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ST. LOUIS DISTRICT, CORPS OF ENGINEERS
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24 May 2012

Reply to:

Regional Planning Division North
Planning and Environmental Branch (PD-E)
1222 Spruce St.
St. Louis, MO 63103-2833

Dear Sir or Madam:

A copy of the Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) for repair of Len Small Drainage and Levee District (D&LD), Alexander Co., IL is available online or upon request for your review. This levee was damaged during spring 2011 flooding. Please note that the Draft Finding of No Significant Impact is unsigned. This document will be signed into effect only after having carefully considered comments received as a result of this public review. We invite your comments related to the content of the posted EA by **25 June 2012**.

Electronic copies of the EA are available online at:

<http://www.mvs.usace.army.mil/pm/pm-reports.html>

Levees throughout the St. Louis District were damaged during flooding in spring 2011. Many drainage and levee districts have requested assistance under Public Law 84-99 which provides repair assistance to a levee district for flood damaged levees. We are in the process of evaluating damages, completing all necessary documentation including environmental compliance and preparing plans and specifications. Once these steps are complete for a D&LD, construction to repair the damages can begin.

For question, or comments, please contact:

Ken Cook of the Environmental Compliance Section (CEMVS-PD-C)
Telephone number (314) 331-8498,
Facsimile number (314) 331-8806, or
e-mail: kenneth.m.cook@usace.army.mil

Written comments may be sent to the above address, c/o Ken Cook

Thank you,

A handwritten signature in cursive script that reads "Timothy K. George".

Timothy K. George
Chief Environmental Compliance Section



**US Army Corps
of Engineers**

St. Louis District

**ENVIRONMENTAL ASSESSMENT
WITH
DRAFT FINDING OF NO SIGNIFICANT IMPACT**

**LEVEE REPAIR (PL 84-99):
LEN SMALL DRAINAGE AND LEVEE DISTRICT
ALEXANDER COUNTY, ILLINOIS**

**Prepared by:
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May 2012

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ENVIRONMENTAL ASSESSMENT WITH DRAFT FINDING OF NO SIGNIFICANT IMPACT

LEEVE REPAIR (PL 84-99): LEN SMALL DRAINAGE AND LEEVE DISTRICT ALEXANDER COUNTY, ILLINOIS

1. PURPOSE, NEED AND SUMMARY OF ACTION

This document is an Environmental Assessment with an attached Draft Finding of No Significant Impact for levee repairs to the Len Small Drainage and Levee District (D&LD). It describes levee damage, repair alternatives, the existing environment, and potential environmental impacts associated with each alternative. Under Public Law 84-99 (PL 84 – 99), Drainage Districts whose levees are within the federal levee system can request federal assistance with flood damage repairs. Damages sustained to a portion of the Len Small D&LD in the 2011 high water event consisted of a 1,300 foot breach along with associated bed scouring. Additional damages include two slides and a gravity drain collapse. If this breach is not repaired, the entire levee district will remain unprotected from any flood occurring at a 50% (2-year) frequency or higher. In addition to 200 residences, 12,000 acres of corn, soybeans, and wheat would also be at risk.

The purpose of this federal action is to restore the level of flood protection to that which existed prior to the 2011 flood events. Without federal involvement through the PL 84-99 program, it is unlikely that the D&LD has the financial ability to restore the level of protection according to Corps of Engineers standards. The reset recommendation for this site includes a levee setback of approximately 2,500 feet. The levee will be repaired to the existing levee elevation of 340.0 feet (NAVD 88). Additionally, two slides and a gravity drain will be repaired.

The environmental impacts of the repair would include temporary noise, air pollution, localized erosion, & disturbance to vegetation on the levees and associated work areas. Temporary impacts would cease after construction was completed and vegetation established in the repaired area.

1.1 AUTHORIZATION

PL 84-99, an amendment to the Flood Control Act of 1962, authorizes the US Army Corps of Engineers (Corps) to assist Drainage and Levee Districts in the repair of both federal (Corps constructed, locally operated and maintained) and non-federal (constructed by non-federal interests or by the Work Projects Administration) flood control projects damaged by flooding. The Len Small D&LD is a non-federal project that is active in the St. Louis District Corps Rehabilitation and Inspection Program (RIP). Therefore Len Small D&LD is eligible for Flood Control and Coastal Emergency (FCCE) funding authorized by PL 84-99.

1.2 LEEVE SYSTEM DESCRIPTION

Len Small D&LD is located in Alexander County, Illinois and is adjacent to the left descending bank of the Mississippi River at approximately River Miles 21 to 39 (Figure 1). The Len Small D&LD is a non-federal levee system that protects primarily agricultural lands from a 6.7% flood

