes, regulations and permit requirements with no discharge to waters of the State unless a permit has been issued by this Agency. Any backfilling must be done with clean material and placed in a manner to prevent violation of applicable water quality standards.
4. Dredging shall be done by mechanical means and material not discharged to Waters of the State.

**20. Response Operations for Oil and Hazardous Substances.** Activities conducted in response to a discharge or release of oil and hazardous substances that are subject to the National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR part 300) including containment, cleanup, and mitigation efforts, provided that the activities are done under either: (1) The Spill Control and Countermeasure Plan required by 40 CFR 112.3; (2) the direction or oversight of the federal on-scene coordinator designated by 40 CFR part 300; or (3) any approved existing state, regional or local contingency plan provided that the Regional Response Team (if one exists in the area) concurs with the proposed response efforts. This NWP also authorizes activities required for the cleanup of oil releases in waters of the United States from electrical equipment that are governed by EPA's polychlorinated biphenyl spill response regulations at 40 CFR part 761. This NWP also authorizes the use of temporary structures and fills in waters of the U.S. for spill response training exercises. (Sections 10 and 404)

**\*\*\* 21. Surface Coal Mining Activities.** Discharges of dredged or fill material into waters of the United States associated with surface coal mining and reclamation operations.

(a) Previously Authorized Surface Coal Mining Activities. Surface coal mining activities that were previously authorized by the NWP 21 issued on March 12, 2007 (see 72 FR 11092), are authorized by this NWP, provided the following criteria are met:

(1) The activities are already authorized, or are currently being processed by states with approved programs under Title V of the Surface Mining Control and Reclamation Act of 1977 or as part of an integrated permit processing procedure by the Department of Interior, Office of Surface Mining Reclamation and Enforcement;

(2) The permittee must submit a letter to the district engineer requesting re-verification of the NWP 21 authorization. The letter must describe any changes from the previous NWP 21 verification. The letter must be submitted to the district engineer by February 1, 2013;

(3) The loss of waters of the United States is not greater than the loss of waters of the United States previously verified by the district engineer under the NWP 21 issued on March 12, 2007 (i.e., there are no proposed expansions of surface coal mining activities in waters of the United States);

(4) The district engineer provides written verification that those activities will result in minimal individual and cumulative adverse effects and are authorized by NWP 21, including currently applicable regional conditions and any activity-specific conditions added to the NWP authorization by the district engineer, such as compensatory mitigation requirements; and

(5) If the permittee does not receive a written verification from the district engineer prior to March 18, 2013, the permittee must cease all activities until such verification is received. The district engineer may extend the February 1, 2013, deadline by so notifying the permittee in writing, but the permittee must still cease all activities if he or she has not received written verification from the Corps by March 18, 2013, until such verification is received.

(b) Other Surface Coal Mining Activities. Surface coal mining activities that were not previously authorized by the NWP 21 issued on March 12, 2007, are authorized by this NWP, provided the following criteria are met:

(1) The activities are already authorized, or are currently being processed by states with approved programs under Title V of the Surface Mining Control and Reclamation Act of 1977 or as part of an integrated permit processing procedure by the Department of Interior, Office of Surface Mining Reclamation and Enforcement;

(2) The discharge must not cause the loss of greater than 1/2-acre of non-tidal waters of the United States, including the loss of no more than 300 linear feet of stream bed, unless for intermittent and ephemeral stream beds the district engineer waives the 300 linear foot limit by making a written determination concluding that the discharge will result in minimal individual and cumulative adverse effects. This NWP does not authorize discharges into tidal waters or non-tidal wetlands adjacent to tidal waters; and

(3) The discharge is not associated with the construction of valley fills. A "valley fill" is a fill structure that is typically constructed within valleys associated with steep, mountainous terrain, associated with surface coal mining activities.

Notification: For activities under paragraph (b) of this NWP, the permittee must submit a pre-construction notification to the district engineer and receive written authorization prior to commencing the activity. (See general condition 31.) (Sections 10 and 404)

**22. Removal of Vessels.** Temporary structures or minor discharges of dredged or fill material required for the removal of wrecked, abandoned, or disabled vessels, or the removal of man-made obstructions to navigation. This NWP does not authorize maintenance dredging, shoal removal, or riverbank snagging.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity if: (1) The vessel is listed or eligible for listing in the National Register of Historic Places; or (2) the activity is conducted in a special aquatic site, including coral reefs and wetlands. (See general condition 31.) If condition 1 above is triggered, the permittee cannot commence the activity until informed by the district engineer that compliance with the "Historic Properties" general condition is completed. (Sections 10 and 404)

Note 1: If a removed vessel is disposed of in waters of the United States, a permit from the U.S. EPA may be required (see 40 CFR 229.3). If a Department of the Army permit is required for vessel disposal in waters of the United States, separate authorization will be required.

Note 2: Compliance with general condition 18, Endangered Species, and general condition 20, Historic Properties, is required for all NWPs. The concern with historic properties is emphasized in the notification requirements for this NWP because of the likelihood that submerged vessels may be historic properties.

**\*\*\* 23. Approved Categorical Exclusions.** Activities undertaken, assisted, authorized, regulated, funded, or financed, in whole or in part, by another Federal agency or department where:

(a) That agency or department has determined, pursuant to the Council on Environmental Quality's implementing regulations for the National Environmental Policy Act (40 CFR part 1500 et seq.), that the activity is categorically excluded from environmental documentation, because it is included within a category of actions which neither individually nor cumulatively have a significant effect on the human environment; and

(b) The Office of the Chief of Engineers (Attn: CECW-CO) has concurred with that agency's or department's determination that the activity is categorically excluded and approved the activity for authorization under NWP 23.

The Office of the Chief of Engineers may require additional conditions, including pre-construction notification, for authorization of an agency's categorical exclusions under this NWP.

Notification: Certain categorical exclusions approved for authorization under this NWP require the permittee to submit a pre-construction notification to the district engineer prior to commencing the activity (see general condition 31). The activities that require pre-construction notification are listed in the appropriate Regulatory Guidance Letters. (Sections 10 and 404)

Note: The agency or department may submit an application for an activity believed to be categorically excluded to the Office of the Chief of Engineers (Attn: CECW-CO). Prior to approval for authorization under this NWP of any agency's activity, the Office of the Chief of Engineers will solicit public comment. As of the date of issuance of this NWP, agencies with approved categorical exclusions are the: Bureau of Reclamation, Federal Highway Administration, and U.S. Coast Guard. Activities approved for authorization under this NWP as of the date of this notice are found in Corps Regulatory Guidance Letter 05-07, which is available at:

<http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits/GuidanceLetters.aspx>. Any future approved categorical exclusions will be announced in Regulatory Guidance Letters and posted on this same Web site.

**24. Indian Tribe or State Administered Section 404 Programs.** Any activity permitted by a state or Indian Tribe administering its own section 404 permit program pursuant to 33 U.S.C. 1344(g)-(1) is permitted pursuant to Section 10 of the Rivers and Harbors Act of 1899. (Section 10)

Note 1: As of the date of the promulgation of this NWP, only New Jersey and Michigan administer their own section 404 permit programs.

Note 2: Those activities that do not involve an Indian Tribe or State section 404 permit are not included in this NWP, but certain structures will be exempted by Section 154 of Public Law 94-587, 90 Stat. 2917 (33 U.S.C. 591) (see 33 CFR 322.4(b)).

**25. Structural Discharges.** Discharges of material such as concrete, sand, rock, etc., into tightly sealed forms or cells where the material will be used as a structural member for standard pile supported structures, such as bridges, transmission line footings, and walkways, or for general navigation, such as mooring cells, including the excavation of bottom material from within the form prior to the discharge of concrete, sand, rock, etc. This NWP does not authorize filled structural members that would support buildings, building pads, homes, house pads, parking areas, storage areas and other such structures. The structure itself may require a separate section 10 permit if located in navigable waters of the United States. (Section 404)

NOTE: THE IEPA HAS CONDITIONED SECTION 401 WATER QUALITY CERTIFICATION APPLICABLE TO NATIONWIDE PERMIT 25. DEPARTMENT OF THE ARMY AUTHORIZATION PURSUANT TO SECTION 404 OF THE CLEAN WATER ACT

(33 U.S.C. 1344) UNDER NATIONWIDE PERMIT 25 WILL BE SUBJECT TO THE THREE GENERAL IEPA CONDITIONS, THESE NATIONWIDE SPECIFIC CONDITIONS, AND THE CONDITIONS PUBLISHED IN SECTION C.

1. The applicant shall not cause:
  - A. violation of applicable provisions of the Illinois Environmental Protection Act;
  - B. water pollution defined and prohibited by the Illinois Environmental Protection Act;
  - C. violation of applicable water quality standards of the Illinois Pollution Control Board, Title 35, Subtitle C: Water Pollution Rules and Regulation; or
  - D. interference with water use practices near public recreation areas or water supply intakes.
2. The applicant shall implement erosion control measures consistent with the "Illinois Urban Manual" (IEPA/USDA, NRCS; 2011).
3. Any spoil material excavated, dredged or otherwise produced must not be returned to the waterway but must be deposited in a self-contained area in compliance with all state statutes, regulations and permit requirements with no discharge to waters of the State unless a permit has been issued by this Agency. Any backfilling must be done with clean material and placed in a manner to prevent violation of applicable water quality standards.

**26. [Reserved]**

**27. Aquatic Habitat Restoration, Establishment, and Enhancement Activities.** Activities in waters of the United States associated with the restoration, enhancement, and establishment of tidal and non-tidal wetlands and riparian areas, the restoration and enhancement of non-tidal streams and other non-tidal open waters, and the rehabilitation or enhancement of tidal streams, tidal wetlands, and tidal open waters, provided those activities result in net increases in aquatic resource functions and services.

To the extent that a Corps permit is required, activities authorized by this NWP include, but are not limited to: The removal of accumulated sediments; the installation, removal, and maintenance of small water control structures, dikes, and berms, as well as discharges of dredged or fill material to restore appropriate stream channel configurations after small water control structures, dikes, and berms, are removed; the installation of current deflectors; the enhancement, restoration, or establishment of riffle and pool stream structure; the placement of in-stream habitat structures; modifications of the stream bed and/or banks to restore or establish stream meanders; the backfilling of artificial channels; the removal of existing drainage structures, such as drain tiles, and the filling, blocking, or reshaping of drainage ditches to restore wetland hydrology; the installation of structures or fills necessary to establish or re-establish wetland or stream hydrology; the construction of small nesting islands; the construction of open water areas; the construction of oyster habitat over unvegetated bottom in tidal waters; shellfish seeding; activities needed to reestablish vegetation, including plowing or discing for seed bed preparation and the planting of appropriate wetland species; re-establishment of submerged aquatic vegetation in areas where those plant communities previously existed; re-establishment of tidal wetlands in tidal waters where those wetlands previously existed; mechanized land clearing to remove non-native invasive, exotic, or nuisance vegetation; and other related activities. Only native plant species should be planted at the site.

This NWP authorizes the relocation of non-tidal waters, including non-tidal wetlands and streams, on the project site provided there are net increases in aquatic resource functions and services.

Except for the relocation of non-tidal waters on the project site, this NWP does not authorize the conversion of a stream or natural wetlands to another aquatic habitat type (e.g., stream to wetland or vice versa) or uplands. Changes in wetland plant communities that occur when wetland hydrology is more fully restored during wetland rehabilitation activities are not considered a conversion to another aquatic habitat type. This NWP does not authorize stream channelization. This NWP does not authorize the relocation of tidal waters or the conversion of tidal waters, including tidal wetlands, to other aquatic uses, such as the conversion of tidal wetlands into open water impoundments.

Compensatory mitigation is not required for activities authorized by this NWP since these activities must result in net increases in aquatic resource functions and services.

Reversion. For enhancement, restoration, and establishment activities conducted: (1) In accordance with the terms and conditions of a binding stream or wetland enhancement or restoration agreement, or a wetland establishment agreement, between the landowner and the U.S. Fish and Wildlife Service (FWS), the Natural Resources Conservation Service (NRCS), the Farm Service Agency (FSA), the National Marine Fisheries Service (NMFS), the National Ocean Service (NOS), U.S. Forest Service (USFS), or their designated state cooperating agencies; (2) as voluntary wetland restoration, enhancement, and establishment actions documented by the NRCS or USDA Technical Service Provider pursuant to NRCS Field Office Technical Guide standards; or (3) on reclaimed surface coal mine lands, in accordance with a Surface Mining Control and Reclamation Act permit issued by the Office of Surface Mining Reclamation and Enforcement (OSMRE) or the applicable state agency, this NWP also authorizes any future discharge of dredged or fill material associated with the reversion of the area to its documented prior condition and use (i.e., prior to the restoration, enhancement, or establishment activities). The reversion must occur within five years after expiration of a limited term wetland restoration or establishment agreement or permit, and is authorized in these circumstances even if the discharge occurs after this NWP expires. The five-year reversion limit does not apply to agreements without time limits reached between the landowner and the FWS, NRCS, FSA, NMFS, NOS, USFS, or an appropriate state cooperating agency. This NWP also authorizes discharges of dredged or fill material in waters of the United States for the reversion of wetlands that were restored, enhanced, or established on prior-converted cropland or on uplands, in accordance with a binding agreement between the landowner and NRCS, FSA, FWS, or their designated state cooperating agencies (even though the restoration, enhancement, or establishment activity did not require a section 404 permit). The prior condition will be documented in the original agreement or permit, and the determination of return to prior conditions will be made by the Federal agency or appropriate state agency executing the agreement or permit. Before conducting any reversion activity the permittee or the appropriate Federal or state agency must notify the district engineer and include the

documentation of the prior condition. Once an area has reverted to its prior physical condition, it will be subject to whatever the Corps Regulatory requirements are applicable to that type of land at the time. The requirement that the activity results in a net increase in aquatic resource functions and services does not apply to reversion activities meeting the above conditions. Except for the activities described above, this NWP does not authorize any future discharge of dredged or fill material associated with the reversion of the area to its prior condition. In such cases a separate permit would be required for any reversion.

Reporting. For those activities that do not require pre-construction notification, the permittee must submit to the district engineer a copy of: (1) The binding stream enhancement or restoration agreement or wetland enhancement, restoration, or establishment agreement, or a project description, including project plans and location map; (2) the NRCS or USDA Technical Service Provider documentation for the voluntary stream enhancement or restoration action or wetland restoration, enhancement, or establishment action; or (3) the SMCRA permit issued by OSMRE or the applicable state agency. The report must also include information on baseline ecological conditions on the project site, such as a delineation of wetlands, streams, and/or other aquatic habitats. These documents must be submitted to the district engineer at least 30 days prior to commencing activities in waters of the United States authorized by this NWP.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing any activity (see general condition 31), except for the following activities:

(1) Activities conducted on non-Federal public lands and private lands, in accordance with the terms and conditions of a binding stream enhancement or restoration agreement or wetland enhancement, restoration, or establishment agreement between the landowner and the U.S. FWS, NRCS, FSA, NMFS, NOS, USFS or their designated state cooperating agencies;

(2) Voluntary stream or wetland restoration or enhancement action, or wetland establishment action, documented by the NRCS or USDA Technical Service Provider pursuant to NRCS Field Office Technical Guide standards; or

(3) The reclamation of surface coal mine lands, in accordance with an SMCRA permit issued by the OSMRE or the applicable state agency.

