DEPARTMENT OF THE ARMY
ST. LOUIS DISTRICT, CORPS OF ENGINEERS
ROBERT A. YOUNG BUILDING - 1222 SPRUCE ST.
ST. LOUIS, MISSOURI 63103-2833

15 January 2014

Reply to:
US Army Corps of Engineers
St. Louis District
Environmental Compliance Section (PD-C)
1222 Spruce St.
St. Louis, MO 63103-2833

RE: Winfield, Cap Au Gris and Foley Drainage and Levee District; Consolidated North County Levee District; and Elm Point Levee Association

Dear Sir or Madam:

We are providing for your review an Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) for each of the three levee systems named above that will require repair due to damages incurred during the spring and summer 2013 flooding. An electronic copy can be obtained from the St. Louis District's website at http://www.mvs.usace.army.mil/Missions/ProgramsProjectManagement/PlansReports.aspx. Please note that each Draft Finding of No Significant Impact is unsigned. These documents will be signed into effect only after having carefully considered comments received as a result of this public review.

Levees throughout the St. Louis District were damaged during flooding in April and July 2013. Many drainage and levee districts have requested assistance under Public Law 84-99 which provides repair assistance for flood damaged levees. We are in the process of preparing plans and specifications and completing all necessary documentation including environmental compliance documents.

We invite your comments related to the content of the environmental assessments. Please address your comments or questions to Francis Walton of the Environmental Compliance Section (CEMVP-PD-C), at telephone number (314) 331-8102, facsimile number (314) 331-8606, or e-mail at <francis.j.walton@usace.army.mil>, by close of business on January 30, 2014.

Thank you,

Timothy K. George

Timothy K. George
Chief, Environmental Compliance Section

ENVIRONMENTAL ASSESSMENT
WITH
DRAFT FINDING OF NO SIGNIFICANT IMPACT

PUBLIC LAW 84-99
EMERGENCY FLOOD DAMAGE REPAIR FOR THE
ELM POINT LEVEE ASSOCIATION
ST. CHARLES COUNTY, MISSOURI
MISSISSIPPI RIVER

JANUARY 2014

I. INTRODUCTION

This document is an Environmental Assessment (EA) with an attached Draft Finding of No Significant Impact (FONSI) for levee repairs to the Elm Point Levee Association (EPL). The purpose of this EA is to address potential environmental impacts of the proposed rehabilitation, and to serve as a record of interagency coordination for the emergency rehabilitation actions.

A. Purpose and Need for Action: Two high water events on the Mississippi River in 2013 between 18 April and 11 July damaged the EPL. Heavy rainfall in April and May saturated the Midwest causing much of the additional heavy rains in May to develop directly into runoff. The saturated soil combined with the heavy rains created near record river levels throughout the northern portion of the St. Louis District. The St. Louis District declared a high-water emergency on 18 April 2013.

The EPL is located in St. Charles County, Missouri at approximately mile 227 of the Mississippi River (see Figure 1 for Project Location Map). The EPL is a non-federal levee system that is designed to protect 1,365 acres of primarily agricultural lands, a soccer complex, and a sod farm from a 25-year flood with 2 feet of freeboard. The SLYSA Soccer Complex serves approximately 6000 youth annually. The system consists of 4.3 miles of levee constructed with an 8-foot to 10-foot crown width and 1 on 3 side slopes. The EPL is active in the USACE Rehabilitation and Inspection Program (RIP); therefore, it is eligible for Flood Control and Coastal Emergency (FCCE) funding authorized by PL84-99.

The flood damages to the EPL consisted of erosion as a result of wave wash and a slide (see Figure 2). The repair is of low complexity (primarily surface work) and life safety and/or economic consequences associated with the levee district are low to moderate. The levee is authorized to provide a 25-year level of protection. However, given the nature of the damages, the levee would currently provide an approximate 12.5-year level of protection. If not repaired, the damages could lead to further degradation of the levee thereby reducing the level of protection even further.

The work would be contracted out by USACE and completed in the winter and spring of early 2014.

The project objective is to protect the EPL and its economic value by restoring the EPL levees to the pre-flood 25-year Federal standard of protection with minimal environmental impacts.

B. Project Authorization

Emergency actions undertaken by USACE to repair flood control works damaged or destroyed by flooding are authorized by Public Law 84-99, as amended by Section 206 of the Flood Control Act of 1962 (hereafter referred to as PL 84-99). USACE regulations covering these and other emergency rehabilitation activities are contained in the Rehabilitation Code 910-300 of ER 500-1-1 (33 Part 203). The Code states that actions taken to restore facilities to pre-disaster conditions under PL 84-99 will not be construed to be either major federal actions or as having significant effects. However, the effect of rehabilitation on the environment must be considered. This includes the effects of construction on endangered species (P.L. 93-205 and Appendix B of ER 1105-2-50) and archeological and historic properties (Chapter 3 of ER 1105-2-50). Since the EPL is active in the USACE Rehabilitation and Inspection Program, they are eligible for Flood Control and Coastal Emergency funding authorized by PL 84-99.

II. ALTERNATIVES

This section describes and compares the alternatives based on their environmental impact and achievement of project objectives for the damaged Elm Point Levee Association. NEPA requires that in analyzing alternatives to a proposed action, a federal agency must consider an alternative of "No Action." Likewise, Section 73 of the WRDA of 1974 (PL 93-251) requires federal agencies to give consideration to nonstructural measures to reduce or prevent flood damage.

A. No Action Alternative: Under this alternative, the Federal government would not assist the EPL in repairing the slide and eroded areas. It is possible that the EPL would make repairs without Federal assistance. Environmental impacts of the EPL repairs would be similar to the preferred alternative; except that the time period required for repairs may be increased and the environmental protections may be reduced. However, because of the uncertainty of the EPL making repairs, this potential alternative was not addressed further.

Instead, the environmental impacts of allowing the slides and eroded areas to remain unrepaired are evaluated as the No Action Alternative. This would presumably perpetuate a state of reduced levee structural integrity. The levee would be susceptible to further erosion at the damage sites. It is estimated that in its damaged condition, the EPL would provide a reduced level of protection instead of the 25-year level it was designed to provide. This reduced level of protection would increase the flood risk, threatening the economic livelihood of local landowners within the EPL levee system.

