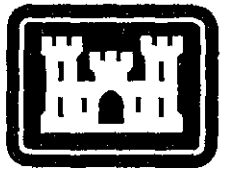

US Army Corps
of Engineers
Kansas City District

KANSAS CITY DISTRICT
CORPS OF ENGINEERS
and
NORTH TOPEKA DRAINAGE DISTRICT

Public Law 84-99 of the Flood Control Act of 1944
Levee Rehabilitation – NEPA/Section 404 of the Clean Water Act
Public Interest Review, Environmental Assessment, Finding of No Significant Impact and Section 404(b)(1) Evaluation

SOLDIER CREEK DIVERSION UNIT TOPEKA, KANSAS FLOOD PROTECTION PROJECT FEDERAL LEVEE, ITEM K81SC P.L. 84-99 LEVEE REHABILITATION PROJECT

Soldier Creek
Shawnee County, Kansas

JUNE 2008

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

Finding of No Significant Impact

Soldier Creek Diversion Unit
Topeka, Kansas Flood Protection Project
P.L. 84-99 Levee Rehabilitation Project
Shawnee County, Kansas

Project Summary

The U.S. Army Corps of Engineers, Kansas City District (CENWK), in cooperation with the project sponsor, North Topeka Drainage District proposes to construct the Soldier Creek Diversion Unit of the Topeka, Kansas Flood Protection Project (Federal levee), Levee Rehabilitation Project, under the authority of Public Law 84-99 of the Flood Control Act of 1944. The "No Action" Alternative along with three build alternatives has been evaluated. The Corps has identified Alternative 1 as the recommended plan. The proposed project would involve excavation from and the placement of earthen fill material in the Soldier Creek channel and on the adjacent levee in order to rehabilitate the existing flood damage reduction project. The Soldier Creek Diversion Unit of the Topeka, Kansas Flood Protection Project is located in the northern part of the city of Topeka, along Soldier Creek in Sections 5, 6, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, Range 15 east and Sections 15, 16, 17 and 18, Range 16 east, all Township 11 south, Shawnee County, Kansas.

Alternatives

Three build alternatives and the "No Action" Alternative have been evaluated.

Recommended Plan

Alternative 1 is the Corps' Recommended Plan. The applicant has requested project authorization and funding from the U.S. Army Corps of Engineers under Public Law 84-99 of the Flood Control Act of 1944 for construction of Alternative 1 (Recommended Plan). The proposed repair would consist of excavation of the remaining vertical channel slopes along the right and left banks (with the exception of areas in the vicinity of existing bridges) and reconstruction of the channel slope to the original 1 (V) to 2 (H) levee slope to the channel bottom with compacted material obtained from the excavation and borrow material provided by the sponsor. The damaged areas would be repaired to a channel bottom 25 feet wider than the original channel (as opposed to the original 100 feet). Channel damage in the vicinity of existing bridges would be brought to the original profile to protect the integrity of the bridge foundation features. Areas where the crest has been damaged with overtopping would be graded, brought to the original elevation, and resurfaced with 6 inches of crushed aggregate surfacing. Stone slope

protection would be placed on repaired channel slopes that were originally protected by stone slope protection.

Summary of Environmental Impacts

Flood damage reduction level achieved by the recommended plan would be the same as with Alternative 2 and 3 and the original pre-flood levees. The recommended plan would result in no impacts to any Federally-listed threatened or endangered species or their habitat. The recommended plan would result in no impacts to any properties listed, proposed for listing, eligible for listing, or potentially eligible for listing in the National Register of Historic Places. Areas of the existing levee and channel damaged by flooding would be temporarily disturbed by the proposed construction activity. The adverse effects associated with the proposed project are long-term/minor associated with the impacts, or short term/minor and related to project construction (noise, dust, construction vehicle traffic, visual, aesthetic, water quality, disturbance of fish and wildlife). These minor adverse effects and would be greatly offset by restoring the flood damage reduction capability, and its associated social and economic benefits, of the existing levee system. The Corps has completed an evaluation of the project and determined it to be in compliance with Section 404 of the Clean Water Act's 404(b)(1) Guidelines. Alternative 1 meets the project purpose and need of rehabilitating the flood damage reduction capability, and its associated social and economic benefits, of the existing Congressionally-authorized project. Of the four (4) alternatives considered, Alternative 1 is recommended because it has the least environmental impact, requires the least amount of excavation and fill to construct, creates a wider channel bottom, had the lowest costs, and the highest cost/benefit ratio.

Mitigation Measures

The recommended plan would result in no impacts to mitigable resources as defined in USACE Planning regulations or under Section 404 of the Clean Water Act. Therefore, no mitigation measures are warranted or proposed.

Public Availability

Prior to a decision on whether to prepare an Environmental Impact Statement, the proposed project was circulated to the public and resource agencies through a Public Notice, No.2007-1097, dated August 21, 2007, with a thirty-day comment period ending on September 20, 2007. This notice contained a project description, along with information on the Corps' preliminary determination to prepare a Finding of No Significant Impact for the project and a preliminary Section 404(b)(1) Evaluation. The notice was mailed to individuals/agencies/businesses listed on CENWK-Regulatory Branch's Shawnee County and State of Kansas mailing list. In addition the Public Notice was available for public/agency review and comment on the CENWK-Regulatory Branch's webpage and a press release was issued concerning the proposed project and comment period. 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 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 Soldier Creek Diversion Unit of the Topeka, Kansas Flood Protection Project, P.L. 84-99 Levee Rehabilitation Project to restore the Soldier Creek channel and adjacent earthen levee damaged by flooding, 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: 30 June 03

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, North Topeka Drainage District proposes to construct the Soldier Creek Diversion Unit of the Topeka, Kansas Flood Protection Project, Levee Rehabilitation Project, under the authority of Public Law 84-99 of the Flood Control Act of 1944. The proposed project would involve excavation from and the placement of earthen fill material in the Soldier Creek channel and on the adjacent levee in order to rehabilitate the existing flood damage reduction project.

The Soldier Creek Diversion Unit of the Topeka, Kansas Flood Protection Project consists of 17.9 miles of earthen levee, 9.2 miles of improved channel, and 35 drainage structures. The Soldier Creek Diversion Unit of the Topeka, Kansas Flood Protection Project protects numerous commercial and industrial enterprises, the municipal airport, a major sewage treatment plant, city streets, and county roads. The levee is operated and maintained by the local sponsor, the North Topeka Drainage District. The Soldier Creek Diversion Unit of the Topeka, Kansas Flood Protection Project is located in the northern part of the city of Topeka, along Soldier Creek in Sections 5, 6, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, Range 15 east and Sections 15, 16, 17 and 18, Range 16 east, all Township 11 south, Shawnee County, Kansas.

The Corps evaluated three build alternatives and the "No Action" alternative. Based on this evaluation the Corps identified Alternative 1 as the Recommended Plan. The proposed repair would consist of excavation of the remaining vertical channel slopes along the right and left banks (with the exception of areas in the vicinity of existing bridges) and reconstruction of the channel slope to the original 1 (V) to 2 (H) levee slope to the channel bottom with compacted material obtained from the excavation and borrow material provided by the sponsor. The damaged areas would be repaired to a channel bottom 25 feet wider than the original channel (as opposed to the original 100 feet). Channel damage in the vicinity of existing bridges would be brought to the original profile to protect the integrity of the bridge foundation features. Areas where the crest has been damaged with overtopping would be graded, brought to the original elevation, and resurfaced with 6 inches of crushed aggregate surfacing. Stone slope protection would be placed on repaired channel slopes that were originally protected by stone slope protection.

The Corps circulated information about the project to the public and resource agencies through a Public Notice, No.2007-1097, dated August 21, 2007, with a thirty-day comment period ending on September 20, 2007. Considering all information related to the project, no significant impacts to the human environment are expected to result from the proposed levee rehabilitation project. Based on a review of the information contained in this Environmental Assessment and of the comments received during the public interest review, the Corps has approved the attached Finding of No Significant Impact and Section 404(b)(1) Evaluation for the recommended plan.

Additional information concerning this project may be obtained from Mr. David Hoover, National Disaster Program Manager, Emergency Management Branch, Kansas City District - U.S. Army Corps of Engineers, by writing the above address, or by telephone at 816-389-3497.

NEPA / SECTION 404 CWA REVIEW
ENVIRONMENTAL ASSESSMENT
&
FINDING OF NO SIGNIFICANT IMPACT

SOLDIER CREEK DIVERSION UNIT
TOPEKA, KANSAS FLOOD PROTECTION PROJECT
P.L. 84-99 LEVEE REHABILITATION PROJECT
SHAWNEE COUNTY, KANSAS

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SOLDIER CREEK DIVERSION UNIT
TOPEKA, KANSAS FLOOD PROTECTION PROJECT
P.L. 84-99 LEVEE REHABILITATION PROJECT
SHAWNEE COUNTY, KANSAS

Section 1: INTRODUCTION

This Environmental Assessment provides information that was developed during the National Environmental Policy Act (NEPA) / Section 404 of the Clean of Water Act public interest review of the proposed Soldier Creek Diversion Unit, Topeka, Kansas Flood Protection Project, P.L. 84-99 Levee Rehabilitation Project.

