IEPA Log No.: **C-0001-12**
CoE appl. #: **2011-805**

Public Notice Beginning Date: **November 20. 2012**
Public Notice Ending Date: **December 11, 2012**

Section 401 of the Federal Water Pollution Control Act
Amendments of 1972

Section 401 Water Quality Certification to Discharge into Waters of the State

Public Notice/Fact Sheet Issued By:

Illinois Environmental Protection Agency
Bureau of Water
Facility Evaluation Unit
1021 North Grand Avenue East
Post Office Box 19276
Springfield, Illinois 62794-9276
217/782-3362

Name and Address of Discharger: Southwestern Illinois Flood Prevention District Council, 104 United Drive, Collinsville, IL 62234

Discharge Location: Along the Metro East Sanitary District levee system between approximate Mississippi River miles 175 and 195 in Madison and St. Clair Counties.

Name of Receiving Water: Unnamed Wetlands

Project Description: Levee improvements in the Metro East Sanitary District

The Illinois Environmental Protection Agency (IEPA) has received an application for a Section 401 water quality certification to discharge into the waters of the state associated with a Section 404 permit application received by the U.S. Army Corps of Engineers. The Public Notice period will begin and end on the dates indicated in the heading of this Public Notice. The last day comments will be received will be on the Public Notice period ending date unless a commenter demonstrating the need for additional time requests an extension to this comment period and the request is granted by the IEPA. Interested persons are invited to submit written comments on the project to the IEPA at the above address. Commenters shall provide their names and addresses along with comments on the certification application. Commenters may include a request for public hearing. The certification and notice number(s) must appear on each comment page.

The attached Fact Sheet provides a description of the project and the antidegradation assessment.

The application, Public Notice/Fact Sheet, comments received, and other documents are available for inspection and may be copied at the IEPA at the address shown above between 9:30 a.m. and 3:30 p.m. Monday through Friday when scheduled by the interested person.

If written comments or requests indicate a significant degree of public interest in the certification application, the IEPA may, at its discretion, hold a public hearing. Public notice will be given 30 days before any public hearing. If a Section 401 water quality certification is issued, response to relevant comments will be provided at the time of the certification. For further information, please call Thaddeus Faught at 217/782-3362.

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Fact Sheet for Antidegradation Assessment
Southwestern Illinois Flood Prevention District Council – Metro-East Sanitary Levee District – Unnamed Wetlands – Madison and St. Clair Counties
IEPA Log No. C-0001-12
COE Log No. 2011-805
Contact: Brian Koch at 217-558-2012
November 20, 2012

The Southwestern Illinois Flood Prevention District Council ("SIFPDC" or "Applicant") has applied for a 401 water quality certification for permanent wetland impacts associated with proposed levee improvements to the Metro East Sanitary District (MESD) levee system. The MESD levee, in addition to the 9-mile long Chain or Rocks levee (federally owned), forms a single levee system that provides flood protection for the cities of East St. Louis, Granite City, and other municipalities adjacent to the Mississippi River between River Miles 195 and 175. The Cahokia Canal borders the northern part of system and Prairie du Pont Creek borders the southern part of the system.

The purpose of these improvements is to restore the level of protection such that the levee systems will be eligible for FEMA accreditation in accordance with 44 CFR 65.10 criteria, which requires protection from the base flood (100-year flood) shown on Flood Rate Insurance Maps. The improvements are required in order to control underseepage of groundwater to relieve excessive hydrostatic pressures beneath the levee system during flood conditions. In the absence of these control measures, high river levels would force groundwater to flow naturally as uncontrolled seepage throughout and along the landward side of the levee systems into low-lying areas such as wetlands, sloughs, and drainage channels. Uncontrolled seepage would have the potential to infiltrate and erode permeable areas of the levees and create sandboils, which would compromise the structural integrity of the levee systems.