B. Nonstructural Alternative: Section 73 of the WRDA of 1974 (PL93-251) requires Federal agencies to give consideration to non-structural measures to reduce or prevent

flood damage. Nonstructural measures reduce flood damages without significantly altering the nature or extent of flooding. Damage reduction from nonstructural measures is accomplished by changing the use made of the floodplains, or by accommodating existing uses to the flood hazard. Examples are flood proofing, relocation of structures, flood warning and preparedness systems, and regulation of floodplain uses. A flood warning system would do little to reduce structural and agricultural damages. Flood proofing or relocation is not desirable to the EPL, would have large costs, and result in loss of numerous acres of prime farmland.

Under PL 84-99, the Corps has the authority to pursue a non-structural alternative only if the project sponsor requests such an alternative.

> *"There is hereby authorized an emergency fund to be expended in preparation for emergency response to any natural disaster, in flood fighting and rescue operations, or in the repair or restoration of any flood control work threatened or destroyed by flood, including the strengthening, raising, extending, or other modification thereof as may be necessary in the discretion of the Chief of Engineers for the adequate functioning of the work for flood control, or in implementation of* ***nonstructural alternatives to the repair or restoration of such flood control work if requested by the non-Federal sponsor.****"*

The EPL declined to request the pursuit of a non-structural alternative; therefore, this alternative was eliminated from further consideration.

C. Preferred Alternative: Under this alternative, at the request of the EPL, the Federal government would repair the slide and the eroded levees to pre-flood condition. The final repairs would consist of reconstructing the levee to the pre-event grade and section at the slides and eroded areas using the methods of repair as discussed below. The repair costs would be cost-shared 80 percent Federal and 20 percent EPL.

A team including members of the St. Louis District's Design Branch and Geotechnical Branch was involved with developing the most economical and efficient design for repair. Structural repair will reconstruct the levee to pre-flood section of slide and levee crown areas with suitable compacted material and a 5-foot setback levee at the location of the slide (see Figures 3 and 4).

The EPL levee was damaged due to sandbagging and flood fight efforts from approx. Sta. 67+50 to 112+50 (water elevation was higher than levee crown) . These areas must be stripped, disked, filled, and compacted in layers, as necessary, until the original slope and grade of the levee are attained. These repairs will require an estimated 2,750 cubic yards of fill material. All repair areas will be reseeded as soon as feasible after construction is complete in order to prevent or minimize erosion.

The Cole Creek slide is approximately 70' long with an existing escarpment being 2.5' to 3' with cracking 1' to 2' into crown. This area will be repaired by placing embankment, and compacting in lifts, as necessary, until the 5-foot setback slope and

grade of the levee are attained on the landside of the levee. An estimated 3000 cubic yards of impervious material is needed for repair of the slide to establish a 5-foot setback on the landside of the levee. All repair areas will be reseeded as soon as feasible after construction is complete in order to prevent or minimize erosion.

Figure 5 shows the locations of the real estate and construction limits as well as the borrow location. Photos of slide and erosion damage are shown in Figures 6 and 7

The project involves minor repairs which the Corps' contractor would perform; and are considered to be repair and rehabilitation activities associated with previously authorized structures. The EPL would be responsible for acquiring all the necessary permits and rights-of-way to make repairs and the cost-share portion.

The total rehabilitation project cost is estimated at $171,000; with a benefit to cost (b/c) ratio of 21.6 to 1. The Non-Federal cost share requirement will be $27,000.

Borrow material for repairs needing fill (erosion and slide repairs) would come from one borrow area within the EPL. The proposed borrow area is located in an agriculture field and would become available for wildlife habitat after project completion. The borrow area, about a half-acre in size would be excavated to a maximum depth of 3 feet and would be graded to make a connection to an existing, adjacent borrow area. The borrow area is agricultural land within the levee district. Haul roads to transport borrow material to the repair sites will consist of existing roads, agriculture fields, and levee rights-of-way.

Construction Limits. Construction limits have been established in the immediate vicinity of the erosion and slide repair areas. No emergent or forested wetlands exist within the construction limits.

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 located within a reasonable distance to the construction sites would be utilized. Haul road locations and staging areas will be restored to their pre-project condition after project completion.

Following the signing of the FONSI, plans & specs will be finalized for construction. Construction will commence as soon as possible thereafter and will be completed within one construction season**.**

D. Evaluation and Comparison of Alternatives

Under Alternative 1 (No Action), the levee system would remain in its damaged state with a reduced level of protection. This would increase the frequency and risk of monetary damages to croplands, structures, and infrastructure in the event of future flooding. The levee district declined to request the pursuit of a Non-Structural Alternative; therefore, Alternative 2 - Nonstructural Measures, is not included in the

comparison of alternative plans. Under the preferred alternative, the damaged levees would be repaired to the pre-flood Federal standard. Table 1 contains a summary of the impacts associated with the Proposed Action and the No Action Alternatives. This table is based on discussions in Sections 3 and 4 of this document.

Table 1 – Comparison of Project Alternatives		
Resources	Alternatives	
	No Action	Proposed Action
Physical Resources	Flooding may occur if the levees are not repaired and the levee's integrity is compromised during a flood. Estimated protection is reduced to 12.5-year flood level with current damages.	Erosion and slide repairs would meet the Federal standard. The area inside levees would be flooded only when flood stages exceed levee design heights.
	Increased potential for further erosion of levee and sedimentation within EPL during flood events.	Temporary minor impacts to water and air quality during construction.
	Does not meet project objective of repairs to Federal standard.	Meets project objective of 25-year protection level.
Biological Resources	If levee system is compromised, there is potential for beneficial impacts due to potential increase in floodplain wetland habitat.	Construction would be confined to the levee and borrow area which may result in minor temporary impacts.
	Federal T&E species would not be adversely impacted.	There would be no tree clearing; therefore, proposed action should have no adverse affect on listed species.
	Meets project objective of minimal environmental impacts.	Meets project objective of minimal environmental impacts.
Socioeconomic Resources	The EPL would be susceptible to future floods and potential negative impacts to EPL and regional economy due to levee damages.	Repair of levee would result in the protection of croplands, businesses and structures from floods up to the design (25-year frequency) of the levee system.
	Does not meet project objective of protecting the socioeconomic value of the EPL.	Meets project objective of protecting the economic value of the EPL.

III. AFFECTED ENVIRONMENT

The Elm Point Levee is located in St. Charles County, providing protection to 1,365 acres from a 25-year flood event.

A. Physical Resources

1. Water Resources: Water resources adjacent to the CNCLD include: the Mississippi River to the north, Dardenne and Cole Creeks, and various wetlands and drainage ditches.