Section 2: AUTHORITY

The Kansas City District – U.S. Army Corps of Engineers (CENWK), in cooperation with the project sponsor, North Topeka Drainage District proposes to construct the Soldier Creek Diversion Unit of the Topeka, Kansas Flood Protection Project (Federal levee), Levee Rehabilitation Project under the authority of Public Law 84-99 of the Flood Control Act of 1944.

The Topeka, Kansas Flood Protection Project, of which the Soldier Creek Diversion Unit is a part, was authorized as outlined by the Flood Control Act approved 22 June 1936 (House Document 195, 73rd Congress, 2nd Session). Additional Studies undertaken in the Kansas River Basin resulted in the development of the project which was recommended in 1947 and included in House Document 642, which was published in 1950. Subsequent to the July 1951 flood, and prior to authorization, modifications were again made in the proposed plan for the Topeka project. These modifications were outlined during Committee Hearings in May 1954 and the plan, as modified, was authorized by the Flood Control Act approved 2 September 1954 (House Document 642, 81st Congress, 2nd Session). The Soldier Creek Diversion Unit and the North Topeka Unit form a complete, independent flood protection system.

Section 3: PROJECT LOCATION

The Soldier Creek Diversion Unit of the Topeka, Kansas Flood Protection Project, Levee Rehabilitation Project is located in the northern part of the city of Topeka, along Soldier Creek in Sections 5, 6, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, Range 15 east and Sections 15, 16, 17 and 18, Range 16 east, all Township 11 south, Shawnee County, Kansas. Longitude -95.689878, Latitude 39.10248.

Section 4: EXISTING CONDITION

The Soldier Creek Diversion Unit of the Topeka, Kansas Flood Protection Project consists of 17.9 miles of earthen levee, 9.2 miles of improved channel, and 35 drainage structures. The Soldier Creek Diversion Unit of the Topeka, Kansas Flood Protection Project protects numerous commercial and industrial enterprises, the municipal airport, a major sewage treatment plant, city

streets, and county roads. The levee is operated and maintained by the local sponsor, the North Topeka Drainage District. After substantial rainfall fell in northeastern Kansas overnight between October 1 - 2, 2005, flash flooding occurred in several areas. The Soldier Creek Diversion Unit levee was overtopped during the event, and the Soldier Creek channel suffered severe erosion. In locations where the levee was overtopped, the levee crest suffered minor damage. Approximately 10 miles of levee was damaged by overtopping. The overtopping caused minor erosion of the earthen embankment, and completely washed away the crushed aggregate surfacing. The Soldier Creek channel also suffered severe erosion due to the flooding event. Approximately 10,000 feet of channel bank was damaged, and between 10 and 50 feet of bank has been eroded away, leaving near vertical banks In locations where the levee was overtopped, the levee crest suffered minor damage. Prior to the October 2005 event the levee provided an approximately 200 year level of flood damage protection and in their current damaged state was estimated to have a failure point at the 10-year event.

Section 5: PURPOSE & NEED FOR ACTION

The existing condition exposes all public and private infrastructure and agricultural croplands protected by the levee prior to the flood damage to a high level risk of future flooding. Failure to restore the flood damage reduction capability of the levee system would keep area residents livelihood and social well-being in turmoil, subject to the continuous threat of flooding until level of flood protection is restored. Failure to reconstruct the levee could adversely affect the tax base of the county 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. The project purpose and need is to rehabilitate the damaged levee and restore the associated social and economic benefits of the Congressionally-authorized project.

Section 6: ALTERNATIVES

Four alternatives were considered. Three build alternatives and the "No Action" Alternative as described below:

Alternative 1 is described in Section 7. Recommended Plan

Alternative 2. The proposed repair would consist of excavation of the remaining vertical channel slopes along the right and left banks and reconstruction of the channel slope to the original 1 (V) to 2 (H) levee slope with the original channel bottom width of 100 feet, with compacted material obtained from the excavation and borrow material provided by the sponsor. Areas where the crest has been damaged with overtopping would be graded, brought to the original elevation, and resurfaced with 6 inches of crushed aggregate surfacing. Stone slope protection would be placed on repaired channel slopes that were originally protected by stone slope protection.

Alternative 3. The proposed repair would consist of excavation of the remaining vertical channel slopes along the right and left banks (with the exception of areas in the vicinity of existing bridges) and reconstruction of the channel slope to a continuation of the 1 (V) to 3 (H) levee slope to the channel bottom with compacted material obtained from the excavation and borrow material provided by the sponsor. The channel bottom would be of varying width with smooth transitions. Channel damage in the vicinity of existing bridges would be brought to the original profile to protect the integrity of the bridge foundation features. Areas where the crest has been damaged with overtopping would be graded, brought to the original elevation, and resurfaced with 6 inches of crushed aggregate surfacing. Stone slope protection would be placed on

repaired channel slopes that were originally protected by stone slope protection.

Alternative 4 "No Action". No action would be taken to rehabilitate the damaged levee and channel.

Section 7: RECOMMENDED PLAN

The applicant has requested project authorization and funding from the U.S. Army Corps of Engineers under Public Law 84-99 of the Flood Control Act of 1944 for construction of Alternative 1 (Recommended Plan). The proposed repair would consist of excavation of the remaining vertical channel slopes along the right and left banks (with the exception of areas in the vicinity of existing bridges) and reconstruction of the channel slope to the original 1 (V) to 2 (H) levee slope to the channel bottom with compacted material obtained from the excavation and borrow material provided by the sponsor. The damaged areas would be repaired to a channel bottom 25 feet wider than the original channel (as opposed to the original 100 feet). Channel damage in the vicinity of existing bridges would be brought to the original profile to protect the integrity of the bridge foundation features. Areas where the crest has been damaged with overtopping would be graded, brought to the original elevation, and resurfaced with 6 inches of crushed aggregate surfacing. Stone slope protection would be placed on repaired channel slopes that were originally protected by stone slope protection.

Section 8: NATIONAL ENVIRONMENTAL POLICY ACT / SECTION 404 OF THE CLEAN WATER ACT (NEPA/404) REVIEW

As part of the NEPA/404 review for the proposed project, CENWK circulated the attached Public Notice dated August 21, 2007 (Appendix II / Enclosure 1). The Public Notice described the proposed Soldier Creek Diversion Unit of the Topeka, Kansas Flood Protection Project, P.L. 84-99 Levee Rehabilitation Project in detail and this enclosure also contains the mailing or notification list for which it was distributed. The following comments were received and evaluated from coordination of the Public Notice:

a. The Environmental Protection Agency (EPA) did not provide comments on the project.

b. The U.S. Fish and Wildlife Service (USFWS) in a letter dated September 20, 2007 (Appendix II / Enclosure 2) provided the following recommendations:

   COMMENT: USFWS recommended that riparian and wetland habitats should be avoided to the maximum extent practicable when selecting borrow sites for the proposed levee improvements. Compensatory mitigation should be undertaken for unavoidable impacts. Since channelization, levee construction and floodplain development have already resulted in dramatic loss of riparian and wetland habitats in the Kansas River basin within the project area, the applicant should focus on bare or cropland areas for borrow.
   RESPONSE: While some material will originate from the excavation of displaced material within the existing Soldier Creek channel, a majority of the borrow would come from nearby borrow areas on the Kansas River and/or Soldier Creek floodplain in bare or crop ground and, to the maximum extent practicable, would be selected to avoid adverse impacts to wetland and riparian habitats unless these offer opportunities for enhancement of habitat value or public recreation. When borrow areas are identified, resources agencies will be provided an opportunity to review and provide comments on them. The Corps Kansas City District will utilize our Standard Operating Procedures for

identification of potential borrow sites, which were developed in consultation with the resource agencies to avoid/and or minimize adverse environmental effects and take advantage of wetland enhancement opportunities where possible.

COMMENT: Levees and levee easements should be seeded with native, warm-season grasses such as buffalo grass (*Buchloe dactyloides*). Buffalo grass is tolerant, perennial, native, turf grass that reaches a height of 8-10 inches.
RESPONSE: Much of the project would involve excavation of the existing levee which is covered with brome/fescue grass and maintained in a mowed condition in compliance with inspection requirements of the P.L. 84-99 Levee Rehabilitation and Inspection Program. As no natural vegetation would be cleared, the Corps would not require that all disturbed areas be established with native vegetation. Should clearing of areas with natural vegetation be required to obtain borrow, the Corps would replant those areas with native vegetation.

COMMENT: The Corps should create wetland mitigation habitat to compensate for the loss of wetland acreage from construction of the projects in accordance with the USFWS Region 6 Wetland Mitigation Guidelines, generally at a minimum of 1.5:1 ratio for emergent wetlands and at 2:1 for forested wetland. If farmed wetland is directly impacted by borrow activities it should be mitigated at a 1.0 to 1.0 ratio.
RESPONSE: While no impacts to wetlands have been identified with the project as proposed, should future identification of borrow sites identify potential wetland impacts, the action would be coordinated with the resource agencies and evaluated for compliance with the Section 404(b)(1) Guidelines, if appropriate unavoidable impacts would be mitigated at minimum in accordance with levels recommended by USFWS.

