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ST. LOUIS DISTRICT, CORPS OF ENGINEERS
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ST. LOUIS, MISSOURI 63103-2833

02 May 2017

Reply to:

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

RE: Elm Point Levee District PL 84-99

Dear Sir or Madam:

We are providing for your review a Draft Environmental Assessment (EA) and unsigned Finding of No Significant Impact for the Elm Point Levee District, which incurred levee damages during the winter flood events of 2015. Please note that the 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.

An electronic copy can be obtained from the St. Louis District's website at:

<http://www.mvs.usace.army.mil/Portals/54/docs/pm/Reports/EA/DRAFTElmPointEAandFONSIPL84992015Repairs.pdf>

Levees throughout the St. Louis District were damaged during the summer and winter flooding in 2015. 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 assessment. Please address your comments or questions to Christopher Hopfinger of the Environmental Compliance Section (CEMVP-PD-C), at telephone number (314) 331-8171, or e-mail at Christopher.Hopfinger@usace.army.mil, by close of business on 02 June 2017.

Thank you,

Teri C. Allen, Ph.D.

Chief, Environmental Compliance Section

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

**LEVEE REPAIR (P.L. 84-99)
ELM POINT LEVEE DISTRICT
MISSISSIPPI RIVER, RIVER MILE 226 to 228
ST CHARLES COUNTY, MISSOURI**

May 2017



**US Army Corps
of Engineers**
St. Louis District

Prepared by:
Environmental Compliance Section
U.S. Army Corps of Engineers
St. Louis District
1222 Spruce Street
St. Louis Missouri 63103-2833

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1. INTRODUCTION

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

1.1. 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 P.L. 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 C.F.R 203). The Code states that actions taken to *restore facilities to pre-disaster conditions* under P.L. 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 Elm Point Levee District is active in the USACE Rehabilitation and Inspection Program, they are eligible for Flood Control and Coastal Emergency funding authorized by P.L. 84-99.

1.2. Project Location and Scope

The Elm Point Levee System is a non-federally constructed, non-federally maintained levee located in St. Charles County, Missouri, and is located approximately 3 miles south of the Mississippi River at approximately miles 226 to 228 (Figure 1). The levee system provides flood risk reduction for approximately 1,343 acres of primarily agricultural lands with some residential and commercial properties, as well as infrastructure including Highway 370. The levee system also protects the St. Louis Youth Soccer Association (SLYSA) Soccer Complex, serving over 12,000 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 levee system provides a 25-year level of protection with 2 feet of freeboard.

1.3. Project Purpose and Need

The Elm Point Levee District sustained damages from high water events that resulted from a powerful winter storm that occurred in the Midwest during 26-29 December 2015, bringing torrential rain and heavy snow across the region. The purpose of this federal action is to restore the level of flood protection to that which existed prior to the 2015 flood event. There is a need

for repairs because damages reduced flood protection provided by the levee, making the district vulnerable to more frequent flooding. Without federal involvement through the P.L. 84-99 program, it is unlikely that the Elm Point Levee District has the financial ability to restore the level of protection according to Corps of Engineers' standards.

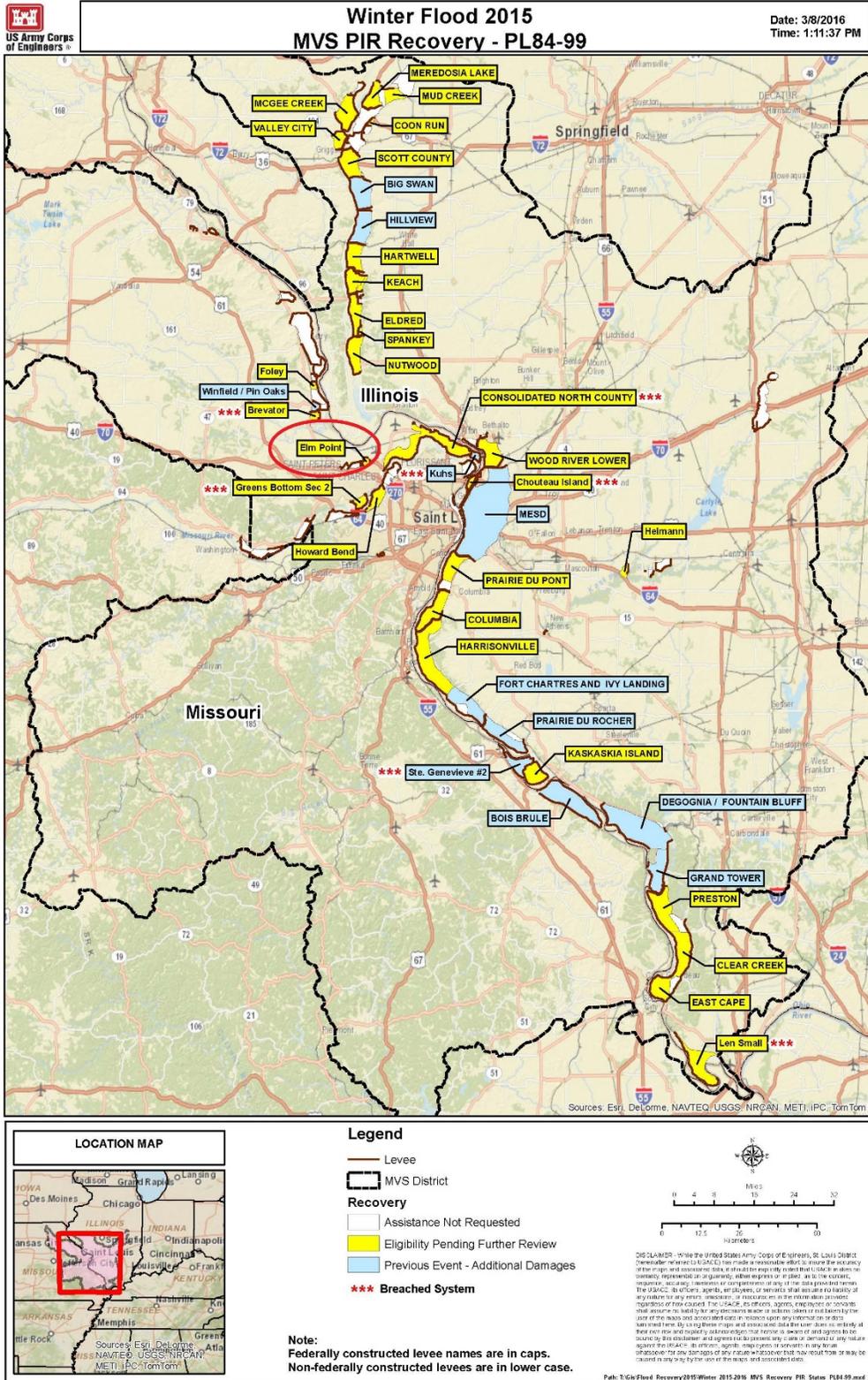


Figure 1. General Location Map of the Elm Point Levee District

1.4. Damage Description

Damages sustained by the Elm Point levee as a result of the December 2015 high water event on the Mississippi Rivers consisted of slides, scouring and rutting. Damage locations are shown in Figure 2 below.

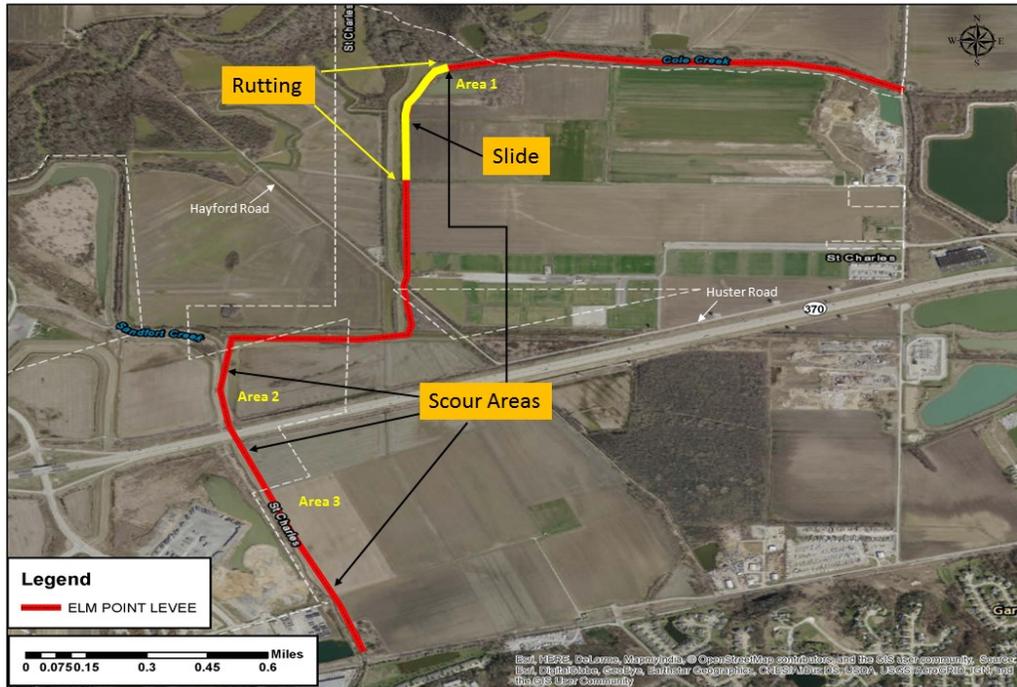


Figure 2. Location of Elm Point levee damage as result of the December 2015 high water event.