2. Topography: The levee district lies in the floodplain of the Mississippi and the topography is very flat.

3. Air Quality: St. Charles County is currently in non-attainment of U.S. Environmental Protection Agency criteria for the 8 hour ozone level and particulate matter 2.5.

4. Noise: Ambient noise in the study area is generated by human activities and vehicular traffic.

5. HTRW: There are no recognized environmental conditions that would indicate a risk of HTRW contamination within the project area. The likelihood of hazardous substances adversely affecting the project area due to the proposed construction activities is very low. The St. Louis District will conduct a modified Phase I assessment including a site investigation prior to construction to ensure that no HTRW contamination exists within the project area.

B. Biological Resources

1. Fish and Wildlife: Outside the levee, riparian zones adjacent to the Mississippi River and Dardenne Creek support bottomland hardwood tree species such as cottonwood, ash, box elder, maples, sycamore, and oaks. This bottomland hardwood habitat and the adjacent aquatic habitats support a great variety of insects, crustaceans, mollusks, reptiles, amphibians, fish, birds, and mammals. The levees themselves are mowed grass areas that are managed to prevent shrub and tree growth and animal damage. The borrow area is located in an existing agricultural field.

2. Federal Threatened or Endangered Species: In compliance with Section 7(c) of the Endangered Species Act of 1973, as amended, the St. Louis District Corps of Engineers accessed the U.S. Fish and Wildlife Service (USFWS) website on December 27, 2013 to obtain a listing of Federally threatened or endangered species, currently classified or proposed for classification, that may occur in the vicinity of the EPL (St. Charles County, Missouri).

Federally listed species (Table 2) which may occur in St. Charles county include the Indiana bat, pallid sturgeon, least tern, decurrent false aster, and running buffalo

clover. A Federal candidate species, the northern long-eared bat may also occur in the vicinity of the EPL as well as the Federally protected bald eagle.

Table 2 – List of federally threatened and endangered species for St. Charles Co. and their habitat potentially occurring in the project area (USFWS website accessed December 28, 2013)

Species	Status	Habitat
Indiana bat (*Myotis sodalis*)	Endangered	Hibernacula - Caves and mines; Maternity and foraging habitat - small stream corridors with well developed riparian woods; upland forests
Northern long-eared bat *Myotis septentrionalis*	Proposed as Endangered	Hibernates in caves and mines - swarming in surrounding wooded areas in autumn. Roosts and forages in upland forests during spring and summer.
Least tern (interior population) (*Sterna antillarum*)	Endangered	Large rivers. Nest on sandbars
Pallid sturgeon (*Scaphirhynchus albus*)	Endangered	Mississippi and Missouri Rivers
Decurrent false aster (*Boltonia decurrens*)	Threatened	Disturbed alluvial soils
Running buffalo clover (*Trifolium stolonifereum*)	Endangered	Disturbed bottomland meadows

The endangered **Indiana bat** (*Myotis sodalis*) has been noted as occurring in several Illinois and Missouri counties. Indiana bats are considered to potentially occur in any area with forested habitat. Indiana bats migrate seasonally between winter hibernacula and summer roosting habitats. Winter hibernacula include caves and abandoned mines. Females emerge from hibernation in late March or early April to migrate to summer roosts. Females form nursery colonies under the loose bark of trees (dead or alive) and/or in cavities, where each female gives birth to a single young in June or early July. A maternity colony may include from one to 100 individuals. A single colony may utilize a number of roost trees during the summer, typically a primary roost tree and several alternates. Some males remain in the area near the winter hibernacula during the summer months, but others disperse throughout the range of the species and roost individually or in small numbers in the same types of trees as females. The species or size of tree does not appear to influence whether Indiana bats utilize a tree for roosting

provided the appropriate bark structure is present. However, the use of a particular tree does appear to be influenced by weather conditions, such as temperature and precipitation.

During the summer, Indiana bats frequent the corridors of small streams with well-developed riparian woods, as well as mature bottomland and upland forests. They forage for insects along stream corridors, within the canopy of floodplain and upland forests, over clearings with early successional vegetation (old fields), along the borders of croplands, along wooded fence rows, and over farm ponds and in pastures. It has been shown that the foraging range for the bats varies by season, age and sex and ranges up to 81 acres (33 ha). Suitable Indiana bat summer habitat may be located in the forested areas adjacent to and within the EPL.

The **northern long-eared bat** *(Myotis septentrionalis)* is a Federal candidate for listing as an endangered species throughout its range (Federal Register 2 October 2013). The northern long-eared bat is sparsely found across much of the eastern and north central United States, and all Canadian provinces from the Atlantic Ocean west to the southern Yukon Territory and eastern British Columbia. Northern long-eared bats spend winter hibernating in large caves and mines. During summer, this species roosts singly or in colonies underneath bark, in cavities, in crevices of both live and dead trees. Foraging occurs in interior upland forests. Forest fragmentation, logging and forest conversion are major threats to the species. One of the primary threats to the northern long-eared bat is the fungal disease, white-nose syndrome, which has killed an estimated 5.5 million cave-hibernating bats in the Northeast, Southeast, Midwest and Canada. Suitable northern long-eared bat summer habitat may occur in the forested areas adjacent and within the EPL.

The Federal endangered **pallid sturgeon** (*Scaphirynchus albus*) is present in the Mississippi River generally below the Missouri River confluence. Pallid sturgeons require large, turbid, free-flowing riverine habitat with rocky or sandy substrate. Pallid sturgeon are adapted to large rivers with extensive micro-habitat diversity, turbid water, braided channels, irregular flows and flood cycles. Little is known of its micro-habitat preferences; however, it is suspected that sand/gravel bars and the mouths of major tributaries may be utilized for spawning. This species feeds on aquatic invertebrates and small fish. Suitable habitat for the pallid sturgeon is not located in the vicinity of the EPL.

Running buffalo clover (*Trifolium stolonifereum*) requires periodic disturbance and a somewhat open habitat to successfully flourish, but it cannot tolerate full-sun, full-shade, or severe disturbance. Historically, running buffalo clover was found in rich soils in the ecotone between open forest and prairie. Those areas were probably maintained by the disturbance caused by bison. Today, the species is found in partially shaded woodlots, mowed areas (lawns, parks, cemeteries), and along streams and trails. Clearing land for agriculture and development has led to elimination of populations, loss of habitat, and fragmentation of the clover populations that remain. Small, isolated populations of running buffalo clover are prone to extinction from herbivory, disease, and inbreeding.