However, the permittee must submit a copy of the appropriate documentation to the district engineer to fulfill the reporting requirement. (Sections 10 and 404)

Note: This NWP can be used to authorize compensatory mitigation projects, including mitigation banks and in-lieu fee projects. However, this NWP does not authorize the reversion of an area used for a compensatory mitigation project to its prior condition, since compensatory mitigation is generally intended to be permanent.

NOTE: THE IEPA HAS CONDITIONED SECTION 401 WATER QUALITY CERTIFICATION APPLICABLE TO NATIONWIDE PERMIT 27. DEPARTMENT OF THE ARMY AUTHORIZATION PURSUANT TO SECTION 404 OF THE CLEAN WATER ACT (33 U.S.C. 1344) UNDER NATIONWIDE PERMIT 27 WILL BE SUBJECT TO THE THREE GENERAL IEPA CONDITIONS, THIS NATIONWIDE SPECIFIC CONDITION, AND THE CONDITIONS PUBLISHED IN SECTION C.

All activities conducted under NWP 27 shall be in accordance with the provisions of 35 Ill. Adm. Code 405.108. Work in reclaimed surface coal mine areas are required to obtain prior authorization from the Illinois EPA for any activities that result in the use of acid-producing mine refuse.

**28. Modifications of Existing Marinas.** Reconfiguration of existing docking facilities within an authorized marina area. No dredging, additional slips, dock spaces, or expansion of any kind within waters of the United States is authorized by this NWP. (Section 10)

**29. Residential Developments.** Discharges of dredged or fill material into non-tidal waters of the United States for the construction or expansion of a single residence, a multiple unit residential development, or a residential subdivision. This NWP authorizes the construction of building foundations and building pads and attendant features that are necessary for the use of the residence or residential development. Attendant features may include but are not limited to roads, parking lots, garages, yards, utility lines, storm water management facilities, septic fields, and recreation facilities such as playgrounds, playing fields, and golf courses (provided the golf course is an integral part of the residential development).

The discharge must not cause the loss of greater than 1/2-acre of non-tidal waters of the United States, including the loss of no more than 300 linear feet of stream bed, unless for intermittent and ephemeral stream beds the district engineer waives the 300 linear foot limit by making a written determination concluding that the discharge will result in minimal adverse effects. This NWP does not authorize discharges into non-tidal wetlands adjacent to tidal waters.

Subdivisions: For residential subdivisions, the aggregate total loss of waters of United States authorized by this NWP cannot exceed 1/2-acre. This includes any loss of waters of the United States associated with development of individual subdivision lots.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity. (See general condition 31.) (Sections 10 and 404)

NOTE: THE IEPA HAS CONDITIONED SECTION 401 WATER QUALITY CERTIFICATION APPLICABLE TO NATIONWIDE PERMIT 29. DEPARTMENT OF THE ARMY AUTHORIZATION PURSUANT TO SECTION 404 OF THE CLEAN WATER ACT (33 U.S.C. 1344) UNDER NATIONWIDE PERMIT 29 WILL BE SUBJECT TO THE THREE GENERAL IEPA CONDITIONS, THESE NATIONWIDE SPECIFIC CONDITIONS, AND THE CONDITIONS PUBLISHED IN SECTION C.

i. The applicant shall not cause:

- A. violation of applicable provisions of the Illinois Environmental Protection Act;
- B. water pollution defined and prohibited by the Illinois Environmental Protection Act;
- C. violation of applicable water quality standards of the Illinois Pollution Control Board, Title 35, Subtitle C: Water Pollution Rules and Regulation; or
- D. interference with water use practices near public recreation areas or water supply intakes.

2. The applicant shall implement erosion control measures consistent with the "Illinois Urban Manual" (IEPA/USDA, NRCS; 2011).
3. Any spoil material excavated, dredged or otherwise produced must not be returned to the waterway but must be deposited in a self-contained area in compliance with all state statutes, regulations and permit requirements with no discharge to waters of the State unless a permit has been issued by this Agency. Any backfilling must be done with clean material and placed in a manner to prevent violation of applicable water quality standards.
4. All areas affected by construction shall be mulched and seeded as soon after construction as possible. The applicant shall undertake necessary measures and procedures to reduce erosion during construction. Interim measures to prevent erosion during construction shall be taken and may include the installation of sedimentation basins and temporary mulching. All construction within the waterway shall be conducted during zero or low flow conditions. The applicant shall be responsible for obtaining an NPDES Storm Water Permit prior to initiating construction if the construction activity associated with the project will result in the disturbance of 1 (one) or more acres, total land area. An NPDES Storm Water Permit may be obtained by submitting a properly completed Notice of Intent (NOI) form by certified mail to the Agency's Division of Water Pollution Control, Permit Section.
5. The applicant is advised that the following permit(s) must be obtained from the Illinois EPA: The applicant must obtain permits to construct sanitary sewers, water mains, and related facilities prior to construction.
6. An individual Section 401 water quality certification will be required for any project where the District Engineer waives the stream length limitation of NWP 29.

**\*\*\* 30. Moist Soil Management for Wildlife.** Discharges of dredged or fill material into non-tidal waters of the United States and maintenance activities that are associated with moist soil management for wildlife for the purpose of continuing ongoing, site-specific, wildlife management activities where soil manipulation is used to manage habitat and feeding areas for wildlife. Such activities include, but are not limited to, plowing or discing to impede succession, preparing seed beds, or establishing fire breaks. Sufficient riparian areas must be maintained adjacent to all open water bodies, including streams, to preclude water quality degradation due to erosion and sedimentation. This NWP does not authorize the construction of new dikes, roads, water control structures, or similar features associated with the management areas. The activity must not result in a net loss of aquatic resource functions and services. This NWP does not authorize the conversion of wetlands to uplands, impoundments, or other open water bodies. (Section 404)

Note: The repair, maintenance, or replacement of existing water control structures or the repair or maintenance of dikes may be authorized by NWP 3. Some such activities may qualify for an exemption under Section 404(f) of the Clean Water Act (see 33 CFR 323.4).

**\*\*\* 31. Maintenance of Existing Flood Control Facilities.** Discharges of dredged or fill material resulting from activities associated with the maintenance of existing flood control facilities, including debris basins, retention/detention basins, levees, and channels that: (i) Were previously authorized by the Corps by individual permit, general permit, or 33 CFR 330.3, or did not require a permit at the time they were constructed, or (ii) were constructed by the Corps and transferred to a non-Federal sponsor for operation and maintenance. Activities authorized by this NWP are limited to those resulting from maintenance activities that are conducted within the "maintenance baseline," as described in the definition below. Discharges of dredged or fill materials associated with maintenance activities in flood control facilities in any watercourse that have previously been determined to be within the maintenance baseline are authorized under this NWP. To the extent that a Corps permit is required, this NWP authorizes the removal of vegetation from levees associated with the flood control project. This NWP does not authorize the removal of sediment and associated vegetation from natural water courses except when these activities have been included in the maintenance baseline. All dredged material must be placed in an area that has no waters of the United States or a separately authorized disposal site in waters of the United States, and proper siltation controls must be used.

**Maintenance Baseline:** The maintenance baseline is a description of the physical characteristics (e.g., depth, width, length, location, configuration, or design flood capacity, etc.) of a flood control project within which maintenance activities are normally authorized by NWP 31, subject to any case-specific conditions required by the district engineer. The district engineer will approve the maintenance baseline based on the approved or constructed capacity of the flood control facility, whichever is smaller, including any areas where there are no constructed channels but which are part of the facility. The prospective permittee will provide documentation of the physical characteristics of the flood control facility (which will normally consist of as-built or approved drawings) and documentation of the approved and constructed design capacities of the flood control facility. If no evidence of the constructed capacity exists, the approved capacity will be used. The documentation will also include best management practices to ensure that the impacts to the aquatic environment are minimal, especially in maintenance areas where there are no constructed channels. (The Corps may request maintenance records in areas where there has not been recent maintenance.) Revocation or modification of the final determination of the maintenance baseline can only be done in accordance with 33 CFR 330.5. Except in emergencies as described below, this NWP cannot be used until the district engineer approves the maintenance baseline and determines the need for mitigation and any regional or activity-specific conditions. Once determined, the maintenance baseline will remain valid for any subsequent reissuance of this NWP. This NWP does not authorize maintenance of a flood control facility that has been abandoned. A flood control facility will be considered abandoned if it has operated at a significantly reduced capacity without needed maintenance being accomplished in a timely manner.

**Mitigation:** The district engineer will determine any required mitigation one-time only for impacts associated with maintenance work at the same time that the maintenance baseline is approved. Such one-time mitigation will be required when necessary to ensure that adverse environmental impacts are no more than minimal, both individually and cumulatively. Such mitigation will only be required once for any specific reach of a flood control project. However, if one-time mitigation is required for impacts associated with maintenance activities, the district engineer will not delay needed maintenance, provided the district engineer and the



permittee establish a schedule for identification, approval, development, construction and completion of any such required mitigation. Once the one-time mitigation described above has been completed, or a determination made that mitigation is not required, no further mitigation will be required for maintenance activities within the maintenance baseline. In determining appropriate mitigation, the district engineer will give special consideration to natural water courses that have been included in the maintenance baseline and require compensatory mitigation and/or best management practices as appropriate.

**Emergency Situations:** In emergency situations, this NWP may be used to authorize maintenance activities in flood control facilities for which no maintenance baseline has been approved. Emergency situations are those which would result in an unacceptable hazard to life, a significant loss of property, or an immediate, unforeseen, and significant economic hardship if action is not taken before a maintenance baseline can be approved. In such situations, the determination of mitigation requirements, if any, may be deferred until the emergency has been resolved. Once the emergency has ended, a maintenance baseline must be established expeditiously, and mitigation, including mitigation for maintenance conducted during the emergency, must be required as appropriate.

**Notification:** The permittee must submit a pre-construction notification to the district engineer before any maintenance work is conducted (see general condition 31). The pre-construction notification may be for activity-specific maintenance or for maintenance of the entire flood control facility by submitting a five-year (or less) maintenance plan. The pre-construction notification must include a description of the maintenance baseline and the dredged material disposal site. (Sections 10 and 404)

**32. Completed Enforcement Actions.** Any structure, work, or discharge of dredged or fill material remaining in place or undertaken for mitigation, restoration, or environmental benefit in compliance with either:

(i) The terms of a final written Corps non-judicial settlement agreement resolving a violation of Section 404 of the Clean Water Act and/or Section 10 of the Rivers and Harbors Act of 1899; or the terms of an EPA 309(a) order on consent resolving a violation of Section 404 of the Clean Water Act, provided that:

(a) The unauthorized activity affected no more than 5 acres of non-tidal waters or 1 acre of tidal waters;

(b) The settlement agreement provides for environmental benefits, to an equal or greater degree, than the environmental detriments caused by the unauthorized activity that is authorized by this NWP; and

(c) The district engineer issues a verification letter authorizing the activity subject to the terms and conditions of this NWP and the settlement agreement, including a specified completion date; or

(ii) The terms of a final Federal court decision, consent decree, or settlement agreement resulting from an enforcement action brought by the United States under Section 404 of the Clean Water Act and/or Section 10 of the Rivers and Harbors Act of 1899; or

(iii) The terms of a final court decision, consent decree, settlement agreement, or non-judicial settlement agreement resulting from a natural resource damage claim brought by a trustee or trustees for natural resources (as defined by the National Contingency Plan at 40 CFR subpart G) under Section 311 of the Clean Water Act, Section 107 of the Comprehensive Environmental Response, Compensation and Liability Act, Section 312 of the National Marine Sanctuaries Act, Section 1002 of the Oil Pollution Act of 1990, or the Park System Resource Protection Act at 16 U.S.C. 19jj, to the extent that a Corps permit is required.

Compliance is a condition of the NWP itself. Any authorization under this NWP is automatically revoked if the permittee does not comply with the terms of this NWP or the terms of the court decision, consent decree, or judicial/non-judicial settlement agreement. This NWP does not apply to any activities occurring after the date of the decision, decree, or agreement that are not for the purpose of mitigation, restoration, or environmental benefit. Before reaching any settlement agreement, the Corps will ensure compliance with the provisions of 33 CFR part 326 and 33 CFR 330.6(d)(2) and (e). (Sections 10 and 404)

**NOTE:** THE IEPA HAS CONDITIONED SECTION 401 WATER QUALITY CERTIFICATION APPLICABLE TO NATIONWIDE PERMIT 32. DEPARTMENT OF THE ARMY AUTHORIZATION PURSUANT TO SECTION 404 OF THE CLEAN WATER ACT (33 U.S.C. 1344) UNDER NATIONWIDE PERMIT 32 WILL BE SUBJECT TO THE THREE GENERAL IEPA CONDITIONS, THESE NATIONWIDE SPECIFIC CONDITIONS, AND THE CONDITIONS PUBLISHED IN SECTION C.

1. The applicant shall not cause:
  - A. violation of applicable provisions of the Illinois Environmental Protection Act;
  - B. water pollution defined and prohibited by the Illinois Environmental Protection Act;
  - C. violation of applicable water quality standards of the Illinois Pollution Control Board, Title 35, Subtitle C: Water Pollution Rules and Regulation; or
  - D. interference with water use practices near public recreation areas or water supply intakes.
2. The applicant shall provide adequate planning and supervision during the project construction period for implementing construction methods, processes and cleanup procedures necessary to prevent water pollution and control erosion.
3. Except as allowed under condition 9, any spoil material excavated, dredged or otherwise produced must not be returned to the waterway but must be deposited in a self-contained area in compliance with all state statutes, regulations and permit requirements with no discharge to waters of the State unless a permit has been issued by the Illinois EPA. Any backfilling must be done with clean material and placed in a manner to prevent violation of applicable water quality standards.
4. All areas affected by construction shall be mulched and seeded as soon after construction as possible. The applicant shall undertake necessary measures and procedures to reduce erosion during construction. Interim measures to prevent erosion during construction shall be taken and may include the installation of sedimentation basins and temporary mulching. All construction within the waterway shall be conducted during zero or low flow conditions. The applicant shall be responsible for obtaining an NPDES Storm Water Permit prior to initiating

construction if the construction activity associated with the project will result in the disturbance of 1 (one) or more acres, total land area. An NPDES Storm Water Permit may be obtained by submitting a properly completed Notice of Intent (NOI) form by certified mail to the Agency's Division of Water Pollution Control, Permit Section.