Len Small Levee System

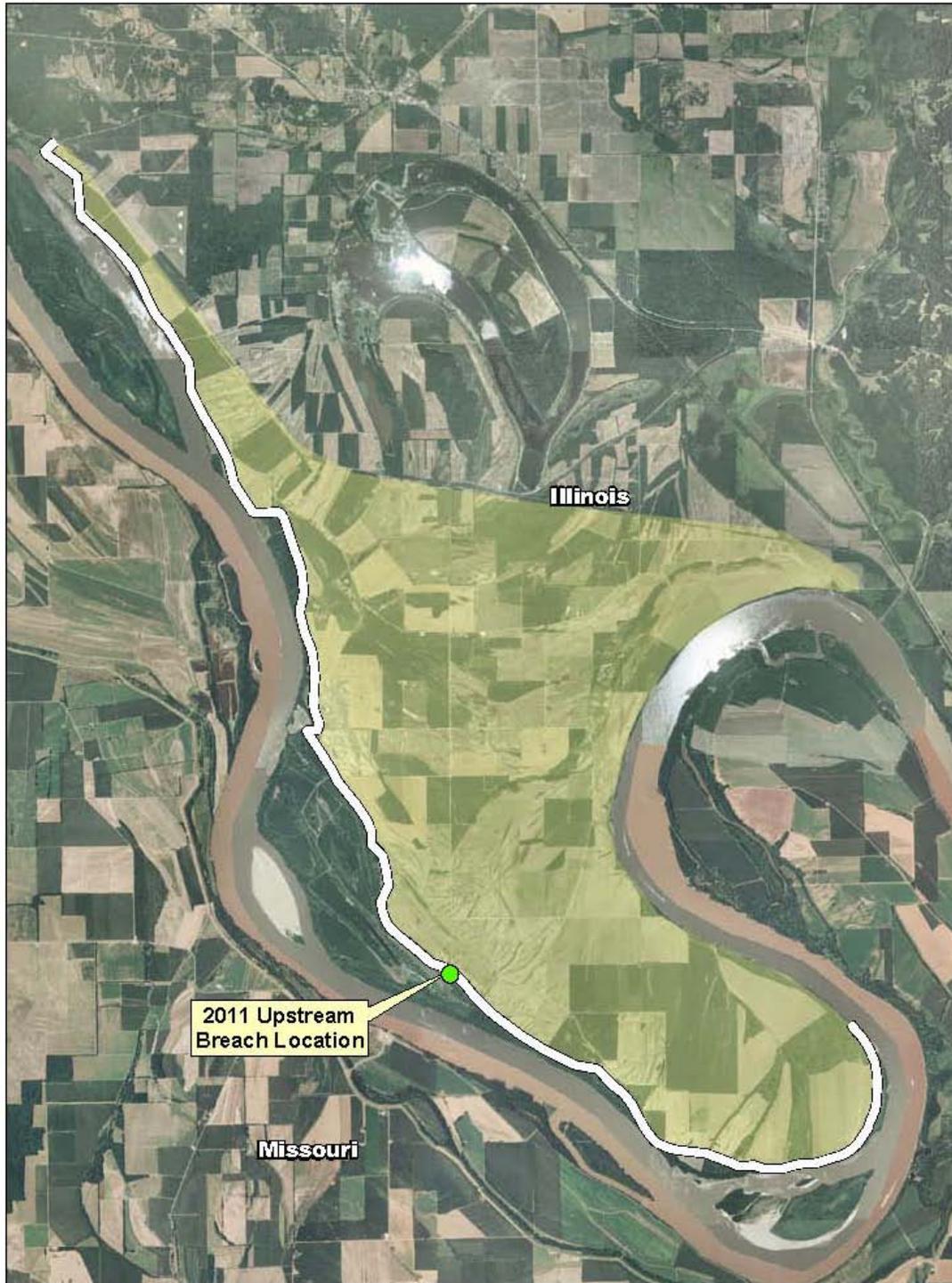


Figure 1. Location of Len Small Drainage and Levee District

(15-year) with 2 feet of freeboard. The system consists of over 16.5 miles of levee constructed with a 10-foot crown width and 1 on 2.5 side slopes.

2. ALTERNATIVES INCLUDING THE PROPOSED ACTION

The following section describes the cause and damages to the system and alternatives for repair.

2.1 CAUSES OF DAMAGE

High water events on the Mississippi River in the spring of 2011 resulted in damages to the Len Small D&LD. Heavy rains during March through June 2011 caused flooding

along the Mississippi River drainage basin within the St. Louis District in Missouri and Illinois. Saturated soils caused much of the rainfall to become direct runoff. Rainfall totals over Missouri and Illinois ranged from 4-12 inches during the months of May and June. The saturated soil, combined with the heavy rains, created near record river levels throughout the St. Louis District.

The Len Small Drainage and Levee District's nearest gage is located at Price Landing, MO. The Price Landing gage peaked on May 2, 2011 with a reading of 38.4 (Figure 2). This reading was 14.7 feet above the flood stage of 24.0 feet and was a new record high.