Running buffalo clover was historically widespread and ranged from Nebraska to West Virginia. It has disappeared from all known historic sites in Missouri. It formerly

occurred in the southern two-thirds of the state. There are historical records from Jasper, Wayne, Cooper, and St. Louis counties. It was considered extirpated from Missouri until as recently as 1989, when some plants were reported growing in an unattended pile of topsoil in St. Louis. One natural site for running buffalo clover was discovered in Madison county in 1994 and another was discovered in Maries county in 1998 (MDC 2008a). The dense turf formed by the cool season grass, regular mowing or agricultural production would prevent Running Buffalo Clover from germinating; therefore it is unlikely the running buffalo clover occurs in the vicinity of the EPL.

Decurrent false aster (*Boltonia decurrens*) is presently known from scattered localities on the floodplains of the Illinois River, and Mississippi River from its confluence with the Missouri River south to Madison County, Illinois. Decurrent false aster grows in wetlands, on the borders of marshes and lakes, and on the margins of bottomland oxbows and sloughs. Historically, this plant was found in wet prairies, marshes, and along the shores of some rivers and lakes. Decurrent false aster favors recently disturbed areas and flooding may play a role in maintaining its habitat. Current habitats include riverbanks, old fields, roadsides, mudflats and lake shores. Decurrent false aster prefers a moist habitat but can tolerate drought (MDC 2008b).

In Missouri, decurrent false aster distribution is restricted to the Mississippi River floodplain from the Illinois River southward. Current populations are fewer and more isolated than in historical times. Former distribution of this plant included Lincoln, St. Charles, St. Louis, and Cape Girardeau counties. Presently it is only known to occur in St. Charles County (MDC 2008b).

Least Tern – The interior population of the least tern (*Sterna antillarum*) is characterized as a colonial, migratory waterbird, which resides and breeds along the Mississippi River during the spring and summer. Least terns arrive on the Mississippi River from late April to mid-May. Reproduction takes place from May through August, and the birds migrate to the wintering grounds in late August or early September. Sparsely vegetated portions of sandbars and islands are typical breeding, nesting, rearing, loafing, and roosting sites for least terns along the Middle Mississippi River (MMR).

Although the **bald eagle** (*Haliaeetus leucocephalus)* was removed from the federal list of threatened and endangered species in 2007, it continues to be protected under the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act (BGEPA). The BGEPA prohibits unregulated take of bald eagles, including disturbance. The U.S. Fish and Wildlife Service developed the National Bald Eagle Management Guidelines (USFWS 2007) to provide landowners, land managers, and others with information and recommendations regarding how to minimize potential project impacts to bald eagles, particularly where such impacts may constitute disturbance.

C. Socioeconomic Description

1. Economic: The EPL is located on the floodplains of Dardenne Creek and the Mississippi River. Because of the fertility of the soil and moisture, the lands are prized for their agricultural productivity. In addition, demand for soccer fields and the flat terrain have contributed to the development of a soccer complex and sod farm. Levees have been constructed to the Federal standard to protect against a 25-year level flood and provide a reasonable amount of certainty of yearly crop production. Most of the agricultural land within the levee is considered prime farmland.

The EPL protects commercial/light industrial, high tech manufacturing and residential/farmstead properties with an estimated total value of $24,150,000. The EPL also provides protection to 661 cropland acres from a 25-year flood event. The crop distribution within the District is approximately 45 percent soybeans, 45 percent corn and 10 percent wheat. The main occupation in the EPL is farming and levees are of regional economic importance to maintain the agricultural productivity occurring in the floodplain. In addition, a soccer complex has been developed due to the growing demand of that sport among youth. It is estimated that the levee slide and scour have reduced the degree of levee protection to a 12.5-year flood event for the EPL.

2. Recreation: A soccer complex has been developed within the levee district with 13 soccer fields and two concession buildings. Only casual recreation such as hiking and wildlife viewing may occur on the levees.

3. Environmental Justice: Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low- Income Populations, 59 Federal Register 7629 (1994), directs federal agencies to incorporate environmental justice in their decision making process. Federal agencies are directed to identify and address as appropriate, any disproportionately high and adverse environmental effects of their programs, policies, and activities on minority or low-income populations.

4. Aesthetics: The levee repair areas are adjacent to agricultural areas, floodplain forest, wetlands, and open water. The borrow area is located on agricultural land.

5. Prime Farmland: The Elm Point Levee Association protects 661 acres of prime farmland.

6. Cultural: The repair site locations are composed of areas of erosion in recently deposited material or recently-placed levee berm material. There are no recorded archaeological sites in the repair or borrow site locations.

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 the Missouri and Mississippi rivers within the U.S. Army Corps of Engineers St. Louis District boundaries were damaged by flooding in 2013. 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.

IV. ENVIRONMENTAL CONSEQUENCES

A. No Action Alternative:

1. Physical Resources: If the EPL levees were not repaired to the Federal standard there would be an increased flood risk and more physical damages would occur within the EPL such as erosion and sedimentation. Air quality and noise pollution would not be altered by this alternative. 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. The St. Louis District will conduct a modified Phase I assessment including site investigation to ensure that no HTRW contamination exists within the project area.

2. Biological Resources: Due to the possibility of more frequent flooding of the EPL under this alternative, some vegetation would be destroyed and some wildlife would be more frequently displaced. There would also be some beneficial impacts if agriculture use diminished and a more diverse environment developed, especially for aquatic oriented wildlife.

3. Socioeconomic Description:

a. Economic: The flood protection is reduced under this alternative to the 12.5-year protection level. A more frequent flood interval would greatly diminish agriculture and local businesses such as the sod farm and the SLYSA soccer complex.

b. Recreation: Recreational activities such as activities associated with the soccer complex would be disrupted more often due to the possibility of more frequent flooding within the EPL. Casual recreation, such as hiking, may be diminished with the levees in disrepair.

c. Environmental Justice: Without flooding, there would be no change from current conditions. With flooding, no minority housing or businesses would be displaced.

d. Aesthetics: The levee would continue to be degraded and the eroded locations would continue to be visible until the areas are revegetated.

e. Prime Farmland: The reduced level of protection of 12.5 years instead of 25 years would threaten the economics of those farming in the EPL.

f. Cultural Resources: Without flooding, there would be no change from current conditions. With flooding, there is the potential for damage to culturally significant sites protected by the levee.