The proposed improvements include new relief wells, conversion of existing relief wells to T-type wells, piezometers, retrofitted piezometers, earthen fill, a riverside clay cap, a blanket drain, and four pump stations and associated underground pipe systems. This current project plan is outlined in the Applicant's October 25, 2012 submittal to the Agency and serves as an addendum to the original "60% Design Plans" for the project summarized in Applicant's Section 404 Permit/401 Water Quality Certification Application dated December 16, 2011. The Applicant has stated that minor design plans are subject to change, but any changes would not result in an increase in the amount of stream or wetland impacts.

Completion of the project would result in permanent impacts to 0.32 acres of unfarmed palustrine emergent wetlands and 0.46 acres of palustrine forested wetlands (total of 0.78 acres). Pump station discharges would be received by the Chain of Rocks Canal, an unfarmed palustrine emergent wetland (herein identified as "MLW206") adjacent to the Mississippi River, and Cahokia Canal No.1 (two pump stations). The pump stations would serve to transfer floodwater and groundwater underseepage from the landward side of the levee system back to the Mississippi River.

Impacts to wetland areas would be minimized to the greatest extent possible. The proposed levee improvements would be located on or adjacent to previously disturbed land associated with

original construction of the levee. Permanent wetland impacts would result from fill activities associated with the installation of relief wells, the riverside clay cap, and the blanket drain. Clean fill would be used for all fill activities. Work within wetlands would be avoided to the extent practicable, but temporary impacts to wetland areas may also be necessary. If conditions are wet at the time of construction, clean fill materials may need to be placed into wetlands to create temporary work pads and/or access routes in association with new and replaced relief wells, seepage berm and road construction, and riverside cap construction. These actions would be temporary, and fill materials would be removed and affected sites restored to pre-project conditions following construction. Best management practices and an erosion control plan would be followed to minimize erosion, turbidity, or other temporary impacts. Temporarily impacted wetland areas would be restored as specified in section 11.0 of the Applicant's Section 404 Permit/401 Water Quality Certification Application dated December 16, 2011.

Mitigation for wetland impacts would follow that specified in the April 5, 2012 document entitled "Formal Mitigation Plan" submitted to SIFPDC by SCI Engineering, Inc. Mitigation for the impacts associated with this project would be completed in collaboration with mitigation for stream and wetland impacts associated with two other levee projects proposed by the Applicant (IEPA Log No. C-0002-12 and C-0003-12). The mitigation site for the impacts associated with all three SIFPDC projects is located near Roxana, Illinois (Sections 7 and 8, Township 4 North, Range 8 West) in the floodplain of Indian Creek and Cahokia Creek, near the confluence of these waterways. A wetland habitat would be established consisting of approximately 54.5 acres of emergent and forested wetlands and wet mesic prairie habitat areas. Additionally, approximately 1.1 acres of planted riparian corridor creation and 6.4 acres of riparian preservation would be provided along Indian Creek and Cahokia Creek. In regards to the impacts proposed in the MESD levee system, the Applicant is proposing to mitigate the 0.32 acres of unfarmed palustrine emergent wetlands at a 2:1 ratio (mitigation commitment of 0.64 acres), and the 0.46 acres of palustrine forested wetlands at a 2.5:1 ratio (mitigation commitment of 1.15 acres). Wetland mitigation credit requirements were determined using standard USACE ratios for offsite mitigation. A total of 39.4 wetland mitigation credits are required from all three SIFPDC projects, whereas the mitigation plan would provide 51.9 wetland mitigation credits (an excess of required credits). Although no stream impacts are planned for this specific project, riparian corridor mitigation credits required for stream impacts associated with project C-0002-12 were determined using the *Illinois Stream Mitigation Guidance*.