5. The applicant shall implement erosion control measures consistent with the "Illinois Urban Manual" (IEPA/USDA, NRCS; 2011).
6. The applicant is advised that the following permit(s) must be obtained from the Illinois EPA: The applicant must obtain permits to construct sanitary sewers, water mains, and related facilities prior to construction.
7. Backfill used in the stream-crossing trench shall be predominantly sand or larger size material, with <20% passing a #230 U.S. sieve.
8. Any channel relocation shall be constructed under dry conditions and stabilized to prevent erosion prior to the diversion of flow.
9. Backfill used within trenches passing through surface water of the State, except wetland areas, shall be clean coarse aggregate, gravel or other material which will not cause siltation, pipe damage during placement, or chemical corrosion in place. Excavated material may be used only if:
  - a) Particle size analysis is conducted and demonstrates the material to be at least 80% sand or larger size material, using a #230 U.S. sieve; or
  - b) Excavation and backfilling are done under dry conditions.
10. Backfill used within trenches passing through wetland areas shall consist of clean material which will not cause siltation, pipe damage during placement, or chemical corrosion in place. Excavated material shall be used to the extent practicable, with the upper six (6) to twelve (12) inches backfilled with the topsoil obtained during trench excavation.
11. Any applicant proposing activities in a mined area or previously mined area shall provide to the IEPA a written determination regarding the sediment and materials used which are considered "acid-producing material" as defined in 35 Il. Adm. Code, Subtitle D. If considered "acid-producing material," the applicant shall obtain a permit to construct pursuant to 35 Il. Adm. Code 404.101.
12. Asphalt, bituminous material and concrete with protruding material such as reinforcing bar or mesh shall not be 1) used for backfill, 2) placed on shorelines/stream banks, or 3) placed in waters of the State.

**33. Temporary Construction, Access, and Dewatering.** Temporary structures, work, and discharges, including cofferdams, necessary for construction activities or access fills or dewatering of construction sites, provided that the associated primary activity is authorized by the Corps of Engineers or the U.S. Coast Guard. This NWP also authorizes temporary structures, work, and discharges, including cofferdams, necessary for construction activities not otherwise subject to the Corps or U.S. Coast Guard permit requirements. Appropriate measures must be taken to maintain near normal downstream flows and to minimize flooding. Fill must consist of materials, and be placed in a manner, that will not be eroded by expected high flows. The use of dredged material may be allowed if the district engineer determines that it will not cause more than minimal adverse effects on aquatic resources. Following completion of construction, temporary fill must be entirely removed to an area that has no waters of the United States, dredged material must be returned to its original location, and the affected areas must be restored to pre-construction elevations. The affected areas must also be revegetated, as appropriate. This permit does not authorize the use of cofferdams to dewater wetlands or other aquatic areas to change their use. Structures left in place after construction is completed require a separate section 10 permit if located in navigable waters of the United States. (See 33 CFR part 322.)

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity (see general condition 31). The pre-construction notification must include a restoration plan showing how all temporary fills and structures will be removed and the area restored to pre-project conditions. (Sections 10 and 404)

NOTE: THE IEPA HAS CONDITIONED SECTION 401 WATER QUALITY CERTIFICATION APPLICABLE TO NATIONWIDE PERMIT 33. DEPARTMENT OF THE ARMY AUTHORIZATION PURSUANT TO SECTION 404 OF THE CLEAN WATER ACT (33 U.S.C. 1344) UNDER NATIONWIDE PERMIT 33 WILL BE SUBJECT TO THE THREE GENERAL IEPA CONDITIONS, THESE NATIONWIDE SPECIFIC CONDITIONS, AND THE CONDITIONS PUBLISHED IN SECTION C.

1. Any spoil material excavated, dredged or otherwise produced must not be returned to the waterway but must be deposited in a self-contained area in compliance with all state statutes, as determined by the Illinois EPA.
2. Any backfilling must be done with clean material and placed in a manner to prevent violation of applicable water quality standards.
3. The applicant shall not cause:
  - A. violation of applicable provisions of the Illinois Environmental Protection Act;
  - B. water pollution defined and prohibited by the Illinois Environmental Protection Act;
  - C. violation of applicable water quality standards of the Illinois Pollution Control Board, Title 35, Subtitle C: Water Pollution Rules and Regulation; or
  - D. interference with water use practices near public recreation areas or water supply intakes.
4. All areas affected by construction shall be mulched and seeded as soon after construction as possible. The applicant shall undertake necessary measures and procedures to reduce erosion during construction. Interim measures to prevent erosion during construction shall be taken and may include the installation of sedimentation basins and temporary mulching. All construction within the waterway shall be conducted during zero or low flow conditions. The applicant shall be responsible for obtaining an NPDES Storm Water Permit prior to initiating construction if the construction activity associated with the project will result in the disturbance of 1 (one) or more acres, total land area. An NPDES Storm Water Permit may be obtained by submitting a properly completed Notice of Intent (NOI) form by certified mail to the Agency's Division of Water Pollution Control, Permit Section.

5. The applicant shall implement erosion control measures consistent with the "Illinois Urban Manual" (IEPA/USDA, NRCS; 2011).
6. Temporary work pads, cofferdams, access roads and other temporary fills shall be constructed of clean coarse aggregate or non-erodible non-earthen fill material that will not cause siltation. Sandbags, pre-fabricated rigid materials, sheet piling, inflatable bladders and fabric lined basins may be used for temporary facilities.
7. The applicant for Nationwide Permit 33 that uses temporary work pads, cofferdams, access roads and other temporary fills in order to perform work in creeks, streams, or rivers shall maintain flow in these waters by utilizing dam and pumping, fluming, culverts or other such techniques.

**\*\*\* 34. Cranberry Production Activities.** Discharges of dredged or fill material for dikes, berms, pumps, water control structures or leveling of cranberry beds associated with expansion, enhancement, or modification activities at existing cranberry production operations. The cumulative total acreage of disturbance per cranberry production operation, including but not limited to, filling, flooding, ditching, or clearing, must not exceed 10 acres of waters of the United States, including wetlands. The activity must not result in a net loss of wetland acreage. This NWP does not authorize any discharge of dredged or fill material related to other cranberry production activities such as warehouses, processing facilities, or parking areas. For the purposes of this NWP, the cumulative total of 10 acres will be measured over the period that this NWP is valid.

Notification: The permittee must submit a pre-construction notification to the district engineer once during the period that this NWP is valid, and the NWP will then authorize discharges of dredge or fill material at an existing operation for the permit term, provided the 10-acre limit is not exceeded. (See general condition 31.) (Section 404)

**35. Maintenance Dredging of Existing Basins.** Excavation and removal of accumulated sediment for maintenance of existing marina basins, access channels to marinas or boat slips, and boat slips to previously authorized depths or controlling depths for ingress/egress, whichever is less, provided the dredged material is deposited at an area that has no waters of the United States site and proper siltation controls are used. (Section 10)

**36. Boat Ramps.** Activities required for the construction of boat ramps, provided the activity meets all of the following criteria:

(a) The discharge into waters of the United States does not exceed 50 cubic yards of concrete, rock, crushed stone or gravel into forms, or in the form of pre-cast concrete planks or slabs, unless the district engineer waives the 50 cubic yard limit by making a written determination concluding that the discharge will result in minimal adverse effects;

(b) The boat ramp does not exceed 20 feet in width, unless the district engineer waives this criterion by making a written determination concluding that the discharge will result in minimal adverse effects;

(c) The base material is crushed stone, gravel or other suitable material;

(d) The excavation is limited to the area necessary for site preparation and all excavated material is removed to an area that has no waters of the United States; and,

(e) No material is placed in special aquatic sites, including wetlands.

The use of unsuitable material that is structurally unstable is not authorized. If dredging in navigable waters of the United States is necessary to provide access to the boat ramp, the dredging must be authorized by another NWP, a regional general permit, or an individual permit.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity if: (1) The discharge into waters of the United States exceeds 50 cubic yards, or (2) the boat ramp exceeds 20 feet in width. (See general condition 31.) (Sections 10 and 404)

**\*\*\* 37. Emergency Watershed Protection and Rehabilitation.** Work done by or funded by:

(a) The Natural Resources Conservation Service for a situation requiring immediate action under its emergency Watershed Protection Program (7 CFR part 624);

(b) The U.S. Forest Service under its Burned-Area Emergency Rehabilitation Handbook (FSH 2509.13);

(c) The Department of the Interior for wildland fire management burned area emergency stabilization and rehabilitation (DOI Manual part 620, Ch. 3);

(d) The Office of Surface Mining, or states with approved programs, for abandoned mine land reclamation activities under Title IV of the Surface Mining Control and Reclamation Act (30 CFR Subchapter R), where the activity does not involve coal extraction; or

(e) The Farm Service Agency under its Emergency Conservation Program (7 CFR part 701).

In general, the prospective permittee should wait until the district engineer issues an NWP verification or 45 calendar days have passed before proceeding with the watershed protection and rehabilitation activity. However, in cases where there is an unacceptable hazard to life or a significant loss of property or economic hardship will occur, the emergency watershed protection and rehabilitation activity may proceed immediately and the district engineer will consider the information in the pre-construction notification and any comments received as a result of agency coordination to decide whether the NWP 37 authorization should be modified, suspended, or revoked in accordance with the procedures at 33 CFR 330.5.

Notification: Except in cases where there is an unacceptable hazard to life or a significant loss of property or economic hardship will occur, the permittee must submit a pre-construction notification to the district engineer prior to commencing the activity (see general condition 31). (Sections 10 and 404)

**38. Cleanup of Hazardous and Toxic Waste.** Specific activities required to effect the containment, stabilization, or removal of hazardous or toxic waste materials that are performed, ordered, or sponsored by a government agency with established legal or regulatory authority. Court ordered remedial action plans or related settlements are also authorized by this NWP. This

NWP does not authorize the establishment of new disposal sites or the expansion of existing sites used for the disposal of hazardous or toxic waste.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity. (See general condition 31.) (Sections 10 and 404)

Note: Activities undertaken entirely on a Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) site by authority of CERCLA as approved or required by EPA, are not required to obtain permits under Section 404 of the Clean Water Act or Section 10 of the Rivers and Harbors Act.

NOTE: THE IEPA HAS CONDITIONED SECTION 401 WATER QUALITY CERTIFICATION APPLICABLE TO NATIONWIDE PERMIT 38. DEPARTMENT OF THE ARMY AUTHORIZATION PURSUANT TO SECTION 404 OF THE CLEAN WATER ACT (33 U.S.C. 1344) UNDER NATIONWIDE PERMIT 38 WILL BE SUBJECT TO THE THREE GENERAL IEPA CONDITIONS,

THESE NATIONWIDE SPECIFIC CONDITIONS, AND THE CONDITIONS PUBLISHED IN SECTION C.

1. The applicant shall not cause:
  - A. violation of applicable provisions of the Illinois Environmental Protection Act;
  - B. water pollution defined and prohibited by the Illinois Environmental Protection Act;
  - C. violation of applicable water quality standards of the Illinois Pollution Control Board, Title 35, Subtitle C: Water Pollution Rules and Regulation; or
  - D. interference with water use practices near public recreation areas or water supply intakes.
2. In addition to any actions required of the NWP applicant with respect to the "Notification" General Condition 27, the applicant shall notify the Illinois EPA, Bureau of Water, of the specific activity. This notification shall include information concerning the orders and approvals that have been or will be obtained from the Illinois EPA Bureau of Land (BOL), for all cleanup activities under BOL jurisdiction or for which authorization or approval is sought from BOL for no further remedial action.
3. An individual Section 401 water quality certification will be required for activities that do not require or will not receive authorization or approval from the BOL.

**39. Commercial and Institutional Developments.** Discharges of dredged or fill material into non-tidal waters of the United States for the construction or expansion of commercial and institutional building foundations and building pads and attendant features that are necessary for the use and maintenance of the structures. Attendant features may include, but are not limited to, roads, parking lots, garages, yards, utility lines, storm water management facilities, and recreation facilities such as playgrounds and playing fields. Examples of commercial developments include retail stores, industrial facilities, restaurants, business parks, and shopping centers. Examples of institutional developments include schools, fire stations, government office buildings, judicial buildings, public works buildings, libraries, hospitals, and places of worship. The construction of new golf courses and new ski areas is not authorized by this NWP.

The discharge must not cause the loss of greater than 1/2-acre of non-tidal waters of the United States, including the loss of no more than 300 linear feet of stream bed, unless for intermittent and ephemeral stream beds the district engineer waives the 300 linear foot limit by making a written determination concluding that the discharge will result in minimal adverse effects. This NWP does not authorize discharges into non-tidal wetlands adjacent to tidal waters.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity. (See general condition 31.) (Sections 10 and 404)

Note: For any activity that involves the construction of a wind energy generating structure, solar tower, or overhead transmission line, a copy of the PCN and NWP verification will be provided to the Department of Defense Siting Clearinghouse, which will evaluate potential effects on military activities.

NOTE: THE IEPA HAS CONDITIONED SECTION 401 WATER QUALITY CERTIFICATION APPLICABLE TO NATIONWIDE PERMIT 39. DEPARTMENT OF THE ARMY AUTHORIZATION PURSUANT TO SECTION 404 OF THE CLEAN WATER ACT (33 U.S.C. 1344) UNDER NATIONWIDE PERMIT 39 WILL BE SUBJECT TO THE THREE GENERAL IEPA CONDITIONS, THESE NATIONWIDE SPECIFIC CONDITIONS, AND THE CONDITIONS PUBLISHED IN SECTION C.

1. The applicant shall not cause:
  - A. violation of applicable provisions of the Illinois Environmental Protection Act;
  - B. water pollution defined and prohibited by the Illinois Environmental Protection Act;
  - C. violation of applicable water quality standards of the Illinois Pollution Control Board, Title 35, Subtitle C: Water Pollution Rules and Regulation; or
  - D. interference with water use practices near public recreation areas or water supply intakes.
2. The applicant shall implement erosion control measures consistent with the "Illinois Urban Manual" (IEPA/USDA, NRCS; 2011).
3. Any spoil material excavated, dredged or otherwise produced must not be returned to the waterway but must be deposited in a self-contained area in compliance with all state statutes, regulations and permit requirements with no discharge to waters of the State unless a permit has been issued by this Agency. Any backfilling must be done with clean material and placed in a manner to prevent violation of applicable water quality standards.
4. All areas affected by construction shall be mulched and seeded as soon after construction as possible. The applicant shall undertake necessary measures and procedures to reduce erosion during construction. Interim measures to prevent erosion during construction shall be taken and may include the installation of sedimentation basins and temporary mulching. All construction within the waterway shall be conducted during zero or low flow conditions. The applicant shall be responsible for obtaining an NPDES Storm Water Permit prior to initiating construction if the construction activity associated with the project will result in the disturbance of 1 (one) or more acres, total land area. An NPDES Storm Water Permit may be obtained by submitting a properly completed Notice of Intent (NOI) form by certified mail to the Agency's Division of Water Pollution Control, Permit Section.

5. The applicant is advised that the following permit(s) must be obtained from the Illinois EPA: The applicant must obtain permits to construct sanitary sewers, water mains, and related facilities prior to construction.
6. An individual Section 401 water quality certification will be required for any project where the District Engineer waives the stream length limitation of NWP 39.
7. For construction of oil and gas wells, the impacted waters of the State shall be restored to pre-construction conditions within six months after construction is started. For purposes of this condition, restoration includes stabilization and seeding or planting of vegetation on the disturbed areas that were vegetated prior to construction.

