



US Army Corps
of Engineers
Kansas City District

**KANSAS CITY DISTRICT
CORPS OF ENGINEERS
and the
GARDEN OF EDEN DRAINAGE DISTRICT – Section 2**

**Public Law 84-99 of the Flood Control Act of 1944
Levee Rehabilitation – NEPA Review, Environmental
Assessment & Finding of No Significant Impact**

**GARDEN OF EDEN DRAINAGE DISTRICT – SECTION 2,
ITEM NO. 139S2, NON-FEDERAL,
EMERGENCY LEVEE REHABILITATION PROJECT**

**Missouri River
Chariton County, Missouri**

March 2008



DEPARTMENT OF THE ARMY
KANSAS CITY DISTRICT, CORPS OF ENGINEERS
700 FEDERAL BUILDING
KANSAS CITY, MISSOURI 64106-2896

Finding of No Significant Impact

Garden of Eden Drainage District – Section 2 (Item 139S2) Levee Rehabilitation Project Chariton County, Missouri

Project Summary

The U.S. Army Corps of Engineers, Kansas City District (CENWK), in cooperation with the project sponsor, Garden of Eden Drainage District – Section 2, propose to construct the Garden of Eden Drainage District – Section 2 Levee Rehabilitation Project, under the authority of Public Law 84-99 of the Flood Control Act of 1944. The proposed action is needed to repair the agricultural levees damaged by the declared flood event of 6 May 2007. The proposed repairs are located in Chariton County, Missouri, near the town of Triplett, along the left descending bank of the Grand River between River Mile 22.0 and River Mile 15.5.

Alternatives Considered

Three alternatives were considered: (1) In-place repairs; (2) Landward levee setbacks and (3) No action.

**STATIONS 89+00 to 91+00, 93+05 to 94+70, 100+00 to 107+50, and 137+40 to 141+90;
SEVERE LANDSIDE SLIDES:**

Alternative 1 (Recommended Plan): In-place repairs are the recommended repair action. This action would involve the repair of damaged areas on the original levee alignment. All material would be excavated from the weakened areas, then re-compacted back into the levee alignment (provided it is suitable) and smoothed to design grades. Landside stability berms are included to provide needed levee stability. Stability berms would add approximately 6,950 cubic yards (cy) of fill to repair actions.) The berm configuration would start (spring point) 12-foot down from the levee crest elevation; extend on a 1-foot vertical on 15-foot horizontal slope for 30 feet, then 1-foot vertical on 3-foot horizontal slope to toe-out.

Alternative 2: In-place repairs without stability berms and a 5-foot slope were considered for this repair action. This action would involve the repair of damage areas on the original alignment. All material would be excavated from the weakened areas, then re-compacted back into the levee alignment (provided it is suitable) and smoothed to design grades. To compensate for head-water pressures, an increased (flatter) landside embankment slope would be constructed

(i.e. from existing 1-foot vertical on 3-feet horizontal slope to a 1-foot vertical on 5-feet horizontal slope.) Borrow will be obtained from the adjacent landside agricultural land.

Alternative 3: The No Action alternative would result in no repairs to the severe landside slides. Therefore, public and private infrastructure and agricultural croplands would continue to be exposed to a high risk of future flooding.

STATION 316+65 to 319+40; SEVERE RIVERSIDE EROSION:

Alternative 1 (Recommended Plan): This action would involve repair of damage with approximate 1,213 linear feet of landward setback with stability berms. The maximum landward setback would be approximately 100 feet from the original alignment. The landward levee setback would include the removal and replacement of an existing 5-foot by 6-foot concrete box culvert, with sluice gate, along with a 48-inch smooth steel pipe. The landward setback would begin at levee station at 311+00 and tie into the existing levee station at 324+00. The new levee embankment would have a 12-foot crown-width, with 1-foot vertical on 3-feet horizontal side slopes, and landside and riverside stability berms. The stability berms would add approximately 3,000 cubic yards of fill material to the repair action. The berm configurations would start 16 feet down from the levee crest elevation; extend on a 1-foot vertical on 20-foot horizontal slope for 20 feet, then 1-foot vertical on a 3-foot horizontal slope to the toe out. The landward setback option would isolate an additional 3.4 acres riverward of the levee.

Alternative 2: This action would involve repair of damage with a slight landward levee setback; and grading the existing Grand River bank line and riverward levee slope to an approximate 1-foot vertical on 2.5-foot horizontal slope. In addition, a 3-foot layer of quarry-run-stone protection would be required on graded slope for protection from erosion. During grading operations the levee embankment would be re-established by "shifting" levee alignment slightly landward. A landside stability berm is included, which merely replaces displaced berm resulting from repair action. The existing drainage structures located at station 319+00 (a 4' by 5' concrete box culvert and a 48" smooth steel pipe), would require landward extensions to them resulting from landward setback. In addition, to ensure stability of bank line downstream of drainage structures, stone bank protection would be required from approximate levee station 319+40 to 323+00.

Borrow will be obtained by degrading an existing levee segment positioned riverward of the new levee setback, by excavating a landside drainage ditch near the landside toe-line of the new setback, and by enlarging an existing landside drainage ditch. A small amount of timber (< 9-inches diameter breast height) will be removed to obtain the borrow material.

Alternative 3: The No Action alternative would involve no repair to severe riverside erosion and the levee would remain in its damaged condition. The No Action alternative would continue to expose public and private infrastructure and agricultural croplands to a high risk level of future flooding.

Summary of Environmental Impacts

The proposed action would involve restoring the Garden of Eden Drainage District Section 2 level of flood risk management to the pre May 2007 flood event level. This project would result in minor, short-term impacts to farmed wetlands as 4.3 acres would be excavated to an approximate depth of 24" for borrowing. Some opportunistic vegetation measuring < 9 inches diameter breast height (dbh) would be removed during borrow activities. Long-term beneficial impacts to farmed wetlands result from the removal of sediment due to borrowing, which increases wetland depth, and the sloping of perimeter faces upon completion of borrowing increases wetland hydrology. About 0.2 acres of farmed wetland would be impacted by the landward levee setback. The landward levee setback would result in a long-term minor impact regarding the return of approximately 6.2 acres of active agricultural land to the floodplain that would develop into wetlands or riparian habitat, which would benefit fish and wildlife and increase water conveyance. The proposed action would have no impact to sites listed on or eligible for inclusion on the National Register of Historic Places or threatened and endangered species. Overall, the minor impacts associated with this project are outweighed by the long-term social and economic benefits.

Mitigation Measures

The recommended plan would result in beneficial impacts to wetlands by the enhancement of 4.3 acres of farmed wetlands and the return of 6.2 acres of agricultural land to the floodplain. About 0.2 acres of farmed wetland would be impacted by the landward levee setback. General permit number NWKGP-41 authorizes these actions. A small fringe of cottonwoods and willows measuring < 9 inches dbh would be removed during project construction. CENWK has determined in coordination with the Missouri Department of Conservation and the U.S. Fish and Wildlife Service that natural plant succession should provide adequate re-vegetation of impacted areas. Mast-producing trees are not affected by the project. As such, no mitigation is warranted or proposed.

Public Availability

Prior to a decision on whether to prepare an Environmental Impact Statement, CENWK circulated a Notice of Availability (Notice) of the Environmental Assessment (EA) and Finding of No Significant Impact (FONSI), dated March 21, 2008, with a thirty-day comment period ending on April 21, 2008 to the public and resource agencies. The Notice was e-mailed to individuals/agencies/businesses listed on CENWK-Regulatory Branch's e-mail mailing list. The Notice informed these individuals that the EA and FONSI were available on the CENWK webpage or that they could request a hard copy of the EA and FONSI in order to provide comment.

No 'objection to the project' comments were received.

The USFWS responded by letter on April 17, 2008, that the activity described is not likely to adversely affect federally listed species or designated critical habitat.

Levee rehabilitation projects completed by the Corps under authority of Public Law 84-99 generally do not require the preparation of an Environmental Impact Statement. These projects

typically result in long-term social and economic benefits and the adverse environmental effects are typically minor/long-term and minor/short-term construction related. Minor, long-term impacts associated with these projects are typically well outweighed by the overall long-term social and economic benefits of these projects. As described above, the recommended plan is consistent with this assessment of typical levee rehabilitation projects completed by the Corps under authority of Public Law 84-99 of the Flood Control Act of 1944.

Conclusion

After evaluating the anticipated environmental, economic, and social effects of the proposed activity, it is my determination that construction of the proposed Garden of Eden Drainage District – Section 2 Levee Rehabilitation Project does not constitute a major Federal action that would significantly affect the quality of the human environment; therefore, preparation of an Environmental Impact Statement is not required.

Date: 13 May 08



Roger A. Wilson, Jr.
Colonel, Corps of Engineers
District Commander



DEPARTMENT OF THE ARMY
KANSAS CITY DISTRICT, CORPS OF ENGINEERS
700 FEDERAL BUILDING
KANSAS CITY, MISSOURI 64106-2896

EXECUTIVE SUMMARY

The U.S. Army Corps of Engineers, Kansas City District (CENWK), in cooperation with the project sponsor, Garden of Eden Drainage District – Section 2, proposes to construct the Garden of Eden Drainage District – Section 2 Levee Rehabilitation Project under the authority of Public Law 84-99 of the Flood Control Act of 1944. The proposed project would involve in-place repairs of all severe landside slides, and repair of severe riverside/foreshore area erosion with an approximately 1,213-linear-foot-long landward levee setback approximately 100-ft. from the original levee alignment to repair the agricultural levees damaged by the declared flood event of 6 May 2007.

The Garden of Eden Drainage District – Section 2 levee segment consists of approximately 33,700 linear feet of earthen flood control works (FCW) on the left descending bank of the Grand River between river mile 22.0 and 15.5, in Chariton County, near the town of Triplett, Missouri. The FCW protect approximately 3,500 acres of agricultural lands (3,000 acres in cropland), approximately three miles of State Highway Route M, and approximately five miles of unimproved farm to market roads, approximately three miles of fiber optic lines, three miles of buried pipeline, and eight miles of buried water lines. The recommended plans consist of in-place repair with landside stability berms of all severe landside slides (sta. 89+00 to 91+00, 93+05 to 94+70, 100+00 to 107+50, and 137+50 to 141+90), and repair of the severe riverside/foreshore area erosion (sta. 316+65 to 319+40), with an approximately 1,213-linear-foot-long landward levee setback. Borrow material will be obtained for repairs as described below:

Borrow will be obtained from the adjacent landside agricultural land, degrading an existing levee segment positioned riverward of the new levee setback, excavating a landside drainage ditch near the landside toe-line of the new setback, and by enlarging an existing landside drainage ditch. Some woody vegetation measuring < 9-inches diameter breast height (dbh) will be removed to obtain the borrow material.

Summary of Environmental Impacts

The proposed action would involve restoring agricultural levees damaged during the May 2007 flood to their pre-flood protection levels. This project would result in minor, short-term adverse impacts to the aquatic ecosystem and a long-term, minor impact to agriculture and wetland as a result of the levee setback. Approximately 6.2 acres of agricultural land would be removed from production due to the setback, but this acreage would become part of the riverward floodplain, which would benefit the aquatic ecosystem. About 0.2 acres of farmed wetland would be impacted by the levee setback and some opportunistic woody vegetation measuring < 9 inches dbh would be removed to facilitate borrowing. The project would result in beneficial impacts to the aquatic ecosystem as sediment would be removed from 4.3 acres of existing farmed wetlands as a result of excavation and the sloping of perimeter faces when borrowing is complete. The

proposed action would have no impact to sites listed on or eligible for inclusion on the National Register of Historic Places or threatened and endangered species. Overall, the minor short-term impacts associated with this project are outweighed by the long-term social and economic benefits. CENWK in cooperation with the Missouri Department of Conservation and the U.S. Fish and Wildlife Service has stated that natural plant succession should provide adequate revegetation of impacted areas. Mast-producing trees are not affected by the project. As such, no mitigation is warranted or proposed.

Prior to a decision on whether to prepare an Environmental Impact Statement, CENWK circulated a Notice of Availability (Notice) of the Environmental Assessment (EA) and Finding of No Significant Impact (FONSI), dated March 21, 2008, with a thirty-day comment period ending on April 21, 2008 to the public and resource agencies. The Notice was e-mailed to individuals/agencies/businesses listed on CENWK-Regulatory Branch's e-mail mailing list. The Notice informed these individuals that the EA and FONSI were available on the CENWK webpage or that they could request a hard copy of the EA and FONSI in order to provide comment.

Additional information concerning this project may be obtained from Mr. Richard A. Skinker, Environmental Resources Specialist, PM-PR, Kansas City District - U.S. Army Corps of Engineers, by writing the above address, or by telephone at 816-389-3134.