1.4.1. Damage Classification

- **Slide** - A slide is a movement of soil down the levee slope where the levee cannot support its own saturated weight. Slides are typically repaired by excavation of damaged area, and replacement of embankment in compacted lifts.
- **Scour**- A void formed by the removal of material by a powerful current of water. Repaired by filling the void with washed-out material and compacted.
- **Rutting** – Rutting is caused by vehicular traffic on the levee crown during highly saturated soil conditions. Soil is compacted due to the vehicular weight, resulting in the displacement and a depression. Typically repaired by disking and grading to reestablish levee crown. Material may be needed to reestablish pre-existing conditions.

1.4.2. Damages

- Slide – One area located on the riverside of Elm Point levee received slide damage resulting from the December 2015 flood event (Figure 3). The area is located approximately 0.5 miles north of Hayford Road. It measures 60 feet in length and the scarp is 3 feet into the riverside crown edge. Vertical distance from the levee crown to bottom of creek bed is approximately 16 feet.
- Scour – Cole Creek has scoured into the riverside levee section and material above the scour is sloughing down within three general areas along the Elm Point levee as shown in Figure 2.
 - Area 1 - The first scour location is on the river side of Elm Point levee, approximately 0.75 mile west of Huster Road. It measures 100 feet in length and the scarp is at the edge of the levee crown.
 - Area 2 - The section of levee immediately adjacent to and north of Highway 370 contains multiple scouring locations along the riverside of Cole Creek. The scour locations along this section of levee add up to 200 feet in length. Figure 4 shows typical scour damage within this area.
 - Area 3 – Two additional Cole Creek scour locations are south of Highway 370. One location is 50 feet in length at the edge of the levee crown, the other location has erosion 5 feet into the levee crown for a length of 175 feet.

All of the scouring damage mentioned above resulted from the December 2015 storm event. Vertical distance from the levee crown to bottom of Cole Creek bed is approximately 16 feet in all scour locations.

- Rutting – Rutting damage caused by vehicular traffic during the flood fighting efforts occurred starting approximately 0.3 miles north of Missouri Highway 370, extending 2300 feet in length on the levee crown with a depth of 4 inches and total width of 5 inches. Figure 2 shows the extent of the rutted area.

The levee system provides an authorized 25-year level of flood risk management. If not repaired, the damages could lead to further degradation of the levee, further reducing the level of flood risk reduction.



Figure 3. Levee slide along Cole Creek adjacent to Borrow Area 1.



Figure 4. Photo of scour along Cole Creek within Area 2.

2. ALTERNATIVES CONSIDERED

This section describes and compares the alternatives based on their geotechnical, engineering design, economic, and environmental impact and achievement of project objectives for the damaged Elm Point Levee District. The National Environmental Policy Act (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 Water Resources Development Act (WRDA) of 1974 (P.L. 93-251) requires federal agencies to give consideration to nonstructural measures to reduce or prevent flood damage.

2.1. Alternative 1 - No Action (Future without Project)

Under the No Action Alternative, the federal government would not repair the damages to the Elm Point levee. It is possible that the Levee District would make repairs without federal assistance. Environmental impacts of repairs made by the Levee District would be similar to the tentatively selected alternative, except that the repair duration may differ and the environmental protections may be reduced. However, due to the uncertainty of the Levee District making all necessary repairs, **the environmental impacts of allowing the damage to remain unrepaired are regarded 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 damaged

sites. The current damages would decrease flood protection, thereby increasing risks to individuals, commercial and residential properties, structures, businesses, and agricultural activities within the leveed areas.

2.2. Alternative 2 – Non-Structural Measures

Section 73 of the WRDA of 1974 (P.L. 93-251) 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 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. A flood warning system would do little to reduce structural and agricultural damages. Flood proofing or relocation is not desirable to the Elm Point Levee District, would have large costs, and would result in the loss of numerous acres of agricultural land.

Under P.L. 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.**”*

Additionally, ER 500-1-1, dated 30 September 2001, states that:

*“Under PL 84-99, the Chief of Engineers is authorized, **when requested by the non-Federal public sponsor**, to implement nonstructural alternatives (NSA’s) to the rehabilitation, repair, or restoration of flood control works damaged by floods or coastal storms. The option of implementing an NSA project (NSAP) in lieu of a structural repair or restoration is available only to non-Federal public sponsors of flood control works (FCW’s) eligible for Rehabilitation Assistance in accordance with this regulation, and **only upon the written request of such non-Federal public sponsors. The principal purposes of an NSAP are for floodplain restoration, provision or restoration of floodways; and/or reduction of future flood damages and associated (FCW) repair costs.** [NOTE: Habitat restoration is recognized as being a significant benefit that can be achieved with an NSAP, and may be*

a significant component of an NSAP, but is not considered to be a principal purpose under this authority.]

The Elm Point Levee District declined to request the pursuit of a non-structural alternative because present owners desire to continue agricultural use; therefore, this alternative was eliminated from further consideration in this EA.

2.3. Alternative 3 – Structural Repair of Levee with Federal Assistance (Tentatively Selected Plan)

Under this alternative, at the request of the Elm Point Levee District, the federal government would reconstruct the levee to pre-flood level of protection at all known damage locations. Since the Elm Point Levee District is active in the USACE Rehabilitation and Inspection Program, it is eligible for Flood Control and Coastal Emergency funding authorized by P.L. 84-99.

2.3.1. Levee Setback

Due to the widening of the creek meander and continued scour, it is not practical to reestablish the levee within its original footprint. A setback of approximately 25 to 30 feet is the ideal repair method, dependent upon the severity of damage. The damaged areas of the levee would be reconstructed with suitable semi-compacted impervious material until the original slope and grade of the levee is attained. In areas where filling is required, impervious borrow material and pervious sand would be added to the repair sites to restore areas to pre-flood grade. Approximately 8,500 cubic yards of embankment in addition to an estimated 16,000 cubic yards of additional borrow material is needed to restore the levee at damage locations. Repairs would restore the levee to the level of protection that existed prior to the 2015 flood event at slide, scour and rutted locations. All repair areas would then be reseeded when conditions are suitable for grass germination to prevent or minimize erosion.

- Scour Areas – Excavated material from the existing levee would be utilized for the setback construction in addition to borrow material. A setback of approximately 25 feet is the ideal repair for locations that received less than five feet of erosional damage into the levee crown. Figure 5 shows the typical cross section diagram of the 25 feet levee setback plan.

Within Area 3 (Figure 2) scour damage occurred at one location greater than five feet into the crown of the levee, the ideal repair for this specific site is a 30 feet levee setback. Figure 5 shows the typical cross section diagram of the 30 feet proposed setback levee. The new levee centerline would be offset at each location and transition smoothly back into the existing levee section and

alignment. Preliminary project plans of the levee setbacks are shown in Figure 6.