**40. Agricultural Activities.** Discharges of dredged or fill material into non-tidal waters of the United States for agricultural activities, including the construction of building pads for farm buildings. Authorized activities include the installation, placement, or construction of drainage tiles, ditches, or levees; mechanized land clearing; land leveling; the relocation of existing serviceable drainage ditches constructed in waters of the United States; and similar activities.

This NWP also authorizes the construction of farm ponds in non-tidal waters of the United States, excluding perennial streams, provided the farm pond is used solely for agricultural purposes. This NWP does not authorize the construction of aquaculture ponds.

This NWP also authorizes discharges of dredged or fill material into non-tidal waters of the United States to relocate existing serviceable drainage ditches constructed in non-tidal streams.

The discharge must not cause the loss of greater than 1/2-acre of non-tidal waters of the United States, including the loss of no more than 300 linear feet of stream bed, unless for intermittent and ephemeral stream beds the district engineer waives the 300 linear foot limit by making a written determination concluding that the discharge will result in minimal adverse effects. This NWP does not authorize discharges into non-tidal wetlands adjacent to tidal waters.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity. (See general condition 31.) (Section 404)

Note: Some discharges for agricultural activities may qualify for an exemption under Section 404(f) of the Clean Water Act (see 33 CFR 323.4). This NWP authorizes the construction of farm ponds that do not qualify for the Clean Water Act Section 404(f)(1)(C) exemption because of the recapture provision at Section 404(f)(2).

NOTE: THE IEPA HAS CONDITIONED SECTION 401 WATER QUALITY CERTIFICATION APPLICABLE TO NATIONWIDE PERMIT 40. DEPARTMENT OF THE ARMY AUTHORIZATION PURSUANT TO SECTION 404 OF THE CLEAN WATER ACT (33 U.S.C. 1344) UNDER NATIONWIDE PERMIT 40 WILL BE SUBJECT TO THE THREE GENERAL IEPA CONDITIONS, THESE NATIONWIDE SPECIFIC CONDITIONS, AND THE CONDITIONS PUBLISHED IN SECTION C.

1. The applicant shall not cause:
  - A. violation of applicable provisions of the Illinois Environmental Protection Act;
  - B. water pollution defined and prohibited by the Illinois Environmental Protection Act;
  - C. violation of applicable water quality standards of the Illinois Pollution Control Board, Title 35, Subtitle C: Water Pollution Rules and Regulation; or
  - D. interference with water use practices near public recreation areas or water supply intakes.
2. The applicant shall implement erosion control measures consistent with the "Illinois Urban Manual" (IEPA/USDA, NRCS; 2011).
3. Any spoil material excavated, dredged or otherwise produced must not be returned to the waterway but must be deposited in a self-contained area in compliance with all state statutes, regulations and permit requirements with no discharge to waters of the State unless a permit has been issued by this Agency. Any backfilling must be done with clean material and placed in a manner to prevent violation of applicable water quality standards.
4. All areas affected by construction shall be mulched and seeded as soon after construction as possible. The applicant shall undertake necessary measures and procedures to reduce erosion during construction. Interim measures to prevent erosion during construction shall be taken and may include the installation of sedimentation basins and temporary mulching. All construction within the waterway shall be conducted during zero or low flow conditions. The applicant shall be responsible for obtaining an NPDES Storm Water Permit prior to initiating construction if the construction activity associated with the project will result in the disturbance of 1 (one) or more acres, total land area. An NPDES Storm Water Permit may be obtained by submitting a properly completed Notice of Intent (NOI) form by certified mail to the Agency's Division of Water Pollution Control, Permit Section.

**41. Reshaping Existing Drainage Ditches.** Discharges of dredged or fill material into non-tidal waters of the United States, excluding non-tidal wetlands adjacent to tidal waters, to modify the cross-sectional configuration of currently serviceable drainage ditches constructed in waters of the United States, for the purpose of improving water quality by regrading the drainage ditch with gentler slopes, which can reduce erosion, increase growth of vegetation, and increase uptake of nutrients and other substances by vegetation. The reshaping of the ditch cannot increase drainage capacity beyond the original as-built capacity nor can it expand the area drained by the ditch as originally constructed (i.e., the capacity of the ditch must be the same as originally constructed and it cannot drain additional wetlands or other waters of the United States). Compensatory mitigation is not required because the work is designed to improve water quality.

This NWP does not authorize the relocation of drainage ditches constructed in waters of the United States; the location of the centerline of the reshaped drainage ditch must be approximately the same as the location of the centerline of the original drainage ditch. This NWP does not authorize stream channelization or stream relocation projects.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity, if more than 500 linear feet of drainage ditch will be reshaped. (See general condition 31.) (Section 404)

NOTE: THE IEPA HAS CONDITIONED SECTION 401 WATER QUALITY CERTIFICATION APPLICABLE TO NATIONWIDE PERMIT 41. DEPARTMENT OF THE ARMY AUTHORIZATION PURSUANT TO SECTION 404 OF THE CLEAN WATER ACT (33 U.S.C. 1344) UNDER NATIONWIDE PERMIT 41 WILL BE SUBJECT TO THE THREE GENERAL IEPA CONDITIONS, THESE NATIONWIDE SPECIFIC CONDITIONS, AND THE CONDITIONS PUBLISHED IN SECTION C.

1. The applicant shall not cause:
  - A. violation of applicable provisions of the Illinois Environmental Protection Act;
  - B. water pollution defined and prohibited by the Illinois Environmental Protection Act;
  - C. violation of applicable water quality standards of the Illinois Pollution Control Board, Title 35, Subtitle C: Water Pollution Rules and Regulation; or
  - D. interference with water use practices near public recreation areas or water supply intakes.
2. The applicant for Nationwide Permit shall provide adequate planning and supervision during the project construction period for implementing construction methods, processes and cleanup procedures necessary to prevent water pollution and control erosion.
3. Any spoil material excavated, dredged or otherwise produced must not be returned to the waterway but must be deposited in a self-contained area in compliance with all state statutes, regulations and permit requirements with no discharge to waters of the State unless a permit has been issued by the Illinois EPA. Any backfilling must be done with clean material and placed in a manner to prevent violation of applicable water quality standards.
4. All areas affected by construction shall be mulched and seeded as soon after construction as possible. The applicant shall undertake necessary measures and procedures to reduce erosion during construction. Interim measures to prevent erosion during construction shall be taken and may include the installation of sedimentation basins and temporary mulching. All construction within the waterway shall be conducted during zero or low flow conditions. The applicant shall be responsible for obtaining an NPDES Storm Water Permit prior to initiating construction if the construction activity associated with the project will result in the disturbance of 1 (one) or more acres, total land area. An NPDES Storm Water Permit may be obtained by submitting a properly completed Notice of Intent (NOI) form by certified mail to the Agency's Division of Water Pollution Control, Permit Section.
5. The applicant shall implement erosion control measures consistent with the "Illinois Urban Manual" (IEPA/USDA, NRCS; 2011).
6. The applicant is advised that the following permit(s) must be obtained from the Agency: permits to construct sanitary sewers, water mains and related facilities prior to construction.
7. The proposed work shall be constructed with adequate erosion control measures (i.e., silt fences, etc.) to prevent transport of sediment and materials to the adjoining wetlands and/or streams.

**42. Recreational Facilities.** Discharges of dredged or fill material into non-tidal waters of the United States for the construction or expansion of recreational facilities. Examples of recreational facilities that may be authorized by this NWP include playing fields (e.g., football fields, baseball fields), basketball courts, tennis courts, hiking trails, bike paths, golf courses, ski areas, horse paths, nature centers, and campgrounds (excluding recreational vehicle parks). This NWP also authorizes the construction or expansion of small support facilities, such as maintenance and storage buildings and stables that are directly related to the recreational activity, but it does not authorize the construction of hotels, restaurants, racetracks, stadiums, arenas, or similar facilities.

The discharge must not cause the loss of greater than 1/2-acre of non-tidal waters of the United States, including the loss of no more than 300 linear feet of stream bed, unless for intermittent and ephemeral stream beds the district engineer waives the 300 linear foot limit by making a written determination concluding that the discharge will result in minimal adverse effects. This NWP does not authorize discharges into non-tidal wetlands adjacent to tidal waters.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity. (See general condition 31.) (Section 404)

NOTE: THE IEPA HAS CONDITIONED SECTION 401 WATER QUALITY CERTIFICATION APPLICABLE TO NATIONWIDE PERMIT 42. DEPARTMENT OF THE ARMY AUTHORIZATION PURSUANT TO SECTION 404 OF THE CLEAN WATER ACT (33 U.S.C. 1344) UNDER NATIONWIDE PERMIT 42 WILL BE SUBJECT TO THE THREE GENERAL IEPA CONDITIONS, THESE NATIONWIDE SPECIFIC CONDITIONS, AND THE CONDITIONS PUBLISHED IN SECTION C.

1. The applicant shall not cause:
  - A. violation of applicable provisions of the Illinois Environmental Protection Act;
  - B. water pollution defined and prohibited by the Illinois Environmental Protection Act;
  - C. violation of applicable water quality standards of the Illinois Pollution Control Board, Title 35, Subtitle C: Water Pollution Rules and Regulation; or
  - D. interference with water use practices near public recreation areas or water supply intakes.
2. The applicant shall implement erosion control measures consistent with the "Illinois Urban Manual" (IEPA/USDA, NRCS; 2011).
3. Any spoil material excavated, dredged or otherwise produced must not be returned to the waterway but must be deposited in a self-contained area in compliance with all state statutes, regulations and permit requirements with no discharge to waters of the State unless a permit has been issued by this Agency. Any backfilling must be done with clean material and placed in a manner to prevent violation of applicable water quality standards.
4. All areas affected by construction shall be mulched and seeded as soon after construction as possible. The applicant shall undertake necessary measures and procedures to reduce erosion during construction. Interim measures to prevent erosion during construction shall be taken and may include the installation of sedimentation basins and temporary mulching. All construction within the waterway shall be conducted during zero or low flow conditions. The applicant shall be responsible for obtaining an NPDES Storm Water Permit prior to initiating

construction if the construction activity associated with the project will result in the disturbance of 1 (one) or more acres, total land area. An NPDES Storm Water Permit may be obtained by submitting a properly completed Notice of Intent (NOI) form by certified mail to the Agency's Division of Water Pollution Control, Permit Section.

5. An individual Section 401 water quality certification will be required for any project where the District Engineer waives the stream length limitation of NWP 42.

**\*\*\* 43. Stormwater Management Facilities.** Discharges of dredged or fill material into non-tidal waters of the United States for the construction of stormwater management facilities, including stormwater detention basins and retention basins and other stormwater management facilities; the construction of water control structures, outfall structures and emergency spillways; and the construction of low impact development integrated management features such as bioretention facilities (e.g., rain gardens), vegetated filter strips, grassed swales, and infiltration trenches. This NWP also authorizes, to the extent that a section 404 permit is required, discharges of dredged or fill material into non-tidal waters of the United States for the maintenance of stormwater management facilities. Note that stormwater management facilities that are determined to be waste treatment systems under 33 CFR 328.3(a)(8) are not waters of the United States, and maintenance of these waste treatment systems generally does not require a section 404 permit.

The discharge must not cause the loss of greater than 1/2-acre of non-tidal waters of the United States, including the loss of no more than 300 linear feet of stream bed, unless for intermittent and ephemeral stream beds the district engineer waives the 300 linear foot limit by making a written determination concluding that the discharge will result in minimal adverse effects. This NWP does not authorize discharges into non-tidal wetlands adjacent to tidal waters. This NWP does not authorize discharges of dredged or fill material for the construction of new stormwater management facilities in perennial streams.

Notification: For the construction of new stormwater management facilities, or the expansion of existing stormwater management facilities, the permittee must submit a pre-construction notification to the district engineer prior to commencing the activity. (See general condition 31.) Maintenance activities do not require pre-construction notification if they are limited to restoring the original design capacities of the stormwater management facility. (Section 404)

**44. Mining Activities.** Discharges of dredged or fill material into non-tidal waters of the United States for mining activities, except for coal mining activities. The discharge must not cause the loss of greater than 1/2-acre of non-tidal waters of the United States, including the loss of no more than 300 linear feet of stream bed, unless for intermittent and ephemeral stream beds the district engineer waives the 300 linear foot limit by making a written determination concluding that the discharge will result in minimal adverse effects. This NWP does not authorize discharges into non-tidal wetlands adjacent to tidal waters.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity. (See general condition 31.) If reclamation is required by other statutes, then a copy of the reclamation plan must be submitted with the pre-construction notification. (Sections 10 and 404)

NOTE: THE IEPA HAS CONDITIONED SECTION 401 WATER QUALITY CERTIFICATION APPLICABLE TO NATIONWIDE PERMIT 44. DEPARTMENT OF THE ARMY AUTHORIZATION PURSUANT TO SECTION 404 OF THE CLEAN WATER ACT (33 U.S.C. 1344) UNDER NATIONWIDE PERMIT 44 WILL BE SUBJECT TO THE THREE GENERAL IEPA CONDITIONS, THESE NATIONWIDE SPECIFIC CONDITIONS, AND THE CONDITIONS PUBLISHED IN SECTION C.

1. The applicant shall not cause:
  - A. violation of applicable provisions of the Illinois Environmental Protection Act;
  - B. water pollution defined and prohibited by the Illinois Environmental Protection Act;
  - C. violation of applicable water quality standards of the Illinois Pollution Control Board, Title 35, Subtitle C: Water Pollution Rules and Regulation; or
  - D. interference with water use practices near public recreation areas or water supply intakes.
2. The applicant shall implement erosion control measures consistent with the "Illinois Urban Manual" (IEPA/USDA, NRCS, 2011).
3. Any spoil material excavated, dredged or otherwise produced must not be returned to the waterway but must be deposited in a self-contained area in compliance with all state statutes, regulations and permit requirements with no discharge to waters of the State unless a permit has been issued by this Agency. Any backfilling must be done with clean material and placed in a manner to prevent violation of applicable water quality standards.
4. The facility shall be covered by either a Subtitle D NPDES mining permit or a Subtitle D State Construction and Operating Permit for mining activities.
5. An individual Section 401 water quality certification will be required for any project where the District Engineer waives the stream length limitation of NWP 44.

**45. Repair of Uplands Damaged by Discrete Events.** This NWP authorizes discharges of dredged or fill material, including dredging or excavation, into all waters of the United States for activities associated with the restoration of upland areas damaged by storms, floods, or other discrete events. This NWP authorizes bank stabilization to protect the restored uplands. The restoration of the damaged areas, including any bank stabilization, must not exceed the contours, or ordinary high water mark, that existed before the damage occurred. The district engineer retains the right to determine the extent of the pre-existing conditions and the extent of any restoration work authorized by this NWP. The work must commence, or be under contract to commence, within two years of the date of damage, unless this condition is waived in writing by the district engineer. This NWP cannot be used to reclaim lands lost to normal erosion processes over an extended period.