**NEPA REVIEW
ENVIRONMENTAL ASSESSMENT
&
FINDING OF NO SIGNIFICANT IMPACT**

**PUBLIC LAW 84-99
GARDEN OF EDEN DRAINAGE DISTRICT
SECTION 2
LEVEE REHABILITATION PROJECT
CHARITON COUNTY, MISSOURI**

TABLE OF CONTENTS

FINDING OF NO SIGNIFICANT IMPACT

EXECUTIVE SUMMARY

TABLE OF CONTENTS

SECTION 1: INTRODUCTION

SECTION 2: AUTHORITY

SECTION 3: PROJECT LOCATION

SECTION 4: EXISTING CONDITION

SECTION 5: PURPOSE AND NEED FOR ACTION

SECTION 6: ALTERNATIVES CONSIDERED

SECTION 7: RECOMMENDED PLAN

SECTION 8: NATIONAL ENVIRONMENTAL POLICY ACT REVIEW

SECTION 9: AFFECTED ENVIRONMENT

SECTION 10: ENVIRONMENTAL CONSEQUENCES

**SECTION 11: SUMMARY OF ENVIRONMENTAL EFFECTS OF THE NON-
RECOMMENED PLANS**

SECTION 12: CUMULATIVE IMPACTS

SECTION 13: MITIGATION MEASURES

SECTION 14: COMPLIANCE WITH ENVIRONMENTAL QUALITY STATUTES

SECTION 15: CONCLUSION & RECOMMENDATION

SECTION 16: PREPARERS

TABLE

Table 1 - Compliance of Preferred Alternative with Environmental Protection Statutes and Other Environmental Requirements

APPENDICES

APPENDIX I – PROJECT MAPS

APPENDIX II – NEPA REVIEW

**NEPA REVIEW
ENVIRONMENTAL ASSESSMENT
&
FINDING OF NO SIGNIFICANT IMPACT**

**PUBLIC LAW 84-99
GARDEN OF EDEN DRAINAGE DISTRICT
SECTION 2
LEVEE REHABILITATION PROJECT
CHARITON COUNTY, MISSOURI**

Section 1: INTRODUCTION

This Environmental Assessment provides information that was developed during the National Environmental Policy Act (NEPA) public interest review of the proposed Public Law 84-99 Garden of Eden Drainage District – Section 2 Levee Rehabilitation Project.

Section 2: AUTHORITY

The Kansas City District – U.S. Army Corps of Engineers (CENWK), in cooperation with the project sponsor, the Garden of Eden Drainage District – Section 2, propose to construct the Garden of Eden Drainage District – Section 2 Levee Rehabilitation Project under the authority of Public Law 84-99 of the Flood Control Act of 1944.

Section 3: PROJECT LOCATION

The Garden of Eden Drainage District – Section 2 levee consists of approximately 33,700 linear feet of earthen flood control works (FCW) and is located in Chariton County near the town of Triplett, Missouri, along the left descending bank of the Grand River between river mile 22.0 and 15.5.

Section 4: EXISTING CONDITION

The declared flood event on 6 May 2007 caused damages to the Garden of Eden Drainage District – Section 2 flood control works. These damages consist of four landside slides at approximate levee stations 89+00 to 91+00, 93+05 to 94+70, 100+00 to 107+50, and 137+40 to 141+90; and one severe riverside erosion area on a damaged levee embankment at approximate levee station 316+65 to 319+40 (Borrow Maps 1 and 2).

Section 5: PURPOSE & NEED FOR ACTION

The project purpose and need is to rehabilitate the damaged levees and restore the associated social and economic benefits. The Garden of Eden Drainage District – Section 2 received damages to sections of their levees during the 6 May 2007 declared flood event. Prior to the

May 2007 event, the Garden of Eden Drainage District – Section 2 levee provided an approximate 10-year level of flood risk management. In its current damaged state, the Garden of Eden Drainage District – Section 2 levee is estimated to provide an approximate two-year level of protection. The existing condition exposes all public and private infrastructure and agricultural croplands to an increased level of risk from future flooding. Failure to restore the flood risk management capability of the levee system would keep area residents' livelihood and social well-being in turmoil, subject to the continuous threat of flooding until a level of flood protection is restored. Failure to reconstruct the levee could adversely affect the tax base of the county and municipal government. In addition, loss of jobs and potential losses in agricultural production on lands previously protected by the levee would also be incurred.

Section 6: ALTERNATIVES CONSIDERED

The repair alternatives considered for each type of levee damage include:

Stations 89+00 to 91+00, 93+05 to 94+70, 100+00 to 107+50, and 137+40 to 141+90; Severe Landside Slides: (1) In-place repairs with landside stability berms (**RECOMMENDED**); (2) In-place repairs; and (3) No action. A new landward levee setback was not considered a prudent and economical alternative due to the high costs involved with the increased length of repair and the increased cubic yards of fill required to construct a landward levee setback compared to the other repair alternatives considered.

The primary difference between the in-place repair alternative and the in-place repair alternative with landside stability berms is that in-place repairs without the addition of landside stability berms would not provide adequate foundation support for the levee embankment and the embankment could subsequently fail. Landside stability berms result in a slightly different berm configuration (1-foot vertical on 15-foot horizontal slope for 30 feet, then 1-foot vertical on 3-foot horizontal slope to toe-out, compared to 1-foot vertical on 3-foot horizontal slope to a 1-foot vertical on 5-foot horizontal slope without stability berms). The configuration for in-place repairs without stability berms is required to compensate for head-water pressures. The no action alternative is unacceptable as it would result in an increased risk of flooding to the previously protected area and would not return the flood risk management level to a pre-flood level.

No Action Alternative: The no action alternative is unacceptable as it would result in an increased risk of flooding to the previously protected area and would not return the flood risk management level to a pre-flood level.

Station 316+65 to 319+40; Severe Riverside Erosion: (1) Approximate 100-ft. landward levee setback with landside stability berms (**RECOMMENDED**); (2) Slight levee setback with landside stability berms; and (3) No Action. In-place repairs were considered non-practical repair alternatives given the severity of bank erosion.

A slight levee setback would result in a new setback just landward of the existing levee alignment and grading the existing Grand River bank line and riverward levee slope to an approximate 1-foot vertical on 2.5-foot horizontal slope. A 3-foot layer of quarry-run-stone

protection would be required on graded slope for erosion protection. During grading operations the levee embankment would be re-established by "shifting" levee alignment slightly landward. A landside stability berm is included, which merely replaces displaced berm resulting from repair action. The existing drainage structures located at station 319+00 (a 4' by 5' concrete box culvert & a 48" smooth steel pipe), would require landward extensions to them resulting from the landward setback. Stone bank protection would be required from approximate levee station 319+40 to 323+00 to ensure bank line stability downstream of the drainage structures.

Similar to in-place repairs, the increased amount of fill required to repair the severe bank erosion results in this alternative being less practical compared to the other setback considered (100 ft. landward levee setback).

No Action Alternative: The no action alternative is unacceptable as it would result in an increased risk of flooding to the previously protected area and would not return the flood risk management level to a pre-flood level.

Section 7: RECOMMENDED PLAN

The recommended plan consists of the recommended repair alternatives selected for each type of levee damage. The recommended plan consists of in-place repairs with landside stability berms for severe landside slides and an approximate 100-ft. landward levee setback with riverside stability berms to repair severe riverside erosion.

Stations 89+00 to 91+00, 93+05 to 94+70, 100+00 to 107+50, and 137+40 to 141+90; SEVERE LANDSIDE SLIDES

Alternative 1-In-place repairs with landside stability berms is the recommended action to repair severe landside slides. This action would involve the in-place repair of severe landslide slides on the original levee alignment. All material would be excavated from the weakened areas, then re-compacted back into the levee alignment (provided it is suitable) and smoothed to design grades. Stability berms are included in the repair action at all locations. Stability berms are not considered a betterment, but necessary to ensure adequate foundation support for the levee embankment. Stability berms would require approximately 6,950 CY of fill. The berm configuration would start (spring point) 12-feet down from the levee crest elevation; extend on a 1-foot vertical on 15-foot horizontal slope for 30 feet, then 1-foot vertical on 3-foot horizontal slope to toe-out. Borrow to repair the severe landside slides would be obtained from the adjacent landside agricultural land.

STATION 316+65 to 319+40; SEVERE RIVERSIDE EROSION

Alternative 1-An approximate 100-ft. landward levee setback with riverside stability berms is the recommended action to repair severe riverside erosion. The setback would measure approximately 1,213 linear feet in length. The landward levee setback would include the removal and replacement of an existing 5-foot by 6-foot concrete box culvert, with sluice gate, along with a 48-inch smooth steel pipe. The landward setback would begin at levee station at 311+00 and tie into the existing levee station at 324+00. The levee embankment would have a

12-foot crown-width, with 1-foot vertical on 3-foot horizontal side slopes, and landside and riverside stability berms. The stability berms would require approximately 3,000 cubic yards of fill material. The berm configurations would start 16 feet down from the levee crest elevation; extend on a 1-foot vertical on 20-foot horizontal slope for 20 feet, then 1-foot vertical on a 3-foot horizontal slope to the toe out. The landward setback repair would provide an additional 3.4 acres of habitat riverward of the levee.

Borrow would be obtained by degrading an existing levee segment positioned riverward of the new levee setback, excavating a landside drainage ditch near the landside toe-line of the new setback, and enlarging an existing landside drainage ditch.

Section 8: NATIONAL ENVIRONMENTAL POLICY ACT REVIEW

As part of the NEPA review for the proposed project, CENWK circulated a Notice of Availability (Notice) of the Environmental Assessment (EA) and Finding of No Significant Impact (FONSI), dated March 21, 2008, with a thirty-day comment period ending on April 21, 2008 to the public and resource agencies. The Notice was e-mailed to individuals, agencies, and businesses listed on CENWK-Regulatory Branch's e-mail mailing list. The Notice informed these individuals that the EA and FONSI were available on the CENWK webpage or that they could request the EA and FONSI in writing, in order to provide comment.

No 'objection to the project' comments were received.

The USFWS responded by letter on April 17, 2008, that the activity described is not likely to adversely affect federally listed species or designated critical habitat.

Section 9: AFFECTED ENVIRONMENT:

This area is comprised of approximately 3,500 acres of agricultural lands (3,000 acres in cropland), approximately three miles of State Highway Rote M, and approximately five miles of unimproved farm to market roads, three miles of fiber optic lines, three miles of telephone lines, three miles of buried pipeline, and about eight miles of buried water lines. Small pockets of riparian trees are interspersed along the Grand River. Common trees found within this area include willow (*Salix* spp.), eastern cottonwood (*Populus deltoides*) and American sycamore (*Platanus occidentalis*). In addition, various wildlife species occupy the riparian zone such as small fur-bearing species, white tail deer (*Odocoileus virginianus*), and various bird species including neo-tropical migrants.

Section 10: ENVIRONMENTAL CONSEQUENCES:

Primary resources of concern and construction considerations identified during the evaluation of environmental consequences included: noise, water quality, fish and wildlife, threatened and endangered species, woodlands, wetlands, agricultural land, archeological and historical resources, floodplains, economics, aesthetics, and flood risk management. Projects impacts to other resources were determined to be no effect.

Noise

Alternative 1 consisting of in-place repairs with landside stability berms to repair severe landside slides and a landward setback with riverside stability berms to repair severe riverside erosion, would result in minor short-term construction related noise impacts. These impacts are the result of the operation of heavy machinery during project construction. These noise levels would be in addition, but similar to, those produced by agricultural equipment which is routinely operated in the project area. No residences, businesses, churches, park areas or other areas sensitive to increased noise levels were identified in the project area. Project construction could disturb the occasional boater on the nearby Grand River or person(s) participating in outdoor recreation on the private land in the project area.

Repairs resulting from implementation of other alternatives considered would result in noise impacts similar to those described for the recommended plan.

The "No Action" alternative would produce no increase in noise levels in the project area.

Water Quality

The recommended plan, Alternative 1, could result in minor, temporary, construction related adverse impacts to water quality resulting from site runoff and increased turbidity. The potential minor impacts associated with the recommended plan would be avoided and/or minimized to the greatest extent possible by the implementation of Best Management Practices and measures required under the National Pollutant Discharge Elimination System (NPDES) permit. Best management practices would minimize the incidental fallback of material into the river during construction and would minimize the introduction of fuel, petroleum products, or other deleterious material from entering into the waterway. Such measures could consist of erosion control fences; storing equipment, solid waste, and petroleum products above the ordinary high water mark and away from areas prone to runoff; requiring that all equipment be clean and free of leaks, and similar measures. To prevent fill from reaching water sources by wind or runoff, fill would be covered, stabilized or mulched, and silt fences would be used as required. The NPDES permit will be obtained prior to project construction. All appropriate measures will be taken to minimize erosion and storm water discharges during and after construction.

Alternative 2 – Repairs resulting from implementation of this alternative plan could result in minor, temporary, construction related adverse impacts to water quality similar to those describe above. As with the Recommended Alternative, these impacts would be avoided and/or minimized to the greatest extent possible by the implementation of Best Management Practices and measures required under the National Pollutant Discharge Elimination System permit.

In the "No Action" Alternative with the absence of a Federal action addressing levee improvements, a high water event could result in the release of a variety of industrial chemicals and substantially impact the natural and human environment within the project area. Avoiding

repair actions could result in adverse impacts to water quality from increased levels of nutrient loading and wastes, including runoff of pollutants from industrial sources, petroleum products, and non-point sources of human and animal wastes.

Fish and Wildlife

The recommended plan, Alternative 1, would result in minor, temporary, construction related adverse impacts to fish and wildlife resources. The impacts to wildlife resources would be related to noise and visual disturbance during the construction activity. The impacts to fishery resources would be related to potential site runoff and increased turbidity, which could make feeding, breeding, and sheltering difficult for species not accustomed to these conditions.

Alternative 2 – Repairs resulting from implementation of this alternative plan would result in similar impacts as described above.

The “No Action” Alternative would have minimal effects on fish and wildlife resources. These impacts would arise from flooding within the now unprotected area. Wetland species may benefit as more frequent flooding could occur in the now unprotected areas. Wetlands would likely recharge more frequently since they are now hydrologically connected to the Grand River. Other terrestrial organisms could be killed, be temporarily displaced or have their habitat degraded by flooding.