B. Preferred Alternative: Federal Assistance with Levee Repairs

1. Physical Resources

a. Air Quality: Construction activities would cause a slight increase in suspended particulates (i.e., dust). Emissions from construction equipment would increase the carbon monoxide and carbon dioxide levels in the vicinity of the construction site. The expected increases would be very negligible relative to current local business activities and would cease after construction.

b. Water Quality: Construction activities would occur on the mowed grass levee berms adjacent to streams and water areas. Levee repairs could cause a short-term increase in turbidity in the waterways at the immediate construction site if flooding or heavy rains occurred during construction. All disturbed areas would be reseeded following construction to reduce the potential for erosion.

c. Noise: Construction activities would cause an increase in local noise levels. The expected increase would be short-term and negligible relative to normal agricultural and business activities.

2. Biological Resources

a. Fish and Wildlife: If heavy rain occurs during construction, washing soil into the rivers, there would be a short-term increase in turbidity in the immediate area, temporarily displacing fish and other mobile organisms. Following construction, aquatic species would be expected to return. Only limited impacts to fish and wildlife resources are expected. 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.

b. Wetlands/404 Permit Requirements: No wetlands would be impacted by the project. A slight depression would remain after removal of borrow that may result in wetland development. No Section 404 permits are required.

c. Federally Threatened or Endangered Species: Federally listed species which may be found in the EPL project area include the, Indiana bat, pallid sturgeon, least tern, decurrent false aster and running buffalo clover. The candidate long-eared bat was also included as potentially occurring in this area as well as the federally protected bald eagle. There is no designated critical habitat for any species in the project area at this time.

The endangered **Indiana bat** has been noted as occurring in several Illinois and Missouri counties. The repair would take place within the footprint of the existing levee and no suitable Indiana bat trees would be impacted. In addition, because construction would occur in the fall and winter, the proposed project would have “no effect” the Indiana bat.

The endangered **pallid sturgeon**, is associated with the habitats of medium to large rivers. No habitat appropriate for this species is located in the vicinity of the proposed repair areas; therefore, this action would have "no effect" on the pallid sturgeon.

The interior population of the **least tern** (*Sterna antillarum*) is characterized as a colonial, migratory waterbird, which resides and breeds along the Mississippi River during the spring and summer. No least tern habitat would be affected by the levee repair, therefore the project should have "no effect" on the least tern.

Decurrent false aster and **running buffalo clover** are not known to occur and have not been observed in the project area. Borrow would not come from any area containing the aster and construction traffic would not move through any area that contains the decurrent false aster. Therefore, this project would have "no effect" on these species.

The **northern long-eared bat** is sparsely found across much of the eastern and north central United States. No caves or upland forests would be impacted by the proposed action in the EPL; therefore, this project would have "no effect" on the northern long-eared bat.

Bald eagle nests were not observed in the project area or vicinity. If any nest trees are identified in the project area, the National Bald Eagle Management Guidelines will be implemented to minimize potential project impacts and appropriate coordination with the U.S. Fish and Wildlife Service will be conducted.

3. Socioeconomic Description

a. Economic Resources: Local agricultural and agri-businesses would benefit from levee repair and subsequent flood protection. The proposed initial levee repairs would protect the agriculture and business interests associated with this levee district.

b. Recreation Resources: Developed recreation activities as well as opportunities for casual recreation experiences would continue to be available up to the 25-year flood events.

c. Environmental Justice: The project would not directly affect any minority housing or businesses; therefore, the project would not result in any environmental justice issues.

d. Prime Farmland: All construction activities would occur on the levees and around the borrow area. The borrow area created in prime farmland will be used to create wildlife habitat. For purposes of the Farmland Protection Policy Act, NRCS does not consider creation of artificial wetlands, such as borrow areas that retain water, as conversion to non-agricultural use due to the fact that the areas could be returned to crop production if the landowner chose to do so. Therefore, no conversion of prime farmland is anticipated.

e. Cultural Resources: The proposed repairs to the levee within the Elm Point Levee District will have no effect upon significant historic properties (archaeological remains or standing structures). The borrow area for Elm Point is a previously disturbed

field that is part of a sod farm. There are no previously recorded sites within the borrow area. The area had not been previously surveyed for cultural resources. A pedestrian survey of the borrow area found no cultural resources.

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 Missouri State Historic Preservation Office (SHPO).

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 Missouri SHPO. Any future actions will be coordinated with the SHPO's concurrence.

V. CUMULATIVE IMPACTS

The majority of the levee systems in the region have been in place for decades. Repairs would involve returning most of the damaged levee sections to the same alignment and level of protection as existed prior to the high water events of 2013. 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. These repairs are not anticipated to decrease the post-flood productivity of lands riverward or landward of the levee systems. The Elm Point Levee District PL84-99 project along with several other levees will require borrow for levee repairs. Borrow sites have been examined and selected in order to avoid sensitive areas and resources. Borrow for the majority of these projects will come from agriculture areas, low quality farmed wetlands, and previously identified borrow areas. The widely scattered nature of the repair sites and shallow excavation depth of borrow sites would reduce impacts and no long term adverse cumulative impacts are expected.

VI. COORDINATION WITH OTHER STATE AND FEDERAL AGENCIES

This EA and Draft FONSI will be provided to state and federal agencies and the public for their review, comments, and concurrence during the 15 day public comment period. See Appendix A for the EA distribution list.

To assure compliance with the National Environmental Policy Act, Endangered Species Act and other applicable environmental laws and regulations, coordination with the following agencies will continue as required throughout the planning and construction phases of the proposed levee repairs.

U.S. Fish and Wildlife Service
Federal Emergency Management Agency
Missouri Department of Conservation
Missouri State Historic Preservation Agency
Missouri Department of Natural Resources

VII. RELATIONSHIP OF PREFERRED ALTERNATIVE TO ENVIRONMENTAL REQUIREMENTS

Table 3 - Relationship of Preferred Alternative to Environmental Requirements Environmental Act/Executive Order	Compliance
Bald Eagle Protection Act, 42 USC 4151-4157	FC
Clean Air Act, 42 USC 7401-7542	FC
Clean Water Act, 33 USC 1251-1375	FC
Comprehensive Environmental Response, Compensation, and Liability Act, (HTRW) 42 USC 9601-9675	FC
Endangered Species Act, 16 USC 1531-1543	FC
Farmland Protection Policy Act, 7 (Prime Farmland)USC 4201-4208	FC
Fish and Wildlife Coordination Act, 16 USC 661-666c	FC
Food Security Act of 1985 (Swampbuster), 7 USC varies	FC
Land and Water Conservation Fund Act, (Recreation)16 USC 460d-4601	FC
National Environmental Policy Act, 42 USC 4321-4347	PC
National Historic Preservation Act, 16 USC 470 et seq.	PC
Noise Control Act of 1972, 42 USC 4901-4918	FC
Resource, Conservation, and Rehabilitation Act, (Solid Waste) 42 USC 6901-6987	FC
Rivers and Harbors Appropriation Act, (Sec. 10) 33 USC 401-413	FC
Water Resources Development Acts of 1986 and 1990 (Sec 906 – Mitigation; Sec 307 - No Net Loss - Wetlands)	FC
Floodplain Management (EO 11988 as amended by EO 12148)	FC
Federal Compliance with Pollution Control Standards (EO 12088)	FC
Protection and Enhancement of Environmental Quality (EIS Preparation) (EO	FC