This NWP does not authorize beach restoration or nourishment.

Minor dredging is limited to the amount necessary to restore the damaged upland area and should not significantly alter the pre-existing bottom contours of the waterbody.

Notification: The permittee must submit a pre-construction notification to the district engineer (see general condition 31) within 12-months of the date of the damage. The pre-construction notification should include documentation, such as a recent topographic survey or photographs, to justify the extent of the proposed restoration. (Sections 10 and 404)

Note: The uplands themselves that are lost as a result of a storm, flood, or other discrete event can be replaced without a section 404 permit, if the uplands are restored to the ordinary high water mark (in non-tidal waters) or high tide line (in tidal waters). (See also 33 CFR 328.5.) This NWP authorizes discharges of dredged or fill material into waters of the United States associated with the restoration of uplands.

**46. Discharges in Ditches.** Discharges of dredged or fill material into non-tidal ditches that are: (1) Constructed in uplands, (2) receive water from an area determined to be a water of the United States prior to the construction of the ditch, (3) divert water to an area determined to be a water of the United States prior to the construction of the ditch, and (4) are determined to be waters of the United States. The discharge must not cause the loss of greater than one acre of waters of the United States. This NWP does not authorize discharges of dredged or fill material into ditches constructed in streams or other waters of the United States, or in streams that have been relocated in uplands. This NWP does not authorize discharges of dredged or fill material that increase the capacity of the ditch and drain those areas determined to be waters of the United States prior to construction of the ditch.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity. (See general condition 31.) (Section 404)

NOTE: THE IEPA HAS CONDITIONED SECTION 401 WATER QUALITY CERTIFICATION APPLICABLE TO NATIONWIDE PERMIT 46. DEPARTMENT OF THE ARMY AUTHORIZATION PURSUANT TO SECTION 404 OF THE CLEAN WATER ACT (33 U.S.C. 1344) UNDER NATIONWIDE PERMIT 46 WILL BE SUBJECT TO THE THREE GENERAL IEPA CONDITIONS, THESE NATIONWIDE SPECIFIC CONDITIONS, AND THE CONDITIONS PUBLISHED IN SECTION C.

1. The applicant shall not cause:
  - A. violation of applicable provisions of the Illinois Environmental Protection Act;
  - B. water pollution defined and prohibited by the Illinois Environmental Protection Act;
  - C. violation of applicable water quality standards of the Illinois Pollution Control Board, Title 35, Subtitle C: Water Pollution Rules and Regulation; or
  - D. interference with water use practices near public recreation areas or water supply intakes.
2. The applicant for Nationwide Permit shall provide adequate planning and supervision during the project construction period for implementing construction methods, processes and cleanup procedures necessary to prevent water pollution and control erosion.
3. Any spoil material excavated, dredged or otherwise produced must not be returned to the waterway but must be deposited in a self-contained area in compliance with all state statutes, regulations and permit requirements with no discharge to waters of the State unless a permit has been issued by the Illinois EPA. Any backfilling must be done with clean material and placed in a manner to prevent violation of applicable water quality standards.
4. All areas affected by construction shall be mulched and seeded as soon after construction as possible. The applicant shall undertake necessary measures and procedures to reduce erosion during construction. Interim measures to prevent erosion during construction shall be taken and may include the installation of sedimentation basins and temporary mulching. All construction within the waterway shall be conducted during zero or low flow conditions. The applicant shall be responsible for obtaining an NPDES Storm Water Permit prior to initiating construction if the construction activity associated with the project will result in the disturbance of 1 (one) or more acres, total land area. An NPDES Storm Water Permit may be obtained by submitting a properly completed Notice of Intent (NOI) form by certified mail to the Agency's Division of Water Pollution Control, Permit Section.
5. The applicant shall implement erosion control measures consistent with the "Illinois Urban Manual" (IEPA/USDA, NRCS; 2011).
6. The applicant is advised that the following permit(s) must be obtained from the Agency: permits to construct sanitary sewers, water mains and related facilities prior to construction.
7. The proposed work shall be constructed with adequate erosion control measures (i.e., silt fences, etc.) to prevent transport of sediment and materials to the adjoining wetlands and/or streams.
8. The applicant shall not sever the connection between upstream and downstream surface waters of the State by the discharge of dredged or fill material into ditches.

**47. [Reserved]**

**\*\*\* 48. Commercial Shellfish Aquaculture Activities.** Discharges of dredged or fill material in waters of the United States or structures or work in navigable waters of the United States necessary for commercial shellfish aquaculture operations in authorized project areas. For the purposes of this NWP, the project area is the area in which the operator is currently authorized to conduct commercial shellfish aquaculture activities, as identified through a lease or permit issued by an appropriate state or local government agency, a treaty, or any other easement, lease, deed, or contract which establishes an enforceable property interest for the operator. This NWP authorizes the installation of buoys, floats, racks, trays, nets, lines, tubes, containers, and other structures into navigable waters of the United States. This NWP also authorizes discharges of dredged or fill material into waters of the United States necessary for shellfish seeding, rearing, cultivating, transplanting, and harvesting activities. Rafts and other floating structures must be securely anchored and clearly marked. This NWP does not authorize:

- (a) The cultivation of a nonindigenous species unless that species has been previously cultivated in the waterbody;
- (b) The cultivation of an aquatic nuisance species as defined in the Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990; or,



(c) Attendant features such as docks, piers, boat ramps, stockpiles, or staging areas, or the deposition of shell material back into waters of the United States as waste.

This NWP also authorizes commercial shellfish aquaculture activities in new project areas, provided the project proponent has obtained a valid authorization, such as a lease or permit issued by an appropriate state or local government agency, and those activities do not directly affect more than 1/2-acre of submerged aquatic vegetation beds.

Notification: The permittee must submit a pre-construction notification to the district engineer if: (1) Dredge harvesting, tilling, or harrowing is conducted in areas inhabited by submerged aquatic vegetation; (2) the activity will include a species not previously cultivated in the waterbody; (3) the activity involves a change from bottom culture to floating or suspended culture; or (4) the activity occurs in a new project area. (See general condition 31.)

In addition to the information required by paragraph (b) of general condition 31, the pre-construction notification must also include the following information: (1) A map showing the boundaries of the project area, with latitude and longitude coordinates for each corner of the project area; (2) the name(s) of the cultivated species; and (3) whether canopy predator nets are being used. (Sections 10 and 404)

Note 1: The permittee should notify the applicable U.S. Coast Guard office regarding the project.

Note 2: To prevent introduction of aquatic nuisance species, no material that has been taken from a different waterbody may be reused in the current project area, unless it has been treated in accordance with the applicable regional aquatic nuisance species management plan.

Note 3: The Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990 defines "aquatic nuisance species" as "a nonindigenous species that threatens the diversity or abundance of native species or the ecological stability of infested waters, or commercial, agricultural, aquacultural, or recreational activities dependent on such waters."

**\*\*\* 49. Coal Remining Activities.** Discharges of dredged or fill material into non-tidal waters of the United States associated with the remining and reclamation of lands that were previously mined for coal. The activities must already be authorized, or they must currently be in process as part of an integrated permit processing procedure, by the Department of Interior Office of Surface Mining Reclamation and Enforcement, or by states with approved programs under Title IV or Title V of the Surface Mining Control and Reclamation Act (SMCRA) of 1977. Areas previously mined include reclaimed mine sites, abandoned mine land areas, or lands under bond forfeiture contracts.

As part of the project, the permittee may conduct new coal mining activities in conjunction with the remining activities when he or she clearly demonstrates to the district engineer that the overall mining plan will result in a net increase in aquatic resource functions. The Corps will consider the SMCRA agency's decision regarding the amount of currently undisturbed adjacent lands needed to facilitate the remining and reclamation of the previously mined area. The total area disturbed by new mining must not exceed 40 percent of the total acreage covered by both the remined area and the additional area necessary to carry out the reclamation of the previously mined area.

Notification: The permittee must submit a pre-construction notification and a document describing how the overall mining plan will result in a net increase in aquatic resource functions to the district engineer and receive written authorization prior to commencing the activity. (See general condition 31.) (Sections 10 and 404)

**\*\*\* 50. Underground Coal Mining Activities.** Discharges of dredged or fill material into non-tidal waters of the United States associated with underground coal mining and reclamation operations provided the activities are authorized, or are currently being processed as part of an integrated permit processing procedure, by the Department of Interior, Office of Surface Mining Reclamation and Enforcement, or by states with approved programs under Title V of the Surface Mining Control and Reclamation Act of 1977.

The discharge must not cause the loss of greater than 1/2-acre of non-tidal waters of the United States, including the loss of no more than 300 linear feet of stream bed, unless for intermittent and ephemeral stream beds the district engineer waives the 300 linear foot limit by making a written determination concluding that the discharge will result in minimal adverse effects. This NWP does not authorize discharges into non-tidal wetlands adjacent to tidal waters. This NWP does not authorize coal preparation and processing activities outside of the mine site.

Notification: The permittee must submit a pre-construction notification to the district Engineer and receive written authorization prior to commencing the activity. (See general condition 31.) If reclamation is required by other statutes, then a copy of the reclamation plan must be submitted with the pre-construction notification. (Sections 10 and 404)

Note: Coal preparation and processing activities outside of the mine site may be authorized by NWP 21.

**51. Land-Based Renewable Energy Generation Facilities.** Discharges of dredged or fill material into non-tidal waters of the United States for the construction, expansion, or modification of land-based renewable energy production facilities, including attendant features. Such facilities include infrastructure to collect solar (concentrating solar power and photovoltaic), wind, biomass, or geothermal energy. Attendant features may include, but are not limited to roads, parking lots, and stormwater management facilities within the land-based renewable energy generation facility.

The discharge must not cause the loss of greater than 1/2-acre of non-tidal waters of the United States, including the loss of no more than 300 linear feet of stream bed, unless for intermittent and ephemeral stream beds the district engineer waives the 300 linear foot limit by making a written determination concluding that the discharge will result in minimal adverse effects. This permit does not authorize discharges into non-tidal wetlands adjacent to tidal waters.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity. (See general condition 31.) (Sections 10 and 404)

Note 1: Utility lines constructed to transfer the energy from the land-based renewable generation facility to a distribution system, regional grid, or other facility are generally

considered to be linear projects and each separate and distant crossing of a waterbody is eligible for treatment as a separate and complete linear project. Those utility lines may be authorized by NWP 12 or another Department of the Army authorization. If the only activities associated with the construction, expansion, or modification of a land-based renewable energy generation facility that require Department of the Army authorization are discharges of dredged or fill material into waters of the United States to construct, maintain, repair, and/or remove utility lines, then NWP 12 shall be used if those activities meet the terms and conditions of NWP 12, including any applicable regional conditions and any case-specific conditions imposed by the district engineer.

Note 2: For any activity that involves the construction of a wind energy generating structure, solar tower, or overhead transmission line, a copy of the PCN and NWP verification will be provided to the Department of Defense Siting Clearinghouse, which will evaluate potential effects on military activities.

NOTE: THE IEPA HAS CONDITIONED SECTION 401 WATER QUALITY CERTIFICATION APPLICABLE TO NATIONWIDE PERMIT 51. DEPARTMENT OF THE ARMY AUTHORIZATION PURSUANT TO SECTION 404 OF THE CLEAN WATER ACT (33 U.S.C. 1344) UNDER NATIONWIDE PERMIT 51 WILL BE SUBJECT TO THE THREE GENERAL IEPA CONDITIONS, THESE NATIONWIDE SPECIFIC CONDITIONS, AND THE CONDITIONS PUBLISHED IN SECTION C.

1. The applicant shall not cause:
  - A. violation of applicable provisions of the Illinois Environmental Protection Act;
  - B. water pollution defined and prohibited by the Illinois Environmental Protection Act;
  - C. violation of applicable water quality standards of the Illinois Pollution Control Board, Title 35, Subtitle C: Water Pollution Rules and Regulation; or
  - D. interference with water use practices near public recreation areas or water supply intakes.
2. The applicant shall implement erosion control measures consistent with the "Illinois Urban Manual" (IEPA/USDA, NRCS; 2011).
3. Any spoil material excavated, dredged or otherwise produced must not be returned to the waterway but must be deposited in a self-contained area in compliance with all state statutes, regulations and permit requirements with no discharge to waters of the State unless a permit has been issued by this Agency. Any backfilling must be done with clean material and placed in a manner to prevent violation of applicable water quality standards.
4. All areas affected by construction shall be mulched and seeded as soon after construction as possible. The applicant shall undertake necessary measures and procedures to reduce erosion during construction. Interim measures to prevent erosion during construction shall be taken and may include the installation of sedimentation basins and temporary mulching. All construction within the waterway shall be conducted during zero or low flow conditions. The applicant shall be responsible for obtaining an NPDES Storm Water Permit prior to initiating construction if the construction activity associated with the project will result in the disturbance of 1 (one) or more acres, total land area. An NPDES Storm Water Permit may be obtained by submitting a properly completed Notice of Intent (NOI) form by certified mail to the Agency's Division of Water Pollution Control, Permit Section.
5. An individual Section 401 water quality certification will be required for any project where the District Engineer waives the stream length limitation of NWP 51.

**52. Water-Based Renewable Energy Generation Pilot Projects.** Structures and work in navigable waters of the United States and discharges of dredged or fill material into waters of the United States for the construction, expansion, modification, or removal of water-based wind or hydrokinetic renewable energy generation pilot projects and their attendant features. Attendant features may include, but are not limited to, land-based collection and distribution facilities, control facilities, roads, parking lots, and stormwater management facilities.

For the purposes of this NWP, the term "pilot project" means an experimental project where the renewable energy generation units will be monitored to collect information on their performance and environmental effects at the project site.

The discharge must not cause the loss of greater than 1/2-acre of waters of the United States, including the loss of no more than 300 linear feet of stream bed, unless for intermittent and ephemeral stream beds the district engineer waives the 300 linear foot limit by making a written determination concluding that the discharge will result in minimal adverse effects. The placement of a transmission line on the bed of a navigable water of the United States from the renewable energy generation unit(s) to a land-based collection and distribution facility is considered a structure under Section 10 of the Rivers and Harbors Act of 1899 (see 33 CFR 322.2(b)), and the placement of the transmission line on the bed of a navigable water of the United States is not a loss of waters of the United States for the purposes of applying the 1/2-acre or 300 linear foot limits.

For each single and complete project, no more than 10 generation units (e.g., wind turbines or hydrokinetic devices) are authorized.

This NWP does not authorize activities in coral reefs. Structures in an anchorage area established by the U.S. Coast Guard must comply with the requirements in 33 CFR 322.5(1)(2). Structures may not be placed in established danger zones or restricted areas as designated in 33 CFR part 334, Federal navigation channels, shipping safety fairways or traffic separation schemes established by the U.S. Coast Guard (see 33 CFR 322.5(1)(1)), or EPA or Corps designated open water dredged material disposal areas.