Threatened and Endangered Species

The recommended plan would have no adverse effects on any Federally-listed threatened or endangered species or their habitat. Pallid sturgeon (*Scaphirhynchus albus*) are found primarily in the Missouri River and Mississippi River. No work is proposed within the Missouri River. The Indiana bat (*Myotis sodalis*) roosts in trees with exfoliating bark that tend to be greater than 9 inches diameter breast height during the spring and summer, and hibernate in caves during the fall and winter. Levee work would avoid Indiana bat habitat. No impacts to any state listed threatened or endangered species or their habitat were identified.

Alternative 2 – Repairs resulting from implementation of this alternative plan would have no adverse effects on any Federally-listed threatened or endangered species or their habitat for the same reasons as described above.

The “No Action” alternative would have no adverse effects on any Federally-listed threatened or endangered species or their habitat. No impacts to any state listed threatened or endangered species or their habitat were identified.

Vegetation

A small fringe of cottonwoods and willows measuring less than 9 inches diameter breast height (dbh) would be removed due to borrowing activities. The standard operating procedures (SOP) for the identification of borrow sites developed through coordination with the U.S. Fish and Wildlife Service and the Missouri Department of Conservation for the Selection of Borrow Sites Missouri River and Tributaries 1995 Levee Repair concluded that natural plant succession

should provide adequate revegetation to impacted areas. No mast-producing trees are anticipated to be impacted by the recommended plan.

Alternative 2 – Repairs resulting from implementation of this alternative plan would result in similar impacts as those described above.

The “No Action” Alternative could result in increases to the floodplain and to floodplain vegetation if levees are not repaired and lands are abandoned from farming due to the high risk of flooding. Overtime, successional vegetative growth would result in increased woodland acreage.

Wetlands

The recommended plan would impact approximately 4.5 acres of farmed wetland; 4.3 acres due to borrowing within farmed wetlands and 0.2 acres due to the levee setback. Fill material would be removed in accordance with Natural Resources Conservation Service specifications that have been coordinated between the project sponsors and the NRCS in the Compatible Use Authorization agreement. Beneficial impacts to wetlands would occur with the enhancement of 4.3 acres of farmed wetlands during borrow operations. The removal of sediment deposited from adjacent agricultural land under permit would provide for increased depth and inundation of farmed wetlands. Upon completion of borrow activities, the perimeter of farmed wetlands would be shaped to allow for increased hydrology that would allow seasonal emergent wetlands to revegetate naturally. Excavation depths would be limited to 24 inches. The borrow sites are located near the proposed levee repairs and are shown on the map (Borrow Maps 1 of 2, and 2 of 2). The levee setback would return about 6.2 acres of agricultural land to the floodplain. This acreage would revert to wetland or riparian habitat, depending on river hydrology. This activity is authorized by general permit NWKGP-41.

Alternative 2 – Repairs resulting from the implementation of this alternative would result in more benefits to wetlands compared to the recommended plan. Since this alternative requires approximately 15,300 more cubic yards of fill compared to the recommended plan, less farmed wetland surface area would have silt removed due to excavation as a result of borrow activities.

The “No Action” Alternative could result in benefits to wetlands located behind the breached levees as these areas would be subject to increased hydrology due to a new level of future flooding.

Agricultural Land

Alternative 1 – With the implementation of the recommended plan, restoring the levees to their pre-flood levels of protection would protect 3,000 acres of existing cropland from a 10-yr flood event. A long-term, minor impact to agricultural production is the removal of approximately 6.2 acres of crop land from active agricultural activity as this acreage would be returned to the floodplain due to the landward levee setback. Approximately 4.3 acres of farmed wetland would be excavated and enhanced due to borrow activities.

Alternative 2 – Repairs resulting from implementation of this alternative plan would have no impact on agricultural activity or loss of agricultural lands.

The “No Action” Alternative would adversely impact agricultural activity by exposing approximately 3,500 acres of agricultural lands (3,000 acres of croplands) to increased flooding. This loss of agricultural production would have related impacts such as lost income, lower tax base, and decreased land value.

Archeological and Historical Resources

The recommended plan would have no impact to sites listed on or eligible for inclusion on the National Register of Historic Places (NRHP). A background check of the NRHP and site location maps identified one prehistoric archeological site (23CH322) that has been reported as potentially eligible for the NRHP recorded near the proposed project area. The site is believed to be a prehistoric camp site of Late Woodland age (AD 300-800). The site is mapped near a portion of the levee where no work or borrowing is planned. All project borrowing and work will avoid the recorded site location. Instructions to avoid the area will be included in project construction plans.

In a letter to SHPO, the Corps recommended that the project would have no effect on historic properties and that the project should be allowed to proceed. SHPO concurred with this recommendation on November 26, 2007 with the stipulation that project impacts avoid the previously recorded site (Appendix II). The project will be coordinated with appropriate federally recognized Native American tribes (Tribes). If in the unlikely event that archeological material is discovered during project construction, work in the area of discovery will cease, the discovery would be investigated by a qualified archeologist, and the find would be coordinated with SHPO and the Tribes.

Alternatives 2 – Repairs resulting from implementation of the alternative plans would result in no effects to archaeological or historical resources.

The “No Action” Alternative would result in no effects to archaeological or historical resources.

Floodplain

The recommended plan would restore an approximately 10-year level of flood protection to the existing Garden of Eden Drainage District – Section 2 levee system, which would equal the level that existed prior to the declared flood event of 6 May 2007. The area is located in the base floodplain and is subject to Executive Order 11988, “Floodplain Management”. In addition, since the proposed levee repair would restore this levee to its near original alignment and pre-flood grade and cross section, no increase in floodwater surface elevations would occur. The recommended plan would benefit the floodplain as approximately 6.2 acres of crop land would be returned to the floodplain due to the landward levee setback. As the recommended plan would not directly or indirectly support more development in the floodplain or encourage additional occupancy and/or modify of the base floodplain, the Corps has determined that the recommended plan complies with the intent of Executive Order 11988.

Alternative 2 – Repairs resulting from implementation of this alternative plan would result in similar protections as described above for the recommended plan.

The “No Action” Alternative would continue to expose all public and private infrastructure and agricultural croplands previously protected to a high level risk of future flooding.

Economics

Based on the Corps’ economic analysis, the recommended plan is the most economical and prudent repair action. With the implementation of the recommended plan, the levees would be restored to a 10-year level of flood protection. Public and private infrastructure and agricultural croplands protected by the levee prior to the flood damage would continue to be protected against a 10-year flood event. Economic conditions are unlikely to change from those of pre-damage levee conditions with the repair of this levee system.

Alternative 2 – Repairs resulting from implementation of this alternative plan would result in similar protections as described above for the recommended plan. However, this alternative is less cost effective than the recommended plan.

The “No Action” Alternative has a zero benefit to cost ratio and would continue to expose all public and private infrastructure and agricultural croplands previously protected by the levee to a high level risk of future flooding. People’s livelihood and social well-being would remain in turmoil, subject to the continuous threat of flooding until the level of flood protection is restored. Failure to reconstruct the levee could adversely affect the tax base of the counties and municipal governments and special districts, such as school districts. In addition, loss of jobs and potential losses in agricultural production on lands protected by the levee would also be incurred.

Aesthetics

The recommended plan would result in very minor and temporary adverse aesthetic impacts associated with the construction activity. The human population that could potentially be affected by the activity would be expected to be very low, restricted to the occasional boater on the Grand River or person(s) participating in outdoor recreation on the private land in the project area. Upon completion of the project and the vegetation of disturbed areas, the aesthetics would be very similar to the pre-flood aesthetics.

Alternative 2 – Repairs resulting from implementation of this alternative plan would result in impacts similar to those described above.

The “No Action” Alternative would have no effect on esthetics.

Section 11: SUMMARY OF ENVIRONMENTAL EFFECTS OF THE NON-RECOMMENDED PLANS

Severe Landside Slides

Alternative 2, in-place repairs without landside stability berms, would require an increased (flatter) landside embankment slope compared to an in-place repair with stability berms to compensate for head-water pressures. Alternative 2 would result in more land disturbance and excavation as this alternative requires about 15,300 more cubic yards of fill to implement compared to the recommended alternative. However, since borrow activities would result in increased benefits to the aquatic ecosystem due to the excavation of silt from farmed wetlands for borrow, Alternative 2 would provide more environmental benefits compared to Alternative 1.

Alternative 3 - The "No Action" Alternative is unacceptable because it would not meet the project purpose and need of rehabilitating the damaged levee to a pre-flood level of flood risk management and therefore would not restore the associated social and economic benefits. The "No Action" alternative would have no permanent or temporary construction related impacts and would continue to expose all public and private infrastructure and agricultural croplands previously protected by the levee prior to a high level risk of future flooding. Peoples' livelihood and social well-being would remain in turmoil, subject to the continuous threat of flooding until the proposed level of flood protection is restored. Failure to reconstruct the levee could adversely affect the tax base of the county and municipal governments. Loss of jobs and potential losses in agricultural production on lands protected by the levee would also be incurred.

Severe Riverside Erosion

Alternative 2 would not result in the return of 6.2 acres of active agricultural land to the floodplain due to the 100-ft. landward levee setback. About 4.3 acres of farmed wetland would be enhanced due to this alternative, which is the same acreage that would be excavated to obtain borrow for the recommended plan. An additional 0.2 acres of farmed wetland would not be impacted by this alternative, as this impact is due to the landward levee setback.

Alternative 3 - The "No Action" Alternative is unacceptable because it would not meet the project purpose and need of rehabilitating the damaged levee to a pre-flood level of flood risk management and therefore would not restore the associated social and economic benefits. The "No Action" alternative would have no permanent or temporary construction related impacts. The "No Action" alternative would continue to expose all public and private infrastructure and agricultural croplands previously protected by the levee prior to a high level risk of future flooding. People's livelihood and social well-being would remain in turmoil, subject to the continuous threat of flooding until the proposed level of flood protection is restored. Failure to reconstruct the levee could adversely affect the tax base of the county and municipal governments. Loss of jobs and potential losses in agricultural production on lands protected by the levee would also be incurred.

Section 12: CUMULATIVE IMPACTS

The combined incremental effects of human activity are referred to as cumulative impacts (40 CFR 1508.7). While these incremental effects may be insignificant on their own, accumulated over time and from various sources, they can result in serious degradation to the environment. The cumulative impact analysis must consider past, present, and reasonably foreseeable actions in the study area. The analysis must also include consideration of actions outside of the Corps, to include other State and Federal agencies. As required by NEPA, the Corps has prepared the

following assessment of cumulative impacts related to the alternatives being considered in this EA.

Historically, the Missouri River and its floodplain has been altered by bank stabilization, dams on the river and its tributaries, roads/bridges, agricultural and urban levees, channelization, farming, water withdrawal for human and agricultural use, urbanization and other human uses. These activities have substantially altered the terrestrial and aquatic ecosystem within the Missouri River watershed.

The Corps, which administers Section 10 of the Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act, has issued and will continue to evaluate permits authorizing the placement of fill material in the Waters of the United States and/or work on, in, over or under a navigable water of the United States including the Missouri River and its tributaries. These projects typically result in minor impacts to the aquatic ecosystem.

The Corps, under the authority of the Public Law 84-99 Levee Rehabilitation and Inspection Program, has and will continue to provide rehabilitation assistance to Federal and non-Federal levee sponsors along the Missouri River which participate in the Public Law 84-99 Program. These projects typically result in minor short term construction related impacts to fish and wildlife and the habitats upon which they depend. Resources typically affected by this type of project generally include, but are not limited to, wetlands, flood plain values, water quality, and fish and wildlife habitat.

Of the reasonably foreseeable projects and associated impacts that would be expected to occur, further urbanization of the floodplain will probably have the greatest impact on these resources in the future.

The proposed action would involve restoring agricultural levees damaged during the May 2007 flood to their pre-protection levels. These projects would result in minor impacts to the aquatic ecosystem and minor, short term impacts to fish and wildlife and the habitats upon which they depend. In addition, the project action would result in minor, long term impacts associated with the loss of agricultural cropland. In addition, the project would result in beneficial impacts to wetlands by the enhancement of 4.3 acres of farmed wetlands during borrow excavation operations. Approximately 6.2 acres of agricultural land would be returned to the floodplain riverward of the levee setback, which would provide increased fish and wildlife habitat, and increased water conveyance. Overall, the minor construction-related impacts would be greatly offset by restoring the flood risk management capability and its associated social and economic benefits of the existing levee system. In addition, these projects would not result in an addition to flood heights or a reduced flood plain area but are merely a form of maintenance to that which had previously existed. Thus, no significant cumulative impacts associated with the proposed rehabilitation of the existing levee system have been identified.

Section 13: MITIGATION MEASURES

Identification of borrow sites was completed in accordance with the Standard Operating Procedures (SOP) developed through coordination with the U.S. Fish and Wildlife Service and

the Missouri Department of Conservation for the Selection of Borrow Sites Missouri River and Tributaries 1995 Levee Repair. Although setback construction would result in the removal of some small willow and cottonwood saplings (<9 inches diameter breast height), the SOP states that the clearing of successional woody vegetation and excavation which removes accumulated silt and expands existing wetlands and scour holes are considered beneficial and will enhance the overall function and value of the aquatic ecosystem. Beneficial impacts to the aquatic ecosystem would occur as a result of the recommended plan by enhancing 4.3 acres of farmed wetlands, and the return of 6.2 acres of agricultural land to the floodplain riverside of the levee setback. About 0.2 acres of farmed wetland would be impacted due to the landward levee setback. Since the proposed borrow activity in the farmed wetlands has been designed to enhance the functions and values of the aquatic ecosystem and the levee setback would provide about 6.2 acres of additional floodplain habitat, no compensatory mitigation is proposed.