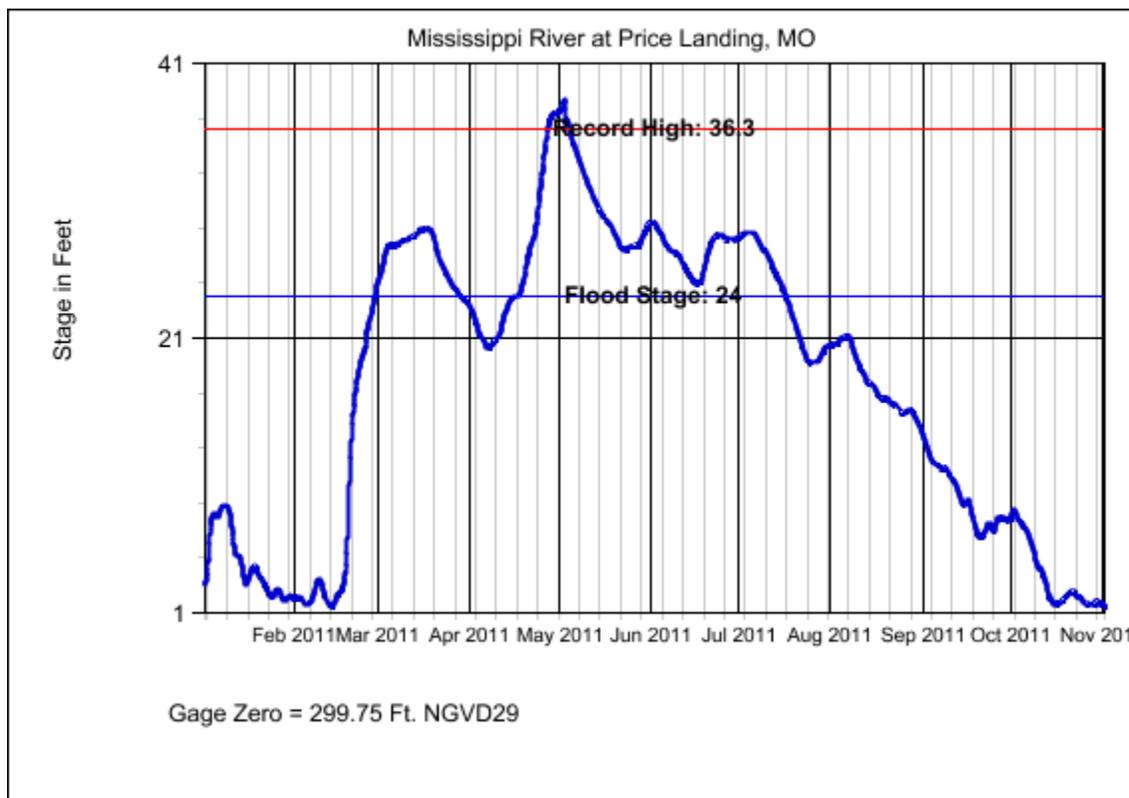


Figure 2. Price Landing, MO, Gage Readings

2.2 DAMAGE DESCRIPTION

Damages sustained to a portion of the Len Small D&LD in the 2011 high water event consisted of a 1,300 foot breach along with associated bed scouring. Additional damages include an overtopped area categorized as Erosion Type III (Figures 3&4). Erosion Type III damages at the overtop are greater than 18 inches deep and will require over 1,300 cubic yards of material for repair. Given the nature of the damages, the levee currently provides approximately a 50% (2- year) level of protection.

2.3 ALTERNATIVES

NEPA requires that in analyzing alternatives to a proposed action a federal agency consider an alternative of “No Action.” Likewise, Section 73 of the WRDA of 1974 (PL93-251) requires federal agencies to give consideration to nonstructural measures to reduce or prevent flood damage.

2.3.1 NONSTRUCTURAL ALTERNATIVE

Nonstructural measures reduce flood damages without significantly altering the nature or extent of flooding. Damage reduction from nonstructural measures is accomplished by changing the land use within the floodplains, or by accommodating existing uses to the flood hazard. Examples include flood proofing, relocation of structures such as levees, flood warning and preparedness systems, and regulation of floodplain uses. This

allows flood waters to spread out over a larger area reducing flood heights and damages. Under PL 84-99, the Corps has the authority to pursue a non-structural alternative only if the project sponsor requests such an alternative. The Len Small D&LD declined to request the pursuit of a non-structural alternative; therefore, this alternative was eliminated from further consideration.

2.3.2 NO ACTION ALTERNATIVE

Under this alternative no emergency levee repairs under PL 84-99 authority or funding sources would be provided. Currently, the gravity drain is not functioning so it is unable to dewater interior drainage. This could potentially lead to additional levee degradation. Further, the current breach and slide damages increase flood risk, threatening the livelihood of the landowner(s).

2.3.3 TENTATIVELY SELECTED PLAN: REPAIR OF LEVEE WITH FEDERAL ASSISTANCE

Under this alternative, the federal government would assist with repairs to the damaged areas to a pre-flood level of protection. Since the Len Small D&LD is a Federal project that is active in the USACE Rehabilitation and Inspection Program, it is eligible for Flood Control and Coastal Emergency funding authorized by PL 84-99. Repair costs for the federal drainage district would be 100 percent federal government.

Len Small Drainage and Levee District



Figure 3. Location of breach and erosion Type III damages.



Figure 4. Extent of breach during flooding.

Breach repairs

Structural repair of the levee breach would include the construction of a 2,600 foot levee setback (Figure 5). Borrow material will be added to the 2600 foot realigned levee and to a degraded area of the levee restoring the original level of protection. Material will be placed and compacted with a sheep's foot roller in lifts. The old levee ends outside of the new levee tie-ins will be completely excavated and used either as borrow or used as fill in parts of the existing scour hole created by the breach.

Type III erosion repair.

Type III areas will be repaired by stripping, disking, filling and compacting in layers, as

necessary, until the original slope and grade of the levee are attained. Where filling is required, borrow material would be added to repair sites to restore areas to pre-flood grade. All repair areas would then be reseeded when conditions are suitable for grass germination to prevent or minimize erosion.

Borrow material for repairs.

The bulk of the levee repair materials will be obtained by recovering sediments deposited on agricultural fields during the 2011 flood event. Additional material to construct the levee

Len Small Drainage and Levee District



Figure 5. Proposed levee setback and borrow site.

setback will be excavated and transported from an adjacent borrow site (Figure 5). The borrow site is located within an agricultural field recently enrolled in the Wetland Reserve Program (WRP) through the Natural Resources Conservation Service. The excavated borrow area will be approximately 2 to 5 feet deep with 5:1 side slopes and incorporated into the final WRP restoration design. No haul roads would be established. Existing roads, agriculture fields, and levee rights-of-way would be utilized to gain access to repair sites

Construction Limits

An area of 20 feet from the landside and riverside toe of the levee and 500 feet adjacent to repair areas on both sides have been established for construction activities.

As currently planned, no trees would be removed as part of this repair.

Access and Staging Areas

Staging areas and access routes to the repair sites would be established to avoid and minimize environmental impacts. Existing access points such as roads, rights of way, and levees are within a reasonable distance of the construction sites and would be utilized. Currently, the creation of haul roads, other than existing access points, is not deemed necessary. Haul road locations and staging areas would be restored to their pre-project condition after project completion. No wetland impacts are expected. However, restoration and/or mitigation would be required if wetlands are impacted

Environmental Protection Measures

Within the designated contractor work areas, the following protective and preventative measures shall be followed.

- No fill shall be excavated or permanently placed except where required for erosion.
- There shall be no removal of trees.
- Changes in the project must be coordinated with the regulatory and environmental branch of the Corps of Engineers through the contracting officer. If tree removal becomes necessary, it would require additional coordination with interested agencies, additional documentation, and possibly mitigation.
- All contractor work areas shall be revegetated.

2.4 MITIGATION

All activities associated with levee repairs would be conducted to avoid and minimize environmental impacts. No wetland or emergent wetland impacts are anticipated. No forested wetland impacts are anticipated. Mitigation would not be required because no trees would be cleared and no wetlands would be adversely impacted.

3. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This chapter summarizes the biological, physical, and social environments of the affected project area relative to the alternatives under consideration. Impacts to the natural resources are a concern to the public and many organizations. Relevant resources are addressed in terms of their present condition, their projected condition under the No Action alternative and the expected affects of the Tentatively Selected Plan.