COMMENT: All losses of native vegetation should be mitigated. A mitigation plan should be developed in coordination with the Service, EPA, and KDWP. If possible, establish mitigation areas prior to the onset of impacts from the project.
RESPONSE: See response to second USFWS comment above.

COMMENT: Best management Practices to prevent the transport of invasive species to or from the construction sites should be included as an integral component of the project.
RESPONSE: Concur. These requirements will be included in the project construction specifications.

COMMENT: Establish native vegetation riverward of levee segments where riparian woodlands are sparse or nonexistent or where invasive species, i.e. reed canary grass, has become established.
RESPONSE: See response to second USFWS comment above.

COMMENT: USFWS noted that the proposed project could potentially affect the recently de-listed bald eagle (*Haliaeetus leococephalus*). USFWS recommended that the Corps review the Draft National Bald Eagle Management Guidelines (May 2007) to identify measure which would prevent harm or injury to the bald eagle. These guidelines were developed to identify measures which minimize impacts to bald eagles, particularly where they may constitute a "disturbance", which is prohibited by the Bald and Golden Eagle Protection Act.
RESPONSE: The Corps has determined that the project as proposed would not cause injury or substantially interfere with bald eagle breeding, feeding, or sheltering behavior, nor would it cause or be likely to cause, a loss of productivity or nest abandonment. The

closest active nest to the project site is located 2 miles downstream (personal communication David Hoover, OD-E with Nate Davis, Kansas Department of Wildlife and Parks). The project would not involve the clearing of any potential hunting perches or roost trees. Although construction activity is anticipated to occur during the fall/winter/early spring season when migratory bald eagles are found in greater numbers along the Kansas River, the activity would be short term, occur during daylight hours, and disturbance associated with construction equipment noise/movement would be similar to typical vehicle traffic on adjacent roadways in the project area. Based on our review, the Corps has determined that the proposed activity is consistent with recommendations contained in the Draft National Bald Eagle Management Guidelines, May 2007.

COMMENT: All disturbed areas should be immediately planted with native vegetation following construction to prevent erosion and the establishment of invasive species. Planted or seeded vegetation should be endemic to an area within 100 miles of the project site to protect local genotypes.
RESPONSE: See response to second USFWS comment above.

COMMENT: The potential use of borrow sites for wetland and aquatic habitat enhancement and public recreation should be investigated with the project sponsors and borrow site owners.
RESPONSE: When borrow areas are identified, resources agencies will be provided an opportunity to review and provide comments on them. The Corps Kansas City District will utilize our Standard Operating Procedures for identification of potential borrow sites, which were developed in consultation with the resource agencies to avoid/and or minimize adverse environmental effects and take advantage of wetland enhancement opportunities where possible.

COMMENT: If possible, establish mitigation areas prior to the onset of impacts from the project to lessen the impacts to wildlife from habitat loss.
RESPONSE: The project as proposed would result in minor short term construction related impacts to wildlife in the project area. The recommended plan would result in no impacts to mitigable resources as defined in USACE Planning regulations or under Section 404 of the Clean Water Act. Therefore, no mitigation measures are warranted or proposed. When borrow areas are identified, resources agencies will be provided an opportunity to review and provide comments on them. The Corps Kansas City District will utilize our Standard Operating Procedures for identification of potential borrow sites, which were developed in consultation with the resource agencies to avoid/and or minimize adverse environmental effects and take advantage of wetland enhancement opportunities where possible.

COMMENT: Use a floating silt curtain around the perimeter of the work area to reduce the migration of turbidity and sediment beyond the construction zone.
RESPONSE: Best Management Practices in accordance with the project's National Pollutant Discharge Elimination System permit will be used, to include the use of a floating silt curtain adjacent to the work area where appropriate.

COMMENT: Focus on bare or cropland for borrow. Riparian and wetland habitats should be avoided to the maximum extent practicable.
RESPONSE: See response to first USFWS comment above.

COMMENT: Removal of woodlands and other native vegetation should be avoided where possible. If avoidance is not possible a mitigation plan should be developed in coordination with the USFWS, EPA, and Kansas Department of Wildlife and Parks. Woody vegetation and native grasses should be replaced by establishing two acres of native vegetation for every acre impacted.
RESPONSE: See response to second USFWS comment above.

COMMENT: USFWS recommended that construction activities should avoid the general spawning dates of April 1 – July 31 and migratory bird nesting activity from April 1 – July 15.
RESPONSE: Work directly in the Soldier Creek channel would occur outside the general spawning dates of April 1 – July 31. The project as proposed has very little if any potential to result in take as defined by the MBTA. Much of the work would occur on grassed levee slopes which are routinely mowed and provide minimal habitat for migratory birds. Areas used for borrow are typically located on bare ground or crop ground areas. These areas also have minimal nesting habitat value for migratory birds. In addition, clearing of natural vegetation would be minimal and avoided to the extent practicable. Should changed conditions result in activities which could potentially result in a take as defined by the MBTA, a Corps biologist would complete a field survey of the project site, and if warranted, conduct additional coordination with USFWS.

COMMENT: USFWS recommended that the Corps construct floodplain benches within the over widened channel to concentrate low flows into a more natural stream configuration (pattern, profile, and dimension) to provide habitat, and to promote water quality and stream stability.
RESPONSE: By widening the stream bottom an additional 25 feet the channel will be less restricted, have greater opportunity to meander and a more natural low flow channel should become established, especially in the segments upstream of those areas influenced by the back water of the Kansas River.

c. Native American Tribes: No comments were received from any Native American Tribes.

d. State and Local Agencies: The Kansas Department of Wildlife and Parks (KDWP) in a letter dated 30 August 2007 (Appendix II, Enclosure 4) provided the following comments:

COMMENT: KDWP considers this project to be Impact Level 1, meaning minor impacts to terrestrial or aquatic wildlife or their habitats will occur.
RESPONSE: Concur.

COMMENT: KDWP recommended avoiding disturbance to the banks and bed of Soldier Creek during the general spawning period from April 1 – July 31.
RESPONSE: Work directly in the Soldier Creek channel would occur outside the general spawning dates of April 1 – July 31.

COMMENT: KDWP recommended minimizing encroachment or development in floodplains.
RESPONSE: The project as proposed would restore an existing flood damage reduction system. It would not expand the size of the protected area or increase the level of protection. The Corps has determined that the proposed project is in compliance with Executive Order 11988 on Floodplain Management.

COMMENT: KDWP recommended minimizing disturbance to riparian or native hardwood timber, protect warm-season pastures or rangeland, do not fill wetlands or areas that routinely pond water, install appropriate temporary erosion measures (e.g. silt fencing, hay bale ditch checks, erosion control blankets, rock ditch checks, etc.) to control soil erosion and protect water quality during construction, revegetate all disturbed areas with similar native species.
RESPONSE: The project as proposed would have no effect on riparian or native hardwood timber. Standard Operating Procedures for identification of potential borrow sites, which were developed in consultation with the resource agencies to avoid/and or minimize adverse environmental effects, including wetlands and riparian timber would be used to identify borrow sites. The project would not affect warm-season pastures or rangeland. The project would require a National Pollutant Discharge Elimination System (NPDES) permit and the development of a construction site storm water management plan. This plan would include measures to avoid and/or minimize water quality impacts to include revegetation of all disturbed areas upon completion of construction.

COMMENT: KDWP noted that no information had been provided on the source of fill material needed for the project and requested that they review these sites, when identified, for potential impacts to threatened or endangered species.
RESPONSE: When borrow areas are identified, resources agencies will be provided an opportunity to review and provide comments on them. The Corps Kansas City District will utilize our Standard Operating Procedures for identification of potential borrow sites, which were developed in consultation with the resource agencies to avoid/and or minimize adverse environmental effects.

COMMENT: KDWP noted that no KDWP permits or special authorizations are required.
RESPONSE: Comment noted.

COMMENT: KDWP stated that if construction is not started within one year of the date of this review or if plans change, the Corps should contact KDWP to verify continued applicability of the review assessment.
RESPONSE: Concur.

The City of Topeka in a letter dated September 18, 2007 (Appendix II, Enclosure 4) provided the following comment:

COMMENT: The City of Topeka noted that they supported the proposed repair project and recommended favorable consideration of the project sponsor's permit request.
RESPONSE: Comment noted.

e. General Public: No written comments were received from the General Public.

Section 9: AFFECTED ENVIRONMEMENT:

A wide variety of resources along with the related environmental, economic and social effects were considered during the development and evaluation of project alternatives. These include: atmospheric quality; noise levels, water quality; water supply; soil control; fish and wildlife; vegetation; energy resources; wetlands; geological resources; agricultural activity; employment; tax base; public service; growth patterns; land use; recreation; archaeological and historical

resources; flood control; esthetics; navigation; transportation; health and safety; community service; population density and other items identified through public and agency comments.

The project area consists of urban industrial/commercial/residential areas and agricultural row crop ground located on the Kansas River flood plain at the confluence of Soldier Creek and the Kansas River. The project area involves approximately 60 acres. Additional borrow area(s), whose exact size/location has not been identified at this time, would be needed under each of the build alternatives. The Corps Kansas City District's Standard Operating Procedures for identification of potential borrow sites, which was developed in consultation with the resource agencies to avoid/and or minimize adverse environmental effects and take advantage of wetland enhancement opportunities where possible would be used for this project for either build alternative, if selected.