Section 14: COMPLIANCE WITH ENVIRONMENTAL QUALITY STATUTES

Compliance with Designated Environmental Quality Statutes that have not been specifically addressed earlier in this report is covered in Table 1.

Section 15: CONCLUSION & RECOMMENDATION

The flood risk management level achieved by the recommended plan would be the same as the original pre-flood levees. The proposed action would involve restoring agricultural levees damaged during the May 2007 flood to their pre-protection levels. This project would result in short-term, minor adverse impacts to the aquatic ecosystem due to disturbance and 0.2 acres of farmed wetland impacted by the landward levee setback, and a long-term, minor impact to agriculture. The benefits to the aquatic ecosystem include wetland enhancement due to the excavation of silt and agricultural runoff from 4.3 acres of farmed wetland and a return of 6.2 acres of agricultural land to the floodplain, which would provide fish and wildlife habitat and increased water conveyance. The proposed action would have no impact to sites listed on or eligible for inclusion on the National Register of Historic Places or threatened and endangered species. Overall, the minor, impacts associated with this project are outweighed by the long-term social and economic benefits.

Section 16: PREPARERS

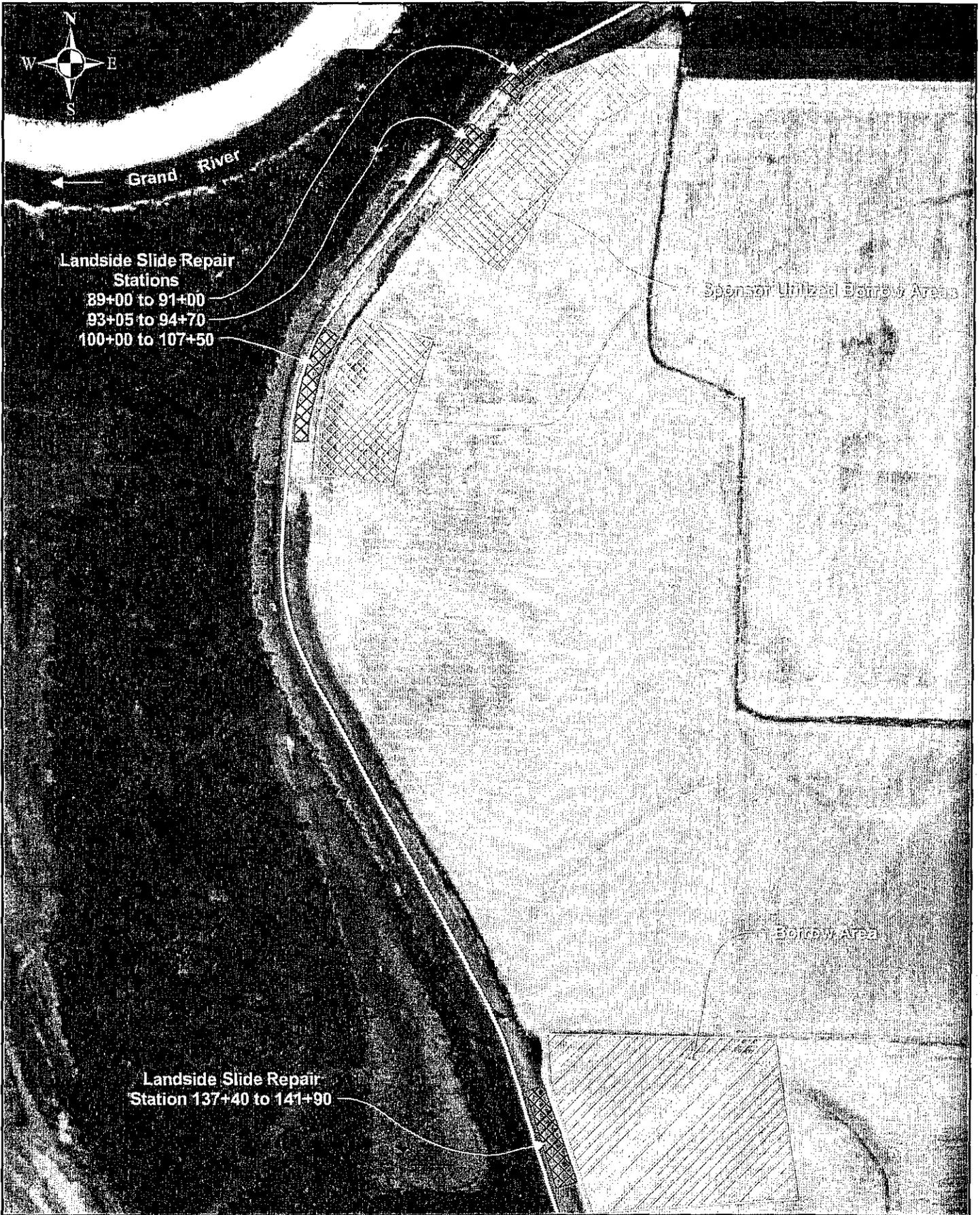
This EA and the associated FONSI were prepared by Mr. Matthew D. Vandenberg and Ms. Lekesha Reynolds (Environmental Resources Specialists), with relevant sections prepared by Mr. Timothy Meade (Archeological and Historical Resources). The address of the preparers is: U.S. Army Corps of Engineers, Kansas City, District; PM-PR, Room 843, 601 E. 12th St, Kansas City, MO 64106.

Table 1
Compliance of Preferred Alternative with Environmental Protection
Statutes and Other Environmental Requirements

Federal Polices	Compliance
Archeological Resources Protection Act, 16 U.S.C. 470, et seq.	Full Compliance
Clean Air Act, as amended, 42 U.S. C. 7401-7671g, et seq.	Full Compliance
Clean Water Act (Federal Water Pollution Control Act), 33 U.S.C. 1251, et seq.	Full Compliance
Coastal Zone Management Act, 16 U.S.C. 1451, et seq.	Not Applicable
Endangered Species Act, 16 U.S.C. 1531, et seq.	Full Compliance
Estuary Protection Act, 16 U.S.C. 1221, et seq.	Not Applicable
Federal Water Project Recreation Act, 16 U.S.C. 4601-12, et seq.	Full Compliance
Fish and Wildlife Coordination Act, 16 U.S.C. 661, et seq.	Full Compliance
Land and Water Conservation Fund Act, 16 U.S.C. 4601-4, et seq.	Not Applicable
Marine Protection Research and Sanctuary Act, 33 U.S.C. 1401, et seq.	Not Applicable
National Environmental Policy Act, 42 U.S.C. 4321, et seq.	Full Compliance
National Historic Preservation Act of 1966, as amended, 16 U.S.C. 470a, et seq.	Full Compliance
Rivers and Harbors Act, 33 U.S.C. 403, et seq.	Full Compliance
Watershed Protection and Flood Prevention Act, 16 U.S.C. 1001, et seq.	Full Compliance
Wild and Scenic River Act, 16 U.S.C. 1271, et seq.	Not Applicable
Farmland Protection Policy Act, 7 U.S.C. 4201, et. seq.	Full Compliance
Protection & Enhancement of the Cultural Environment (Executive Order 11593)	Full Compliance
Floodplain Management (Executive Order 11988)	Full Compliance
Protection of Wetlands (Executive Order 11990)	Full Compliance
Environmental Justice (Executive Order 12898)	Full Compliance

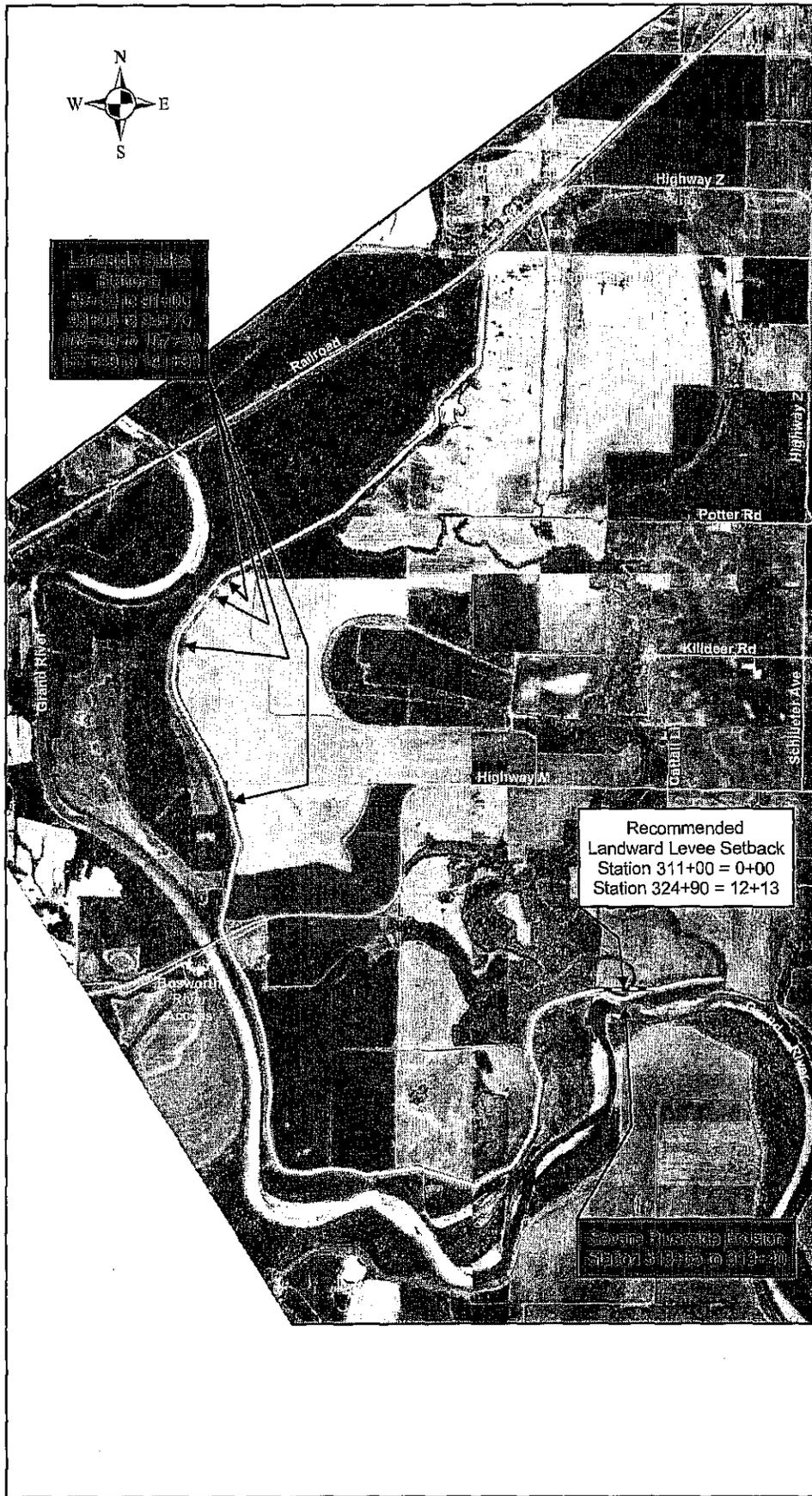
NOTES:

- a. Full compliance. Having met all requirements of the statute for the current stage of planning (either preauthorization or postauthorization).
- b. Partial compliance. Not having met some of the requirements that normally are met in the current stage of planning.
- c. Noncompliance. Violation of a requirement of the statute.
- d. Not applicable. No requirements for the statute required; compliance for the current stage of planning.