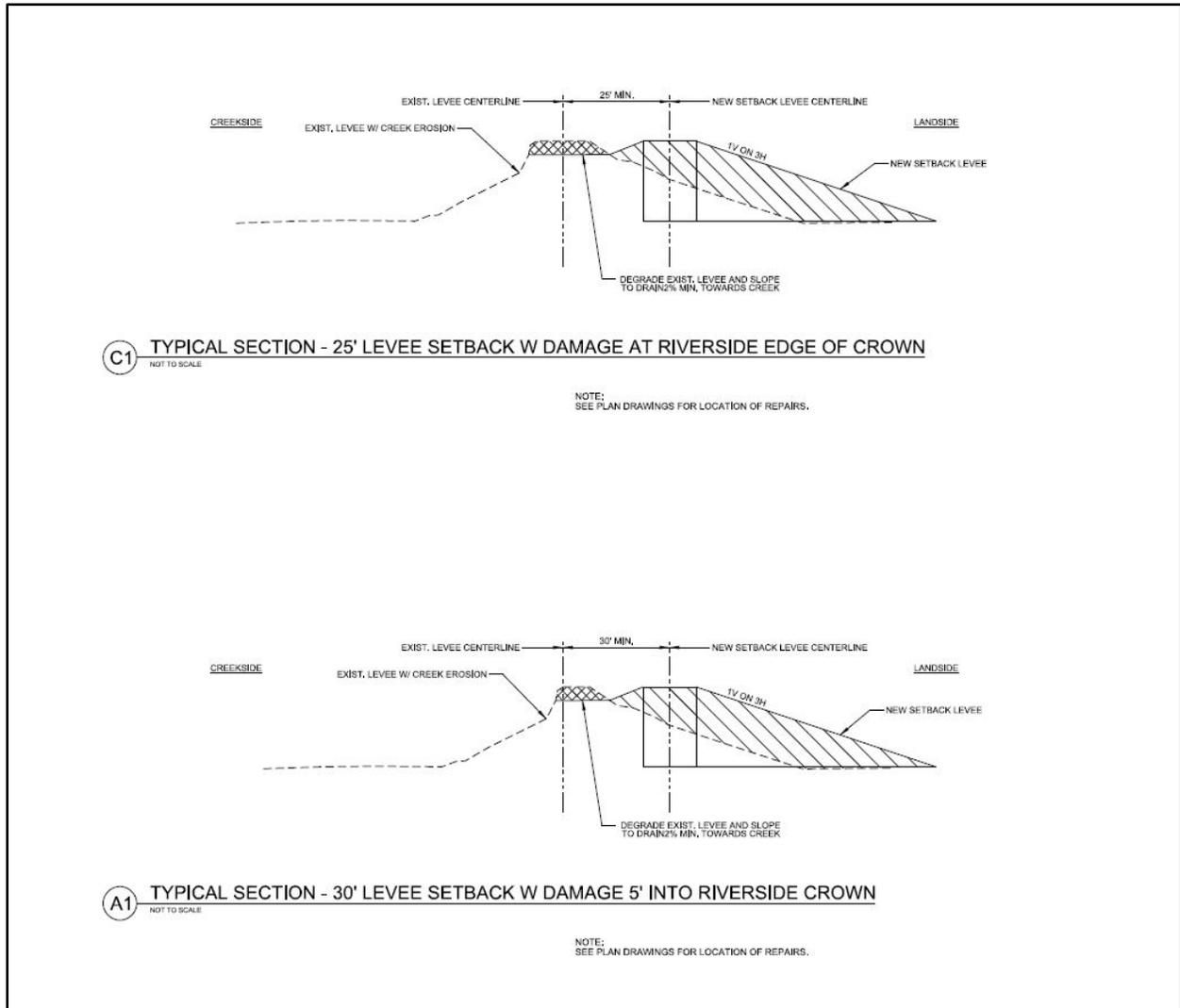


Figure 5. Typical cross section diagram of 25' and 30' levee setback.

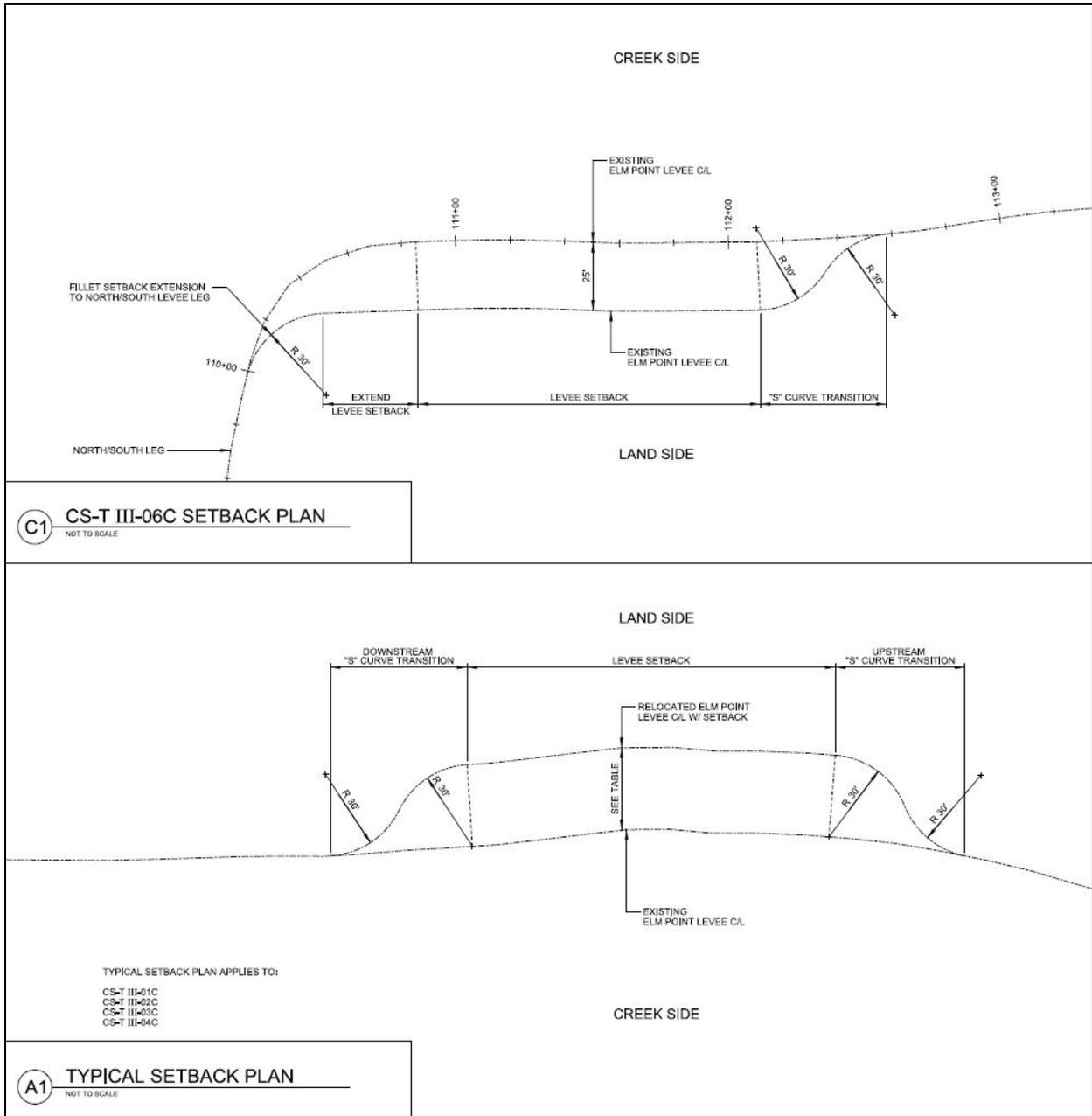


Figure 6. Proposed levee setback alignment.

2.3.2. Erosion Repair

- Slide Area – Excavated material from the existing levee embankment would be utilized for the repair construction within the slide damage area. A setback design would not be utilized for this repair area. Figure 7 shows a typical cross section of the proposed slide repair.

- Rutted Area – The repair for this area would require approximately 150 cubic yards of embankment material to bring the levee crown to its original grade. Figure 8 shows an example of a typical levee rutting repair.