Upon completion of the pilot project, the generation units, transmission lines, and other structures or fills associated with the pilot project must be removed to the maximum extent practicable unless they are authorized by a separate Department of the Army authorization, such as another NWP, an individual permit, or a regional general permit. Completion of the pilot project will be identified as the date of expiration of the Federal Energy Regulatory Commission (FERC) license, or the expiration date of the NWP authorization if no FERC license is issued.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity. (See general condition 31.) (Sections 10 and 404)

Note 1: Utility lines constructed to transfer the energy from the land-based collection facility to a distribution system, regional grid, or other facility are generally considered to

be linear projects and each separate and distant crossing of a waterbody is eligible for treatment as a separate and complete linear project. Those utility lines may be authorized by NWP 12 or another Department of the Army authorization.

Note 2: An activity that is located on an existing locally or federally maintained U.S. Army Corps of Engineers project requires separate approval from the Chief of Engineers under 33 U.S.C. 408.

Note 3: If the pilot project, including any transmission lines, is placed in navigable waters of the United States (i.e., section 10 waters) within the coastal United States, the Great Lakes, and United States territories, copies of the pre-construction notification and NWP verification will be sent by the Corps to the National Oceanic and Atmospheric Administration, National Ocean Service, for charting the generation units and associated transmission line(s) to protect navigation.

Note 4: For any activity that involves the construction of a wind energy generating structure, solar tower, or overhead transmission line, a copy of the PCN and NWP verification will be provided to the Department of Defense Siting Clearinghouse, which will evaluate potential effects on military activities.

NOTE: THE IEPA HAS CONDITIONED SECTION 401 WATER QUALITY CERTIFICATION APPLICABLE TO NATIONWIDE PERMIT 52. DEPARTMENT OF THE ARMY AUTHORIZATION PURSUANT TO SECTION 404 OF THE CLEAN WATER ACT (33 U.S.C. 1344) UNDER NATIONWIDE PERMIT 52 WILL BE SUBJECT TO THE THREE GENERAL IEPA CONDITIONS, THESE NATIONWIDE SPECIFIC CONDITIONS, AND THE CONDITIONS PUBLISHED IN SECTION C.

1. The applicant shall not cause:
  - A. violation of applicable provisions of the Illinois Environmental Protection Act;
  - B. water pollution defined and prohibited by the Illinois Environmental Protection Act;
  - C. violation of applicable water quality standards of the Illinois Pollution Control Board, Title 35, Subtitle C: Water Pollution Rules and Regulation; or
  - D. interference with water use practices near public recreation areas or water supply intakes.
2. The applicant shall implement erosion control measures consistent with the "Illinois Urban Manual" (IEPA/USDA, NRCS; 2011).
3. Any spoil material excavated, dredged or otherwise produced must not be returned to the waterway but must be deposited in a self-contained area in compliance with all state statutes, regulations and permit requirements with no discharge to waters of the State unless a permit has been issued by this Agency. Any backfilling must be done with clean material and placed in a manner to prevent violation of applicable water quality standards.
4. All areas affected by construction shall be mulched and seeded as soon after construction as possible. The applicant shall undertake necessary measures and procedures to reduce erosion during construction. Interim measures to prevent erosion during construction shall be taken and may include the installation of sedimentation basins and temporary mulching. All construction within the waterway shall be conducted during zero or low flow conditions. The applicant shall be responsible for obtaining an NPDES Storm Water Permit prior to initiating construction if the construction activity associated with the project will result in the disturbance of 1 (one) or more acres, total land area. An NPDES Storm Water Permit may be obtained by submitting a properly completed Notice of Intent (NOI) form by certified mail to the Agency's Division of Water Pollution Control, Permit Section.
5. An individual Section 401 water quality certification will be required for any project where the District Engineer waives the stream length limitation of NWP 52.
6. An individual Section 401 water quality certification will be required for any project that is not previously approved by a Section 401 water quality certification issued by the Illinois EPA for a Federal Energy Regulatory Commission license or permit.

#### C. Nationwide Permit General Conditions

Note: To qualify for NWP authorization, the prospective permittee must comply with the following general conditions, as applicable, in addition to any regional or case-specific conditions imposed by the division engineer or district engineer. Prospective permittees should contact the appropriate Corps district office to determine if regional conditions have been imposed on an NWP. Prospective permittees should also contact the appropriate Corps district office to determine the status of Clean Water Act Section 401 water quality certification and/or Coastal Zone Management Act consistency for an NWP. Every person who may wish to obtain permit authorization under one or more NWPs, or who is currently relying on an existing or prior permit authorization under one or more NWPs, has been and is on notice that all of the provisions of 33 CFR 330.1 through 330.6 apply to every NWP authorization. Note especially 33 CFR 330.5 relating to the modification, suspension, or revocation of any NWP authorization.

1. **Navigation.** (a) No activity may cause more than a minimal adverse effect on navigation.  
(b) Any safety lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the United States.  
(c) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

2. **Aquatic Life Movements.** No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. All permanent and temporary crossings of waterbodies shall be suitably culverted, bridged,

or otherwise designed and constructed to maintain low flows to sustain the movement of those aquatic species.

3. **Spawning Areas.** Activities in spawning areas during spawning seasons must be avoided to the maximum extent practicable. Activities that result in the physical destruction (e.g., through excavation, fill, or downstream smothering by substantial turbidity) of an important spawning area are not authorized.

4. **Migratory Bird Breeding Areas.** Activities in waters of the United States that serve as breeding areas for migratory birds must be avoided to the maximum extent practicable.

5. **Shellfish Beds.** No activity may occur in areas of concentrated shellfish populations, unless the activity is directly related to a shellfish harvesting activity authorized by NWP 4 and 48, or is a shellfish seeding or habitat restoration activity authorized by NWP 27.

6. **Suitable Material.** No activity may use unsuitable material (e.g., trash, debris, car bodies, asphalt, etc.). Material used for construction or discharged must be free from toxic pollutants in toxic amounts (see Section 307 of the Clean Water Act).

7. **Water Supply Intakes.** No activity may occur in the proximity of a public water supply intake, except where the activity is for the repair or improvement of public water supply intake structures or adjacent bank stabilization.

8. **Adverse Effects From Impoundments.** If the activity creates an impoundment of water, adverse effects to the aquatic system due to accelerating the passage of water, and/or restricting its flow must be minimized to the maximum extent practicable.

9. **Management of Water Flows.** To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization and storm water management activities, except as provided below. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high flows, unless the primary purpose of the activity is to impound water or manage high flows. The activity may alter the pre-construction course, condition, capacity, and location of open waters if it benefits the aquatic environment (e.g., stream restoration or relocation activities).

10. **Fills Within 100-Year Floodplains.** The activity must comply with applicable FEMA-approved state or local floodplain management requirements.

11. **Equipment.** Heavy equipment working in wetlands or mudflats must be placed on mats, or other measures must be taken to minimize soil disturbance.

12. **Soil Erosion and Sediment Controls.** Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow.

13. **Removal of Temporary Fills.** Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The affected areas must be revegetated, as appropriate.

14. **Proper Maintenance.** Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety and compliance with applicable NWP general conditions, as well as any activity-specific conditions added by the district engineer to an NWP authorization.

15. **Single and Complete Project.** The activity must be a single and complete project. The same NWP cannot be used more than once for the same single and complete project.

16. **Wild and Scenic Rivers.** No activity may occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, unless the appropriate Federal agency with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation or study status. Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency responsible for the designated Wild and Scenic River or study river (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service).

17. **Tribal Rights.** No activity or its operation may impair reserved tribal rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights.

18. **Endangered Species.** (a) No activity is authorized under any NWP which is likely to directly or indirectly jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will directly or indirectly destroy or adversely modify the critical habitat of such species. No activity is authorized under any NWP which "may affect" a listed species or critical habitat, unless Section 7 consultation addressing the effects of the proposed activity has been completed.

(b) Federal agencies should follow their own procedures for complying with the requirements of the ESA. Federal permittees must provide the district engineer with the appropriate

documentation to demonstrate compliance with those requirements. The district engineer will review the documentation and determine whether it is sufficient to address ESA compliance for the NWP activity, or whether additional ESA consultation is necessary.

(c) Non-federal permittees must submit a pre-construction notification to the district engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, and shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that might affect Federally listed endangered or threatened species or designated critical habitat, the pre-construction notification must include the name(s) of the endangered or threatened species that might be affected by the proposed work or that utilize the designated critical habitat that might be affected by the proposed work. The district engineer will determine whether the proposed activity "may affect" or will have "no effect" to listed species and designated critical habitat and will notify the non-Federal applicant of the Corps' determination within 45 days of receipt of a complete pre-construction notification. In cases where the non-Federal applicant has identified listed species or critical habitat that might be affected or is in the vicinity of the project, and has so notified the Corps, the applicant shall not begin work until the Corps has provided notification the proposed activities will have "no effect" on listed species or critical habitat, or until Section 7 consultation has been completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

(d) As a result of formal or informal consultation with the FWS or NMFS the district engineer may add species-specific regional endangered species conditions to the NWPs.

(e) Authorization of an activity by a NWP does not authorize the "take" of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with "incidental take" provisions, etc.) from the U.S. FWS or the NMFS, The Endangered Species Act prohibits any person subject to the jurisdiction of the United States to take a listed species, where "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. The word "harm" in the definition of "take" means an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.

(f) Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the offices of the U.S. FWS and NMFS or their world wide web pages at <http://www.fws.gov/> or <http://www.fws.gov/ipac> and <http://www.noaa.gov/fisheries.html> respectively.

**19. Migratory Birds and Bald and Golden Eagles.** The permittee is responsible for obtaining any "take" permits required under the U.S. Fish and Wildlife Service's regulations governing compliance with the Migratory Bird Treaty Act or the Bald and Golden Eagle Protection Act. The permittee should contact the appropriate local office of the U.S. Fish and Wildlife Service to determine if such "take" permits are required for a particular activity.

**20. Historic Properties.** (a) In cases where the district engineer determines that the activity may affect properties listed, or eligible for listing, in the National Register of Historic Places, the activity is not authorized, until the requirements of Section 106 of the National Historic Preservation Act (NHPA) have been satisfied.

(b) Federal permittees should follow their own procedures for complying with the requirements of Section 106 of the National Historic Preservation Act. Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will review the documentation and determine whether it is sufficient to address section 106 compliance for the NWP activity, or whether additional section 106 consultation is necessary.

(c) Non-federal permittees must submit a pre-construction notification to the district engineer if the authorized activity may have the potential to cause effects to any historic properties listed on, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties. For such activities, the pre-construction notification must state which historic properties may be affected by the proposed work or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of or potential for the presence of historic resources can be sought from the State Historic Preservation Officer or Tribal Historic Preservation Officer, as appropriate, and the National Register of Historic Places (see 33 CFR 330.4(g)). When reviewing pre-construction notifications, district engineers will comply with the current procedures for addressing the requirements of Section 106 of the National Historic Preservation Act. The district engineer shall make a reasonable and good faith effort to carry out appropriate identification efforts, which may include background research, consultation, oral history interviews, sample field investigation, and field survey. Based on the information submitted and these efforts, the district engineer shall determine whether the proposed activity has the potential to cause an effect on the historic properties. Where the non-Federal applicant has identified historic properties on which the activity may have the potential to cause effects and so notified the Corps, the non-Federal applicant shall not begin the activity until notified by the district engineer either that the activity has no potential to cause effects or that consultation under Section 106 of the NHPA has been completed.

(d) The district engineer will notify the prospective permittee within 45 days of receipt of a complete pre-construction notification whether NHPA Section 106 consultation is required. Section 106 consultation is not required when the Corps determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR 800.3(a)). If NHPA section 106 consultation is required and will occur, the district engineer will notify the non-Federal applicant that he or she cannot begin work until Section 106 consultation is completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

(e) Prospective permittees should be aware that section 110k of the NHPA (16 U.S.C. 470h-2(k)) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of Section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the permitted activity on historic properties.

**21. Discovery of Previously Unknown Remains and Artifacts.** If you discover any previously unknown historic, cultural or archeological remains and artifacts while accomplishing the activity authorized by this permit, you must immediately notify the district engineer of what you have found, and to the maximum extent practicable, avoid construction activities that may affect the remains and artifacts until the required coordination has been completed. The district engineer will initiate the Federal, Tribal and state coordination required to determine if the items or remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

**22. Designated Critical Resource Waters.** Critical resource waters include, NOAA-managed marine sanctuaries and marine monuments, and National Estuarine Research Reserves. The district engineer may designate, after notice and opportunity for public comment, additional waters officially designated by a state as having particular environmental or ecological significance, such as outstanding national resource waters or state natural heritage sites. The district engineer may also designate additional critical resource waters after notice and opportunity for public comment.

(a) Discharges of dredged or fill material into waters of the United States are not authorized by NWPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, 50, 51, and 52 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters.

(b) For NWPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, and 38, notification is required in accordance with general condition 31, for any activity proposed in the designated critical resource waters including wetlands adjacent to those waters. The district engineer may authorize activities under these NWPs only after it is determined that the impacts to the critical resource waters will be no more than minimal.

**23. Mitigation.** The district engineer will consider the following factors when determining appropriate and practicable mitigation necessary to ensure that adverse effects on the aquatic environment are minimal:

(a) The activity must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States to the maximum extent practicable at the project site (i.e., on site).

(b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing, or compensating for resource losses) will be required to the extent necessary to ensure that the adverse effects to the aquatic environment are minimal.

(c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland losses that exceed 1/10-acre and require pre-construction notification, unless the district engineer determines in writing that either some other form of mitigation would be more environmentally appropriate or the adverse effects of the proposed activity are minimal, and provides a project-specific waiver of this requirement. For wetland losses of 1/10-acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in minimal adverse effects on the aquatic environment. Compensatory mitigation projects provided to offset losses of aquatic resources must comply with the applicable provisions of 33 CFR part 332.

(1) The prospective permittee is responsible for proposing an appropriate compensatory mitigation option if compensatory mitigation is necessary to ensure that the activity results in minimal adverse effects on the aquatic environment.

(2) Since the likelihood of success is greater and the impacts to potentially valuable uplands are reduced, wetland restoration should be the first compensatory mitigation option considered.

(3) If permittee-responsible mitigation is the proposed option, the prospective permittee is responsible for submitting a mitigation plan. A conceptual or detailed mitigation plan may be used by the district engineer to make the decision on the NWP verification request, but a final mitigation plan that addresses the applicable requirements of 33 CFR 332.4(c)(2)-(14) must be approved by the district engineer before the permittee begins work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation (see 33 CFR 332.3(k)(3)).

(4) If mitigation bank or in-lieu fee program credits are the proposed option, the mitigation plan only needs to address the baseline conditions at the impact site and the number of credits to be provided.

(5) Compensatory mitigation requirements (e.g., resource type and amount to be provided as compensatory mitigation, site protection, ecological performance standards, monitoring requirements) may be addressed through conditions added to the NWP authorization, instead of components of a compensatory mitigation plan.