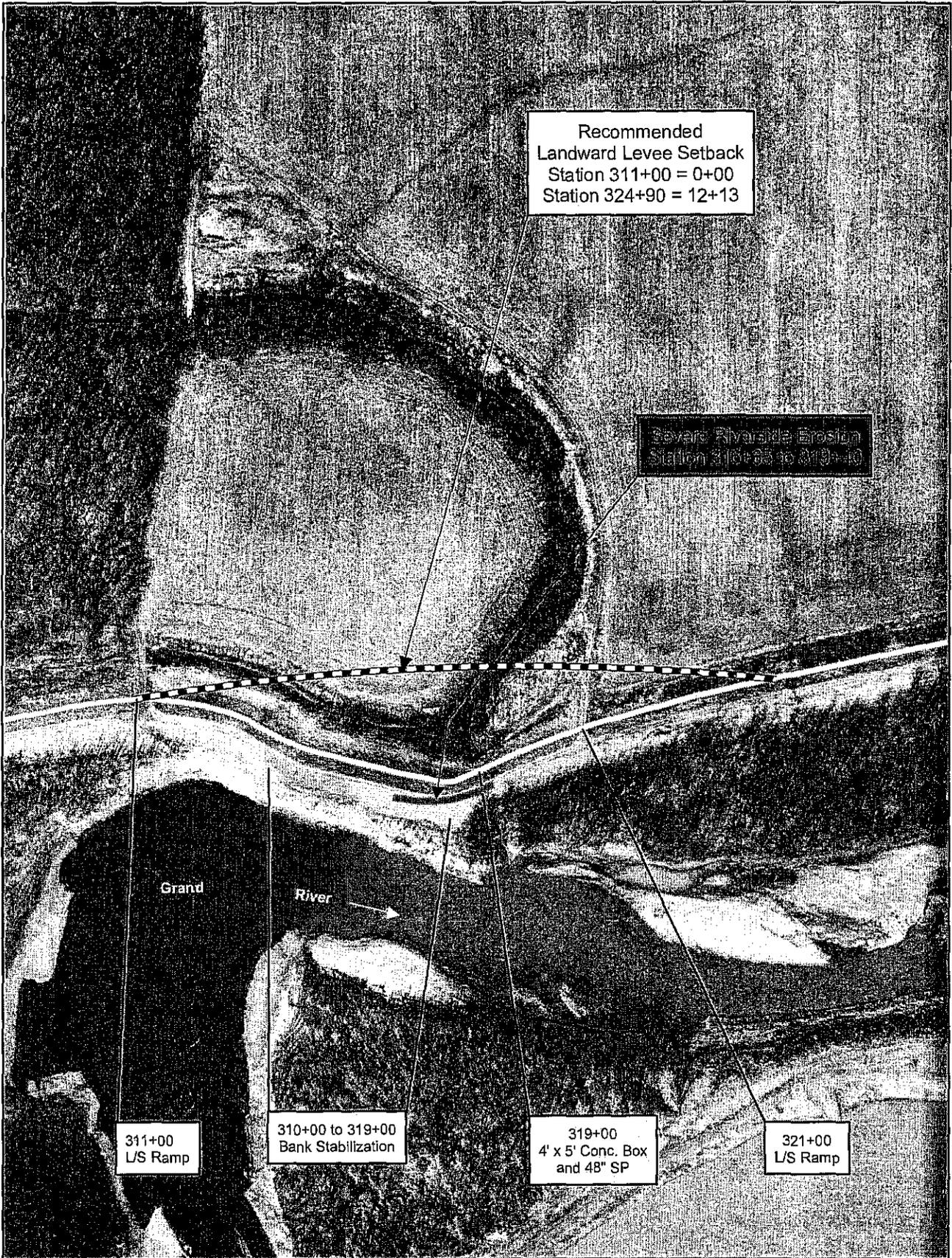




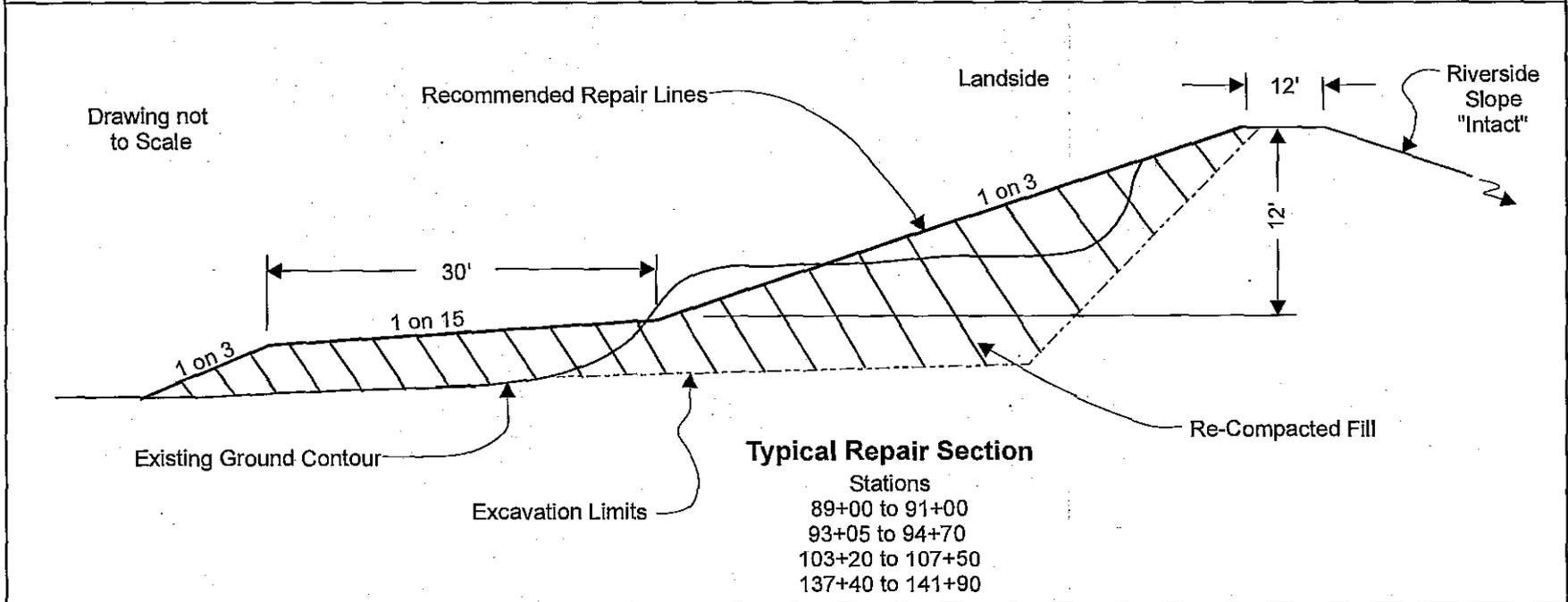
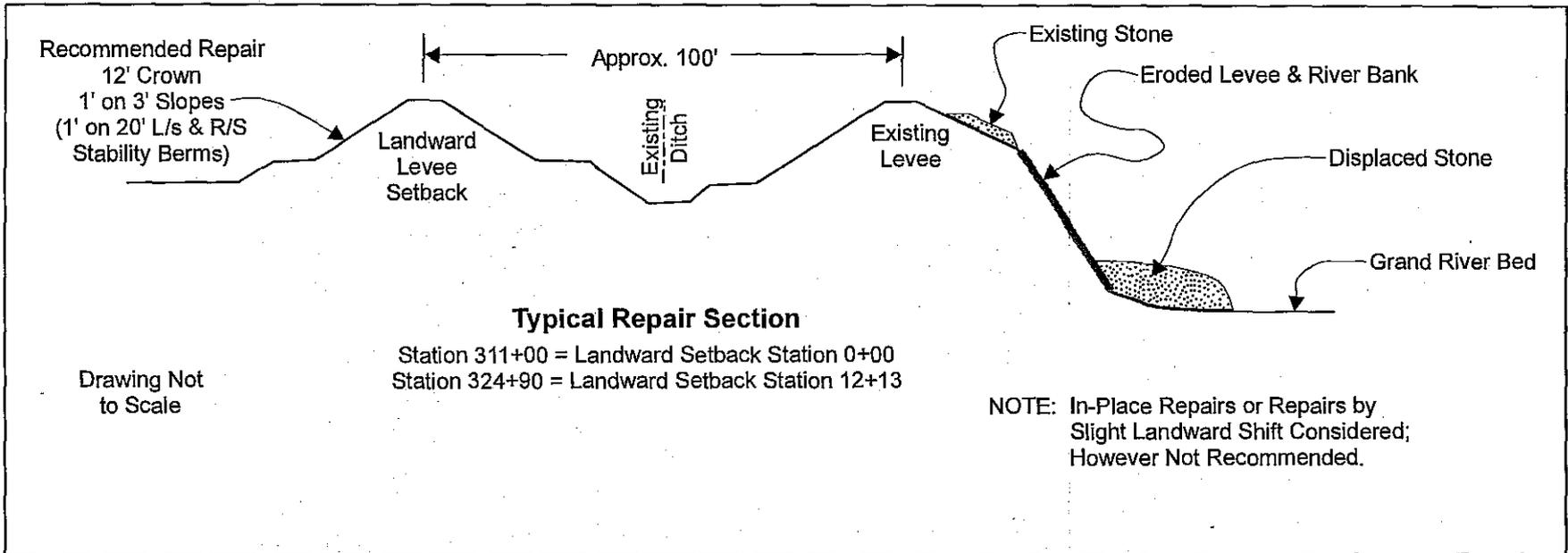
Garden of Eden Drainage District - Section 2



ATTACHMENT D - 1



ATTACHMENT D - 2



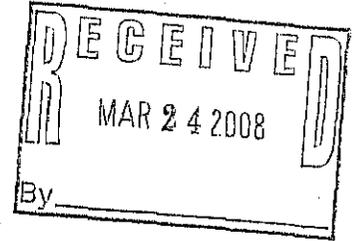
March 2008

**APPENDIX II – State Historic Preservation Officer
Letter**

*Garden of Eden Drainage District – Section 2 (Item 139S2)
P.L. 84-99 Levee Rehabilitation Project
Chariton County, Missouri
March 2008*



DEPARTMENT OF THE ARMY
 KANSAS CITY DISTRICT, CORPS OF ENGINEERS
 700 FEDERAL BUILDING
 KANSAS CITY, MISSOURI 64106-2896



REPLY TO
 ATTENTION OF:

March 20, 2008

Planning, Programs and Project Management Division
 Planning Branch

Charlie Scott
 US Fish and Wildlife Service
 101 Park DeVille Drive, Suite A
 Columbia, Missouri 65203

In accordance with provisions of the National Environmental Policy Act of 1969 (NEPA), enclosed for your review and comment is the Environmental Assessment (EA) and Draft Finding of No Significant Impacts (FONSI) for the Garden of Eden-Section 2, Levee Rehabilitation Project.

The Kansas City District – U.S. Army Corps of Engineers (CENWK), in cooperation with the project sponsor, Garden of Eden Drainage District-Section 2 proposes to construct the Garden of Eden-Section 2 Levee Rehabilitation Project under the authority of Public Law 84-99, of the Flood Control Act of 1944. Under this authority, the Corps of Engineers can provide assistance to public agencies in responding to flood emergencies such as the rehabilitation of flood control works damaged or destroyed by floods.

The project area is located in Chariton County, Missouri along the left descending bank of the Grand River, between river miles 22.0 to 15.5. The proposed project would involve in-place repair of a severe landside slides, and repair of the severe riverside/foreshore area erosion, with an approximate 1,212-linear-feet-long landward levee setback. Repairs are required as a result of the flood event declared on 6 May 2007.

Written comments on the EA and Draft FONSI should be mailed to Ms. Lekesha Reynolds, Environmental Resources Specialist, Corps of Engineers, Kansas City District, PM-PR, 601 E. 12th Street, Kansas City, Missouri 64106-2896, by email, lekesha.w.reynolds@usace.army.mil or by phone at 816-389-3160, no later than 30 days from the date of this letter.

Sincerely,

David L. Combs
 Chief, Planning Branch

The U.S. Fish and Wildlife Service has reviewed the project proposal and accompanying information and determined that the activity as described is not likely to adversely affect federally listed species or designated critical habitat. Consequently, this concludes section 7 consultation. Please contact the Missouri Department of Conservation (573/522-4115) for state listed species of concern.

Janet M. Ledin
 Field Supervisor

4/17/2008
 Date



Matt Blunt, Governor • Doyle Childers, Director

DEPARTMENT OF NATURAL RESOURCES

www.dnr.mo.gov

November 26, 2007

Timothy Meade
Corps of Engineers, Kansas City District
700 Federal Building
Kansas City, Missouri 64106-2896

Re: Emergency Repairs, Garden of Eden Levee Section 2 (COE) Chariton County, Missouri

Dear Mr. Meade:

Thank you for submitting information on the above referenced project for our review pursuant to Section 106 of the National Historic Preservation Act (P.L. 89-665, as amended) and the Advisory Council on Historic Preservation's regulation 36 CFR Part 800, which requires identification and evaluation of cultural resources.

We have reviewed the information provided concerning emergency repairs to the Garden of Eden Levee Section 2. Based on this review we concur with your recommendation that that the project is in areas of low potential as recently accreted land, or areas of previous disturbance and that there will be **no historic properties affected**, with the condition that construction and borrowing activities will avoid previously recorded site 23CH322, which is to be avoided by project activities. We have no objection to the initiation of project activities.

Please be advised that, should project plans change, information documenting the revisions should be submitted to this office for further review. In the event that cultural materials are encountered during project activities, all construction should be halted, and this office notified as soon as possible in order to determine the appropriate course of action.

If you have any questions, please write Judith Deel at State Historic Preservation Office, P.O. Box 176, Jefferson City, Missouri 65102 or call 573/751-7862. Please be sure to include the SHPO Log Number (002-CH-08) on all future correspondence or inquiries relating to this project.

Sincerely,

STATE HISTORIC PRESERVATION OFFICE

A handwritten signature in cursive script, appearing to read "Mark A. Miles".

Mark A. Miles
Director and Deputy
State Historic Preservation Officer

MAM:jd

PUBLIC NOTICE



US Army Corps
of Engineers
Kansas City District

Permit No. GP-41 (2007-2078)
Issue Date: March 21, 2008

STATES OF MISSOURI AND KANSAS - Including INDIAN COUNTRY
ISSUANCE OF GENERAL PERMIT (GP) 41
FLOOD RECOVERY AND REPAIR ACTIVITIES

The U.S. Army Corps of Engineers, Kansas City District **HAS ISSUED** GP-41 (copy enclosed) for protection and repair of existing flood damaged structures, damaged land areas and damaged fills, under authority of Section 10 of the Rivers and Harbors Act of 1988 (33 USC 403) and Section 404 of the Clean Water Act (33 USC 1344).

Duration of this General Permit: This GP is issued and is in effect for five (5) years, from March 21, 2008 until March 21, 2013, unless revoked or specifically extended.

Notification Procedures (Post and Preconstruction): Preconstruction notification is required by the General Public for all activities involving obtaining borrow from forested wetlands, borrowing material from potential migratory bird nesting areas, clearing trees along stream channels, working in areas with known exotic species, and/or if the proposed repair activity includes restoration of a stream channel back to the original, pre-flood location. Other authorized activities that meet the terms and limits of this GP may proceed without preconstruction notification to the Corps of Engineers. However, post construction reporting is required for all activities undertaken under this GP. See GP Special condition "d" and Appendix I for more information on notification requirements.