Section 10: ENVIRONMENTAL CONSEQUENCES:

Primary resources of concern identified during the evaluation included: noise levels, water quality, fish and wildlife, vegetation, wetlands, geologic resources, agricultural activity, archeological and historical resources, flood control, economics and esthetics. Projects impacts to other resources were determined to be no effect.

Noise levels

The recommended plan, Alternative 1 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, heavy truck and personal vehicle traffic which is routinely operated in the project area. Work would occur during daylight hours. Areas sensitive to increased noise levels in the project area, i.e., residences, businesses, churches, park areas would experienced minor short term construction related noise impacts similar to those one would currently expect to experience in the project area.

Alternative 2 would result in noise impacts as described above for Alternative 1.

Alternative 3 would result in noise impacts as described above for Alternative 1.

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

Water quality

The recommended plan, Alternative 1 would result in minor, temporary, construction related adverse impacts to water quality resulting from site runoff increasing turbidity in Soldier Creek. The 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. The NPDES permit would be obtained prior to project construction. All appropriate measures would be taken to minimize erosion and storm water discharges during and after construction. The recommended plan does involve placement of fill material in a Water of the United States and therefore, Section 401 Water Quality Certification is required. The recommended plan does involve placement of fill material in a Water of the United States. Therefore, authorization under Section 404 of the Clean Water Act is required.

Alternative 2 would result in similar impacts as described for Alternative 1. As with Alternative 1, 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. Alternative 2 would require authorization under Sections 401 and 404 of the Clean Water Act

Alternative 3 would result in similar impacts as described for Alternative 1. As with Alternative 1, 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. Alternative 3 would require authorization under Sections 401 and 404 of the Clean Water Act

The "No Action" Alternative would have no effect on water quality.

Fish and wildlife

The recommended plan, Alternative 1 would result in minor, temporary, construction related adverse impacts to fish and wildlife resources. These impacts would be related to noise/visual disturbance and decreased water quality during the construction activity. The proposed activity would occur on the existing levee slopes and within the highly modified channel of Soldier Creek. These areas have minimal value as fish and wildlife habitat. The construction activity would disturb fishery resources in the immediate project area and fill placement could actually cover some less mobile aquatic organisms. Increased turbidity could temporarily impair feeding behavior of sight feeding fish species.

The recommended plan 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.

Alternative 2 would result in similar impacts as described for Alternative 1.

Alternative 3 would result in similar impacts as described for Alternative 1.

The "No Action" Alternative would have no effect on fish and wildlife resources.

Vegetation

The recommended plan, Alternative 1 would re-establish vegetation on the levee slopes. No natural vegetation would be cleared to construct the proposed project. When borrow areas are identified, resources agencies will be provided an opportunity to review and provide comments on them. The Corps Kansas City District will utilize our Standard Operating Procedures for identification of potential borrow sites, which were developed in consultation with the resource agencies to avoid/and or minimize adverse environmental effects.

Alternative 2 would result in similar impacts as described for Alternative 1.

Alternative 3 would result in similar impacts as described for Alternative 1.

The "No Action" Alternative would have no effect on vegetation.

Wetlands

The recommended plan, Alternative 1 would have no effect on wetlands.

Alternative 2 would have no effect on wetlands.

Alternative 3 would have no effects on wetlands.

The "No Action" Alternative would have no effects on wetlands.

Geologic resources
The recommended plan, Alternative 1 would require a total of approximately 208,496 cubic yards of compacted fill and approximately 31,267 cubic yards of rock riprap. This material would primarily come from commercial quarries, excavation of displaced material within the channel and additional earthen material excavated from nearby borrow sources.

Alternative 2 would require a total of approximately 393,215 cubic yards of compacted fill and approximately 31,267 cubic yards of rock riprap. This material would primarily come from commercial quarries, excavation of displaced material within the channel and additional earthen material excavated from nearby borrow sources.

Alternative 3 would require a total of approximately 189,859 cubic yards of compacted fill and approximately 41,800 cubic yards of rock riprap. This material would primarily come from commercial quarries, excavation of displaced material within the channel and additional earthen material excavated from nearby borrow sources.

The "No Action" Alternative would have no effect on geologic resources.

Agricultural activity
The recommended plan, Alternative 1 would have no adverse effect on agricultural activity. Agricultural activity would benefit as a result of the flood damage reduction capability being restored.

Alternative 2 would result in similar impacts/benefits as described for Alternative 1.

Alternative 3 would result in similar impacts/benefits as described for Alternative 1.

The "No Action" Alternative would adversely impact agricultural activity by exposing the cropland within the protected area to the potential of flooding. If the levee would fail, 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 (Alternative 1) would result in no effects to archaeological or historical resources. The National Register of Historic Places and the Federal Register have been checked to determine if any properties listed or proposed for listing in the National Register would be impacted by the project. In addition, the State Historic Preservation Officer has been contacted to determine if any properties eligible or potentially eligible for listing in the National Register would be impacted by the work.

In response to the Kansas City District's inquiry, the Kansas State Historic Preservation Office (KS-SHPO) provided the District with written responses dated August 30, 2007 (Appendix II / Enclosure 4) which stated that the project as proposed should have no effects on properties listed on the National Register of Historic Places or otherwise identified in their files. KS-SHPO stated that their office had no objection to implementation of the project. The Kansas City District's

evaluation of potential impacts to historic properties indicates that the project would not impact any properties listed, proposed for listing, eligible for listing, or potentially eligible for listing in the National Register of Historic Places. Additional coordination with the KS-SHPO concerning cultural resources would be completed after borrow sites are identified and prior to any project construction.

Alternatives 2 and 3 along with the "No Action" alternative would result in no effects to archaeological or historical resources.

Flood control

The recommended plan (Alternative 1) would return an approximately 200 year level of flood protection to the existing levee system. Alternative 1 is located in the base floodplain and subject to Executive Order 11988, "Floodplain Management". The recommended plan would restore the level of flood protection that existed prior to the flood. In addition, since the proposed levee repair would restore this levee to its near original condition, no increase in floodwater surface elevations would occur. As the recommended plan would not directly or indirectly support more development in the floodplain or encourage additional occupancy and/or modification of the base floodplain, the Corps has determined that the recommended plan complies with the intent of Executive Order 11988.

Alternative 2 would result in the impacts described above for the recommended plan.

Alternative 2 would result in the impacts described above for the recommended plan.

The "No Action" Alternative would take into account that damaged levee is estimated to currently offer a 6 to 10 year level of flood protection as compared to the pre-damaged levee condition which provided approximately the 200 year level of flood protection. The "No Action" Alternative would continue to expose all public and private infrastructure and agricultural croplands protected by the levee prior to the flood damage to a high level risk of future flooding.

Economics

Based on the Corps' economic analysis, the recommended plan (Alternative 1) is economically justified with a benefit to cost ratio of 18.0. This is the highest benefit to cost ratio of the three alternatives considered.

Based on the Corps' economic analysis, Alternative 2 – In-place Repair resulted in a benefit to cost ratio of 13.0, substantially lower than the recommended plan.

Based on the Corps' economic analysis, Alternative 3 – In-place Repair resulted in a benefit to cost ratio of 16.0, substantially lower 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 protected by the levee prior to the flood damage 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 level of flood protection is restored. Failure to reconstruct the levee could adversely affect the tax base of the county 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.

Esthetics
The recommended plan, Alternative 1 would result in very minor temporary adverse esthetic impacts associated with the construction activity.

Alternative 2 would result in similar impacts as described for Alternative 1.

Alternative 3 would result in similar impacts as described for Alternative 1.

The "No Action" Alternative would have no effect

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

Alternative 2 has very similar environmental impact as the recommended plan (Alternative 1) and Alternative 3. Alternative 2 has primarily not been recommended because it would provide lower economic benefits than the recommended plan. A greater amount of fill material and excavation would be needed by Alternative 2 to rebuild the levee/channel, requiring a more extensive borrow area. Alternative 2 would rehabilitate the damaged levee and restore the associated social and economic benefits, but would have higher environmental and economic costs.

Alternative 3 - has very similar environmental impact as the recommended plan (Alternative 1) and Alternative 2. Alternative 3 has primarily not been recommended because it would provide lower economic benefits than the recommended plan. A greater amount of fill material and excavation would be needed by Alternative 3 to rebuild the levee/channel, requiring a more extensive borrow area. Alternative 3 would rehabilitate the damaged levee and restore the associated social and economic benefits, but would have higher environmental and economic costs.

The "No Action" Alternative has not been recommended because it would not meet the project purpose and need of rehabilitating the damaged flood damage reduction project to its original condition and therefore restoring its associated social and economic benefits. This alternative is not sufficient to retain the integrity of the flood protection intended for this project. The damage suffered along the crest of the levee due to overtopping greatly reduces accessibility to the crest of the levee during wet conditions, hindering any flood fighting efforts that may be necessary. The eroded portions of the Soldier Creek channel would likely continue to degrade during high flow events on Soldier Creek, and would negatively impact the integrity of the levees protecting the surrounding areas. 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 protected by the levee prior to the flood damage 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 level of flood protection is restored. Failure to reconstruct the levee/channel could adversely affect the tax base of the county 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.