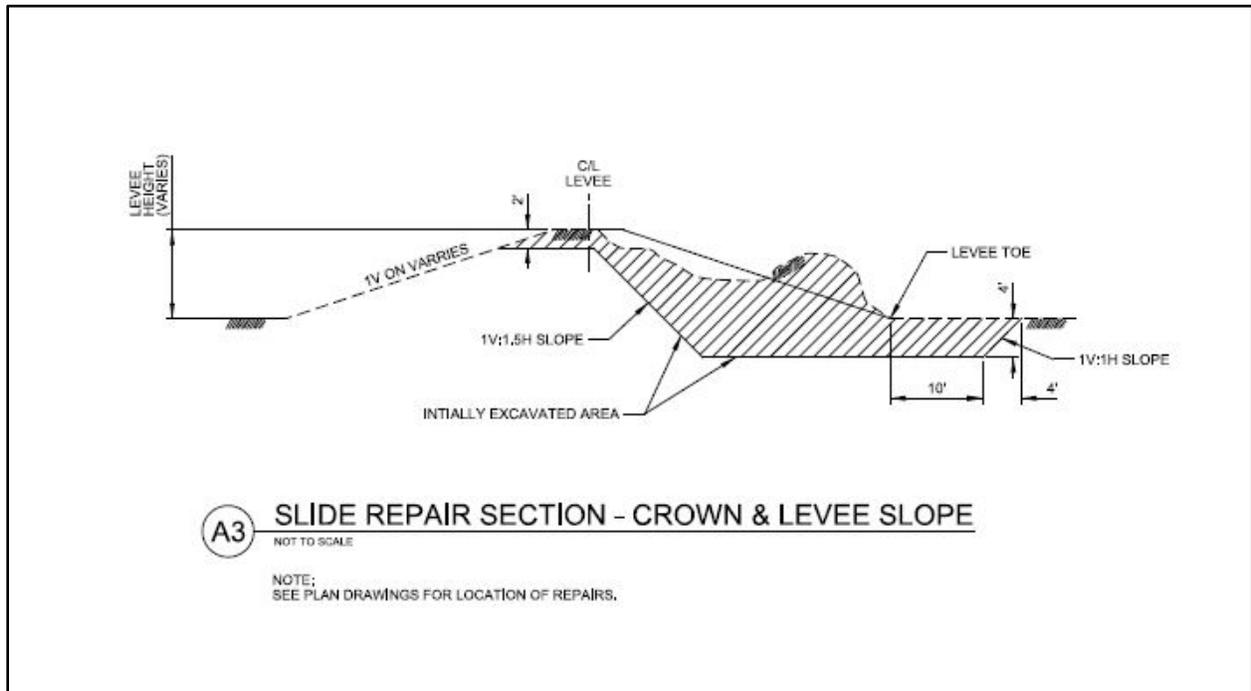


Figure 7. Typical cross section diagram of slide repair.

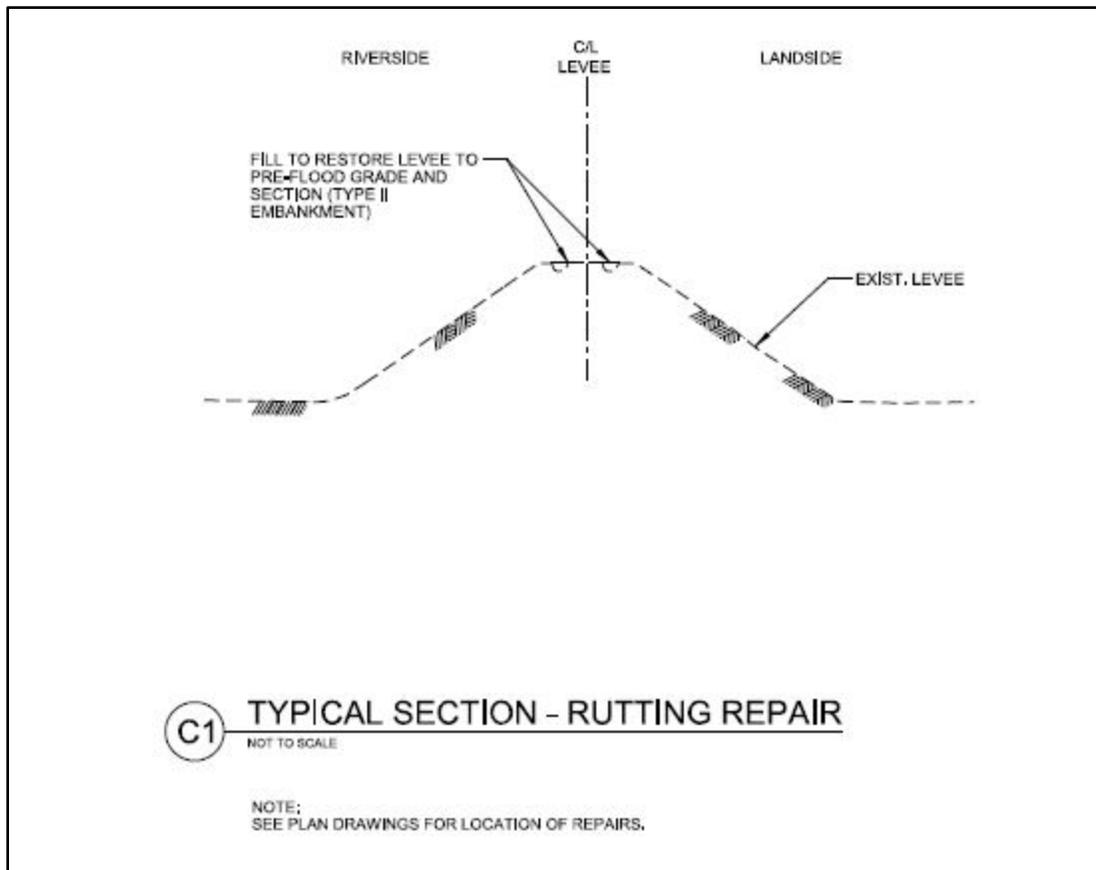


Figure 8. Typical cross section diagram of rutting repair.

2.3.3. Borrow Material

- **Borrow Area 1** – This borrow site is approximately 3.7 acres located landside of the levee north of Interstate 370. The borrow area is located between, Latitude 38.8324, Longitude -90.54706 and Latitude 38.8324, Longitude -90.54542 (See Figure 10). The site is actively being used for row crop agriculture. Wetland criteria were present on site, but it did not exhibit all required wetland identifiers and would therefore not be regulated. The borrow material is suitable, made up of fat clay. Before obtaining the borrow material, row crop organics would need to be stripped off, stockpiled, and then re-deposited as top dress on the disturbed area. Approximately 4 feet of borrow material would be taken from under the initial topsoil strip. The borrow area is a reasonable and economically feasible haul distance to the repair. A survey of the borrow area found no evidence of cultural materials. No historic properties would be affected.
- **Borrow Area 2** – This site is a rectangular area approximately 1.3 acres landside of the levee, north of Interstate 370. The borrow area is located between Latitude 38.8292,

Longitude -90.54771 and Latitude 38.8292, Longitude -90.54596 (See Figures 9 and 10). This site is actively being used for row crop agriculture. Wetland criteria were present on site, but it did not exhibit all required wetland identifiers and would therefore not be regulated. The borrow material is suitable, made up of mostly fat clay. Before obtaining the borrow material, row crop organics would need to be stripped off, stockpiled, and then re-deposited as top dress on the disturbed area. Approximately 3 feet of material would be removed. The borrow area is a reasonable and economically feasible haul distance to the repair. A survey of the borrow area found no evidence of cultural materials. No historic properties would be affected.

- Borrow Area 3 – This site encompasses approximately 1.0 acre located landside of the levee, north of interstate 370. The borrow area is located between Latitude 38.82614, Longitude -90.54716 and Latitude 38.82614, Longitude -90.54639 (See Figure 10). The site is undeveloped next to soccer fields. Wetland criteria were present on site, but it is not regulated due to presence of heavy disturbance and fill. The borrow material is suitable made up of fat clay. Total material depth is not anticipated to exceed 3 feet. The borrow area is a reasonable and economically feasible haul distance to the repair. The area had been previously surveyed and no cultural resources were reported. No historic properties would be affected.
- Borrow Area 4 – This site is approximately 2.0 acres located landside of the levee, north of interstate 370. The borrow area is located between Latitude 38.82165, Longitude -90.55341 and Latitude 38.82165, Longitude -90.55163 (See Figure 10). This site is actively being used for row crop agriculture. Wetland criteria were present on site, but it did not exhibit all required wetland identifiers and would therefore not be regulated. The borrow material is suitable, made up of lean clay underlay by fat clay. Before obtaining the borrow material, row crop organics would need to be stripped off, stockpiled, and then re-deposited as top dress on the disturbed area. Total depth is not anticipated to exceed 3 feet. The borrow area is a reasonable and economically feasible haul distance to the repair. The area had been previously surveyed and no cultural resources were reported. No historic properties would be affected.
- Borrow Area 5 – This site is approximately 3.4 acres located landside of the levee, south of interstate 370. The borrow area is located between Latitude 38.81042, Longitude -90.54861 and Latitude 38.81174, Longitude -90.54225 (See Figure 10). This site is actively being used for row crop agriculture. Wetland criteria were present on site, but it did not exhibit all required wetland identifiers and would therefore not be regulated. The borrow material is suitable, made up of lean clay underlay by fat clay. Before obtaining the

borrow material, row crop organics would need to be stripped off, stockpiled, and then re-deposited as top dress on the disturbed area. Total depth is not anticipated to exceed 3 feet. The borrow area is a reasonable and economically feasible haul distance to the repair. No historic properties would be affected.