Table 3 - Relationship of Preferred Alternative to Environmental Requirements Environmental Act/Executive Order	Compliance
11991)	
Protection and Enhancement of the Cultural Environment (Register Nomination) (EO 11593)	FC
Protection of Wetlands (EO 11990 as amended by EO 12608)	FC

FC = Full Compliance, PC = Partial Compliance (on-going, will be accomplished before construction); Source*:* U.S. Army Corps of Engineers, St. Louis District.

Environmental Regulatory Constraints

The Preferred Alternative was subject to compliance review with all applicable environmental regulations and guidelines. The Preferred Alternative was determined to be in full compliance with all applicable acts and legislation except for two with partial compliance which will be completed prior to construction (Table 3).

According to EO 11988 (Floodplain Management), the St. Louis District, Corps of Engineers has evaluated the levee repairs which occurred in the EPL during the spring and summer flood of 2013. Based on the potential for property damage (crops and businesses) that currently exists, it is prudent to restore the levee to afford a level of flood protection that existed prior to the flooding event. By reducing the future risk of flood loss, minimizing the impacts on existing vegetation in the floodplain, and minimizing structural development in the floodplain, this proposed project is in full compliance with this Executive Order.

The St. Louis District, Corps of Engineers has evaluated the proposed levee repairs for the EPL that were in response to the spring and summer flooding of 2013. The proposed project involves the repair of an eroded levee along Dardenne Creek and a slide along Cole Creek. One borrow area would be necessary and will not create additional impacts. Therefore, the proposed levee repairs are in full compliance with Executive Order 11990 by not requiring impacts to any wetlands.

VIII. LIST OF PREPARERS

Francis Walton, 13 years USACE biologist
Experience: 15 years Environmental Branch, USACE
Role: EA Coordinator, NEPA and Environmental Compliance

Rick Archeski, Environmental Engineer
Experience: 16 years USFWS, 16 years US Army, 16 years USACE-MVS
Role: Environmental Engineering, HTRW

James E. Barnes, District Archaeologist

Experience: 8 years private sector; 17 years Center of Expertise, Curation and Maintenance of Archaeological Collections
Role: National Historic Preservation Act Analysis and Compliance

Greg Bergtoglio, Project Manager
Experience: 32 years USACE-MVS
Role: Project Manager

Daniel Linkowski, Economist
Experience: 5 years USACE
Role: Economist

Matt Shively, Regulatory Project Manager, Wildlife Biologist
Experience: 15 years, USACE-MVS Regulatory Office
Role: Section 404/401 permit review; NEPA and Environmental Compliance

IX. REFERENCES

Missouri Dept. of Conservation, 2008a.
http://mdc.mo.gov/nathis/endangered/endanger/clover

Missouri Dept. of Conservation, 2008b.
http://mdc.mo.gov/nathis/endangered/endanger/aster/index.htm

USFWS (U.S. Fish and Wildlife Service). 2007. Protection of Eagles; Definition of ‘‘Disturb’’. Federal Register 72(107): 31132- 31139.

APPENDIX A

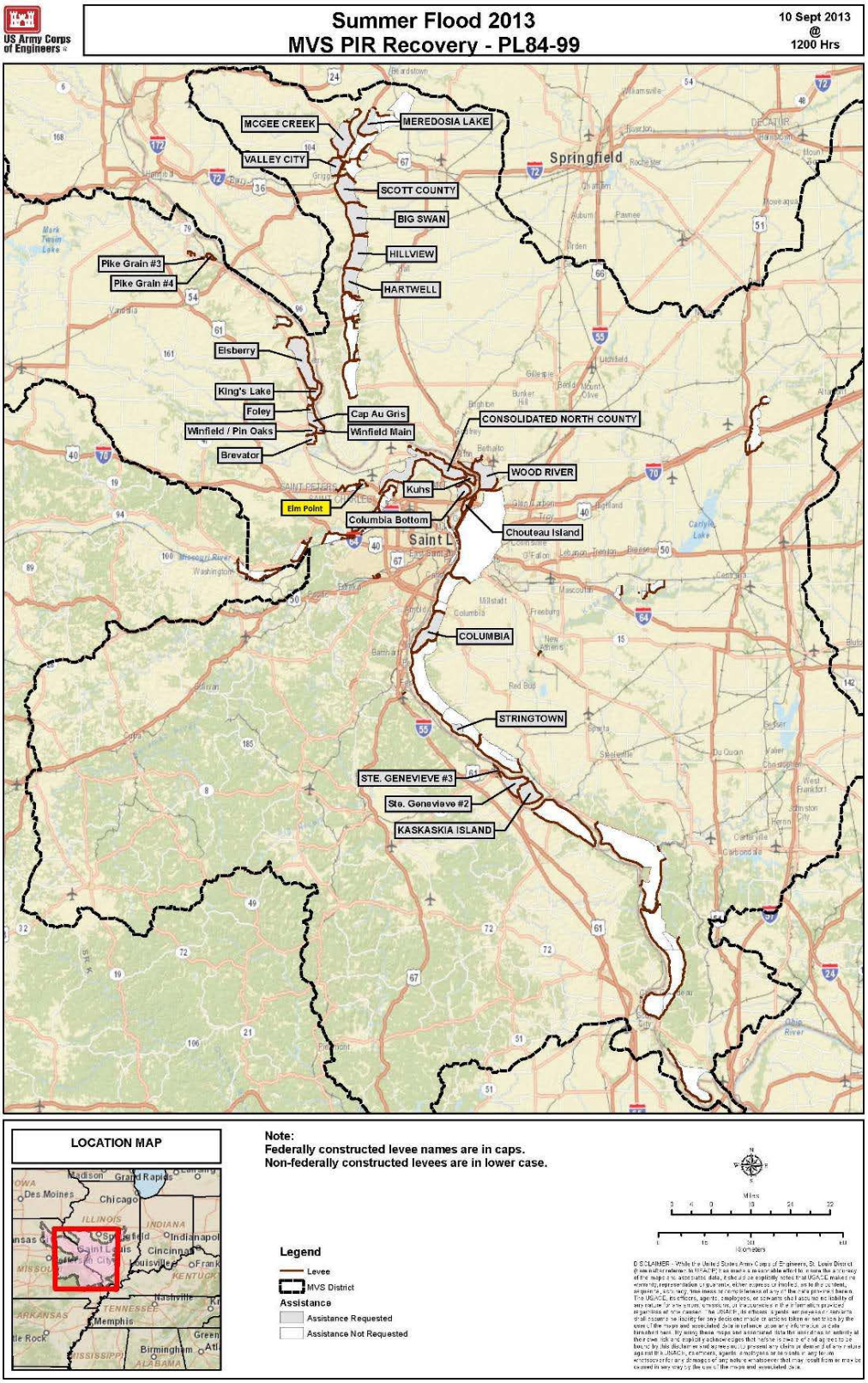
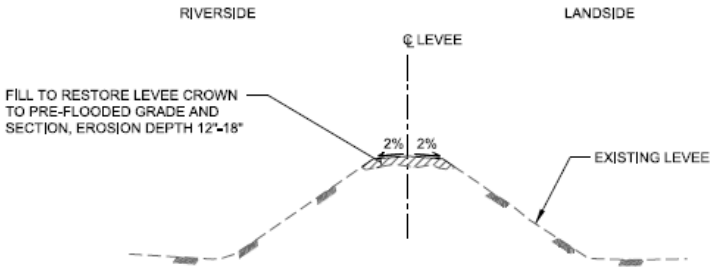