Section 12: CUMULATIVE IMPACTS

Cumulative impact is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions

(40CFR 1508.7). Prior to Europeans settling in the area, the Kansas River and its floodplain was unaltered 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 Kansas River and Soldier Creek watersheds. Since the late 1940s the Corps has constructed water resource development and flood damage reduction projects on the Kansas River and its tributaries. These include Kanopolis Lake, Wilson Lake, Milford Lake, Tuttle Creek Lake, Perry Lake, Clinton Lake, and Flood Damage Reduction Projects at Salina, Abilene, Junction City, Manhattan, Topeka, Lawrence and Kansas City. Currently the Corps with local sponsors are undertaking studies of the Federal levees at Manhattan, Topeka and Kansas City to determine if measure to improve the reliability of these existing flood damage reduction projects is warranted. In addition, 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 would 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 on the Kansas 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 would continue to provide rehabilitation assistance to Federal and non-Federal levee sponsors along the Kansas River which participate in the Public Law 84-99 Program when their flood damage reduction projects suffer flood damage. The project as proposed would restore the flood damage reduction capability of the existing levee. Resources typically affected by these type projects may include wetlands, flood plain values, water quality, fish and wildlife habitat. Of the reasonably foreseeable projects and associated impacts that would be expected to occur, further urbanization of the floodplain would probably have the greatest impact on these resources in the future. One example, although not a Corps study at this time, are local effort to study the potential for additional flood damage reduction projects upstream from the existing levee system on the Kansas River at Kansas City. Outside the ever expanding urban areas there is little potential in the future for the construction of additional agricultural levees, major reservoirs, major wetland conversions, or clearing of riparian timber along the Kansas River. The adverse effects associated with the proposed project are short term/minor and related to project construction. These minor adverse effects and would be greatly offset by restoring the flood damage reduction capability, and its associated social and economic benefits, of the existing levee system. No significant cumulative impacts associated with the proposed rehabilitation of the existing levee system have been identified.

Section 13: MITIGATION MEASURES

The recommended plan would result in no impacts to mitigable resources as defined in USACE Planning regulations or under Section 404 of the Clean Water Act. Therefore, no mitigation measures are warranted or proposed.

Section 14: COMPLIANCE WITH ENVIRONMENTAL QUALITY STATUTES

Compliance with Designated Environmental Quality Statutes that have not been specifically addressed earlier in this report are covered in the following Table:

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.

Section 15: CONCLUSION & RECOMMENDATION

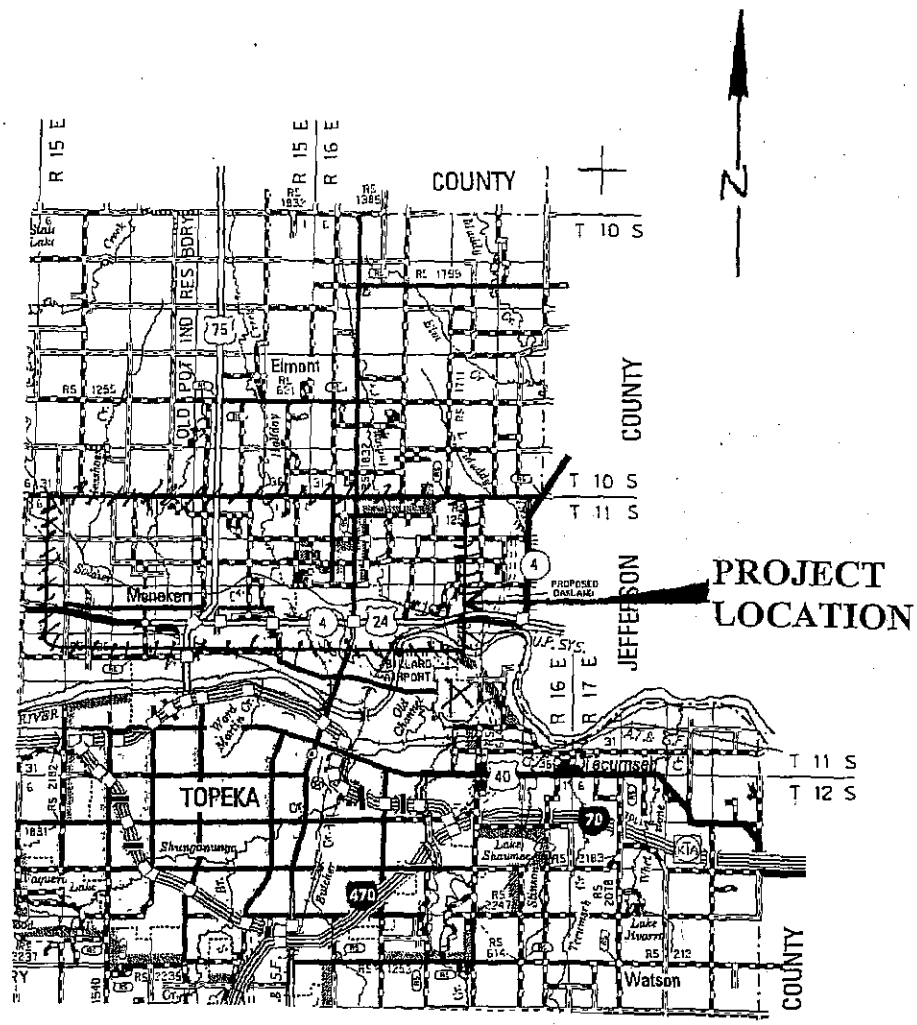
Flood damage reduction level achieved by the recommended plan (Alternative 1) would be the same as with Alternatives 2 and 3 and the original pre-flood levees. The recommended plan would result in no impacts to any Federally-listed threatened or endangered species or their habitat. The recommended plan would result in no impacts to any properties listed, proposed for listing, eligible for listing, or potentially eligible for listing in the National Register of Historic Places. Areas within the constructed Soldier Creek channel damaged by flooding would be

temporarily disturbed by the proposed construction activity. The adverse effects associated with the proposed project are long-term/minor associated with the loss of agricultural cropland, or short term/minor and related to project construction. These minor adverse effects and would be greatly offset by restoring the flood damage reduction capability, and its associated social and economic benefits, of the existing levee system. Alternative 1 meets the project purpose and need of rehabilitating the flood damage reduction capability, and its associated social and economic benefits, of the existing levee system. Of the four (4) alternatives considered, Alternative 1 is recommended because it requires the least amount of fill material and excavation to construct, had the lowest costs, and the highest cost/benefit ratio.

Based on coordination with the resource agencies and input gained through a public interest review, as documented in this Environmental Assessment, the Kansas City District – Corps of Engineers has made a preliminary determination that this project would have no significant impacts on the human environment including natural and cultural resources and Federally-listed threatened and endangered species; therefore, a Finding of No Significant Impact (FONSI) has been prepared. This NEPA decision document will be forwarded to the District Engineer with a recommendation for approval.

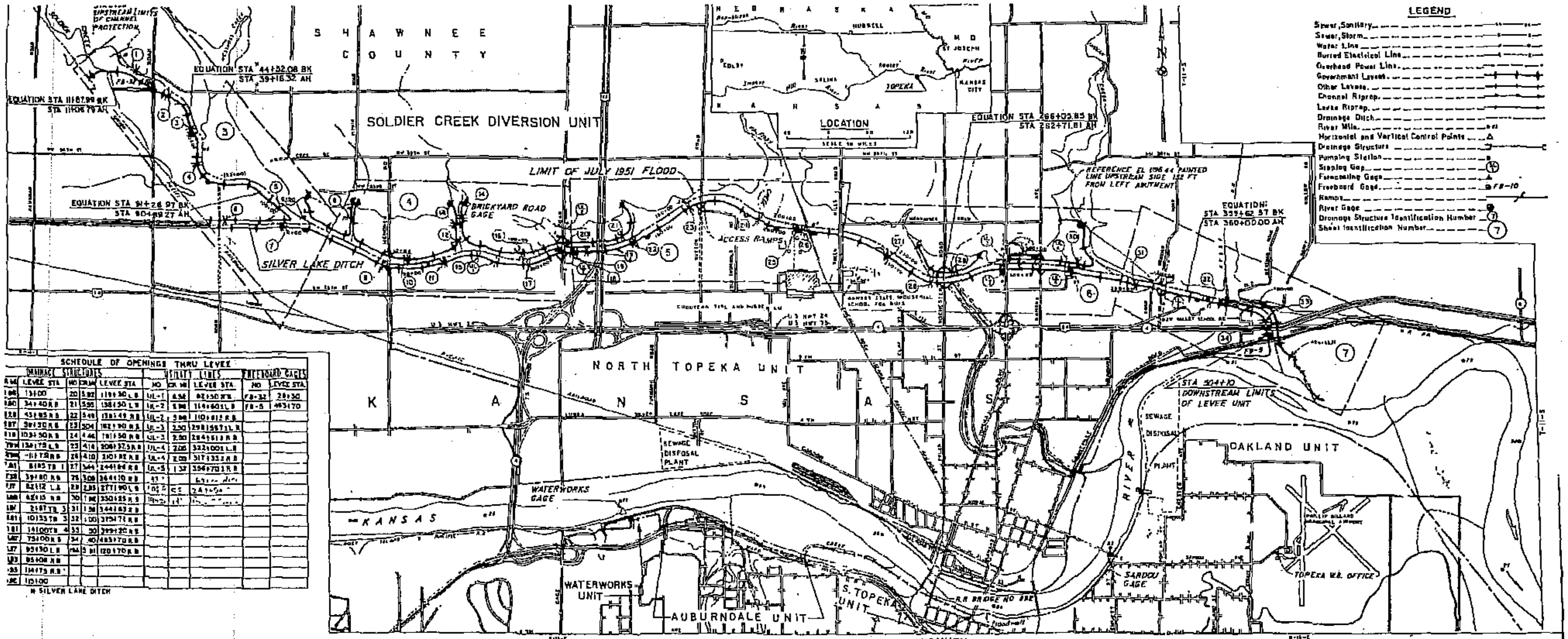
APPENDIX I – PROJECT DRAWINGS

Soldier Creek Diversion Unit
Topeka, Kansas Flood Protection Project
P.L. 84-99 Levee Rehabilitation Project
Shawnee County, Kansas
June 2008