(d) For losses of streams or other open waters that require pre-construction notification, the district engineer may require compensatory mitigation, such as stream rehabilitation,

enhancement, or preservation, to ensure that the activity results in minimal adverse effects on the aquatic environment.

(e) Compensatory mitigation will not be used to increase the acreage losses allowed by the acreage limits of the NWP. For example, if an NWP has an acreage limit of 1/2-acre, it cannot be used to authorize any project resulting in the loss of greater than 1/2-acre of waters of the United States, even if compensatory mitigation is provided that replaces or restores some of the lost waters. However, compensatory mitigation can and should be used, as necessary, to ensure that a project already meeting the established acreage limits also satisfies the minimal impact requirement associated with the NWP.

(f) Compensatory mitigation plans for projects in or near streams or other open waters will normally include a requirement for the restoration or establishment, maintenance, and legal protection (e.g., conservation easements) of riparian areas next to open waters. In some cases, riparian areas may be the only compensatory mitigation required. Riparian areas should consist of native species. The width of the required riparian area will address documented water quality or aquatic habitat loss concerns. Normally, the riparian area will be 25 to 50 feet wide on each side of the stream, but the district engineer may require slightly wider riparian areas to address documented water quality or habitat loss concerns. If it is not possible to establish a riparian area on both sides of a stream, or if the waterbody is a lake or coastal waters, then restoring or establishing a riparian area along a single bank or shoreline may be sufficient. Where both wetlands and open waters exist on the project site, the district engineer will determine the appropriate compensatory mitigation (e.g., riparian areas and/or wetlands compensation) based on what is best for the aquatic environment on a watershed basis. In cases where riparian areas are determined to be the most appropriate form of compensatory mitigation, the district engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland losses.

(g) Permittees may propose the use of mitigation banks, in-lieu fee programs, or separate permittee-responsible mitigation. For activities resulting in the loss of marine or estuarine resources, permittee-responsible compensatory mitigation may be environmentally preferable if there are no mitigation banks or in-lieu fee programs in the area that have marine or estuarine credits available for sale or transfer to the permittee. For permittee-responsible mitigation, the special conditions of the NWP verification must clearly indicate the party or parties responsible for the implementation and performance of the compensatory mitigation project, and, if required, its long-term management.

(h) Where certain functions and services of waters of the United States are permanently adversely affected, such as the conversion of a forested or scrub-shrub wetland to a herbaceous wetland in a permanently maintained utility line right-of-way, mitigation may be required to reduce the adverse effects of the project to the minimal level.

**24. Safety of Impoundment Structures.** To ensure that all impoundment structures are safely designed, the district engineer may require non-Federal applicants to demonstrate that the structures comply with established state dam safety criteria or have been designed by qualified persons. The district engineer may also require documentation that the design has been independently reviewed by similarly qualified persons, and appropriate modifications made to ensure safety.

**25. Water Quality.** Where States and authorized Tribes, or EPA where applicable, have not previously certified compliance of an NWP with CWA Section 401, individual 401 Water Quality Certification must be obtained or waived (see 33 CFR 330.4(c)). The district engineer or State or Tribe may require additional water quality management measures to ensure that the authorized activity does not result in more than minimal degradation of water quality.

**26. Coastal Zone Management.** In coastal states where an NWP has not previously received a state coastal zone management consistency concurrence, an individual state coastal zone management consistency concurrence must be obtained, or a presumption of concurrence must occur (see 33 CFR 330.4(d)). The district engineer or a State may require additional measures to ensure that the authorized activity is consistent with state coastal zone management requirements.

**27. Regional and Case-By-Case Conditions.** The activity must comply with any regional conditions that may have been added by the Division Engineer (see 33 CFR 330.4(e)) and with any case specific conditions added by the Corps or by the state, Indian Tribe, or U.S. EPA in its section 401 Water Quality Certification, or by the state in its Coastal Zone Management Act consistency determination.

**28. Use of Multiple Nationwide Permits.** The use of more than one NWP for a single and complete project is prohibited, except when the acreage loss of waters of the United States authorized by the NWP does not exceed the acreage limit of the NWP with the highest specified acreage limit. For example, if a road crossing over tidal waters is constructed under NWP 14, with associated bank stabilization authorized by NWP 13, the maximum acreage loss of waters of the United States for the total project cannot exceed 1/3-acre.

**29. Transfer of Nationwide Permit Verifications.** If the permittee sells the property associated with a nationwide permit verification, the permittee may transfer the nationwide permit verification to the new owner by submitting a letter to the appropriate Corps district office to validate the transfer. A copy of the nationwide permit verification must be attached to the letter, and the letter must contain the following statement and signature:

"When the structures or work authorized by this nationwide permit are still in existence at the time the property is transferred, the terms and conditions of this nationwide permit, including any special conditions, will continue to be binding on the new owner(s) of the property. To validate the transfer of this nationwide permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below."

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(Transferee)  
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(Date)

**30. Compliance Certification.** Each permittee who receives an NWP verification letter from the Corps must provide a signed certification documenting completion of the authorized activity and any required compensatory mitigation. The success of any required permittee-responsible mitigation, including the achievement of ecological performance standards, will be addressed separately by the district engineer. The Corps will provide the permittee the certification document with the NWP verification letter. The certification document will include:

- (a) A statement that the authorized work was done in accordance with the NWP authorization, including any general, regional, or activity-specific conditions;
- (b) A statement that the implementation of any required compensatory mitigation was completed in accordance with the permit conditions. If credits from a mitigation bank or in-lieu fee program are used to satisfy the compensatory mitigation requirements, the certification must include the documentation required by 33 CFR 332.3(1)(3) to confirm that the permittee secured the appropriate number and resource type of credits; and
- (c) The signature of the permittee certifying the completion of the work and mitigation.

**31. Pre-Construction Notification--(a) Timing.** Where required by the terms of the NWP, the prospective permittee must notify the district engineer by submitting a pre-construction notification (PCN) as early as possible. The district engineer must determine if the PCN is complete within 30 calendar days of the date of receipt and, if the PCN is determined to be incomplete, notify the prospective permittee within that 30 day period to request the additional information necessary to make the PCN complete. The request must specify the information needed to make the PCN complete. As a general rule, district engineers will request additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the district engineer will notify the prospective permittee that the PCN is still incomplete and the PCN review process will not commence until all of the requested information has been received by the district engineer. The prospective permittee shall not begin the activity until either:

(1) He or she is notified in writing by the district engineer that the activity may proceed under the NWP with any special conditions imposed by the district or division engineer; or

(2) 45 calendar days have passed from the district engineer's receipt of the complete PCN and the prospective permittee has not received written notice from the district or division engineer. However, if the permittee was required to notify the Corps pursuant to general condition 18 that listed species or critical habitat might be affected or in the vicinity of the project, or to notify the Corps pursuant to general condition 20 that the activity may have the potential to cause effects to historic properties, the permittee cannot begin the activity until receiving written notification from the Corps that there is "no effect" on listed species or "no potential to cause effects" on historic properties, or that any consultation required under Section 7 of the Endangered Species Act (see 33 CFR 330.4(f)) and/or Section 106 of the National Historic Preservation (see 33 CFR 330.4(g)) has been completed. Also, work cannot begin under NWPs 21, 49, or 50 until the permittee has received written approval from the Corps. If the proposed activity requires a written waiver to exceed specified limits of an NWP, the permittee may not begin the activity until the district engineer issues the waiver. If the district or division engineer notifies the permittee in writing that an individual permit is required within 45 calendar days of receipt of a complete PCN, the permittee cannot begin the activity until an individual permit has been obtained. Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 330.5(d)(2).

(b) Contents of Pre-Construction Notification: The PCN must be in writing and include the following information:

- (1) Name, address and telephone numbers of the prospective permittee;
- (2) Location of the proposed project;
- (3) A description of the proposed project; the project's purpose; direct and indirect adverse environmental effects the project would cause, including the anticipated amount of loss of water of the United States expected to result from the NWP activity, in acres, linear feet, or other appropriate unit of measure; any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity. The description should be sufficiently detailed to allow the district engineer to determine that the adverse effects of the project will be minimal and to determine the need for compensatory mitigation. Sketches should be provided when necessary to show that the activity complies with the terms of the NWP. (Sketches usually clarify the project and when provided results in a quicker decision. Sketches should contain sufficient detail to provide an illustrative description of the proposed activity (e.g., a conceptual plan), but do not need to be detailed engineering plans);

(4) The PCN must include a delineation of wetlands, other special aquatic sites, and other waters, such as lakes and ponds, and perennial, intermittent, and ephemeral streams, on the project site. Wetland delineations must be prepared in accordance with the current method required by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters on the project site, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many waters of the United States. Furthermore, the 45 day period will not start until the delineation has been submitted to or completed by the Corps, as appropriate;

(5) If the proposed activity will result in the loss of greater than 1/10-acre of wetlands and a PCN is required, the prospective permittee must submit a statement describing how the



mitigation requirement will be satisfied, or explaining why the adverse effects are minimal and why compensatory mitigation should not be required. As an alternative, the prospective permittee may submit a conceptual or detailed mitigation plan.

(6) If any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, for non-Federal applicants the PCN must include the name(s) of those endangered or threatened species that might be affected by the proposed work or utilize the designated critical habitat that may be affected by the proposed work. Federal applicants must provide documentation demonstrating compliance with the Endangered Species Act; and

(7) For an activity that may affect a historic property listed on, determined to be eligible for listing on, or potentially eligible for listing on, the National Register of Historic Places, for non-Federal applicants the PCN must state which historic property may be affected by the proposed work or include a vicinity map indicating the location of the historic property. Federal applicants must provide documentation demonstrating compliance with Section 106 of the National Historic Preservation Act.

(c) Form of Pre-Construction Notification: The standard individual permit application form (Form ENG 4345) may be used, but the completed application form must clearly indicate that it is a PCN and must include all of the information required in paragraphs (b) (1) through (7) of this general condition. A letter containing the required information may also be used.

(d) Agency Coordination: (1) The district engineer will consider any comments from Federal and state agencies concerning the proposed activity's compliance with the terms and conditions of the NWP and the need for mitigation to reduce the project's adverse environmental effects to a minimal level.

(2) For all NWP activities that require pre-construction notification and result in the loss of greater than 1/2-acre of waters of the United States, for NWP 21, 29, 39, 40, 42, 43, 44, 50, 51, and 52 activities that require pre-construction notification and will result in the loss of greater than 300 linear feet of intermittent and ephemeral stream bed, and for all NWP 48 activities that require pre-construction notification, the district engineer will immediately provide (e.g., via email, facsimile transmission, overnight mail, or other expeditious manner) a copy of the complete PCN to the appropriate Federal or state offices (U.S. FWS, state natural resource or water quality agency, EPA, State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Office (THPO), and, if appropriate, the NMFS). With the exception of NWP 37, these agencies will have 10 calendar days from the date the material is transmitted to telephone or fax the district engineer notice that they intend to provide substantive, site-specific comments. The comments must explain why the agency believes the adverse effects will be more than minimal. If so contacted by an agency, the district engineer will wait an additional 15 calendar days before making a decision on the pre-construction notification. The district engineer will fully consider agency comments received within the specified time frame concerning the proposed activity's compliance with the terms and conditions of the NWPs, including the need for mitigation to ensure the net adverse environmental effects to the aquatic environment of the proposed activity are minimal. The district engineer will provide no response to the resource agency, except as provided below. The district engineer will indicate in the administrative record associated with each pre-construction notification that the resource agencies' concerns were considered. For NWP 37, the emergency watershed protection and rehabilitation activity may proceed immediately in cases where there is an unacceptable hazard to life or a significant loss of property or economic hardship will occur. The district engineer will consider any comments received to decide whether the NWP 37 authorization should be modified, suspended, or revoked in accordance with the procedures at 33 CFR 330.5.

(3) In cases of where the prospective permittee is not a Federal agency, the district engineer will provide a response to NMFS within 30 calendar days of receipt of any Essential Fish Habitat conservation recommendations, as required by Section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act.

(4) Applicants are encouraged to provide the Corps with either electronic files or multiple copies of pre-construction notifications to expedite agency coordination.

#### D. District Engineer's Decision

1. In reviewing the PCN for the proposed activity, the district engineer will determine whether the activity authorized by the NWP will result in more than minimal individual or cumulative adverse environmental effects or may be contrary to the public interest. For a linear project, this determination will include an evaluation of the individual crossings to determine whether they individually satisfy the terms and conditions of the NWP(s), as well as the cumulative effects caused by all of the crossings authorized by NWP. If an applicant requests a waiver of the 300 linear foot limit on impacts to intermittent or ephemeral streams or of an otherwise applicable limit, as provided for in NWPs 13, 21, 29, 36, 39, 40, 42, 43, 44, 50, 51 or 52, the district engineer will only grant the waiver upon a written determination that the NWP activity will result in minimal adverse effects. When making minimal effects determinations the district engineer will consider the direct and indirect effects caused by the NWP activity. The district engineer will also consider site specific factors, such as the environmental setting in the vicinity of the NWP activity, the type of resource that will be affected by the NWP activity, the functions provided by the aquatic resources that will be affected by the NWP activity, the degree or magnitude to which the aquatic resources perform those functions, the extent that aquatic resource functions will be lost as a result of the NWP activity (e.g., partial or complete loss), the duration of the adverse effects (temporary or permanent), the importance of the aquatic resource functions to the region (e.g., watershed or ecoregion), and mitigation required by the district engineer. If an appropriate functional assessment method is available and practicable to use, that assessment method may be used by the district engineer to assist in the minimal adverse effects determination. The district engineer may add case-specific special conditions to the NWP authorization to address site-specific environmental concerns.

2. If the proposed activity requires a PCN and will result in a loss of greater than 1/10-acre of wetlands, the prospective permittee should submit a mitigation proposal with the PCN. Applicants may also propose compensatory mitigation for projects with smaller impacts. The district engineer will consider any proposed compensatory mitigation the applicant has included

in the proposal in determining whether the net adverse environmental effects to the aquatic environment of the proposed activity are minimal. The compensatory mitigation proposal may be either conceptual or detailed. If the district engineer determines that the activity complies with the terms and conditions of the NWP and that the adverse effects on the aquatic environment are minimal, after considering mitigation, the district engineer will notify the permittee and include any activity-specific conditions in the NWP verification the district engineer deems necessary. Conditions for compensatory mitigation requirements must comply with the appropriate provisions at 33 CFR 332.3(k). The district engineer must approve the final mitigation plan before the permittee commences work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation. If the prospective permittee elects to submit a compensatory mitigation plan with the PCN, the district engineer will expeditiously review the proposed compensatory mitigation plan. The district engineer must review the proposed compensatory mitigation plan within 45 calendar days of receiving a complete PCN and determine whether the proposed mitigation would ensure no more than minimal adverse effects on the aquatic environment. If the net adverse effects of the project on the aquatic environment (after consideration of the compensatory mitigation proposal) are determined by the district engineer to be minimal, the district engineer will provide a timely written response to the applicant. The response will state that the project can proceed under the terms and conditions of the NWP, including any activity-specific conditions added to the NWP authorization by the district engineer.