3.1 Federally Threatened and Endangered Species, Alexander Co., IL:

Existing - In compliance with Section 7(c) of the Endangered Species Act of 1973, as amended, a list of species and critical habitat was acquired from the USFWS website on 16 May 2012 (USFWS 2009a) for Alexander Co., IL (Table 1). Habitat requirements and impacts of the alternatives are discussed for each species below.

No Action - Conditions for threatened and endangered species would remain the same.

Table 1. List of federally endangered species and their habitat potentially occurring in Alexander County, IL.

Common Name (Scientific Name)	Classification	Habitat
Indiana Bat (<i>Myotis sodalis</i>)	Endangered	Caves, mines (hibernacula); small stream corridors with well developed riparian woods; upland forests (foraging)
Gray Bat (<i>Myotis grisescens</i>)	Endangered	Caves and mines; rivers & reservoirs adjacent to forests
Least Tern (<i>Sterna antillarum</i>)	Endangered	Bare alluvial and dredged spoil islands
Pallid Sturgeon (<i>Saphirynchus albus</i>)	Endangered	Large Rivers
Sheepnose mussel (<i>Plethobasus cyphus</i>)	Endangered	Shallow areas in larger rivers and streams

Indiana Bat According to USFWS (2007a), Indiana bats forage on flying insects in the canopy of floodplain trees found typically along the shorelines of rivers and lakes, and also in upland forests. In summer, habitat consists of wooded or semi-wooded areas, mainly along streams. Females bear their offspring in hollow trees or under loose bark of living or dead trees. Trees standing in sunny openings are attractive because of warmer air spaces and crevices under the bark. Maternity sites have been reported in riparian areas, floodplain forests, and upland habitats. During winter limestone caves that are close to pools or open water are often used as hibernacula.

The distribution of the Indiana bat in Illinois includes nearly the entire state (NatureServe 2009). Most known maternity sites have been located in forested tracts in agriculturally dominated landscapes (e.g.,

Federal Action - Caves containing suitable habitat for the gray bat are not known to

Missouri, Iowa, Indiana, Illinois) (USFWS 1999). It is fair to assume that this species is present in the vicinity of the Len Small D&LD.

Federal Action – The proposed project would not affect any caves. As currently planned, this project involves no tree clearing. Therefore, it is expected that The Tentatively Selected Plan is not likely to adversely affect the Indiana bat.

Gray Bat Gray bats occur in several Illinois and Missouri counties where they inhabit caves during summer and winter. In summer, river bluff caves are frequent roost sites (USFWS 1997). Bats feed on flying insects over rivers and reservoirs adjacent to forests. Young are born beginning in May and begin to fly by August (USFWS 1997).

exist within the levee district. Also, the repairs would take place in the immediate

vicinity of the levee and no caves would be disturbed. The Tentatively Selected Plan is not likely to adversely affect the gray bat.

Interior Least Tern

Interior least tern historic breeding range includes the Mississippi River system (Jones, 2000, USFWS 1990). Surveys of the Mississippi River have found the majority of breeding colonies occur south of Cairo, IL. However, breeding birds have been found in Scott and Mississippi counties. The characteristics required for suitable breeding grounds include “bare alluvial islands or sandbars”, food, and appropriate water regime. Least terns arrive at breeding grounds in late April and the breeding season is complete by early September (USFWS 1990).

Federal Action - Levee repairs will take place within the footprint of the levee and will not impact any interior least tern habitat. The Tentatively Selected Plan is not likely to adversely affect the interior least tern.

Pallid Sturgeon

Pallid Sturgeon are found in the Mississippi River downstream of its confluence with the Missouri River. Pallid sturgeon forage for fish along the bottom of large rivers (USFWS 1993). Little is known of adults’ habitat preferences and even less is known about spawning locations. Pallid sturgeon are most frequently caught over a sand bottom, which is the predominant bottom substrate within the species’ range on the Mississippi River.

Federal Action - Levee repairs will take place within the footprint of the levee and will not impact any pallid sturgeon habitat.

The Tentatively Selected Plan is not likely to adversely affect the pallid sturgeon.

Sheepnose Mussel

Sheepnose mussels occur throughout much of the Mississippi River system with the exception of the upper Missouri River system and most lowland tributaries in the lower Mississippi River system. This species is known from the Mississippi, Ohio, Cumberland, Tennessee, and Ohio main stems, and scores of tributary streams rangewide (Natureserve 2009). Suitable habitat includes medium to large rivers usually located in deep water (>2m), but may be associated with riffles and gravel/cobble substrates. Preferred substrates are mud, sand or gravel bottoms with slight to swift currents. (Natureserve 2009).

Federal Action - Levee repairs would take place within the footprint of the levee and associated work areas and would not impact any sheepnose mussel habitat. The Tentatively Selected Plan is not likely to adversely affect the sheepnose mussel.

3.2 Water Resources

Existing – The areas proposed for repair are located in the portion of the levee that runs along the Mississippi River. Run-off and flows to the river are primarily through gravity drains and seepage. No critical aquatic habitats or wetlands are present within the footprint of the project.

No Action – Without repair, flooding waters would directly enter the interior of the drainage district potentially causing extensive damage to homes and properties. In addition, the other damaged portions of the levee would likely erode further and the

levee would be more likely to fail in these areas.

Federal Action - A temporary increase in water turbidity resulting from erosion may occur during construction around repair operations and borrow removal. These impacts would cease shortly after construction completion and pre-flood conditions would be reestablished.

3.3 Topography, Geology, and Soils

Existing - The levee district lies in the flood plain of the Mississippi River. The landscape is typical ridge and swale topography created by the river as it migrated across the flood plain. The low ridges in the flood plain typically are composed of sandy or silty material, while the lower swales have surface soils that are typically silty clays.

No Action - Without flooding, land use and soils in this area would remain in agricultural use. With flooding, sedimentation and scour would occur and cropland would be inaccessible until flood waters receded.

Federal Action – Land would remain in agricultural use similar to pre-flood conditions. Soil conditions in the borrow area would change because of clay removal. Agricultural land uses would continue.

3.4 Prime Farmland

Existing – Len Small D&LD protects approximately 12,000 acres of prime farmland. Currently, all available farmland within the levee district is being farmed.