The Soldier Creek Diversion Unit of the Topeka, Kansas Flood Protection Project is located in the northern part of the city of Topeka, along Soldier Creek in Sections 5, 6, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, Range 15 east and Sections 15, 16, 17 and 18, Range 16 east, all Township 11 south, Shawnee County, Kansas. Longitude -95.689878, Latitude 39.10248.

PERMIT NO. 2007-1097
BY NORTH TOPEKA DRAINAGE DISTRICT
FOR LEVEE REPAIR
SOLDIER CREEK
SHAWNEE COUNTY, KANSAS
SHEET 1 OF 5
DATED 21 AUGUST 2007



GENERAL NOTES

This sheet compiled from U.S. Geological Survey quadrangles Topeka, Silver Lake and Grantville, with revisions in the Kansas River Flood Plain from Aerial Survey dated Nov and Dec 1954.
Elevations, referred to mean sea level, are based on the U.S. Coast and Geodetic Survey 1929 general adjustment.

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OPN-A-12-0009	Location, Vicinity and Index	1
OPN-A-12-0010	Contracts	2
OPN-A-12-0201	Plan, Profiles and Underground Explorations—Levees and Channels—Channel Sta 0100 to Sta 101+24.40	3
OPN-A-12-0202	Plan, Profiles and Underground Explorations—Levees and Channels—Channel Sta 101+24 to Sta 113+00	4
OPN-A-12-0203	Plan, Profiles and Underground Explorations—Levees and Channels—Channel Sta 113+00 to Sta 223+00	5
OPN-A-12-0204	Plan, Profiles and Underground Explorations—Levees and Channels—Channel Sta 223+00 to Sta 332+00	6
OPN-A-12-0205	Plan, Profiles and Underground Explorations—Levees and Channels—Channel Sta 332+00 to Sta 420+00	7