3. If the district engineer determines that the adverse effects of the proposed work are more than minimal, then the district engineer will notify the applicant either: (a) That the project does not qualify for authorization under the NWP and instruct the applicant on the procedures to seek authorization under an individual permit; (b) that the project is authorized under the NWP subject to the applicant's submission of a mitigation plan that would reduce the adverse effects on the aquatic environment to the minimal level; or (c) that the project is authorized under the NWP with specific modifications or conditions. Where the district engineer determines that mitigation is required to ensure no more than minimal adverse effects occur to the aquatic environment, the activity will be authorized within the 45-day PCN period, with activity-specific conditions that state the mitigation requirements. The authorization will include the necessary conceptual or detailed mitigation or a requirement that the applicant submit a mitigation plan that would reduce the adverse effects on the aquatic environment to the minimal level. When mitigation is required, no work in waters of the United States may occur until the district engineer has approved a specific mitigation plan or has determined that prior approval of a final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation.

#### **E. Further Information**

1. District Engineers have authority to determine if an activity complies with the terms and conditions of an NWP. -

2. NWPs do not obviate the need to obtain other federal, state, or local permits, approvals, or authorizations required by law.

3. NWPs do not grant any property rights or exclusive privileges.

4. NWPs do not authorize any injury to the property or rights of others.

5. NWPs do not authorize interference with any existing or proposed Federal project.

#### **F. Definitions**

**Best management practices (BMPs):** Policies, practices, procedures, or structures implemented to mitigate the adverse environmental effects on surface water quality resulting from development. BMPs are categorized as structural or non-structural.

**Compensatory mitigation:** The restoration (re-establishment or rehabilitation), establishment (creation), enhancement, and/or in certain circumstances preservation of aquatic resources for the purposes of offsetting unavoidable adverse impacts which remain after all appropriate and practicable avoidance and minimization has been achieved.

**Currently serviceable:** Useable as is or with some maintenance, but not so degraded as to essentially require reconstruction.

**Direct effects:** Effects that are caused by the activity and occur at the same time and place.

**Discharge:** The term "discharge" means any discharge of dredged or fill material.

**Enhancement:** The manipulation of the physical, chemical, or biological characteristics of an aquatic resource to heighten, intensify, or improve a specific aquatic resource function(s). Enhancement results in the gain of selected aquatic resource function(s), but may also lead to a decline in other aquatic resource function(s). Enhancement does not result in a gain in aquatic resource area.

**Ephemeral stream:** An ephemeral stream has flowing water only during, and for a short duration after, precipitation events in a typical year. Ephemeral stream beds are located above the water table year-round. Groundwater is not a source of water for the stream. Runoff from rainfall is the primary source of water for stream flow.

**Establishment (creation):** The manipulation of the physical, chemical, or biological characteristics present to develop an aquatic resource that did not previously exist at an upland site. Establishment results in a gain in aquatic resource area.

**High Tide Line:** The line of intersection of the land with the water's surface at the maximum height reached by a rising tide. The high tide line may be determined, in the absence of actual data, by a line of oil or scum along shore objects, a more or less continuous deposit of fine shell or debris on the foreshore or berm, other physical markings or characteristics, vegetation lines, tidal gages, or other suitable means that delineate the general height reached by a rising tide. The line encompasses spring high tides and other high tides that occur with periodic frequency but does not include storm surges in which there is a departure from the normal or predicted reach of the tide due to the piling up of water against a coast by strong winds such as those accompanying a hurricane or other intense storm.

**Historic Property:** Any prehistoric or historic district, site (including archaeological site), building, structure, or other object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization and that meet the National Register criteria (36 CFR part 60).

**Independent utility:** A test to determine what constitutes a single and complete non-linear project in the Corps regulatory program. A project is considered to have independent utility if it would be constructed absent the construction of other projects in the project area. Portions of a multi-phase project that depend upon other phases of the project do not have independent utility. Phases of a project that would be constructed even if the other phases were not built can be considered as separate single and complete projects with independent utility.

**Indirect effects:** Effects that are caused by the activity and are later in time or farther removed in distance, but are still reasonably foreseeable.

**Intermittent stream:** An intermittent stream has flowing water during certain times of the year, when groundwater provides water for stream flow. During dry periods, intermittent streams may not have flowing water. Runoff from rainfall is a supplemental source of water for stream flow.

**Loss of waters of the United States:** Waters of the United States that are permanently adversely affected by filling, flooding, excavation, or drainage because of the regulated activity. Permanent adverse effects include permanent discharges of dredged or fill material that change an aquatic area to dry land, increase the bottom elevation of a waterbody, or change the use of a waterbody. The acreage of loss of waters of the United States is a threshold measurement of the impact to jurisdictional waters for determining whether a project may qualify for an NWP; it is not a net threshold that is calculated after considering compensatory mitigation that may be used to offset losses of aquatic functions and services. The loss of stream bed includes the linear feet of stream bed that is filled or excavated. Waters of the United States temporarily filled, flooded, excavated, or drained, but restored to pre-construction contours and elevations after construction, are not included in the measurement of loss of waters of the United States. Impacts resulting from activities eligible for exemptions under Section 404(f) of the Clean Water Act are not considered when calculating the loss of waters of the United States.

**Non-tidal wetland:** A non-tidal wetland is a wetland that is not subject to the ebb and flow of tidal waters. The definition of a wetland can be found at 33 CFR 328.3(b). Non-tidal wetlands contiguous to tidal waters are located landward of the high tide line (i.e., spring high tide line).

**Open water:** For purposes of the NWPs, an open water is any area that in a year with normal patterns of precipitation has water flowing or standing above ground to the extent that an ordinary high water mark can be determined. Aquatic vegetation within the area of standing or flowing water is either non-emergent, sparse, or absent. Vegetated shallows are considered to be open waters. Examples of "open waters" include rivers, streams, lakes, and ponds.

**Ordinary High Water Mark:** An ordinary high water mark is a line on the shore established by the fluctuations of water and indicated by physical characteristics, or by other appropriate means that consider the characteristics of the surrounding areas (see 33 CFR 328.3(e)).

**Perennial stream:** A perennial stream has flowing water year-round during a typical year. The water table is located above the stream bed for most of the year. Groundwater is the primary source of water for stream flow. Runoff from rainfall is a supplemental source of water for stream flow.

**Practicable:** Available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.

**Pre-construction notification:** A request submitted by the project proponent to the Corps for confirmation that a particular activity is authorized by nationwide permit. The request may be a permit application, letter, or similar document that includes information about the proposed work and its anticipated environmental effects. Pre-construction notification may be required by the terms and conditions of a nationwide permit, or by regional conditions. A pre-construction notification may be voluntarily submitted in cases where pre-construction notification is not required and the project proponent wants confirmation that the activity is authorized by nationwide permit.

**Preservation:** The removal of a threat to, or preventing the decline of, aquatic resources by an action in or near those aquatic resources. This term includes activities commonly associated with the protection and maintenance of aquatic resources through the implementation of

appropriate legal and physical mechanisms. Preservation does not result in a gain of aquatic resource area or functions.

**Re-establishment:** The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former aquatic resource. Re-establishment results in rebuilding a former aquatic resource and results in a gain in aquatic resource area and functions.

**Rehabilitation:** The manipulation of the physical, chemical, or biological characteristics of a site with the goal of repairing natural/historic functions to a degraded aquatic resource. Rehabilitation results in a gain in aquatic resource function, but does not result in a gain in aquatic resource area.

**Restoration:** The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former or degraded aquatic resource. For the purpose of tracking net gains in aquatic resource area, restoration is divided into two categories: re-establishment and rehabilitation.

**Riffle and pool complex:** Riffle and pool complexes are special aquatic sites under the 404(b)(1) Guidelines. Riffle and pool complexes sometimes characterize steep gradient sections of streams. Such stream sections are recognizable by their hydraulic characteristics. The rapid movement of water over a coarse substrate in riffles results in a rough flow, a turbulent surface, and high dissolved oxygen levels in the water. Pools are deeper areas associated with riffles. A slower stream velocity, a streaming flow, a smooth surface, and a finer substrate characterize pools.

**Riparian areas:** Riparian areas are lands adjacent to streams, lakes, and estuarine-marine shorelines. Riparian areas are transitional between terrestrial and aquatic ecosystems, through which surface and subsurface hydrology connects riverine, lacustrine, estuarine, and marine waters with their adjacent wetlands, non-wetland waters, or uplands. Riparian areas provide a variety of ecological functions and services and help improve or maintain local water quality. (See general condition 23.)

**Shellfish seeding:** The placement of shellfish seed and/or suitable substrate to increase shellfish production. Shellfish seed consists of immature individual shellfish or individual shellfish attached to shells or shell fragments (i.e., spat on shell). Suitable substrate may consist of shellfish shells, shell fragments, or other appropriate materials placed into waters for shellfish habitat.

**Single and complete linear project:** A linear project is a project constructed for the purpose of getting people, goods, or services from a point of origin to a terminal point, which often involves multiple crossings of one or more waterbodies at separate and distant locations. The term "single and complete project" is defined as that portion of the total linear project proposed or accomplished by one owner/developer or partnership or other association of owners/developers that includes all crossings of a single water of the United States (i.e., a single waterbody) at a specific location. For linear projects crossing a single or multiple waterbodies several times at separate and distant locations, each crossing is considered a single and complete project for purposes of NWP authorization. However, individual channels in a braided stream or river, or individual arms of a large, irregularly shaped wetland or lake, etc., are not separate waterbodies, and crossings of such features cannot be considered separately.

**Single and complete non-linear project:** For non-linear projects, the term "single and complete project" is defined at 33 CFR 330.2(i) as the total project proposed or accomplished by one owner/developer or partnership or other association of owners/developers. A single and complete non-linear project must have independent utility (see definition of "independent utility"). Single and complete non-linear projects may not be "piecemealed" to avoid the limits in an NWP authorization.

**Stormwater management:** Stormwater management is the mechanism for controlling stormwater runoff for the purposes of reducing downstream erosion, water quality degradation, and flooding and mitigating the adverse effects of changes in land use on the aquatic environment.

**Stormwater management facilities:** Stormwater management facilities are those facilities, including but not limited to, stormwater retention and detention ponds and best management practices, which retain water for a period of time to control runoff and/or improve the quality (i.e., by reducing the concentration of nutrients, sediments, hazardous substances and other pollutants) of stormwater runoff.

**Stream bed:** The substrate of the stream channel between the ordinary high water marks. The substrate may be bedrock or inorganic particles that range in size from clay to boulders. Wetlands contiguous to the stream bed, but outside of the ordinary high water marks, are not considered part of the stream bed.

**Stream channelization:** The manipulation of a stream's course, condition, capacity, or location that causes more than minimal interruption of normal stream processes. A channelized stream remains a water of the United States.

**Structure:** An object that is arranged in a definite pattern of organization. Examples of structures include, without limitation, any pier, boat dock, boat ramp, wharf, dolphin, weir, boom, breakwater, bulkhead, revetment, riprap, jetty, artificial island, artificial reef, permanent mooring structure, power transmission line, permanently moored floating vessel, piling, aid to navigation, or any other manmade obstacle or obstruction.

**Tidal wetland:** A tidal wetland is a wetland (i.e., water of the United States) that is inundated by tidal waters. The definitions of a wetland and tidal waters can be found at 33 CFR 328.3(b) and 33 CFR 328.3(f), respectively. Tidal waters rise and fall in a predictable and measurable rhythm or cycle due to the gravitational pulls of the moon and sun. Tidal waters end where the rise and fall of the water surface can no longer be practically measured in a predictable rhythm due to masking by other waters, wind, or other effects. Tidal wetlands are located channelward of the high tide line, which is defined at 33 CFR 328.3(d).

**Vegetated shallows:** Vegetated shallows are special aquatic sites under the 404(b)(1) Guidelines. They are areas that are permanently inundated and under normal circumstances have rooted aquatic vegetation, such as seagrasses in marine and estuarine systems and a variety of vascular rooted plants in freshwater systems.

**Waterbody:** For purposes of the NHPs, a waterbody is a jurisdictional water of the United States determined to be a water of the United States under 33 CFR 328.3(a)(1)-(6), that waterbody and its adjacent wetlands are considered together as a single aquatic unit (see 33 CFR 328.4(c)(2)). Examples of "waterbodies" include streams, rivers, lakes, ponds, and wetlands.

\*\*\*Nationwide permit where Illinois Environmental Protection Agency has denied Section 401 Water Quality Certification.

PCN - Pre-Construction Notification

\*\*\* Nationwide permit where Illinois Environmental Protection Agency has denied Section 401 Water Quality Certification.

# REGULATORY JURISDICTIONAL BOUNDARIES

US ARMY CORPS OF ENGINEERS  
 ROCK ISLAND DISTRICT  
 CLOCKTOWER BUILDING  
 P.O. BOX 2004  
 ROCK ISLAND, IL 61204-2004  
 309-794-5057

IDNR / OFFICE OF WATER RESOURCES  
 NORTHEASTERN ILLINOIS REGULATORY  
 PROGRAMS SECTION  
 2050 WEST STEARNS ROAD  
 BARTLETT, IL 60103  
 847-608-3100 x32025

US ARMY CORPS OF ENGINEERS  
 CHICAGO DISTRICT  
 111 NORTH CANAL, FLOOR 6  
 CHICAGO, IL 60606-7206  
 312-846-5530

IDNR / OFFICE OF WATER RESOURCES  
 DOWNSTATE REGULATORY PROGRAMS SECTION  
 ONE NATURAL RESOURCES WAY  
 SPRINGFIELD, IL 62702-1271  
 217-782-3863

IDNR / OFFICE OF WATER RESOURCES  
 LAKE MICHIGAN MANAGEMENT SECTION  
 160 N. LASALLE STREET  
 SUITE 5-703  
 CHICAGO, IL 60601  
 312-793-3123

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY  
 BUREAU OF WATER  
 DIVISION OF WATER POLLUTION CONTROL  
 PERMIT SECTION  
 FACILITY EVALUATION UNIT  
 1021 NORTH GRAND AVENUE EAST  
 POST OFFICE BOX 19276  
 SPRINGFIELD, IL 62794-9276  
 217-782-3362

US ARMY CORPS OF ENGINEERS  
 LOUISVILLE DISTRICT  
 NEWBURGH REGULATORY OFFICE  
 6855 STATE ROAD 66  
 PO BOX 489  
 NEWBURGH, IN 47630

US ARMY CORPS OF ENGINEERS  
 ST. LOUIS DISTRICT  
 1222 SPRUCE  
 ST. LOUIS, MO 63103-2833  
 314-331-8575

US ARMY CORPS OF ENGINEERS  
 MEMPHIS DISTRICT  
 167 NORTH MAIN  
 B-202  
 MEMPHIS, TN 38103-1894  
 901-544-0735

NOTE FOR CERTAIN PORTIONS OF  
 LOWER ALEXANDER AND PULASKI  
 COUNTIES, CONTACT THE MEMPHIS  
 DISTRICT FOR INFORMATION