Construction of the wetland mitigation site would be concurrent with impacts associated with construction activities of the three levee projects. Newly graded wetland slopes (no steeper than 4:1) would be planted using a nurse crop of quick growing, annual species (red top, oats or rye grass) in order to stabilize the soil and minimize erosion until natural vegetation becomes established. The soil onsite may contain a natural seed bank capable of naturally revegetating the site with herbaceous cover, but supplemental planting of emergent areas would be performed if natural revegetation does not occur (See Table 7.1 of Formal Mitigation Plan for list of herbaceous species). Native tree and shrub species for wetland areas would be planted with a 20 foot spacing and would consist of flood tolerant species, many of which would be mast producing trees (See Table 7.2 of Formal Mitigation Plan for list of wetland tree species). Trees would consist of two to three gallon containerized advance root system varieties to enhance growth and survival rates. Riparian corridor plantings would also be planted with a 20 foot

spacing and would consist of two to three gallon containerized advance root system varieties. Species would consist of a mix of flood tolerant and semi flood tolerant species (See Table 7.3 of Formal Mitigation Plan). Annual monitoring of the constructed wetland and riparian areas would be conducted for a period of five years following completion of construction and planting. Performance standards for herbaceous vegetation in wetland areas would be based on percent composition and percent relative cover of hydrophytic species after each growing season. After the first growing season, 40 percent hydrophytic species composition and 40 percent relative cover of hydrophytic species would be required, and after the fifth growing season 80 percent hydrophytic species composition and 80 percent relative cover of hydrophytic species would be required. Performance standards for trees planted within wetland and riparian corridor areas would be based on a minimum of 80 percent survivorship of planted tree species after each growing season.

Identification and Characterization of the Affected Water Body.

The unnamed wetlands within the project site have zero 7Q10 flow and are General Use waters. The waters have not been assessed under the Agency's 305(b)/303(d) program and have not been given an integrity rating or been listed as biologically significant in the 2008 Illinois Department of Natural Resources publication *Integrating Multiple Taxa in a Biological Stream Rating System*. The water bodies are not enhanced in regards to the dissolved oxygen water quality standard.

Identification of Proposed Pollutant Load Increases or Potential Impacts on Uses.

Construction activities would likely result in increases of suspended solids to the impacted wetland areas. These potential impacts would be minimized to the greatest practical extent through implementation of a site-specific storm water pollution prevention plan and the best management practices previously described in the project narrative. Permanent fill activities would remove the aquatic life uses of filled wetland areas, but these impacts would be offset with wetland mitigation. Temporarily impacted wetland areas would be restored to pre-project conditions following construction and should support the same community structure currently found.

The installation of relief structures would allow for upward flow of groundwater to relieve excessive hydrostatic pressures beneath the levee system during flood conditions. Flow from relief structures would be short-term and temporary and would be comprised of the same groundwater that currently has the potential to uncontrollably seep in a manner destructive to the levee system. Groundwater in the vicinity of Sauget Area 2 "Site P" is known to contain volatile and semi-volatile organic compounds from legacy contamination, and existing relief wells presently convey groundwater (which may contain trace amounts of these compounds) to the existing East St. Louis pump station. The current project proposes to install four additional relief wells in the vicinity of Sauget Area 2 "Site P" at depths between 20 and 94 feet below ground surface. A review of groundwater sampling data from nearby wells at depths between 50 and 100 feet below ground surface found that the volatile and semi-volatile organic compounds did not exceed acute and chronic criteria for these substances, but one sample was found to exceed the human health criterion for bis(2-ethylhexyl)phthalate. Given the use of this substance in

plastics, detection of this substance is often attributed to sampling contamination or laboratory contamination. However, the Applicant was unable to determine if field blank or equipment blanks were used in the sampling event. When averaged with the other samples (no detections), the average bis(2-ethylhexyl)phthalate concentration is 0.03 mg/L, whereas the human health criterion is 0.002 mg/L. Nonetheless, given that groundwater from this site is transferred back to the Mississippi River via the East St. Louis pump station, the small volume of intermittent relief well discharge would be diluted with other pump station water prior to discharge. If present in pump station discharges, attainment of the human health criterion for bis(2-ethylhexyl)phthalate would be achieved with allowed mixing within the Mississippi River.

Fate and Effect of Parameters Proposed for Increased Loading.

The increase in suspended solids would be local and temporary. Erosion control measures would be utilized to minimize any increase in suspended solids and prevent further impact to the wetlands. Aquatic life uses of the wetlands to be permanently filled would be offset with wetland mitigation.