APPLICANT: General Public

PROJECT LOCATION: In waters of the United States in the States of Missouri and Kansas, including Indian Country within Kansas boundaries that are declared flood disaster areas by the Governor of either state and/or the President of the United States of America.

AUTHORITY: Section 10 of the Rivers and Harbors Act of 1988 (33 USC 403) and Section 404 of the Clean Water Act (33 USC 1344).

ACTIVITY: Excavation or placement of fill material for protection and/or repair of existing flood damaged structures, damaged land areas and/or damaged fills as follows: a. Repair of levees to existing elevations and cross-section, including breach closures and borrow operations, b. Bridge embankment protection (armoring) and/or repair, c. Repair of pre-existing highway or railroad embankments and the addition or repair of stone (armoring) protection, d. Repair of pre-existing utility protection structures, e. Placement of rock and/or earth materials for stream/ditch bank protection and/or stream/ditch bank restoration, f. Drainage channel/ditch restoration to

pre-flood capacity and flow line unless the flow line must be altered due to other damage associated with the flood event, g. Restoration of creek channels to pre-flooding alignment and capacity, and h. Construction of temporary roads and temporary fills to facilitate the completion of any of the listed activities.

Note: Maintenance of existing flood damaged structures and/or flood damaged fills, which have been previously authorized, may be authorized by Nationwide Permit No. 3 or exempted by Part 323.4 of Federal regulations 33 CFR 320-331. The repair of uplands damaged by storms, floods or other discrete events may be authorized by Nationwide Permit No. 45 upon notification and review by the appropriate Corps of Engineers District, Regulatory Branch.

INDIAN COUNTRY: Work under this permit is not authorized in Indian Country until the applicant obtains individual Section 401 Water Quality Certification from the U.S. Environmental Protection Agency (EPA), Region VII, Watershed Planning and Implementation Branch, 901 North 5th Street, Kansas City, Kansas 66101 (913-551-7003).

EPA may issue programmatic water quality certification during the authorization period of this permit which ends December 31, 2013. If issued, the Corps of Engineers will announce by public notice and post that certification to the Regulatory Program webpage: <http://www.nwk.usace.army.mil/regulatory/regulatory.htm>.

SECTION 401 WATER QUALITY CERTIFICATION: Conditions of any individual or programmatic Section 401 Water Quality Certifications issued by the Missouri Department of Natural Resources (MDNR - for Missouri), Kansas Department of Health and Environment (KDHE - for Kansas), and EPA (for Indian Country) are conditions of this GP. General Condition 5 of the GP states: "If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit."

ADDITIONAL INFORMATION: Additional information about this general permit may be obtained by contacting Mr. Douglas R. Berka, Regulatory Project Manager, Kansas City District Regulatory Branch (ATTN: OD-R) 700 Federal Building, Kansas City, Missouri 64106, at 816-389-3657 or via email at Douglas.R.Berka@usace.army.mil. All inquiries concerning this public notice should be directed to the above address.

Enclosure

DEPARTMENT OF THE ARMY PERMIT

Permittee General Public

Permit No. NWK GP-41

Issuing Office U.S. Army Corps of Engineers, Kansas City District

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

You are authorized to perform work in accordance with the terms and conditions specified below.

Project Description: To excavate or place fill material for protection and/or repair of existing flood damaged structures, damaged land areas and/or damaged fills as follows:

- a. Repair of levees to existing elevations and cross-section, including breach closures and borrow operations
- b. Bridge embankment protection (armoring) and/or repair
- c. Repair of pre-existing highway or railroad embankments and the addition or repair of stone (armoring) protection
- d. Repair of pre-existing utility protection structures
- e. Placement of rock and/or earth materials for stream/ditch bank protection and/or stream/ditch bank restoration
- f. Drainage channel/ditch restoration to pre-flood capacity and flow line unless the flow line must be altered due to other damage associated with the flood event
- g. Restoration of creek channels to pre-flooding alignment and capacity
- h. Construction of temporary roads and temporary fills to facilitate the completion of any of the listed activities

Note: Maintenance of existing flood damaged structures and/or flood damaged fills, which have been previously authorized, may be authorized by Nationwide Permit No. 3 or exempted by Part 323.4 of Federal regulations 33 CFR 320-331. The repair of uplands damaged by storms, floods or other discrete events may be authorized by Nationwide Permit No. 45 upon notification and review by the appropriate Corps of Engineers District, Regulatory Branch.

Project Location: In Waters of the United States, (rivers, lakes, streams, and wetlands) within the State of Kansas, including Indian Country, and within the State of Missouri that are declared flood disaster areas by the Governor of either state and/or the President of the United States.

Permit Conditions:

General Conditions:

1. The time limit for completing the work authorized ends on December 31, 2013. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.
2. You must maintain the activity authorized by this permit in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.
3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

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

- a. You fail to comply with the terms and conditions of this permit.
- b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (See 4 above).
- c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

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

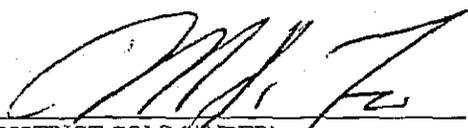
Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.

General Public – Signature Not Required

(PERMITTEE)

(DATE)

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.



(DISTRICT COMMANDER)
ROGER A. WILSON, JR.
BY: MARK D. FRAZIER
Chief, Regulatory Branch
Operations Division

21 March 2008

(DATE)

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

(TRANSFEREE)

(DATE)

Special Conditions:

- a. You must sign and return the attached "Compliance Certification" after the authorized work and any required mitigation is completed. Your signature will certify that you completed the work in accordance with this permit, including the general and the special conditions, and that any required mitigation was completed in accordance with the permit conditions.
- b. (Activities occurring in navigable waters under Section 10 of the Rivers and Harbors Act of 1899 Only) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.
- c. If any part of the authorized work is performed by a contractor, before starting work you must discuss the terms and conditions of this permit with the contractor; and, you must give a copy of this entire permit to the contractor.
- d. You must contact the Corps of Engineers, submit application materials outlined in Appendix I, and you must submit a mitigation plan prior to completing any flood recovery/repair activity when the repair involves obtaining borrow from forested wetland, borrowing material from potential migratory bird nesting areas, clearing trees along stream channels, working in areas with known exotic species, and/or if the proposed repair activity includes restoration of a stream channel back to the original, pre-flood location. All other flood repair activities, including all repairs supervised by the Corps of Engineers, pursuant to Public Law 84-99 and/or all repairs supervised by the United States Department of Agriculture, pursuant to the Emergency Watershed Protection Program or to the Emergency Conservation Program can be completed without pre-construction notification to the Corps of Engineers. However, all completed flood repair work, authorized by this permit, must be reported to the Corps of Engineers, Regulatory Branch, within 60 days of completing the project. The report must include the location of the work, as-built drawings of the structure(s) and/or fill(s), and a discussion of the avoidance and minimization measures incorporated into the project and mitigation measures employed.
- e. You must NOT dredge or excavate from the Missouri River or from the Kansas River in order to obtain borrow material for any flood repair project authorized by this permit.
- f. You must employ measures to prevent spilled fuels, lubricants, excessive suspended solids including dredged material, and/or wet concrete from entering the waters of the United States and formulate a contingency plan to be effective in the event of a spill.
- g. You must use clean, uncontaminated materials for fill in order to minimize excessive turbidity by leaching of fines, as well as to preclude the entrance of deleterious and/or toxic materials into the waters of the United States by natural runoff or by leaching. Use of small aggregate material less than 20 lbs per aggregate, such as creek gravel, for stabilization and erosion control is prohibited.
- h. You must excavate or fill in the watercourse so as to minimize increases in suspended solids and turbidity which may degrade water quality and damage aquatic life outside the immediate area of operation. Activities should be conducted during low water periods and outside major spawning season for fish, unless a waiver is obtained from the Corps of Engineers. Crossings of waterways and use of construction machinery in waterways should be limited to the minimum extent necessary.
- i. You must immediately remove and properly dispose of all debris during every phase of the project in order to prevent the accumulation of unsightly, deleterious and/or toxic materials in or near the water body. All construction debris must be disposed of in an upland site, outside the floodplain, and in such a manner that it cannot enter into a waterway or into a wetland.
- j. You must store all construction materials, equipment, and/or petroleum products, when not in use, above anticipated high water levels.

Special Conditions (continued):

k. You must restrict the clearing of timber and other vegetation to the absolute minimum required to accomplish the work. You must avoid the removal of mature trees to prevent potential impacts to bald eagle roost sites. Work should be limited to one side of the channel only. However, work from both sides of the channel is permitted if it is demonstrated that it results in minimizing tree clearing. Vegetated riparian buffer areas should be included along both sides of any channel restoration projects. All wooded areas cleared for site access must be allowed to return to forested habitat. Mitigation may be required for other timber clearing.

l. Upon completion of earthwork operations, you must seed, replant or otherwise protect from erosion all fills in the water or on shore, and other areas on shore disturbed during construction. If seeding does not successfully stabilize the disturbed soil areas by the end of the first growing season, you must implement alternate measures, such as placing riprap, slope terracing with untreated railroad ties, gabions or concrete blocks, or additional vegetative plantings, to protect the disturbed areas from further erosion. Clearing, grading, and replanting should be planned and timed so that only the smallest area is in a bare soil condition. You must contact the Corps of Engineers prior to beginning work on any additional erosion control measures so that we can determine if additional authorization is required.

m. You must dispose of excess concrete and wash water from concrete trucks and other concrete mixing equipment in an upland area above the ordinary high water mark and at a location where the concrete and wash water cannot enter the water body or an adjacent wetland area.

n. You must not dispose of any construction debris or waste materials below the ordinary high water mark of any water body, in a wetland area, or at any location where the materials could be introduced into the water body or an adjacent wetland as a result of runoff, flooding, wind, or other natural forces.

o. You must use only graded rock, quarry-run rock and/or clean concrete rubble for riprap. The material must be reasonably well graded, consisting of pieces varying in size from 20 pounds up to and including at least 150 pound pieces. Generally, the maximum weight of any piece should not be more than 500 pounds. Gravel and dirt should not exceed 15% of the total fill volume. If you use concrete rubble, you must break all large slabs to conform to the well graded requirement, and remove all exposed reinforcement rods, trash, asphalt, and other extraneous materials before you place the rubble in the waters of the United States. Size and gradation requirements can be changed provided approval is received from the Corps' Regulatory Branch prior to placement.

p. You must completely remove all temporary fills, including sand bags (to the extent practicable), in the Waters of the United States within 30 days of the end of the flood emergency and disposed of in accordance with special condition "h" above, unless the temporary fill is to be incorporated in the final repair of the structure. If sand bags are needed for a longer duration until permanent repairs are made, you must request a waiver of this condition in writing. Temporary construction of levees to protect agricultural land in areas where no levees previously existed, are not authorized.

q. You must avoid impacts to wetlands to the fullest extent practicable. When wetlands impacts are unavoidable, borrow site selection will be based on the following order of preference: upland (non-wetland) sources, areas riverward of the levee previously used for borrow, open prior converted cropland, farmed wetlands, or other authorized excavation sites. You must mitigate for all unavoidable proposed wetland excavation or fill activities authorized by this permit. You must develop mitigation plans on a case-by-case basis which must be approved by the Corps. This permit does not authorize actions designed to drain or otherwise convert wetlands to other uses, nor actions where a practicable alternative to impacting wetlands is available unless the Corps of Engineers, in consultation with other resource agencies, determine that sediment removal from existing wetlands will restore wetland functions and create valued habitat diversity. All borrow areas should have 5:1 horizontal to vertical side slopes and the water depth should be three feet deep or less under normal circumstances.

r. You must place all fills and structures such that they do not result in stream channel constriction or in redirection of flows in such a way as to cause upstream or downstream erosion. Channelization projects or shortening of waterways, other than restoration of creek channels to pre-flood alignment, are not authorized.

s. You must not undertake actions that are likely to jeopardize the existence of a threatened or endangered species or a species proposed for such designation as defined in the Federal Endangered Species Act, nor actions which are likely to destroy or adversely modify the critical habitat of such species. If the project requires the removal of mature trees along stream channels or from forested wetland you must contact the Corps of Engineers prior to any tree clearing activity.

Special Conditions (continued):

t. You must avoid activity in the proximity of a property listed in or eligible for listing in the National Register of Historic Places unless, after coordination with the State Historic Preservation Office of the affected state and/or the Advisory Council on Historic Preservation, a determination of "no effect" or "no adverse effect" is made in accordance with criteria established by 36 CFR 800.