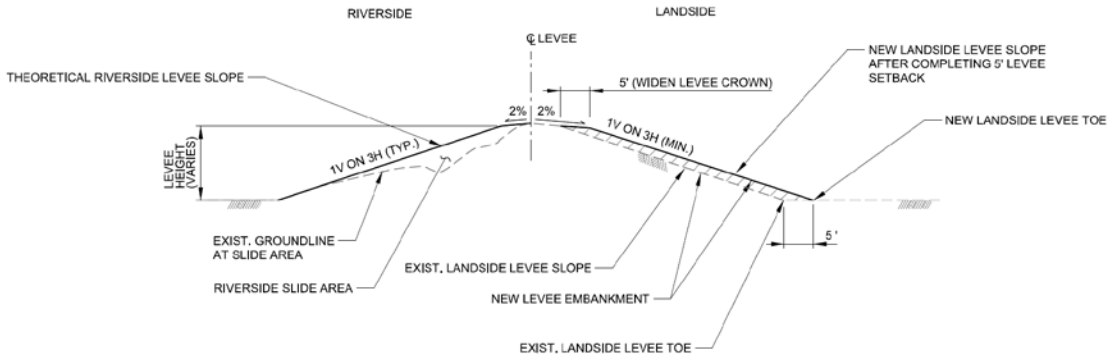
Figure 1 – Project Location Map

Figure 2 – Elm Point Levee Association Damages



TYPICAL SECTION - EROSION TYPE II
SCOUR REPAIR ON LEVEE CROWN
NO SCALE

Figure 3 - Erosion Repair on Levee Crown



TYPICAL SECTION - SLIDE REPAIR
LANDSIDE LEVEE SETBACK
NO SCALE

Figure 4 - Slide Repair Along Cole Creek.