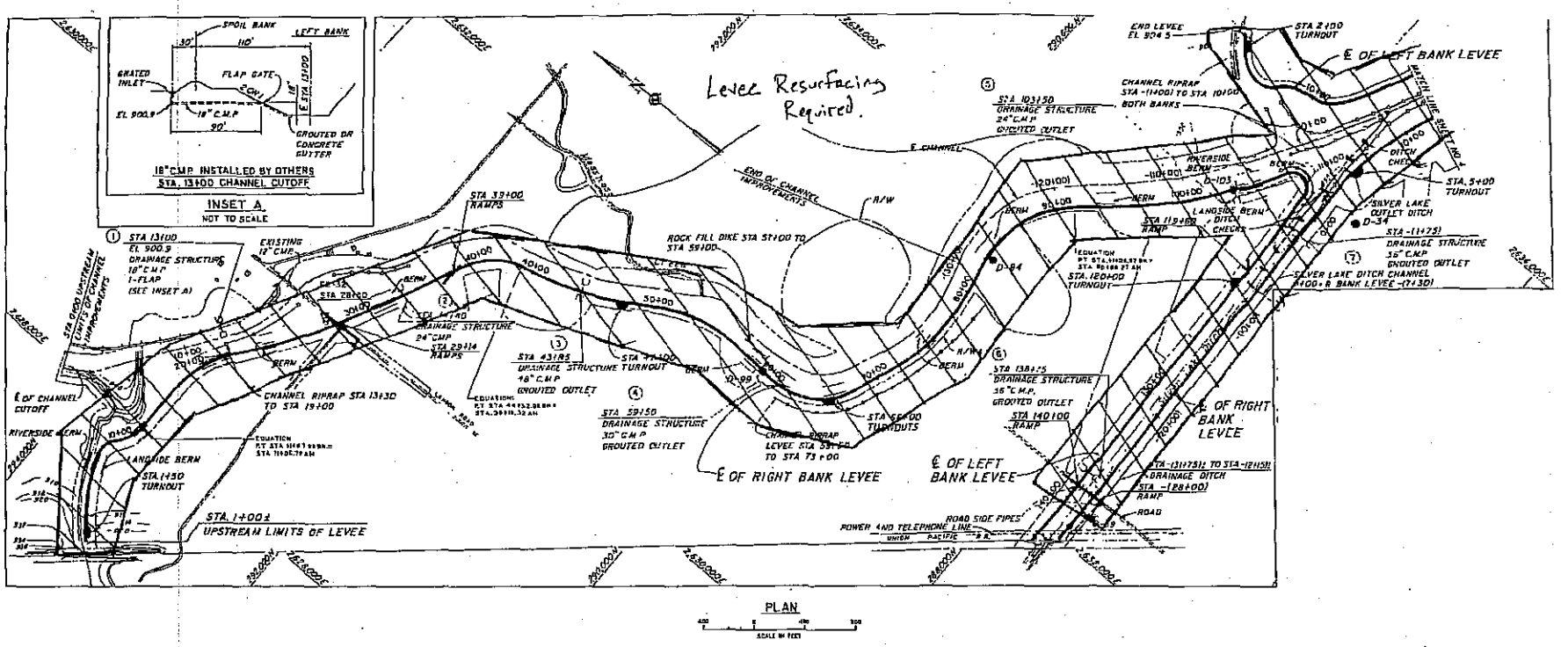
SYM	DESCRIPTION	DATE	APP'D
	REVISIONS		

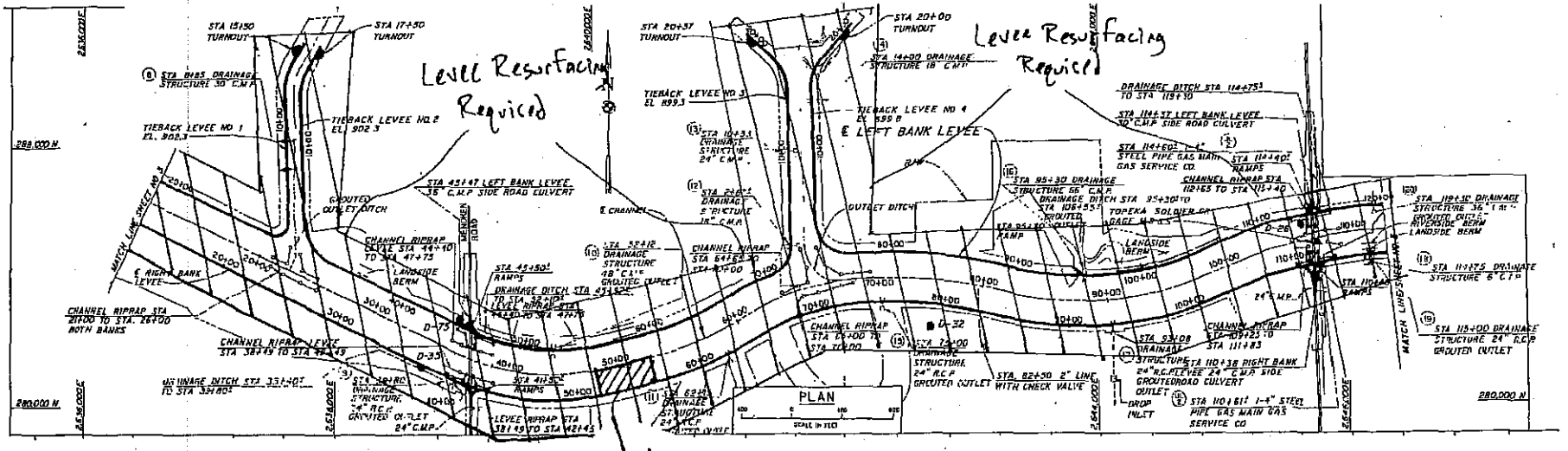
OPERATIONAL DRAWING
TOPEKA, KANSAS FLOOD PROTECTION PROJECT
SOLDIER CREEK UNIT

LOCATION, VICINITY AND INDEX

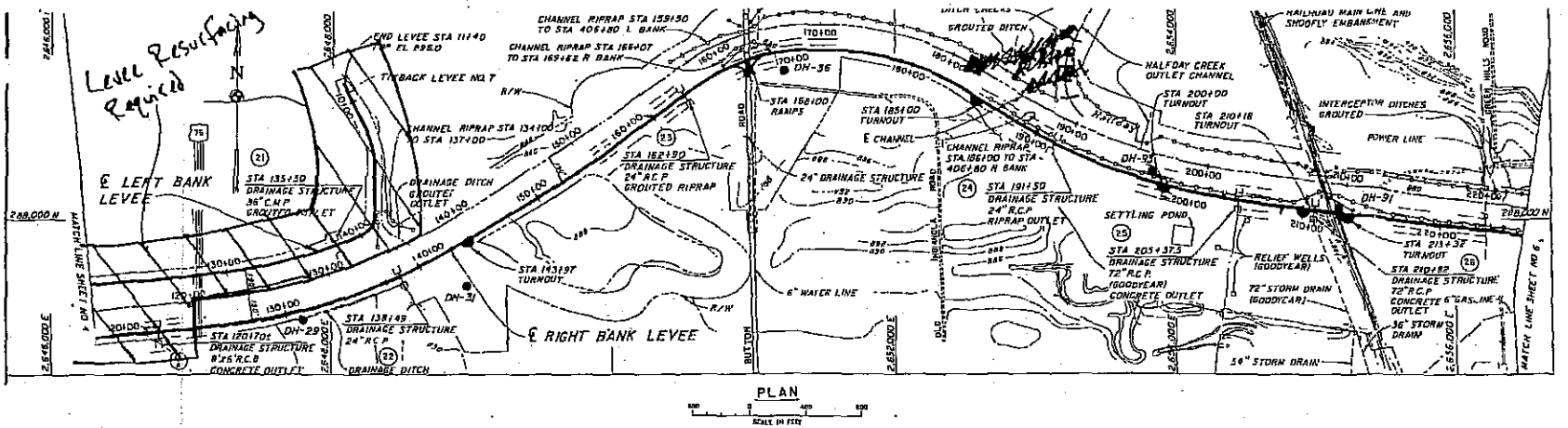
In 7 sheets — Sheet No. 1 — Scale: as shown
CORPS OF ENGINEERS U.S. ARMY
KANSAS CITY DISTRICT
SEPTEMBER 1978
OPN-A-12-0009

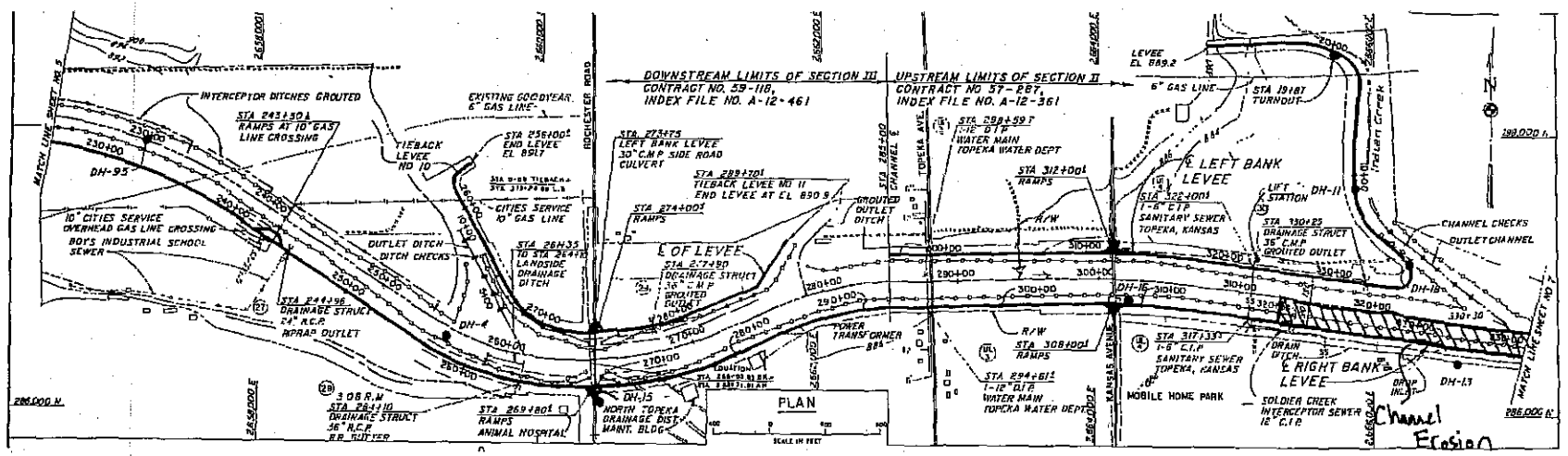
APPLICATION NO. 2007-1097
BY NORTH TOPEKA DRAINAGE DISTRICT
FOR LEVEE REPAIR
SOLDIER CREEK
SHAWNEE COUNTY, KANSAS
SHEET 2 OF 5
DATED 21 AUGUST 2007



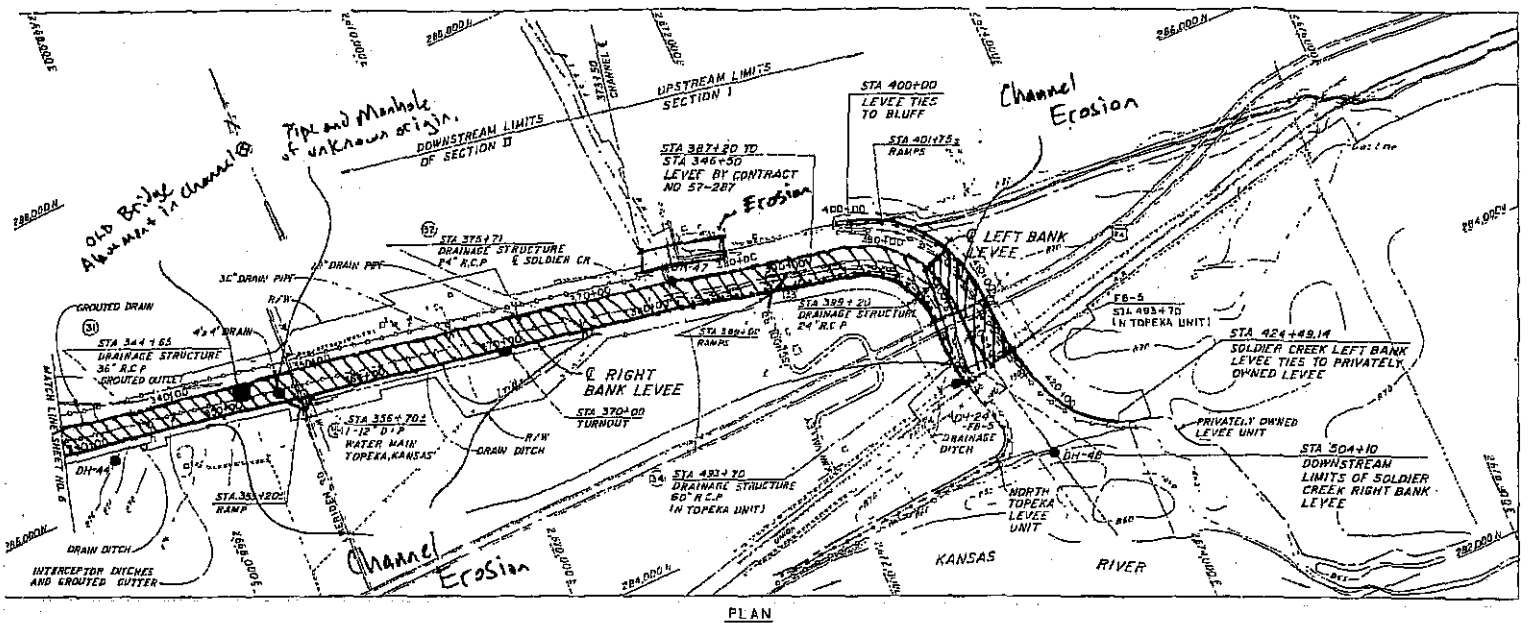


PERMIT NO. 2007-1097
BY NORTH TOPEKA DRAINAGE DISTRICT
FOR LEVEE REPAIR
SOLDIER CREEK
SHAWNEE COUNTY, KANSAS
SHEET 3 OF 5
DATED 21 AUGUST 2007