Figure 9. Photo of proposed Borrow Area 2 for the Elm Point Levee District PL 84-99 repairs.

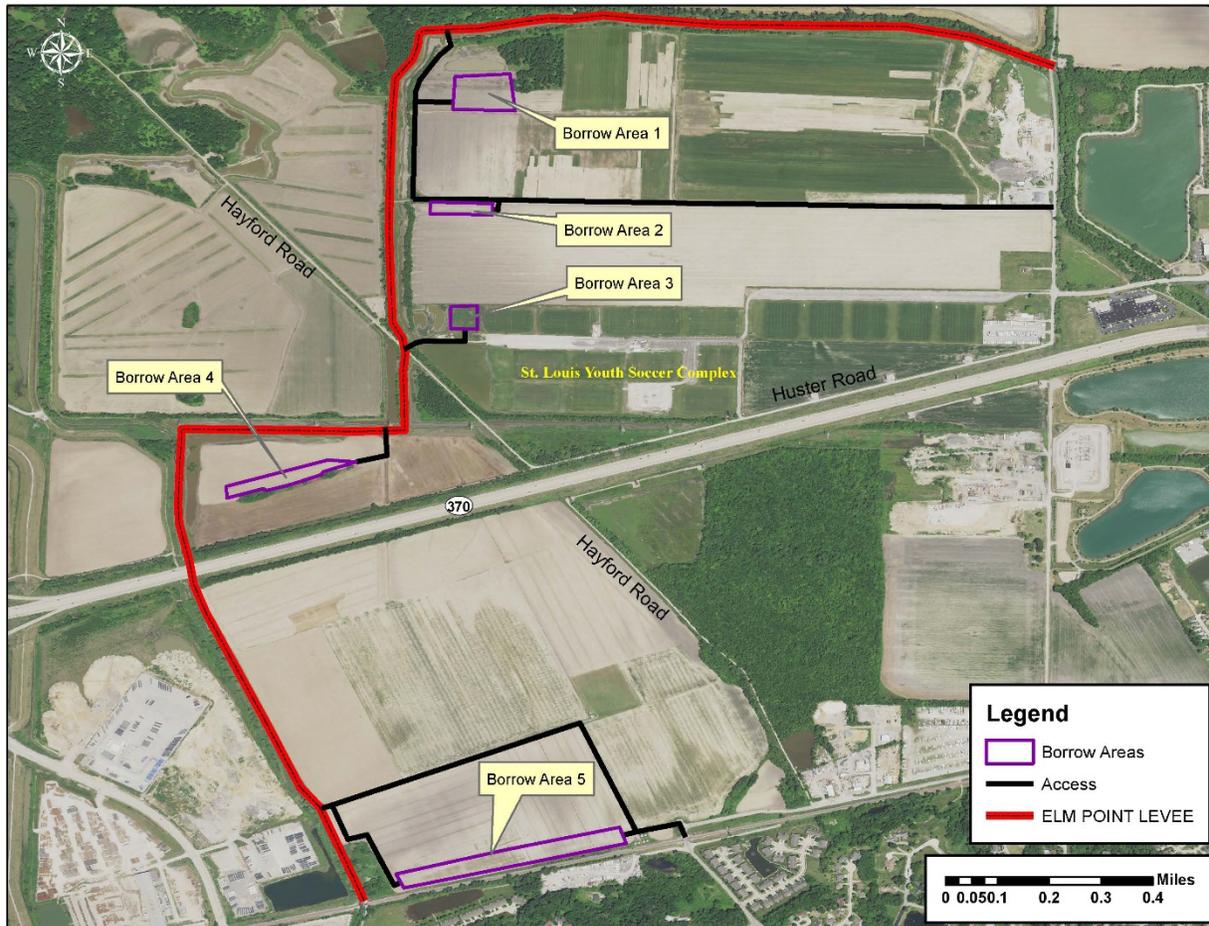


Figure 10. Aerial map of proposed Elm Point borrow areas showing proposed access.

2.3.1.1. Construction Limits

Construction limits would be established within the immediate vicinity of the scour, slide and rutting repair areas.

Construction limits for all repair areas, excluding rutting repair and access roads, would extend 40' outward from the levee toe on the repair side to the levee toe opposite of the repair side.

Rutting repair areas construction limits would extend 10' from the edge of crown on both sides of levee.

Construction limits for access roads would be 20' centered on the road, unless otherwise approved by the Contracting Officer's Representative. Construction limits would extend approximately 20' outside the perimeter of all borrow areas.

2.3.1.2. 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 (Figure 10). Staging areas for all borrow areas would exist within the established construction limits. Haul road locations and staging areas would be restored to their pre-project condition after project completion.

2.3.1.3. Final Plans and Specifications

Following review of comments and the signing of the FONSI (should that be the decision), plans and specifications would be finalized for construction. Construction would commence as soon as possible thereafter and would be completed within one construction season.

2.3.1.4. Environmental Protection Measures

Environmental protection is the prevention/control of pollution and habitat disruption that may occur during construction. The control of environmental pollution and damage requires consideration of air, water, land, biological and cultural resources; and includes management of visual aesthetics; noise; solid, chemical, gaseous, and liquid waste; radiant energy and radioactive materials; and other pollutants. The designated contractor shall adhere to all environmental protection requirements listed in the Construction Plans and Specifications. Examples include, but are not limited to:

- The Contractor shall submit an Environmental Protection Plan for review and acceptance by the USACE Contracting Officer, which shall include: a list of state and local laws and regulations; a Spill Control Plan; a Recycling and Waste Minimization Plan; a Contaminant Prevention Plan; a Storm Water Pollution Prevention Plan; and an Environmental Monitoring Plan.
- No fill shall be excavated or permanently placed except where required for erosion.
- There shall be no removal of existing vegetation outside of the construction area.
- All earthwork shall be planned and conducted to minimize the duration of exposure of unprotected soils; and all contractor work areas shall be re-vegetated with fast germinating grass mixtures to reduce any further erosion.

- Thoroughly clean all construction equipment at the prior job site in a manner that ensures all residual soil is removed and that egg deposits from plant pests are not present.
- Proper disposal of solid waste and debris.
- Proper storage and use of fuels and lubricants.
- Minimize interference with, disturbance to, and damage of, fish and wildlife.
- Protection of water resources to avoid pollution of surface and ground waters.
- Construct or install temporary and permanent erosion and sedimentation control features such as berms, dikes, drains, grassing and mulching, silt screens, or hay bales.
- Maintain all excavations, stockpiles, haul roads, permanent and temporary access roads, plant sites, disposal sites, and all other work areas free from airborne dust which would cause a hazard or nuisance.
- Hydrocarbons and carbon monoxide emissions from equipment shall be controlled to Federal and State allowable limits at all times.

3. AFFECTED ENVIRONMENT AND ENVIRONMENTAL IMPACTS

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

3.1. Physical Resources

The Elm Point Levee District is located in St. Charles County within the floodplain of the Mississippi River. Because of the fertility of the soil and moisture, the land is prized for its agricultural productivity. The leveed area provides flood risk reduction for residential and commercial properties, in addition to the agricultural lands. Levees have been constructed to the federal standard to reduce the likelihood of inundation within the leveed area to a 25-year return period; and to provide a reasonable amount of certainty of producing crops in most years.

St. Charles County, Missouri, is currently a non-attainment area for 8-hour ozone (2008 standard; marginal) and particulate matter-2.5 (1997 standard; moderate). The area is in attainment for

sulfur dioxide, lead, carbon monoxide, and nitrogen dioxide (USEPA 2016). Ambient noise in the study area is generated by wildlife, human activities, and vehicular traffic and agricultural traffic.

Alternative 1 – No Action (Future without Project) - If the levee system is not repaired to the federal standard there would be an increased flood risk and more physical damages could potentially occur within the Elm Point Levee District, such as erosion and sedimentation. The area would remain at an increased risk during high water events. Air quality and noise pollution are not anticipated to be altered by this alternative.