If an inadvertent discovery of any cultural or archaeological resource occurs you must immediately contact this office and you should suspend work in the area until a determination of eligibility for listing on the National Register of Historic Places is completed and any necessary consultation under Section 106 of the National Historic Preservation Act is completed.

u. You must not undertake any activity that results in a new structure or replacement of a previously authorized structure with an increase in scope or design of the original structure. Small changes that do not affect elevations, such as the reconstruction of a levee around a scour hole at pre-existing elevations, and that do not convert wetland to upland (non-wetland) or a different wetland use beyond what is unavoidable such as to go around a scour hole, may be authorized upon notification to the Corps. Levee breach repairs constructed on new alignments must be setback farther from the stream channel than the original alignment.

v. You must contact the Missouri Department of Natural Resources, Water Pollution Control Program, P.O. Box 176, Jefferson City, Missouri 65102-0176, or the Kansas Department of Health and Environment, Bureau of Water, Curtis State Office Building, 1000 Southwest Jackson, Topeka, Kansas 66612, in order to determine the need for a state permit for land disturbance, return water, or other activities that normally require such permits. Use of GP-41 shall not be construed or interpreted to imply the requirements for other permits are replaced or superseded. Any national pollutant discharge elimination system (NPDES) permits, general permits for land disturbance, or other requirements shall be complied with.

w. You must notify the Corps of Engineers if one of the following common exotic species occurs in the project area: The zebra mussel (*Dreissena polymorpha*), Eurasian watermilfoil (*Myriophyllum spicatum*), purple loosestrife (*Lythrum salicaria*), Johnson grass (*Sorghum halepense*), sericia lespedeza (*Lespedeza cuneata*), salt cedar (*Tamarix spp.*), and reed canary grass (*Phalaris arundinacea*). You must take appropriate actions to insure the prevention of the spread of any exotic species. The following best management practice can help prevent the spread of these species. Equipment brought on the project site should be washed to remove dirt, seeds and plant parts. If the equipment has been used in a body of water in the last 30 days it can be washed at a commercial car wash or dried for five or more days before using the equipment in another body of water. In addition, before transporting equipment from the project site visible water, mud, plants and animals should be removed. Waters that the zebra mussel is known to inhabit in Kansas and in Missouri can be found at the following website:

<http://nas.er.usgs.gov/queries/zmbyst.asp>

x. For activities occurring in Indian Country, you must request and obtain individual Section 401 Water Quality Certification from the Environmental Protection Agency (EPA). You may contact the EPA by writing US EPA, Region 7 Tribal Coordinator, 901 North 5th Street, Kansas City, Kansas 66101, or by calling (913) 551-7498. You must receive Section 401 Water Quality Certification, and comply with the conditions of that certification, during performance of any work under this permit. Should EPA issue programmatic certification for this GP during the term of the GP, the Corps will issue a supplemental public notice and General Condition 5 of the permit applies.

APPENDIX I

Criteria for Authorization by General Permit NWKGP-41

1. This general permit authorizes activities proposed by the general public, railroads, transportation departments, pipeline and utility companies, and government agencies.
2. If you propose to work under the authority of this General Permit and the project requires preconstruction notification as outlined in special condition "d" of the permit, you must notify the appropriate Corps of Engineers district within 18 months of the end of the flood emergency (when the nearest river gauge drops below flood stage for two months), and receive authorization prior to starting work in the Corps jurisdiction. You must submit the following information:
 - a. A completed application form ENG 4345 or a letter which includes all information required by form ENG 4345. The ENG 4345 is available at: www.nwk.usace.army.mil/regulatory/regulatory.htm
 - b. You must clearly describe the proposed work so we can clearly and readily determine whether or not the proposed work complies with the General Permit.
 - c. The flood repair activities must be in counties declared disaster areas by the Governor of the State of Kansas, the Governor of the State of Missouri and/or the President of the United States.
 - d. An 8 1/2" x 11" drawing(s) showing the details of the proposed work.
 - e. An 8 1/2" x 11" map with the location of the proposed project clearly marked, including the Section, Township, and Range or the Latitude and Longitude location (decidegrees).
 - f. Discussion of possible alternatives and why they were not selected.
 - g. Also, as project proponent, you must send copies concurrently to the following addresses, but we will not necessarily solicit comments from these agencies. We will give these agencies an opportunity to request that we take discretionary authority to require that you apply for an individual permit, if a potential significant problem is identified.

1. For projects in Missouri contact:

U.S. Fish and Wildlife Service
Columbia Field Office
101 Park DeVille Drive, Suite A
Columbia, Missouri 65203
(573) 234-2132

Missouri Department of Natural Resources
Water Pollution Control Branch
P.O. Box 176
Jefferson City, Missouri 65102
1-800-361-4827 or (573) 751-1300

U.S. Environmental Protection Agency
Watershed Planning and Implementation Branch
901 North Fifth Street
Kansas City, Kansas 66101.
(913) 551-7003

Missouri Department of Natural Resources
Historic Preservation Program
P.O. Box 176
Jefferson City, Missouri 65102
(573) 751-7958

APPENDIX I (continued)

Missouri Department of Conservation
Policy Coordination
P.O. Box 180
Jefferson City, Missouri 65102-0180
(573) 522- 5115

* Federal Emergency Management Agency
Region VII
9221 Ward Parkway, Suite 300
Kansas City, Missouri 64114-3372
(816) 283-7063

2. For projects in Kansas contact:

U.S. Fish and Wildlife Service
Manhattan Field Office
2609 Anderson Avenue
Manhattan, Kansas 66502
(785) 539-3474

Kansas Department of Health and Environment
Bureau of Water
Curtis State Office Building
1000 Southwest Jackson Street
Topeka, Kansas 66612
(785) 296-1500

Kansas Department of Wildlife and Parks
512 Southeast 25th Avenue
Pratt, Kansas 67124
(620) 672-5911

* Federal Emergency Management Agency
Region VII
9221 Ward Parkway, Suite 300
Kansas City, Missouri 64114-3372
(816) 283-7063

* You must contact FEMA for all proposed development located in the 100-year floodplain of a National Flood Insurance Program (NFIP) participating community in order to comply with local floodplain management regulations and secure a floodplain development permit from that community.

3. For projects not requiring pre-construction notification, a report of the completed repair activities must be submitted that includes the location of the work, as-built drawings of the structure(s) and/or fill(s), and a discussion of the avoidance and minimization measures incorporated into the project and mitigation measures employed.

4. We may reevaluate the cumulative impacts of this general permit at our discretion at any time. We will reevaluate cumulative impacts at least every five (5) years.

5. The following is a list of flood damaged structures, damaged land areas and/or damaged fills authorized to be repaired under this general permit:

- a. Repair of levees to existing elevations, including breach closures and borrow operations
- b. Bridge embankment protection (armoring) or repair
- c. Repair of pre-existing highway and/or railroad embankments and armor protection
- d. Repair of pre-existing utility protection structures
- e. Placement of rock and/or earth materials for emergency bank protection or restoration

APPENDIX I (continued)

- f. Drainage ditch restoration to pre-flood capacity and flow line unless the flow line must be altered due to other damage associated with the flood event
- g. Restoration of creek channels to pre-flooding alignment, capacity and flow line
- h. Construction of temporary haul roads to facilitate any of the above listed activities

6. The District Engineer may require an individual permit on a case-by-case basis for any activity authorized herein.

7. You must complete the authorized work within the five year issuance period of the GP. If you need additional time to complete repairs or if flood damage occurs within the last year of the GP applicants must contact the appropriate Corps District for an extension of the authorization to complete the needed work. Contact should be made at least one month in advance of the GP expiration date.

8. Flood repair activities, supervised by the U. S. Army Corps of Engineers, pursuant to Public Law 84-99, and/or supervised by the United States Department of Agriculture, pursuant to the Emergency Watershed Protection Program or the Emergency Conservation Program, do not require notification to the Corps of Engineers, Regulatory Branch. It is the responsibility of these federal agencies to comply with all environmental laws and Presidential Executive Orders.

COMPLIANCE CERTIFICATION

Special condition "a" of this permit document requires that you submit a signed certification regarding the completed work and any required mitigation. This certification page satisfies this condition if it is provided to the Kansas City District at the address shown at the bottom of this page upon completion of the project.

APPLICATION NUMBER: General Permit No. 41 (NWK 2007-02078)

APPLICANT (Enter name and mailing address):

PROJECT LOCATION (Enter latitude & longitude (decidegrees) or Section, Township and Range, County, State):

- a. I certify that the authorized work was done in accordance with the Corps authorization, including any general or specific conditions.
- b. I certify that any required mitigation was completed in accordance with the permit conditions.
- c. Your signature below, as permittee, indicates that you have completed the authorized project as certified in paragraphs a and b above.

(PERMITTEE)

(DATE)

Return this certification to:

U.S. Army Corps of Engineers
700 Federal Building
601 East 12th Street
Kansas City, MO 64106-2896
ATTN: OD-R



Kathleen Sebelius, Governor
Roderick L. Bremby, Secretary

DEPARTMENT OF HEALTH
AND ENVIRONMENT

www.kdheks.gov

Division of Environment

January 31, 2008

Mr. Douglas R. Berka
U.S. Army Corps of Engineers
Kansas City Field Office; 700 Federal Building
601 East 12th Street
Kansas City, Missouri 64106-2896

Section 401 Water Quality Certification

RE: (2007-0078) PROPOSED REGIONAL GENERAL PERMIT NO. 41 FOR
EXCAVATION OR PLACEMENT OF FILL MATERIAL FOR THE PERMANENT
PROTECTION AND/OR REPAIR OF FLOOD DAMAGED STRUCTURES, DAMAGED LAND
AREAS AND/OR DAMAGED FILLS IN THE STATES OF KANSAS AND MISSOURI.
PERMITTEES: General Public, Railroads, Transportation Departments, Pipeline and
Utility Companies and Government Agencies

Dear Mr. Berka:

The Kansas Department of Health and Environment has received your request for
Section 401 Water Quality Certification. The KDHE has determined the project has the
following water pollutant discharge sources:

- a. Repair of levees to existing elevations and cross-section, including breach
closures and borrow operations
- b. Bridge embankment protection (armoring) or repair
- c. Repair of pre-existing highway or railroad embankments and the addition or
repair of stone (armoring) protection
- d. Repair of pre-existing utility protection structures
- e. Placement of rock and/or earth materials for stream/ditch bank protection
and/or stream/ditch bank restoration

BUREAU OF WATER – WATERSHED MANAGEMENT SECTION
CURTIS STATE OFFICE BUILDING, 1000 SW JACKSON ST., STE. 420, TOPEKA, KS 66612-1367

Voice 785-296-4195 Fax 785-296-5509

<http://www.kdheks.gov/nps/index.html>

f. Drainage ditch restoration to pre-flood capacity and flow line unless the flow line must be altered due to other damage associated with the flood event

g. Restoration of creek channels to pre-flooding alignment and capacity

h. Construction of temporary haul roads to facilitate the completion of any of the listed activities

Discharges from these sources if not minimized or otherwise controlled may cause violations of the provisions of Kansas Water Quality Standards found at KAR 28-16-28 et seq.

Pursuant to Section 401 and KAR 28-16-28(c) the Kansas Department of Health and Environment finds this project will not result in a violation of Kansas Water Quality Standards and herewith issues a Water Quality Certification for execution and subsequent operation of the project subject to the following conditions:

- I. Limitations of this Certification:** All Section 404 activities within the borders of Indian owned and operated lands are not covered by this certification. Individuals proposing projects which impact those waters are responsible for contacting the appropriate individual at the following numbers:

Prairie Band Pottawatomie Indians, Planning Department, 785/966-2946

Kickapoo Tribe in Kansas, Environmental Office, 785/486-2601

Iowa of Tribe of Kansas and Nebraska, 785/595-3258

Sac and Fox Tribe of Missouri, 785/742-4707

Environmental Protection Agency Region VII Indian Lands Contact,
913/551-7498

II.

General Conditions

- 1. Certification Retention:** The applicant shall retain this water quality certification on the project site through the duration of the project to accommodate inspection.
- 2. Kansas Water Pollution Control General Permit for Stormwater Runoff from Construction Activities:** This certification does not relieve the applicant of the responsibility to determine if the project is subject to the requirements of **General NPDES Permit** and to secure such permit as necessary. Questions and inquiries may be directed to:

Mr. Larry Hook
Kansas Department of Health and Environment
Bureau of Water Industrial Program Section
1000 SW Jackson Street, Suite 420
Topeka, Kansas 66612-1367
Phone 785/296-5549; FAX:785/296-5509
www.kdheks.gov/stormwater

3. **Project Water Quality Protection Plan:** Any person wishing to use a Section 404 GP 41 Permit shall prepare and follow a written project water quality protection plan (PWQPP.) The PWQPP shall identify components of the permitted activity (i.e. solid waste handling, fuel storage and leaks, sediment from construction etc.) which may or will result in the discharge of pollutants to waters of the state. For each component which may discharge pollutants to waters of the state, the plan shall set out the physical, structural and management measures to be implemented to prevent or minimize the discharge of pollutants to waters of the state. (Activities requiring a construction stormwater permit, as described above, also require a stormwater pollution prevention plan which will serve as the PWQPP.)

The permittee is required to submit the PWQPP to KDHE only if the project impacts Outstanding National Resource, Exceptional State or Special Aquatic Life Use Waters per condition #4 below.

- 4 **Outstanding National Resource Waters, Exceptional State and Special Aquatic Life Support Use Waters:** In the event the permitted activity occurs in or within one half (2) mile of an Outstanding National Resource Water as defined pursuant to K.A.R. 28-16-28b(pp) and K.A.R. 28-16-28c(a)B(3), an Exceptional State Water pursuant to K.A.R. 28-16-28b(y) and K.A.R. 28-16-28c(a)B(2), or a Special Aquatic Life Support Use Water designated pursuant to K.A.R. 28-16-28d(b)(2)(A), the person responsible for initiating the activity shall submit a copy of the PWQPP to:

Kansas Department of Health and Environment
Bureau of Water - Watershed Management Section
1000 SW Jackson Street, Suite 420
Topeka, Kansas 66612-1367
nps@kdhe.state.ks.us

A table and state map of **Outstanding National Resource Waters, Exceptional State and Special Aquatic Life Support Use Waters** can be found at:
<http://www.kdheks.gov/nps/resources/specwaterinfo.pdf>.