Purpose and Social & Economic Benefits of the Proposed Activity.

Completion of the proposed activities is necessary to attain levee re-accreditation through FEMA in accordance with 44 CFR 65.10 criteria. Although FEMA accreditation does not necessarily constitute a determination of levee performance during flooding events, the concern for public safety from catastrophic flooding events is also paramount. If the levee system failed, the population affected from the imminent flooding is estimated at over 200,000 people, along with 85,000 acres of land and over $1 billion in property assets. The potential social and economic impact of the levees losing accreditation would be substantial. Levee decertification would trigger massive cost increases in flood insurance rates to individuals and businesses and potentially harm economic growth and investment in the region. Federally regulated financial institutions would not be able to issue loans to homeowners or businesses that do not carry adequate flood insurance, and communities would need to adopt development ordinances that include strict requirements for building in flood zones. If the proposed activities were to not proceed, hardships would be endured locally as well as regionally due to the social and economic consequences of levee decertification.

Assessments of Alternatives for Less Increase in Loading or Minimal Environmental Degradation.

An assessment of alternatives for the proposed project, as well as the two other SIFPDC levee projects, was provided in the January 20, 2012 Environmental Assessment prepared by the Corps of Engineers, St. Louis District. A “no action” and an “action” alternative consisting of individual or a combination of measures were developed for each levee area requiring underseepage control.

No Action Alternative: This alternative would result in no action being taken to correct the deficiencies required to bring the levees to the level required for FEMA accreditation. As previously described, the social and economic impact of levees losing accreditation would be

substantial. Additionally, the no action alternative would compromise the effectiveness and safety of the current levee systems and could jeopardize public safety. No action is not a viable alternative given the social, economic, and catastrophic public safety ramifications that could result in the absence of proceeding with the project.

Proposed Action Alternative: If the levees are to be re-accredited, the project as proposed is the preferred method of correcting levee deficiencies. Solutions were selected, where needed, to match the requirements identified by the USACE for the authorized level of protection. Relief wells, seepage berms, cutoff walls, clay caps, toe drains, graded filters, blanket drains, and trench drains were all considered as solutions to meet the appropriate level of protection for each specific levee reach. Because of their relatively low capital cost and small footprint (<20 square feet of fill required per well), relief wells were generally recommended as the preferred control where they would adequately reduce exit gradients. Where relief wells were not determined to adequately reduce gradients, other control measures were selected with regard to minimization of stream/wetland impacts. Compared to the initially proposed project plans, wetland impacts associated with the current project would be reduced by approximately 3.4 acres due to the selection of relief wells rather than installing two graded filters and a protection berm.

Summary Comments of the Illinois Department of Natural Resources, Regional Planning Commissions, Zoning Boards or Other Entities.

Pat Malone of IDNR reviewed all applicable information for the proposed project and determined that the project will not have any significant adverse ecological impacts. Consultation was therefore terminated as stated in the May 2, 2012 e-mail correspondence from Pat Malone to Thaddeus Faught. No further comments from INDR were provided. The U.S. Army Corps of Engineers, St. Louis District released an Environmental Assessment, with Draft Finding of No Significant Impact for the proposed project on January 20, 2012.

Agency Conclusion.

This preliminary assessment was conducted pursuant to the Illinois Pollution Control Board regulation for Antidegradation found at 35 Ill. Adm. Code 302.105 (antidegradation standard) and was based on the information available to the Agency at the time the assessment was written. We tentatively find that the proposed activity would result in the attainment of water quality standards; that all existing uses of the wetlands would be maintained or mitigated; that all technically and economically reasonable measures to avoid or minimize the extent of the proposed increase in pollutant loading have been incorporated into the proposed activity; and that this activity would provide social and economic benefits to the community at large by providing public safety from flooding events and allowing for attainment of FEMA accreditation. Comments received during the 401 Water Quality Certification public notice period will be evaluated before a final decision is made by the Agency.