Alternative 3 – Repair of Levees with Federal Assistance - The proposed project would be expected to temporarily increase noise levels near the repair and associated worksites. 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.

Construction activities would cause a slight increase in suspended particulates (i.e., dust). Emissions from construction equipment may minimally increase ozone, carbon monoxide and carbon dioxide levels in the vicinity of the construction site. Due to the limited levee repairs required, the expected increases would be negligible and would cease after construction. EPA has set de minimis emission levels beneath which conformity to the state implementation plan (SIP) does not need to be demonstrated. Due to the relatively small scale of the project, emissions of PM are clearly de minimis; therefore an emissions analysis was not performed.

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 sites if flooding or heavy rains occurred during construction. However, the Contractor shall comply with all applicable federal, state, and local laws and regulations. The Contractor shall provide environmental protective measures and procedures to prevent and control pollution, limit habitat disruption, and correct environmental damage that occurs during construction. All disturbed areas would be reseeded following construction to reduce the potential for erosion.

3.2. Biological Resources

3.2.1. Fish and Wildlife

Fish and wildlife habitats located in and near the leveed area include permanent water, temporary water, and agricultural cropland. These habitats provide food and cover for a variety

of fish and wildlife, including Largemouth Bass, Bluegill, Carp, Crappie, Warmouth, Channel Catfish, Bullfrog, Snapping Turtle, Muskrat, Rabbits, Squirrel, Red Fox, White-Tailed Deer, and Beaver. Common birds in the area include Great Blue Herons, Geese, Gulls, waterfowl, shorebirds, and songbirds. The levees are mowed grass areas that are managed to prevent shrub and tree growth and animal damage.

Alternative 1 – No Action (Future without Project) – If the Elm Point Levee District is not repaired to the federal standard, the levee system would have less stability and there is an increased probability of future flooding. If that flooding were to occur then a more diverse and dynamic terrestrial and aquatic habitat may develop if the levee system were to remain unrepaired. The terrestrial habitat could be inundated by high water more frequently, and the vegetative composition may be altered. During high water events, water could pond on the landside of the levee and deposit sediment, decreasing flood water turbidity, filling wetlands, killing vegetation as flood water ponds on typically historical wetland areas that are currently dominated by agriculture. However over time, wetland vegetation would become reestablished. During high water events, terrestrial fauna would be displaced as their habitat is inundated. Conversely, fishes and other aquatic organisms would gain access to floodplain habitat, which would benefit the spawning and rearing of many species.

Alternative 3 – Repair of Levees with Federal Assistance – If heavy rain occurs during levee repair, washing soil into the river and other waterways, there could be a short-term increase in turbidity in the immediate area, possibly displacing fish and other mobile organisms temporarily. Following construction, any displaced mobile aquatic species would be expected to return. However, the Contractor is required to comply with all applicable federal, state, and local laws and regulations. The Contractor is required to provide environmental protective measures and procedures to prevent and control pollution. This includes the condition that the Contractor shall keep construction activities under surveillance, management and control to minimize interference with, disturbance to, and damage of, fish and wildlife. Therefore, no more than short-term limited impacts to fish and wildlife resources are anticipated.

3.2.2. Bald Eagle

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, 2007b, 2007c) 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. On 06 March 2017, USACE biologist Christopher Hopfinger conducted a field investigation and survey of the levee district to determine the presence of bald eagle nests/nesting within the levee district. No bald eagle nests were observed.

Alternative 1 – No Action (Future without Project) – Without bank stabilization, additional vegetation in the path of the active scour may be washed away. Trees which may potentially be used for bald eagle nests in the future could become dislodged.

Alternative 3 – Repair of Levees with Federal Assistance – Based on the site investigation and survey results showing no nests or eagle in the vicinity of the proposed project, no detrimental impacts on bald eagles or nests are anticipated.

3.2.3. Biological Assessment

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 Information for Planning and Conservation (IPaC) website: (<https://ecos.fws.gov/ipac/>) on 26 April 2017 for the proposed project vicinity in St. Charles County, Missouri (Table 1). Habitat requirements and impacts of the federal action are discussed for each species.

Table 1. List of federally threatened and endangered species and their habitat potentially occurring in the proposed project vicinity in St. Charles County, Missouri.

Common Name (Scientific Name)	Classification	Habitat
Indiana Bat (<i>Myotis sodalis</i>)	Endangered	Caves, mines (winter hibernacula); trees (summer roosting); and small stream corridors with well-developed riparian woods; upland forests (foraging)
Gray bat (<i>Myotis grisescens</i>)	Endangered	Caves year-round (winter hibernacula and summer roosting). In the summer gray bats forage along rivers, lakes, and creeks, and may roost under bridges.
Northern Long-eared Bat (<i>Myotis septentrionalis</i>)	Threatened with 4(d) rule	Caves, mines; rivers and reservoirs adjacent to forests

Decurrent False Aster (<i>Boltonia decurrens</i>)	Threatened	Disturbed alluvial soils.
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3.2.3.1. Indiana Bat

The endangered Indiana Bat 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 includes 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 best available data indicate that the species or size of tree does not appear to influence whether Indiana Bats utilize a tree for roosting provided the tree exhibits any of the following characteristics: exfoliating bark, cracks, crevices, cavities. Data also indicate that the use of a particular tree is influenced by conditions, such as solar exposure, temperature and precipitation (USFWS 2007a, USFWS 1999).

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 in the vicinity of the Elm Point Levee District.

Alternative 1 - No Action (Future without Project) - Without bank scour stabilization, trees which may potentially be used by Indiana Bats could become dislodged. Riparian habitat would be adversely impacted by scour.

Alternative 3 - Repair of Levees with Federal Assistance - As currently planned, this project would not impact caves or mines or involve clearing forest or woodland habitat containing suitable roosting habitat. Therefore, the St. Louis District has determined that the Tentatively Selected Plan would have “may affect, but is not likely to adversely affect the Indiana Bat”.

3.2.3.2. Gray Bat

The Gray Bat is a species that has a limited range in limestone karst areas of the southeastern United States, including several Illinois and Missouri counties. Gray Bats typically roost in caves year-round. During winter, Gray Bats hibernate in deep, vertical caves, and during summer, Gray Bats generally roost in various caves, but have been documented roosting under bridges and in other structures. Gray Bats forage on a variety of night-flying aquatic and terrestrial insects along rivers, lakes, and creeks.

Gray Bats are endangered largely because of their habitat of living in large numbers in only a few caves, thus making the species vulnerable to human disturbance and habitat loss or modification. Disturbance of Gray Bats in their caves during their hibernation can cause them to use their energy reserves and could lead to starvation. Disturbances to their caves during their nursing season (June and July) can frighten females causing them to drop non-volant pups to their death in panic to flee from the intruder. Additionally, many important caves that have been historically used by Gray Bats have been inundated by reservoirs. The commercialization of caves, and alterations of the air flow, temperature, humidity, and amount of light can make the cave unsuitable habitat for Gray Bats and drive bats away.

The fatal bat disease, white-nose syndrome (WNS), has not yet been documented to adversely affect the Gray Bat. However, because Gray Bats are cave obligates, and considering how WNS has decimated other cave-dwelling bat species, WNS could be another significant threat to the Gray Bat.

Alternative 1 - No Action (Future without Project) – Without bank scour stabilization, additional vegetation in the path of the active scour may be washed away. Riparian habitat would be adversely impacted by scour. .

Alternative 3 - Repair of Levees with Federal Assistance - The proposed project would not negatively affect any caves or summer roost / foraging habitat (*i.e.*; caves, forested riparian habitat). Riparian habitat quality would be improved by the planned levee setback construction by increasing the amount of riparian habitat directly adjacent to Cole Creek. Therefore, the St. Louis District has determined that the Tentatively Selected Plan “*may affect, but is not likely to adversely affect the Gray Bat*”.

3.2.3.3. Northern Long-Eared Bat

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, and manmade structures such as barns and culverts. 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 be located in the forested areas in the vicinity of the Elm Point Levee District.

Alternative 1 - No Action (Future without Project) - Without bank scour stabilization, trees which may potentially be used by Northern Long-Eared Bats could become dislodged. Riparian habitat would be adversely impacted by scour.