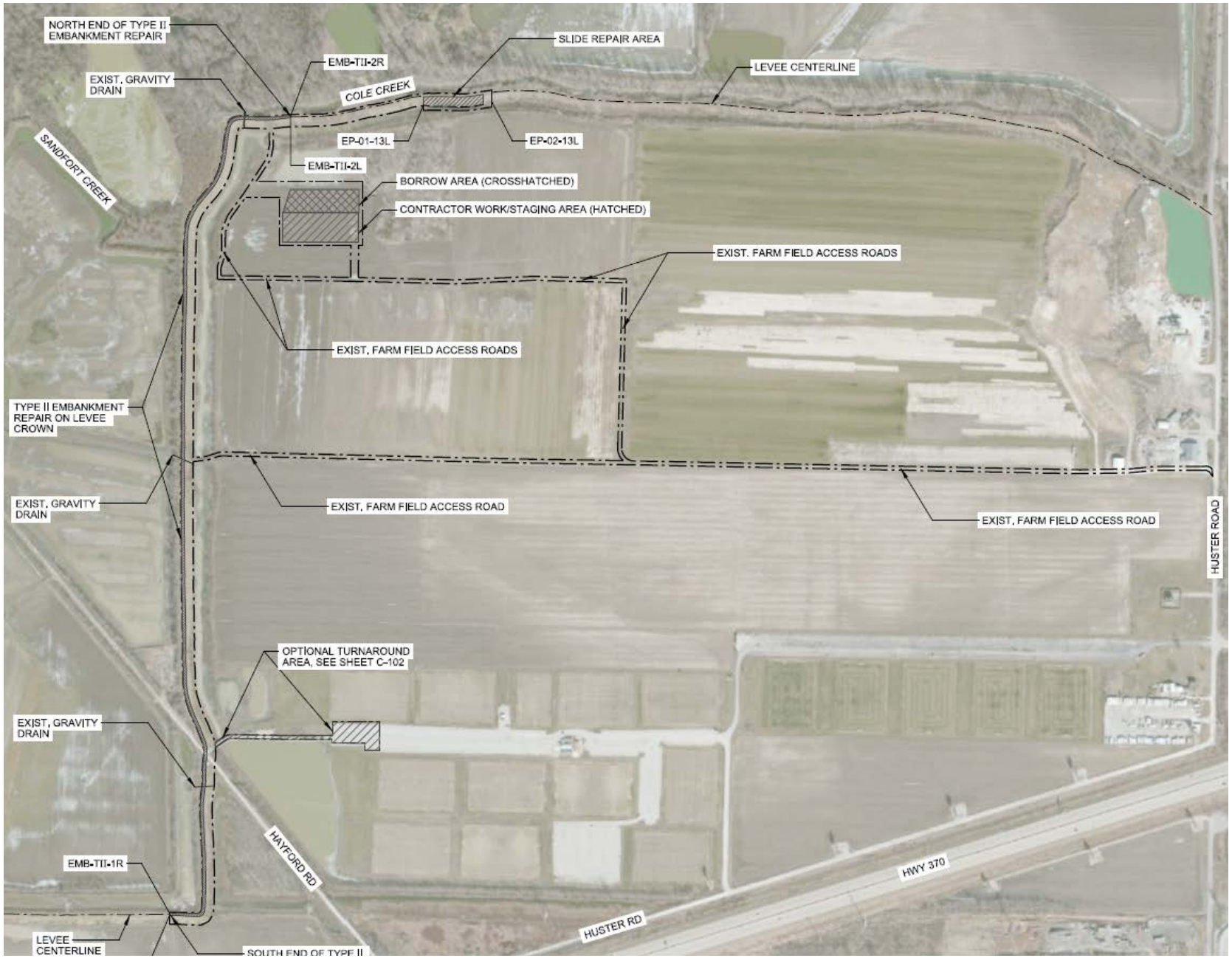


Figure 5 – Elm Point Levee Association Construction Limits and Borrow Site

Figure 6 –Erosion Damage

Figure 7 - Levee Scour and Slide Area along Cole Creek

DRAFT FINDING OF NO SIGNIFICANT IMPACT

PUBLIC LAW 84-99
ELM POINT LEVEE ASSOCIATION
ST CHARLES COUNTY, MISSOURI

1. I have reviewed the document concerned with the proposed levee repairs to the Elm Point Levee Association. The purpose of this project is to repair levee sections damaged by an extended high water event during the spring of 2013. Repairs will 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 will not repair the flood damaged levees. It is assumed that, because of the cost of repairs, the levee district will not repair the levee.

b. Proposed Action (Repair of Levees with Federal Assistance): Under this alternative, the federal government will repair the damaged areas to the pre-flood level of protection. Since the Elm Point Levee Association is active in the USACE Rehabilitation and Inspection Program, it is eligible for Flood Control and Coastal Emergency funding authorized by PL 84-99.

3. The possible consequences of these alternatives have been studied for physical, biological, cultural, social and economic effect. 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 will come from the area deemed acceptable by the borrow inspection team. The selected borrow site location is shown in the Environmental Assessment (EA). Levee repairs will be seeded using a mixture of fast germinating perennial grasses when conditions are suitable for grass germination.

c. No appreciable effects to general environmental conditions (air quality, noise, water quality) will result from the preferred alternative.

d. The preferred alternative is not expected to cause significant adverse impacts to aesthetic quality, recreational use, or general fish and wildlife resources.

e. The preferred alternative 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 preferred alternative.

g. No prime farmland will be adversely impacted as a result of the preferred alternative.

h. No significant impacts to historic properties (cultural resources) are anticipated as a result of the preferred alternative.

i. Under the preferred alternative, local economies would benefit through an increased labor demand to carry out levee repairs. Agricultural land, businesses and structures within the drainage district would be provided with pre-2013 flood protection.

4. The following environmental commitments are part of the preferred alternative:

a. If any suspected hazardous materials are found, the USACE would notify the Missouri Department of Natural Resources, and the hazardous materials will be removed in an approved manner before proceeding with the project.

b. For those areas where some erosion may occur from borrow excavation, 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 will use fast germinating grass mixtures on restored levee areas to reduce any further erosion.

5. Based upon the EA of the preferred alternative, 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

APPENDIX A
EA Distribution List

U.S. Fish and Wildlife Service
Attn: Matt Mangan
Marion Illinois Sub-Office (ES)
8588 Rte 148
Marion, IL 62959

Missouri Department of Natural Resources
Sara Parker Pauley, Director
P.O. Box 176
Jefferson City, MO 65102

Honorable Blaine Luetkemeyer
1118 Longworth HOB
Washington, Dc 20515

Honorable Claire McCaskill
5850 A Delmar Blvd
St. Louis, MO 63112

Honorable Lacy Clay
6830 Gravois
St. Louis, MO 63116

Rep. Jim Hansen
201 West Capitol Avenue
Room 405a
Jefferson City MO 65101

Senator Brian Munzlinger
201 W Capitol Ave., Rm. 331a
Jefferson City, Missouri 65101

Honorable Sam Graves
906 Broadway
P.O. Box 364
Hannibal, MO 63401

Missouri Department of Conservation
Attn: Janet Sternburg
P.O. Box 180
Jefferson City, MO 65102

MDNR Division of State Parks
Planning and Development
P.O. Box 176
Jefferson City, MO 65102

Senator Jolie Justus
201 W Capitol Ave., Rm. 333
Jefferson City, Missouri 65101

Russell Cissell
1075 Lesieur
Portage Des Sioux, MO 63373

Rep. Ed Schieffer
201 West Capitol Avenue
Jefferson City, MO 65101-6806

Missouri Department of Conservation
Attn: Alan Leary
P.O. Box 180
Jefferson City, MO 65102

Honorable Roy Blunt
United States Senator
2502 Tanner Drive – Suite 208
Cape Girardeau, MO 63703

Missouri Dept. of Natural Resources
Water Protection Program
401 Unit
P.O. Box 176
Jefferson City, MO 65102-0176

State of Missouri
Emergency Management Agency
Logistics, Mitigation & Floodplain Management Branch
Po Box 116
Jefferson City, MO 65102

Sierra Club
Missouri Chapter
7164 Manchester Ave.
Maplewood, MO 63143

Robert D. Shepherd
Izaak Walton League of America
16 Juliet Ave
Romeoville, Il 60446

Kathy Andria
American Bottoms Conservancy
P.O. Box 4242
Fairview Heights, Il 62208

The Nature Conservancy
2800 S. Brentwood Blvd.
St. Louis, MO 63144

Ken Sessa
Federal Emergency Management Agency
9221 Ward Parkway, Suite 300
Kansas City, MO. 64114-3372

Consolidated North County
Drainage and Levee District
Danny Kleusner
P.O. Box 186
Portage Des Sioux, MO 63373

Mr. Stanley Rolf
President, Board of Commissioners
Winfield Drainage and Levee District
1095 S. Highway 79
Winfield, MO 63389

Mr. Dennis Dove
Secretary/Treasurer
Foley Drainage District
2871 Highway P
Wentzville, MO 63385

Mr. Robert Jungermann
President, Board of Commissioners
Cap Au Gris Levee and Drainage District
1529 Rahmier Rd.
Moscow Mills, MO 63362

Mr. Larry Kluesner
Secretary
Elm Point Levee District
4768 Washeon Rd
St. Charles, MO 63301