No Action – Under this alternative, the level of flood protection is reduced, increasing the risk of prime farmland flooding.

Federal Action - Levee repairs would ensure protection to prime farmland. The bulk of the levee repair materials will be obtained by scraping sediments deposited on agricultural fields during the 2011 Flood Event. The borrow area is located within an agricultural field adjacent to the levee breach and has recently been enrolled in the WRP through the Natural Resources Conservation Service (Figure 5). The excavated borrow area will be approximately 2 to 5 feet deep with 5:1 side slopes and incorporated into the final WRP restoration design.

3.5 Vegetation

Existing – On the land side of the repair sites, the area is predominantly agricultural lands. The river side of the levee consists of a mix of cottonwood, willow, box elder, and sycamore along with other emergent herbaceous wetland plants consistent with frequently disturbed Mississippi River riparian zones. Vegetation on the levee consists of mowed cool season grasses.

No Action – Agricultural lands within the drainage district would continue to be farmed but would be disrupted by periodic flooding.

Federal Action - Disturbances to levee vegetation (predominantly cool season grasses) would occur during repairs. After repair, the area would be reseeded with similar vegetation resulting in no long term vegetation impacts. Areas protected by the levees would remain in their current agricultural status.

3.6 Wildlife

Existing – The floodplain forest, wet meadow, aquatic, and agricultural habitats in the area support a wide variety of wildlife common to the Mississippi River farmed and un-farmed floodplain. The proposed repair areas do not provide quality wildlife habitat because of regular disturbances from mowing, burrowing mammal control, and other maintenance activities. Therefore, it is unlikely that the repair area supports significant wildlife populations.

No Action – Without flooding, fauna and associated habitat would remain unchanged. With flooding, fauna would be displaced and habitat would be impacted by flood waters.

Federal Action - Wildlife populations occupying the natural areas adjacent to the levee toe would be disturbed by noise, increased water turbidity, and exhaust. These impacts would cease shortly after construction completion. No tree clearing or disturbance would be necessary to remove borrow or repair the sites. No significant impacts to biological resources are anticipated.

3.7 Fisheries

Existing – Common fish species occurring in Mississippi River and associated backwaters in Alexander County include gar, gizzard shad, common carp, emerald shiner, silver carp, buffalo, catfish, sunfish, and freshwater drum.

No Action - Without flooding, there would be no impacts to fisheries. With flooding, fish would have access to a large area of

floodplain habitat. This would benefit spawning and rearing of many fish species.

Federal Action - Species utilizing big river aquatic habitats typically inhabit a diversity of water velocities, depths, and turbidity levels during various life stages. Any temporary increase in turbidity from erosion due to construction should have no long term adverse impacts to fish or their habitat.

3.8 Air Quality

Existing – The Clean Air Act of 1963 requires the U.S. Environmental Protection Agency (EPA) to designate National Ambient Air Quality Standards (NAAQS). They have identified standards for seven pollutants: lead, sulfur dioxide, carbon monoxide, nitrogen dioxide, ozone, particulate matter less than 10 microns in diameter, and particulate matter less than 2.5 microns. Alexander County, Illinois currently meets all EPA air quality standards (USEPA 2009).

No Action – There would be no change in air quality under this alternative.

Federal Action - Repair activities would result in dust and exhaust from equipment. Therefore, a minor short-term reduction in air quality would occur. After repair completion, air quality would return to existing conditions.

3.9 Hazardous, Toxic and Radioactive Waste (HTRW) Sites

The U.S. Army Corps of Engineers (USACE) regulations (ER-1165-132) and District policy requires procedures be established to facilitate early identification and appropriate consideration of potential

HTRW in reconnaissance, feasibility, preconstruction engineering and design, land acquisition, construction, operations and maintenance, repairs, replacement, and rehabilitation phases of water resources studies or projects by conducting Phase I Environmental Site Assessment (ESA). USACE specifies that these assessments follow the process/standard practices for conducting Phase I ESA's published by the American Society for Testing and Materials.

Existing - There are no recognized environmental conditions that would indicate a risk of HTRW contamination within the project area. The likelihood of hazardous substances existing within the project area or adversely affecting the project area due to the proposed construction activities is very low.

No Action - There would be no change under this alternative.

Federal Action - The St. Louis District conducted a Phase I ESA to satisfy the All Appropriate Inquiry requirements set by the Environmental Protection Agency to identify, to the extent feasible recognized environmental conditions (RECs) in connection with the given property. This assessment found no RECs present at the project sites, borrow areas or adjacent properties and concludes that a Phase II assessment is not necessary. Restoration of a pre-flood level of flood protection would reduce the chances of chemical contamination.

3.10 Noise

Existing - Ambient noise in the study area is generated by wildlife, human activities and vehicular traffic.

No Action - There would be no change in noise under this alternative.

Federal Action - The proposed project would be expected to temporarily increase noise levels near the repair sites. The U.S. Environmental Protection Agency has set a limit of 85 decibels on the A scale (the most widely used sound level filter) for eight hours of continuous exposure to protect against permanent hearing loss. Based upon similar construction activities conducted in the past, noise above this level would not be expected to occur for periods longer than eight hours. Noise levels would return to normal after construction completion.

3.11 Socioeconomic

Existing - The area protected by the Len Small D&LD is characterized as being rural and agricultural. An economic analysis scope was developed for the project and is part of the Project Information Report dated 22 November 2011.

No Action - Without flooding, there would be no socioeconomic impacts. With flooding there could be considerable agricultural and residential economic losses.

Federal Action - Local agriculture and agri-businesses would benefit from levee repair and subsequent restoration of the pre-flood level of protection. The proposed initial levee repairs would not require residential displacement and could provide short-term employment for local contractors and laborers.

3.12 Environmental Justice

Existing – The standard unit of analysis for environmental justice is the census-designated Block Group. The Len Small D&LD is located entirely in Alexander County. Alexander County is roughly 472 square miles. According to the 2010 census data the population of Alexander County is 8,238 persons, which is a 14.1% decline in numbers since the year 2000 census which recorded 9,590 persons.