Alternative 3 - Repair of Levees with Federal Assistance - As currently planned, this project would not impact caves or mines or involve clearing forest or woodland habitat containing suitable roosting habitat. Therefore, the St. Louis District has determined that the Tentatively Selected Plan would have “*may affect, but is not likely to adversely affect the Northern Long-Eared Bat*”.

3.2.3.4. Decurrent False Aster

The Decurrent False Aster 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. The species 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 (MDC 2017). It relies on periodic flooding to scour away other plants that compete for the same habitat (USFWS 2015). The typical flowering season for Decurrent False Aster is from August through October.

In Missouri, Decurrent False Aster distribution is currently restricted to the Mississippi River floodplain from the Illinois River southward. Current populations are fewer and more isolated than in historical times. Presently it is only known to occur in St. Charles County (MDC 2017).

Alternative 1 - No Action (Future without Project) - Without bank scour stabilization, additional vegetation in the path of the active scour may be washed away. Riparian habitat would be adversely impacted by scour.

Alternative 3 - Repair of Levees with Federal Assistance - The project area is within the footprint of the levee and adjacent agricultural lands (borrow areas), however the levee setbacks are adjacent to the existing levee footprint. The proposed levee setbacks would increase the amount of wetland habitat within the riparian corridor, creating an increased potential for natural establishment of Decurrent False Aster. The agricultural lands are intensively managed for row crop production and receive chemical and mechanical disturbance annually, making them non-suitable for establishment of Decurrent False Aster. The St. Louis District has determined that the Tentatively Selected Plan “*may affect, but is not likely to adversely affect Decurrent False Aster*”.

3.3. Socioeconomic Resources

3.3.1. Economic

Based on an economic analysis of the Elm Point LD system, the project average annual benefits are estimated to be \$272,000 with average annual costs of \$53,000, yielding a Benefit to Cost Ratio of 5.1 to 1. In order to complete this report in a timely and cost efficient manner, engineering/economic studies were limited to those required to validate that the repair work is economically feasible.

Elm Point Levee (St. Charles, MO), located on the Mississippi River at river mile 227.5, was damaged by winter 2015 flooding. The Elm Point Levee District repair project would provide flood risk reduction against a 4.0% (25-year frequency, pre-flood design) chance exceedance flood. Action is needed to repair the levee damage and, therefore, prevent future flooding of the 1,343 acres (739 cropland acres) protected by the levee. 2013 USDA NASS aerial imagery provided an estimation of the crop allocation inside the levee district, which was used to determine a distribution of 36% corn, 53% soybean, and 11% wheat. Should the levee remain unrepaired, the stability of the levee system is in question during future flood events. The Elm Point Levee District is a non-federal project that is active in the USACE Rehabilitation and Inspection Program (RIP). Therefore, Elm Point Levee District is eligible for Flood Control and Coastal Emergency (FCCE) funding authorized by PL84-99.

According to 2015 census data for Saint Charles County, Missouri, there were approximately 138,958 households in the county, with a median income of \$72,415, and an average of 2.8

persons per household. The median value of owner-occupied housing units was \$188,200. The population was approximately 90% white, 5% black, 3% Asian, 2% Hispanic or Latino. According to 2015 data, approximately 6.3% of the population for whom poverty status is determined in Saint Charles County, MO live below the poverty line. This is less than half the national average of 14.7%. Furthermore, the most common race or ethnicity living below the poverty line in Saint Charles County, MO is White, followed by Hispanic or Latino and Black.

Alternative 1 - No Action (Future without Project) - If the Elm Point Levee District is not repaired to the Federal standard, there would be reduced flood protection due to levee instability during future flood events. The previously leveed area would be subject to a higher probability of flooding, making the area less suitable for reliable agricultural productivity, and may decrease recreational activities, especially under flood conditions. This could result in potential negative economic effects on the Levee District and the local economy.

Alternative 3 - Repair of Levees with Federal Assistance - Local agriculture, agri-businesses and recreational business would benefit from levee repair and subsequent flood damage reduction. The proposed levee repairs would not require residential displacement. No adverse impacts to life, health, or safety would result from levee repair.

3.3.2. Cultural Resources (Historic and Archaeological)

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 within the repair site locations or proposed borrow areas.

Alternative 1 – No Action (Future without Project) – 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.

Alternative 3 – Repair of Levees with Federal Assistance – The proposed repairs to the levee within the Elm Point Levee District would have no effect upon significant historic properties (archaeological remains or standing structures). The repairs consist of minor earth work and turf establishment on the levee itself. The borrow sites are described in Section 2.3.2 of this EA. All of the borrow areas are currently being farmed in row crop agriculture, except for borrow area 3. Borrow area 3 has soil structure consistent with a previously disturbed site, fill material has been added. There would be no significant effect to historic properties. Coordination with the Missouri State Historic Preservation Office (SHPO) is currently underway.

In the unlikely event that earthmoving activities associated with the proposed repairs 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.

3.3.3. Tribal Coordination

The St. Louis District consults with 27 tribes that have an interest in projects along all rivers within our district boundaries.

Alternative 1 - No Action (Future without Project) - 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.

Alternative 3 - Repair of Levees with Federal Assistance - The recovery and repair of levees damaged by the 2015 flood events, authorized under PL 84-99, was coordinated with all tribes in the following manner: An initial letter, dated 10 May 2016, was sent to the tribes. Along with the letter, enclosed maps and tables indicated the Drainage and Levee Districts that incurred damage and had requested assistance. Also enclosed was a summary of the typical repairs that are performed for each type of damage. The letter specifically called out those levees with breaches. The tribes were requested to contact the USACE if there were known tribal areas of concern in any of the project areas and if they desired further consultation on each or any project. No tribes responded regarding the proposed project at the Elm Point Levee District. USACE would continue the consultation process until the completion of the projects.

3.3.4. Environmental Justice

Environmental Justice refers to fair treatment of all races, cultures and income levels with respect to development, implementation and enforcement of environmental laws, policies and actions. Environmental Justice Analysis was developed following the requirements of:

- Executive Order 12898 ("Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," 1994)
- "Department of Defense's Strategy on Environmental Justice" (March 24, 1995).

Alternative 1 – No Action (Future without Project) – If the levee is not repaired to the Federal standard, the level of protection would be reduced (due to potential levee breaches) from that provided by the design (pre-2015 flood event) levee. This would not disproportionately affect low income or minority populations.

Alternative 3 - Repair of Levees with Federal Assistance - If the Elm Point Levee District levee is repaired to the Federal standard, the level of protection would be that provided by the design (pre-2015 flood event) levee. This would not disproportionately affect low income or minority populations.

3.3.5. HTRW

The U.S. Army Corps of Engineers (USACE) regulations (ER-1165-2-132, ER 200-2-3) 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 (ASTM).

The purpose of a Phase I ESA is to identify, to the extent feasible in the absence of sampling and analysis, the range of contaminants (i.e. RECs) within the scope of the U.S. Environmental Protection Agency's (EPA) Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and petroleum products. Current policy is to avoid known HTRW sites. However, the Environmental Quality Section should be contacted immediately if HTRW material is encountered at any point during construction activities. At this time, there are no recognized environmental conditions that would indicate a risk of HTRW contamination within the project area.

Alternative 1 – No Action (Future without Project) – Without flooding, there would be no change from current conditions. With flooding, there is the potential for flood water to spread some contaminants.

Alternative 3 – Repair of Levees with Federal Assistance – The likelihood of hazardous substances adversely affecting the project area due to the proposed construction activities is very low. The St. Louis District would conduct a modified Phase I assessment including a site investigation prior to construction to ensure that no HTRW contamination exists within the project area.

3.4. Summary Comparison of Project Alternatives

Impacts of the Tentatively Selected Plan to natural resources, cultural resources, and other aspects and features of the human environment are summarized in Table 2.

Table 2. Summary of the effects of the “No Action” and Tentatively Selected Plan to physical, biological, and socioeconomic resources.

Resources	Alternatives	
	No Action	Tentatively Selected Plan
Physical Resources	Additional creek bankline scour will occur if the damage is not repaired; and the integrity of the levee would be compromised during high water events.	Erosion repair and turf repairs would meet the Federal standard.
	Increased potential for further erosion of levee and sedimentation within drainage district during flood events.	Temporary minor impacts to water and air quality during construction.
	Does not meet project objective of repairs to Federal standard.	Brings the levee protection level back to pre-2015 conditions.
Biological Resources	If levee system is compromised in the future due to levee instability, there is potential for beneficial impacts due to potential increase in floodplain wetland habitat.	Construction would be confined to the levee which may result in minor temporary impacts.
	Federal T&E species would not likely be adversely impacted.	The Tentatively Selected Plan would not result in the removal or alteration of habitat that coincides with the habitat required for the Indiana Bat, Gray Bat, Northern Long-Eared Bat, or Decurrent False Aster. Therefore, federally listed species are not anticipated to be adversely affected.
	Meets project objective of minimal environmental impacts.	Meets project objective of minimal environmental impacts.