Mr. Douglas R. Berka (GP-41-2007-0078)

January 31, 2008

Page 4 of 8

The permittee should also be aware of the following Kansas water quality protection regulations associated with special waters:

K.A.R. 28-16-28c(a)B(2)-AWherever state surface waters constitute exceptional state waters, discharges shall be allowed only if existing uses and existing water quality are maintained and protected.@

K.A.R. 28-16-28c(a)B(3)-AWherever state surface waters constitute an outstanding national resource water existing uses and existing water quality shall be maintained and protected. New or expanded discharges shall not be allowed into outstanding national resource waters.@

5. **Solid Waste Disposal:** All solid waste materials produced during the execution of the project shall be disposed in accordance with the provisions of Kansas Solid Waste Management Statutes and regulations and applicable local regulations. Direct inquiries to:

KDHE, Bureau of Waste Management
1000 SW Jackson Street, Suite 320
Topeka, Kansas 66612-1366
Phone: 785/296-1600; FAX: 785/296-1592
www.kdhe.state.ks.us/waste/index.html

6. **Equipment Staging Areas and Project Closure:** Upon completion of the project, disturbed areas shall be expeditiously stabilized with temporary and permanent vegetation, bio-artificial ground cover or other appropriate non-polluting material. Fertilizer application to establish and maintain vegetation shall be done in a manner that will not contribute to the current nutrient load to any of the surface waters impacted by the project. The person responsible for the permitted activity shall monitor and maintain cover materials until such time as the site is stabilized. Project closure procedures shall be documented in the Project Water Quality Protection Plan per condition No. II. 3.
7. **Riparian Areas:** Minimize removal or disturbance of riparian areas (areas adjacent to water bodies). KDHE encourages the use of vegetation consistent with adjoining vegetation materials to minimize impacts from improper handling of fertilizers and pesticides.
8. **Discharge of Floatable Materials:** Pursuant to K.A.R. 28-16-28b (uu)(1), (3) and (4), the person responsible for executing the permitted activity shall assure good house keeping is practiced at the site to minimize the discharge of floatable materials such as personal refuse including food containers, packing materials, and other litter. Appropriate measures shall be taken to capture and/or recover any floatable materials discharged to waters of the state originating with the permitted project.

9. **Fuel, Chemical and Materials Storage:** Fuel, chemical and other materials stored at the project site shall be stored in a manner that minimizes the discharge of product to waters of the state. Spill minimization and prevention measures and procedures shall be documented in the Water Quality Protection Plan.
10. **Spill Response and Reporting:**
 - 1.) **Spill response and cleanup:** In the event a spill of fuel, chemical or other water quality degrading materials stored or transported on the site occurs, the permittee shall or with the assistance of professional response personnel, expeditiously control or contain the spill and initiate clean up procedures. The applicant shall immediately contact 911. Spill response and cleanup actions shall be documented in the PWQPP. The applicant should also contact the appropriate Kansas Department of Health and Environment www.kdhegov/befs/#districts or look in your local phone directory) to confirm cleanup activities. Finally, KDHE strongly encourages the permittee to establish and post a sign that includes phone contact numbers for the appropriate local emergency response unit, KDHE district office, and the project manager/owner.
 - 2.) **Reporting:** The Kansas Department of Health and Environment shall be notified of all fuel spills or unauthorized discharge of pollutants immediately. Contact KDHE at 785/296-1679, anytime for spill reporting requirements. The Kansas Adjutant Generals Office should also be contacted (785/296-8013) as well as the National Spill Response Center (1-800-424-8802).
11. **Drinking Water Intakes:** The person responsible for the permitted activity shall avoid adverse impacts on public water supplies. Whenever permitted activities occur within one mile upstream of a public drinking water supply - surface water intake, the applicant shall contact the official in charge of the public drinking water supply to apprise the drinking water supply official of the permitted activity. The person responsible for the permitted activity shall consider the suggestions and recommendations of the public water supply official when preparing the PWQPP.
12. **Treated Wastewater Effluent Mixing Zones:** As a general guideline any Section 404 activity within one-half (2) mile upstream or one-half (2) mile downstream of a permitted wastewater effluent discharge may impact the effluent mixing zone. The person responsible for the permitted activity shall determine if the project will adversely impact the wastewater effluent mixing zones and take appropriate measures to avoid altering or changing the mixing zone. This may include but is not limited to:

- 1) The construction or placement of a recreation oriented facility or structure (i.e. boat ramp, walkway) which may require modification of the beneficial use designation to accommodate contact or non-contact recreation, thereby increasing the effluent limitations for the permit.
- 2) Any activity which may alter or remove the stream channel geometry or natural oxygenation abilities of the stream such as bridge construction, channelization, stream channel substrate modification etc.

The person responsible for the permitted Section 404 activity shall advise and describe to the waste water discharge permittee and KDHE any potential mixing zone impacts and the measures the person responsible for the Section 404 activity will take to minimize adverse impacts on the mixing zone. Inquiries should be directed to:

Kansas Department of Health and Environment
Bureau of Water - Municipal Programs Section
1000 SW Jackson Street, Suite 420
Topeka, Kansas 66612-1367
Phone: 785/296-5527; FAX: 785/296-5509

13. **Total Maximum Daily Load:** Any Section 404 activity within a watershed with a Total Maximum Daily Load (the amount of pollution a water body can receive and maintain its designated uses: see <http://www.kdheks.gov/tmdl/index.htm>) is strongly encouraged to contact the assigned KDHE watershed field coordinator. A service area map for the three watershed field coordinators is attached (see www.kdheks.gov/nps) once construction is started.

III. Special Conditions for Specific Nationwide Permits

1. **Outfall Structures and Maintenance (construction):**
Controls shall be in place to stabilize all areas of the bed and bank around the pipe or adjacent to the outfall structure and associated intake structures that may be affected by outfall or stream flows, respectively.
2. **Maintenance; Utility Line Activities; and -Minor Discharges (pipelines included):**
Hydrostatic tests for pipeline activities shall be approved prior to discharge of water used for the test. Please contact:

Kansas Department of Health and Environment
Bureau of Water - Industrial Program Section
1000 SW Jackson Street, Suite 420
Topeka, Kansas 66612-1367
Phone 785/296-5553; FAX: 785/296-5509

3. **Aquatic Habitat, Restoration, Establishment and Enhancement Activities and Stormwater Management Facilities):** Measures shall be implemented to assure impounded waters, created by activities within the framework of these permits, avoid becoming public health threats, nuisances, generate complaints, and potentially discharge degraded water. The applicant shall prepare and implement an Operations and Maintenance Plan for Facilities and Landscapes (O&M), which at the minimum incorporate the following:
- A. Identify individual and public property owners and their potential for being the source of nonpoint source pollution. This could include but is not limited to: commercial grounds, streets, right-of-ways, parking areas, conservation easement and **proposed** mitigation areas etc.
 - B. For each property as described in item A. above, water quality protection measures for each category of artificial source of pollution identified. The identified water quality protection measure for each category of artificial source of pollution shall be designed to *reduce to the maximum extent practicable, the level of pollution resulting from identified pollutant sources*. Identified water quality protection quality protection measures shall be at least as effective as those set out by the Kansas Nonpoint Source Pollution Management Plan (<http://www.kdheks.gov/nps/resources/2000update.pdf>), prepared and maintained by the Kansas Department of Health and Environment.
 - C. Strategies to assure implementation of the water quality protection measures identified under item II. 3-10 which may include but are not limited to prohibition or restriction of activities, utilization of alternative technologies or products, information and education, financial assistance, technical assistance, enforcement and penalties. Additionally, an in-house reporting form used by staff to document degraded property conditions potentially impacting the property and needs to address them should be developed, if applicable.
 - D. Organizations and individuals responsible for assuring implementation of the identified water quality protection measures.

IV. **Enforcement and Penalties**

This certification does not relieve the applicant of the responsibility for any discharge to waters of the state or allow for any inappropriate discharge to occur. As provided for by K.S.A. 65-171(f), failure to comply with the conditions of this certification may subject the responsible party to fines of \$10,000 per violation with each day the violation occurs constituting a separate violation.

V. Variance

If the applicant believes the conditions of this certification will result in impairment of important widespread social and economic development, the applicant is advised of the variance provisions of KAR 28-16-28b(III) and KAR 28-16-28f(e).

VI. Additional Information

The KDHE website contains the following information to assist the applicant in preparing a project water quality protection plan:

*Construction practices: <http://www.dnr.mo.gov/env/wpp/wpcp-guide.htm>

*Project Water Quality Protection Plan Form and Instructions:
<http://www.kdheks.gov/nps/resources/nwpwqppfrm.doc> or
<http://www.kdheks.gov/nps/resources/nwpwqppfrm.pdf>

*Kansas Surface Water Register:
http://www.kdheks.gov/befs/download/Current_Kansas_Water_Register.pdf

*Kansas Surface Water Maps:
http://www.kdheks.gov/befs/download/2006_Surface_Water_Register_Maps.pdf

Surface Water Quality Standards- http://www.kdheks.gov/water/28_16_28b_g.pdf

*KDHE District Offices- <http://www.kdheks.gov/directions/index.html>

The Kansas Department of Health and Environment, Bureau of Water-Watershed Management Section at: 785/296-4195 or FAX 785/296-5509. This information can also be obtained by written communication directed to:

Kansas Department of Health and Environment
Bureau of Water - Watershed Management Section
1000 SW Jackson Street, Suite 420
Topeka, Kansas 66612-1367 or email: nps@kdhe.state.ks.us

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES

Matt Blunt, Governor • Doyle Childers, Director

www.dnr.mo.gov

FEB 25 2008

Colonel Roger A. Wilson, Jr.
U.S. Army Corps of Engineers
Kansas City District
601 E. 12th Street, Suite 700
700 Federal Building
Kansas City, MO 64106-2896

GP-41 Statewide
NWKGP-41/PN07-2078/CEK004650

RE: GP 41, All Districts

Dear Colonel Wilson:

The Missouri Department of Natural Resources' Water Protection Program (department) has reviewed Public Notice General Permit (GP) 41 (PN07-588) CEK004650 in which the applicant proposes to issue regional GP-41 to authorize certain discharges of dredged or fill material in conjunction with the permanent protection and/or repair of flood damaged structures, damaged areas, and/or damaged fills in waters of the United States within the states of Missouri and Kansas.

The proposed General Permit would be applicable to all Army Corps of Engineers' Districts in Missouri (Kansas City - 2007-2078/GP-41; Little Rock - 2008-00066/GP-41, Memphis - 2007-588/GP-41; Rock Island - 2007-2061/GP-35; and St. Louis).

These projects are located along the Missouri River throughout Missouri. The Missouri River is a 303(d) listed water and caution shall be exercised not to negatively impact those sections of the river that are already impaired.

This office certifies that the proposed project will not cause the general or numeric criteria to be exceeded nor impair beneficial uses established in the Water Quality Standards, 10 CSR 20-7.031, provided the following conditions are met:

1. This general permit shall not be used for channelization or channel modification purposes.
2. Only the repair of structures due to flood damage are authorized with this permit. The construction of new structures will need additional review and issuance of a separate water quality certification.
3. Representatives from the department shall be allowed to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the letters and conditions of the permit.

4. Care shall be taken to keep machinery out of the waterway as much as possible. Fuel, oil and other petroleum products, equipment and any solid waste shall not be stored below the ordinary high water mark at any time or in the adjacent floodway beyond normal working hours. All precautions shall be taken to avoid the release of wastes or fuel to streams and other adjacent water bodies as a result of this operation.
5. Petroleum products spilled into any water body or on the banks where the material may enter waters of the state shall be immediately cleaned up and disposed of properly.
6. Only clean, nonpolluting fill shall be used. The following materials are not suitable for bank stabilization and shall not be used due to their potential to cause violations of the general criteria of the Water Quality Standards, 10 CSR 20-7.031 (A) - (H):
 - a. Earthen fill, gravel, broken concrete where the material does not meet the specifications outlined below, and fragmented asphalt, since these materials are usually not substantial enough to withstand erosive flows;
 - b. Concrete with exposed rebar;
 - c. Tires, vehicles or vehicle bodies, construction or demolition debris are solid waste and are excluded from placement in the waters of the state;
 - d. Liquid concrete, including grouted riprap, if not placed as part of an engineered structure; and
 - e. Any material containing chemical pollutants (for example: creosote or pentachlorophenol).

Recycled or broken concrete may be used provided that it is reasonably well graded, consisting of pieces varying in size from 20 pounds up to and including at least 150 pound pieces. Applicants must break all large slabs to conform to the well-graded requirement. Generally, the maximum weight of any piece shall not be more than 500 pounds. Gravel and dirt shall not exceed 15 percent of the total fill volume. All protruding reinforcement rods, trash, asphalt and other extraneous materials must be removed from the broken concrete prior to placement.

Recycled or broken concrete being used simply as fill need not conform to the well-graded requirement. It shall, however, be free from extraneous materials and shall be placed to eliminate voids within the fill.

7. Clearing of vegetation/trees shall be the minimum necessary to accomplish the activity. A vegetated corridor shall be maintained from the high bank on either side of the jurisdictional channel to protect water quality and to provide for long-term stability of the stream channel, unless physical barriers prevent such a corridor.
8. The riparian area, banks, etc., shall be restored to a stable condition to protect water quality as soon as possible. Seeding, mulching and needed fertilization shall be within three days