No Action – Without flooding, there would be no change from current conditions. With flooding, damage, sedimentation and scour would occur. This would impair the ability of landowners to use their land resulting in economic losses and displacement of landowners.

Federal Action - The local agriculture and agri-business economy would benefit from levee repair and subsequent restoration of the pre-flood level of protection. The repairs would also provide short-term employment partially funded by federal money. No adverse impacts (such as displacement) to minority citizens is anticipated under the Tentatively Selected Plan.

3.13 Cultural Resources:

Existing – The repair site locations are composed of recently deposited material or recently-placed levee berm material. The proposed borrow site is located approximately 500 feet in front of the breach area. The area is farmed annually. On a site visit in April 2012, no crops were currently planted as the result of heavy deposition of sediments from the flood event. A review of state historic property site files indicated that no surveys or sites

have been recorded in the area of the borrow site.

No Action - Without flooding, there would be no change from current conditions. With flooding, damage to culturally significant sites protected by the levee could occur.

Federal Action - The proposed repairs to the levee within the Len Small Levee District will have no effect upon significant historic properties (archaeological remains or standing structures). The proposed borrow site was previously disturbed by earthmoving associated with agricultural practices. On May 10, 2012, St. Louis District cultural resource excavated seven trenches to determine if any subsurface cultural deposits or buried land surfaces existed within the project area. Evaluation of the soil profiles within each trench indicated that the area, and the proposed borrow, was built up by sedimentation from multiple flood events. No cultural deposits or artifacts were found in any of the trenches. Use of the proposed borrow site will have no significant impacts on historic properties.

In the unlikely event that earthmoving activities associated with the proposed repairs did impact potentially significant archeological/historic remains, all construction activities and earthmoving actions in the immediate vicinity of the remains would be held in abeyance until the potential significance of the remains could be determined. The precise nature of such investigations would be developed by the Saint Louis District in concert with the professional staff of the Illinois Historic Preservation Agency.

All actions taken will be in accordance with the National Historic Preservation Act of 1966, as amended (NHPA). The NHPA requires that any Federal undertaking consider the effects to historic properties and consultation with State Historic Preservation Officers and the Advisory Council on Historic Preservation. This act is further codified in 36 CFR Part 800, Protection of Historic Properties. Should any actions result in the collection of data or material from historic properties, such information and objects shall be cared for in accordance with 36 CFR Part 79, Curation of Federally Owned and Administered Archaeological Collections. St. Louis District has initiated consultation with the Illinois Historic Preservation Agency (IHPA). Any future actions will be coordinated with IHPA's concurrence.

3.14 Tribal Coordination:

The St. Louis District consults with 27 tribes that have an interest in projects along all rivers within our district boundaries. Many levees adjacent to Missouri and Illinois rivers within the U.S. Army Corps of Engineers St. Louis District boundaries were damaged by flooding in 2011. The recovery and repair of these damaged levees, authorized under PL84 -99, will be coordinated with all tribes in the following manner.

An initial letter to the tribes will describe the locations of existing flood damaged structures, lands and fills. Maps of the areas and a description of the types of impacts resulting from construction are also included. The tribes are requested to contact the USACE if there are known tribal areas of concern in any of the project areas and if they desire further consultation on

each or any project. Depending on tribal response, the USACE continues the consultation process until the completion of the project.

3.15 Cumulative Impacts

Existing - System-wide repairs to levees are currently underway. Final repairs would involve returning most of the levee breaches to the same alignment and level of protection as existed prior to the high water events of 2011. Temporary impacts from noise, air, and water pollution would occur; however, repair sites are widely scattered throughout the St. Louis District and therefore additive effects of these impacts would be negligible. The Len Small D&LD PL84-99 project along with several other levees will require borrow material for levee repairs. Borrow for the majority of these projects will come from agriculture areas, low quality wetlands and previously identified borrow areas. Some PL84-99 projects sustained damage that is infeasible to repair on the original levee alignment. For new levee alignments, some acreage would be removed from agricultural use causing a minor loss to overall farm production and increase in floodplain habitat. The widely scattered nature of repair sites and shallow excavation depth of borrow sites would reduce impacts and no long term adverse impacts are expected.

No Action - No long term adverse impacts are expected.

Federal Action - No long term adverse impacts are expected.

4. RELAVENT LAWS AND REGULATIONS

Clean Water Act (Sections 401 and 404)

The proposed borrow and repair areas for the large breach on the Len Small Levee was inspected on 21 February 2012 by members of the St. Louis Corps of Engineer's interdisciplinary borrow team (Figure 5). The bulk of the levee repair materials will be obtained by recovering sediments deposited on agricultural fields during the 2011 flood event. The final top layer of material to construct the levee setback will be borrowed from the area marked "primary borrow site." Borrow area is located within an agricultural field recently enrolled in the WRP through the Natural Resources Conservation Service. The excavated borrow area will be approximately 2 to 5 feet deep with 5:1 side slopes and incorporated into the final WRP restoration design.

No jurisdictional wetlands, waterways or other Waters of the United States would be affected by the proposed access, repair, and construction methods associated with this project. As such, the St. Louis District, Regulatory Branch determined that no Section 404 Clean Water Acts permits would be required to complete the project as proposed. This activity will have no affect on endangered species, and is authorized under Section 404 of the Clean Water Act by an existing Department of the Army nationwide permit for bank stabilization, as described in the March 12, 2007, Federal Register, Reissuance of Nationwide Permits; Notice (72 FR 11183), Appendix A (B)(3).

Executive Order 11988 (Floodplain Management):

Under this Executive Order, federal agencies are to "provide leadership and shall take action to reduce the risk of flood loss, to minimize the impacts of floods on human safety, health, and welfare, and to restore and preserve the natural and beneficial values served by floodplains". The St. Louis District Corps of Engineers has evaluated the proposed levee repairs for damages which occurred in the Len Small D&LD during the high water events of 2011. Not repairing the levee would increase the risk of flood damage and loss. Based on the extent of levee damage that currently exists, it is prudent to repair the levee to restore the level of flood protection that existed prior to the flood event. By reducing the future risk of flood loss and minimizing the impacts on existing vegetation in the floodplain, this proposed project is in full compliance with this Executive Order.