Socioeconomic Resources	The levee district would be susceptible to future floods and potential negative impacts to the levee district 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 levee district.	Meets project objective of protecting the socioeconomic value of the levee district.

4. CUMULATIVE IMPACTS

A cumulative impact is defined as “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions of what agency (Federal or non-federal) or person undertakes such actions” (40 CFR 1508.7). Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

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 2015. Temporary impacts from noise, air, and increased water sedimentation 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 PL 84-99 project, along with several other levees, would 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 would come from agriculture areas, low quality farmed wetlands, and previously utilized borrow areas. Some PL 84-99 projects, including Elm Point Levee District, sustained damage that is impractical 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 cumulative impacts are anticipated. Borrow sites have been evaluated during site visits to reduce environmental impacts.

4.1. Relationship of Tentatively Selected Plan to Environmental Requirements

The relationship of the Tentatively Selected Plan (Alternative 3 – Repair of Levees with Federal Assistance) to environmental requirements, environmental acts, and /or executive orders is shown in Table 3.

Table 3. Relationship of the Tentatively Selected Plan to environmental requirements, environmental acts, and/or executive orders.

Environmental Requirement	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	PC ¹
Endangered Species Act, 16 USC 1531-1543	PC ¹
Farmland Protection Policy Act, 7 (Prime Farmland) USC 4201-4208	FC
Fish and Wildlife Coordination Act, 16 USC 661-666c	PC ¹
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 ²
National Historic Preservation Act, 16 USC 470 et seq.	PC ¹
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
Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (EO 12898)	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 11991)	FC
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, PC¹ = Partial Compliance (on-going, would be accomplished before construction), PC² = Full compliance will be achieved upon signing of the NEPA document.

5. COORDINATION, PUBLIC VIEWS, AND RESPONSES

Notification of this Draft Environmental Assessment and unsigned Finding of No Significant Impact was sent to the officials, agencies, organizations, and individuals listed below for review and comment (Table 4). Additionally, an electronic copy is available on the St. Louis District's website at:

<http://www.mvs.usace.army.mil/Missions/ProgramsProjectManagement/PlansReports.aspx>

during the public review period.

Please note that the 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.

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.

Table 4. A letter regarding the availability of a draft Environmental Assessment and unsigned FONSI for the Elm Point Levee District PL 84-99 2015 repair was sent to the following entities.

Missouri Senator Roy Blunt (MO) 260 Russell Senate Office Building Washington, DC 20510	Mike Vitello, P.E. Resource Science Supervisor Missouri Department of Conservation PO Box 180 Jefferson City, MO 65102
Missouri Senator Claire McCaskill (MO) 730 Hart Senate Office Building Washington, D.C. 20510	Missouri Emergency Management Agency 2302 Militia Drive P.O. Box 116 Jefferson City, MO 65102
U.S. Rep. Blaine Luetkemeyer (MO) U.S. House District 03 2440 Rayburn House Office Bldg. Washington, DC 20515	St. Charles County Emergency Management Agency Sergeant Chris Hunt, Emergency Management Director 301 N. Second Street, Room 280 St. Charles, MO 63301-5410
Larry Shepard US EPA Region 7 (MO) NEPA Team 11201 Renner Blvd. Lenexa, Kansas 66219	Sierra Club, Missouri Chapter 2818 Sutton Avenue St. Louis, MO 63143

<p>Federal Emergency Management Agency 1 Memorial Drive St. Louis, MO 63102</p>	<p>Izaak Walton League of America Ron Moore, President Illinois Division 55 Ridgecrest Drive Decatur, IL 62521</p>
<p>Matt Mangan Acting Field Supervisor U.S. Fish and Wildlife Service Marion Illinois Suboffice (ES) 8588 Route 148 Marion, Illinois 62959</p>	<p>Kathy Andria American Bottom Conservancy P.O. Box 4242 Fairview Heights, IL 62208</p>
<p>Jane Ledwin U.S. Fish and Wildlife Service Columbia Ecological Services Field Office 101 Park Deville Drive, Suite A Columbia, MO 65203-0057</p>	<p>The Nature Conservancy Missouri Field Office 2800 S. Brentwood Boulevard Saint Louis, MO 63144</p>
<p>Missouri Department of Natural Resources Carol Comer, Director P.O. Box 176 Jefferson City, MO 65102</p>	

6. ENVIRONMENTAL ASSESSMENT PREPARERS

Rick Archeski, Environmental Engineer

Experience: 11 years USFWS, 10 years US Army, 16 years USACE-MVS

Role: Environmental Engineering, HTRW

James E. Barnes, District Archaeologist

Experience: 8 years private sector; 22 years Center of Expertise, Curation and Maintenance of Archaeological Collections

Role: National Historic Preservation Act Analysis and Compliance

James Mills, P.E.

Experience: 29 years Design Branch, USACE

Role: Technical Engineering Lead

Christopher Hopfinger, Biologist

Experience: 10 years USFS, 6 years USACE-MVS

Role: EA Coordinator, Environmental Impact Analysis, NEPA and Environmental Compliance

Sheila McCarthy, Project Manager

Experience: 7 years USACE-CERL; 8 years NPS; 8 years USACE-MVS

Role: Project Manager

Danny McClendon, Chief Regulatory Branch

Experience: 25 years USACE-MVS Regulatory; 5 years USACE-NWK Planning Division
USACE-MVS Regulatory Office

Role: Section 404/401 permit review; NEPA and Environmental Compliance Coordination

Evan Stewart, Economist

Experience: 3 years USACE-MVN

Role: Economist

7. REFERENCES

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<https://www.fws.gov/midwest/endangered/plants/decurentfalseaster/decurrfa.html>

FINDING OF NO SIGNIFICANT IMPACT

PUBLIC LAW 84-99 ELM POINT LEVEE DISTRICT SAINT CHARLES COUNTY, MISSOURI

1. I have reviewed the documents concerned with the proposed levee repairs to the Elm Point Levee District. The purpose of this project is to repair levee sections damaged by an extended high water event during the winter of 2015. Repairs would return the levee 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 Alternative: Under the no-action alternative, the federal government would not repair the flood damaged levee. It is assumed that, because of the cost of repairs, the levee district would not repair the levee.
- b. Nonstructural Alternative: 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 Elm Point Levee District declined to request the pursuit of a non-structural alternative; therefore, this alternative was eliminated from further consideration.
- c. Repair of Levees with Federal Assistance (Tentatively Selected Plan): Under this alternative, the federal government would repair the damaged areas to the pre-flood level of protection. Since the Elm Point Levee District 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 the No Action Alternative and Tentatively Selected Plan 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 Alternative was evaluated and subsequently rejected primarily based upon the higher potential for future flooding and damage to area agricultural fields, primary and secondary residences, outbuildings, and infrastructure.
- b. No appreciable effects to general environmental conditions (air quality, noise, water quality) would result from the tentatively selected plan.

- c. The Tentatively Selected Plan is not expected to cause significant adverse impacts to general fish and wildlife resources.
- d. The Tentatively Selected Plan is not expected to cause unacceptable adverse impacts to riparian habitat, bottomland hardwood forest, or other wetlands.
- e. No Federally endangered or threatened species would be adversely impacted by the tentatively selected plan.
- f. No prime farmland would be adversely impacted as a result of the Tentatively Selected Plan.
- g. No significant impacts to historic properties (cultural resources) are anticipated as a result of the Tentatively Selected Plan.
- h. The Tentatively Selected Plan would not disproportionately affect low income or minority populations.
- i. Under the Tentatively Selected 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-2015 flood risk reduction levels.
- j. The Contractor shall comply with all applicable federal, state, and local laws and regulations. The Contractor shall provide environmental protective measures and procedures to prevent and control pollution, limit habitat disruption, and correct environmental damage that occurs during construction. All disturbed areas would be reseeded following construction to reduce the potential for erosion.

4. Based upon the Environmental Assessment of the Tentatively Selected 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

Anthony P. Mitchell
Colonel, U.S. Army
District Commander