Executive Order 11990 (Protection of Wetlands):

Under this Executive Order, federal agencies shall take action to minimize the destruction, loss or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands in carrying out the agency's responsibilities.

The St. Louis District Corps of Engineers has evaluated the proposed levee repairs for the damages which occurred in the Len Small D&LD during high water events of 2011. The proposed project work would be conducted within the footprint of the levee and in associated work areas. Any wetlands impacted by the project would be restored or mitigated for. Therefore, the proposed

levee repairs are in full compliance with this Executive Order.

Bald and Golden Eagle Protection Act of 1940:

Bald Eagles (*Haliaeetus leucocephalus*) range over most of North America. They build large nests in the tops of large trees near rivers, lakes, marshes, or other aquatic areas. The staple food of most bald eagle diets is fish, but they will also feed on waterfowl, rabbits, snakes, turtles, other small animals, and carrion. In winter, eagles that nest in northern areas migrate south and gather in large numbers near open water areas where fish or other prey are plentiful (USFWS 2006).

On August 9, 2007, the bald eagle was removed from the federal list of threatened and endangered species. It remains protected under the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act. The Bald and Golden Eagle Protection Act prohibits unregulated take of bald eagles. The Fish and Wildlife Service recently finalized a rule defining “take” that includes “disturb.” “Disturb means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest

abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior” (USFWS 2007b).

To prevent disturbance, the National Bald Eagle Management Guidelines (USFWS 2007) was used to determine appropriate distances from any known eagle nests. The Guidelines state that no construction activities should occur within 660 feet of an active eagle nest tree during breeding season. No bald eagle nest trees are known from the project area. It is anticipated that construction activities would not disturb any bald eagles.

5. ENVIRONMENTAL REGULATORY CONSTRAINTS

The Recommended Alternative was subject to compliance review with all applicable environmental regulations and guidelines. The Tentatively Selected Plan was determined to be in full compliance with all applicable acts and legislation with exceptions as noted in the table below. The Corps of Engineers Regulatory Branch has reviewed the proposed project, and determined that levee repair work is authorized under Section 404 of the Clean Water Act by an existing Department of the Army nationwide permit, as described in the March 12, 2007, Federal Register, Reissuance of Nationwide Permits; Notice (72 FR 11183), Appendix A (B) (3).

6. RELATIONSHIP OF PLANS TO ENVIRONMENTAL LAWS AND REGULATIONS

Federal Policies	Compliance
Bald Eagle Protection Act, 42 USC 4151-4157	Full
Clean Air Act, 42 USC 7401-7542	Full
Clean Water Act, 33 USC 1251-1375	Full
Comprehensive Environmental Response, Compensation, and Liability Act, 42	Full

Federal Policies	Compliance
USC 9601-9675	
Endangered Species Act, 16 USC 1531-1543	<u>Partial</u> ¹
Farmland Protection Policy Act, 7 USC 4201-4208	Full
Fish and Wildlife Coordination Act, 16 USC 661-666c	Full
Food Security Act of 1985, 7 USC varies	Full
Land and Water Conservation Fund Act, 16 USC 460d-4601	Full
National Environmental Policy Act, 42 USC 4321- 4347	<u>Partial</u> ²
National Historic Preservation Act, 16 USC 470 <i>et seq.</i>	<u>Partial</u> ³
Noise Pollution and Abatement Act, 42 USC 7691-7642	Full
Resource, Conservation, and Rehabilitation Act, 42 USC 6901-6987	Full
Rivers and Harbors Appropriation Act, 33 USC 401-413	Full
Water Resources Development Acts of 1986 and 1990	Full
Floodplain Management (EO 11988 as amended by EO 12148)	Full
Prevention, Control, and Abatement of Air and Water Pollution at Federal Facilities (EO 11282 as amended by EO's 11288 and 11507)	Full
Protection and Enhancement of Environmental Quality (EO 11991)	Full
Protection and Enhancement of the Cultural Environment (EO 11593)	Full
Protection of Wetlands (EO 11990 as amended by EO 12608)	Full

Full compliance: having met all requirements of the statute for the current stage of planning

Not applicable: compliance with the statute not required

1 Full compliance to be achieved with agreement from the U.S. Fish and Wildlife Service on Endangered Species impacts.

2 Full compliance to be achieved with the District Engineer's signing of the Finding of No Significant Impact

3 Full compliance to be achieved with the State Historic Preservation Officer's concurrence in the District's EA conclusions.

7. COORDINATION WITH OTHER STATE AND FEDERAL AGENCIES

Coordination has been ongoing with this project and the proposed initial repairs have been coordinated with respective State and Federal agencies.

This EA and Draft FONSI will be provided to the following state and federal agencies for their review, comments, and concurrence during the 30 day public comment period.

U.S. Fish and Wildlife Service
U.S. Environmental Protection Agency
Federal Emergency Management Agency
Natural Resources Conservation Service
Illinois Environmental Protection Agency
Illinois Department of Natural Resources
Illinois Historic Preservation Office
Illinois Emergency Management Agency

To assure compliance with the National Environmental Policy Act, Endangered Species Act, and other applicable environmental laws and regulations, coordination with these agencies will

continue as required throughout the planning and construction phases of the proposed levee repairs.

8. LIST OF PREPARERS

Mr. Mike Rodgers, Hydraulic Engineer	Role: Project Manager
Mr. Curtis Moore, Civil Engineer	Role: Civil Engineer
Mr. Robert Gramke, Regulatory Specialist	Role: Regulatory Permits
Mr. Jim Barnes, Archaeologist	Role: Archeological Compliance
Mr. Ken Cook, Biologist	Role: Environmental Assessment

REFERENCES

Jones, K. H. 2000. Population survey of the interior least tern on the Mississippi River from Cape Girardeau, Missouri to Vicksburg, Mississippi. Report prepared for the Memphis District, U.S. Army Corps of Engineers.

NatureServe. 2009. Comprehensive report species – *Cumberlandia monodonta*, *Plethobasus cyphus*, *Myotis sodalis*, and *Haliaeetus leucocephalus*. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. Available <http://www.natureserve.org/explorer>. (Accessed: February 20, 2010).

USEPA (U.S. Environmental Protection Agency). 2009. The Green Book Nonattainment Areas for Criteria Pollutants. Available at <http://www.epa.gov/oar/oaqps/greenbk/index.html> (Accessed February 20, 2010).

USFWS (U. S. Fish and Wildlife Service). Status assessment for three imperiled mussel species: spectaclecase (*Cumberlandia monodonta*), sheepsnose (*Plethobasus cyphus*), and rayed bean (*Villosa fabalis*). Mollusk Subgroup, Ohio River Valley Ecosystem Team. Available http://www.fws.gov/orve/online_symposium_three_mussels.html. (Accessed: February 20, 2010).

USFWS (U. S. Fish and Wildlife Service). 1990. Recovery plan for the interior population of the least tern (*Sterna antillarum*). U. S. Fish and Wildlife Service, Twin Cities, Minnesota. 90 pp.

USFWS (U.S. Fish and Wildlife Service). 1993. Pallid sturgeon recovery plan. U.S. Fish and Wildlife Service, Bismarck, North Dakota. 55 pp.

USFWS (U.S. Fish and Wildlife Service). 1997. Gray Bat *Myotis grisescens* fact sheet. U.S. Fish and Wildlife Service, Fort Snelling, Minnesota. 2 pp. Available at <http://midwest.fws.gov/endangered> (Accessed February 20, 2010).

- USFWS (U.S. Fish and Wildlife Service). 1999. Agency draft Indiana Bat (*Myotis sodalis*) revised recovery plan. U.S. Fish and Wildlife Service, Fort Snelling, Minnesota. 53 pp.
- USFWS (U.S. Fish and Wildlife Service). 2006. Species Profile: Bald Eagle (*Haliaeetus leucocephalus*). Available at <http://ecos.fws.gov/speciesProfile/SpeciesReport.do?spcode=B008> (Accessed February 20, 2010).
- USFWS (U.S. Fish and Wildlife Service). 2007a. Indiana Bat (*Myotis sodalis*) Draft Recovery Plan: First Revision. U.S. Fish and Wildlife Service, Fort Snelling, MN. 258 pp. Available: <http://www.mcrcc.osmre.gov/Bats/PDF/IN%20BAT%20DRAFT%20PLAN%20apr07.pdf> (Accessed: February 20, 2010).
- USFWS (U.S. Fish and Wildlife Service). 2007b. Protection of Eagles; Definition of “Disturb”. Federal Register 72(107): 31132- 3113
- USFWS (U.S. Fish and Wildlife Service). 2007c. National Bald Eagle Management Guidelines.
- USFWS (U.S. Fish and Wildlife Service). 2009a. Illinois Threatened and Endangered Species. Available: <http://www.fws.gov/midwest/angered/section7/spranges/illinois-cty.html> (Accessed February 20, 2010)

FINDING OF NO SIGNIFICANT IMPACT

PUBLIC LAW 84-99

LEN SMALL DRAINAGE AND LEVEE DISTRICT ALEXANDER COUNTY, ILLINOIS

1. I have reviewed the document concerned with the proposed levee repairs to the Len Small Drainage and Levee District. The main purpose of this work is to repair the levee damaged by 2011 flooding. Repairs would return the drainage district to pre-flood conditions in an expedient manner.
2. I have also evaluated pertinent data concerning practicable alternatives relative to my decision on this action. As part of this evaluation, I have considered the following alternatives:
 - a. No Action: Under the no-action alternative, the Federal government would not repair the flood damaged levees. It is assumed that, because of the cost of repairs, the levee district would not repair the levee.
 - b. Action Alternative (Tentatively Selected Plan): Under this alternative, which is the preferred alternative or recommended plan, the levee in the drainage district would be repaired and restored to the pre-2011 level of protection by the Federal Government. Repair costs for the Federal drainage district would be 100 percent Federal government.
3. The possible consequences of these alternatives have been studied for physical, environmental, cultural, social and economic effect, and engineering feasibility. Major findings of this investigation include the following:
 - a. The no action plan was evaluated and subsequently rejected primarily based upon the higher potential for future flooding and damage to area farms.
 - b. Borrow for the final levee repair would come from the area deemed acceptable by the borrow inspection team. The selected borrow site location is shown in the Environmental Assessment (EA) as Figure 5.
 - c. No appreciable effects to general environmental conditions (air quality, noise, water quality) would result from the recommended plan.
 - d. The recommended plan is not expected to cause significant adverse impacts to aesthetic quality, recreational use, or general fish and wildlife resources.

- e. The recommended plan is not expected to cause unacceptable adverse impacts to riparian habitat, bottomland hardwood forest, or other wetlands.
- f. No Federally endangered or threatened species would be adversely impacted by the recommended plan.
- g. No prime farmland would be adversely impacted as a result of the recommended plan.
- h. No significant impacts to historic properties (cultural resources) are anticipated as a result of the recommended plan.
- i. Under the recommended plan, local economies would benefit through an increased labor demand to carry out levee repairs. Agricultural land and structures within the drainage district would be provided with pre-2011 flood protection.

4. The following environmental commitments are part of the recommended plan:

- a. If any suspected hazardous materials are found, the USACE would notify the Illinois Environmental Protection Agency, and the hazardous materials would be removed in an approved manner before proceeding with the project.
- b. For those areas where some erosion may occur from borrow excavations, levee repairs, and staging or storage areas, silt screens or hay bales will be used to reduce siltation into surrounding waterways based on a pre-approved Environmental Protection Plan which includes provisions for erosion control and the protection of natural habitat.
- c. The USACE would use fast germinating grass mixtures on restored levee areas to reduce any further erosion.

5. Based upon the EA of the recommended plan, no significant impacts on the environment are anticipated. The proposed action has been coordinated with appropriate resource agencies, and there are no significant unresolved issues. Therefore, an Environmental Impact Statement will not be prepared prior to proceeding with this action.

Date

Christopher G. Hall
Colonel, U.S. Army
District Commander