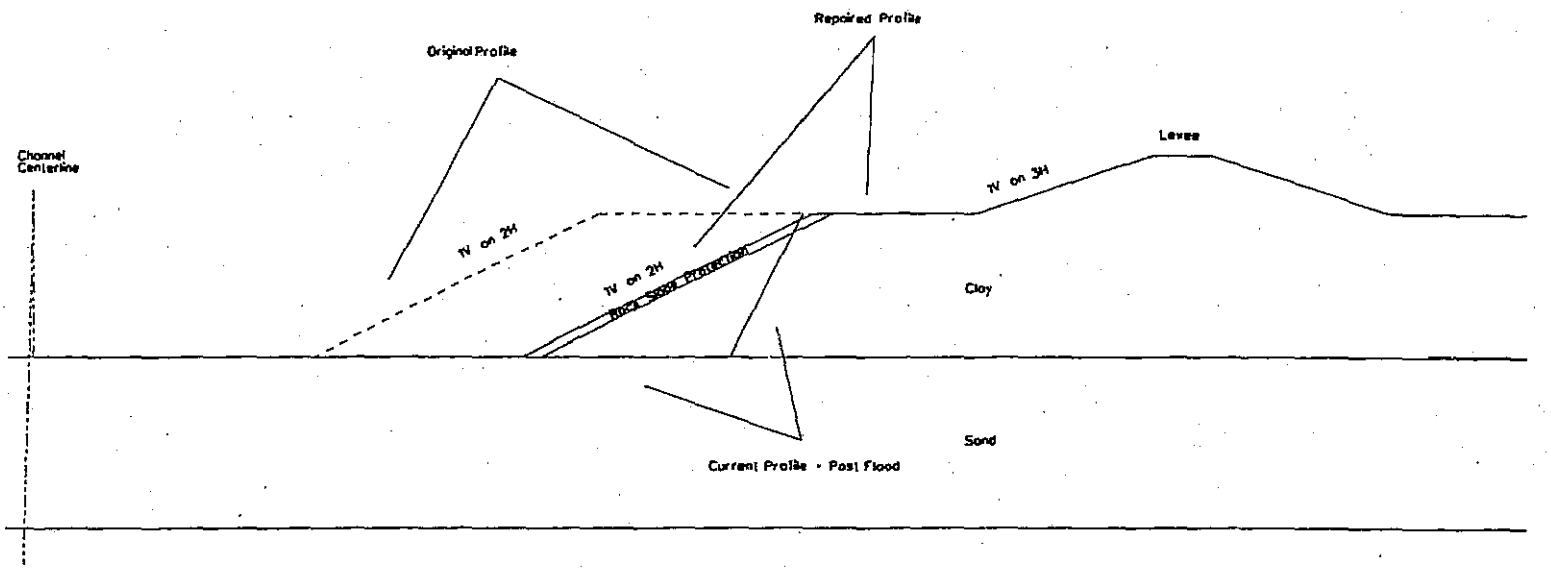




PERMIT NO. 2007-1097
BY NORTH TOPEKA DRAINAGE DISTRICT
FOR LEVEE REPAIR
SOLDIER CREEK
SHAWNEE COUNTY, KANSAS
SHEET 4 OF 5
DATED 21 AUGUST 2007



PLAN



TYPICAL CROSS SECTION

PERMIT NO. 2007-1097
BY NORTH TOPEKA DRAINAGE DISTRICT
FOR LEVEE REPAIR
SOLDIER CREEK
SHAWNEE COUNTY, KANSAS
SHEET 5 OF 5
DATED 21 AUGUST 2007

APPENDIX II – NEPA / SECTION 404 CWA REVIEW

Soldier Creek Diversion Unit
Topeka, Kansas Flood Protection Project
P.L. 84-99 Levee Rehabilitation Project
Shawnee County, Kansas
June 2008

PUBLIC NOTICE

Permit No. 2007-1097
Issue Date: August 21, 2007
Expiration Date: September 20, 2007

US Army Corps
of Engineers
Kansas City District

30-Day Notice

JOINT PUBLIC NOTICE: This public notice is issued jointly with the Kansas Department of Health and Environment. The Department of Health and Environment will use the comments to this notice in deciding whether to grant Section 401 water quality certification. Commenters are requested to furnish a copy of their comments to the Kansas Department of Health and Environment, Bureau of Water - - Watershed Management Section, 1000 SW Jackson Street, Suite 420, Topeka, Kansas 66612-1367.

ACTION AGENCY:
Kansas City District, Corps of Engineers
700 Federal Building
Kansas City, Missouri 64106-2896

APPLICANT:
North Topeka Drainage District
Mr. Ron Meier, President
2123 NW 48th Street
Topeka, Kansas 66608

PROJECT LOCATION (As shown on the attached drawings): The Soldier Creek Diversion Unit of the Topeka, Kansas Flood Protection Project is located in the northern part of the city of Topeka, along Soldier Creek in Sections 5, 6, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, Range 15 east and Sections 15, 16, 17 and 18, Range 16 east, all Township 11 south, Shawnee County, Kansas. Longitude -95.689878, Latitude 39.10248.

AUTHORITY: Section 404 of the Clean Water Act (33 USC 1344) and P.L. 84-99 of the Flood Control Act of 1944.

The Topeka, Kansas Flood Protection Project, of which the Soldier Creek Diversion Unit is a part, was authorized as outlined by the Flood Control Act approved 22 June 1936 (House Document 195, 73rd Congress, 2nd Session). Additional Studies undertaken in the Kansas River Basin resulted in the development of the project which was recommended in 1947 and included in House Document 642, which was published in 1950. Subsequent to the July 1951 flood, and prior to authorization, modifications were again made in the proposed plan for the Topeka project. These modifications were outlined during Committee Hearings in May 1954 and the plan, as modified, was authorized by the Flood Control Act approved 2 September 1954 (House Document 642, 81st Congress, 2nd Session). The Soldier Creek Diversion Unit and the North Topeka Unit for a complete, independent flood protection system.

ACTIVITY (As shown on the attached drawings): **PROPOSED WORK:** The applicant has requested project authorization and funding from the U.S. Army Corps of Engineers under Public Law 84-99 of the Flood Control Act of 1944 for construction to repair sections of the Soldier Creek Diversion Unit levee and channel damaged by high flows in an October 2005 flood event. Project rehabilitation cost under this program for this Federally constructed levee is 100% Federal, with the exception of lands, easements, right-of-ways, and borrow which must be provided by the local sponsor. The levee is operated and maintained by the local sponsor, the North Topeka Drainage District. The Soldier Creek Diversion Unit consists of 17.9 miles of earthen levee, 9.2 miles of improved channel, and 35 drainage structures. In locations where the levee was overtopped, the levee crest suffered minor damage. Approximately 10 miles of levee was damaged by overtopping. The overtopping caused minor erosion of the earthen embankment, and completely washed away the crushed aggregate surfacing. The Soldier Creek channel also suffered severe erosion due to the flooding event. Approximately 10,000 feet of channel bank was damaged, and between 10 and 50 feet of bank has been eroded away, leaving near vertical banks.

The Corps is evaluating three build alternatives and the "No Action" alternative. Based on our preliminary evaluation, the recommended plan consists of excavation of the remaining vertical channel slopes along the right and left banks (with the exception of areas in the vicinity of existing bridges) and reconstruction of the channel slope to the original 1 (V) to 2 (H) levee slope to the channel bottom with compacted material obtained from the excavation and borrow material provided by the sponsor. The damaged areas will be repaired to a channel bottom 25 feet wider than the original channel (as opposed to the original 100 feet). The desired slope in the eroded areas would initially be established with compacted earthen material, then overlain with a 6-inch thick layer of rock bedding and finally topped with an 18-inch thick layer of riprap slope protection. Channel damage in the vicinity of existing bridges will be brought to the original profile to protect the integrity of the bridge foundation features. Areas where the crest has been damaged with overtopping will be graded, brought to the original elevation, and resurfaced with 6 inches of crushed aggregate surfacing. Stone slope protection will be placed on repaired channel slopes that were originally protected by stone slope protection. Totals of fill material placed in the channel would include 28,000 cubic yards of riprap, 9,000 cubic yards of rock bedding, and approximately 141,555 cubic yards of earthen fill material. Approximately 105,762 cubic yards of this earthen fill material would be new obtained from offsite borrow sites and approximately 35,793 cubic yards of this earthen material would be excavated from the channel and replaced. Of these totals approximately 19,000 cubic yards of riprap, 6,000 cubic yards of rock bedding, and 93,426 cubic yards of earthen material would be placed below the ordinary high water mark. In addition, approximately 3,400 cubic yards of rock aggregate and approximately 2,400 cubic yards of earthen material would be used to regrade and resurface approximately 18,000 linear feet of the levee crest, restoring it to its original height. Approximately 50 acres of levee slope disturbed during construction would be reseeded.

The Soldier Creek Diversion unit protects numerous commercial and industrial enterprises, the municipal airport, a major sewage treatment plant, city streets, and county roads. The levee was designed for ~200 year flood frequency level of protection. The project purpose is to rehabilitate the damaged flood damage reduction project to ensure the continuing social and economic benefits associated with this Congressionally authorized project.

DRAWINGS: The attached drawings provide location details of the proposed project.

ADDITIONAL INFORMATION: Additional information about this notice can be obtained by writing **Mr. David R. Hoover, National Disaster Program Manager, Emergency Management Branch, 601 East 12th Street, 700 Federal Building, Kansas City, Missouri 64106 or by calling 816-389-3497 (FAX 816-389-2036).**

NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) OF 1968, as amended: The Corps has made a preliminary determination that the proposed project would not result in significant degradation of the human environment and therefore the proposed project would support a Finding of No Significant Impact (FONSI). The Corps will utilize comments received in response to this Public Notice to complete our evaluation of the project for compliance with the requirements of NEPA, and other Federal, state, and local regulations, including a review for project compliance with the requirements of Section 404 of the Clean Water Act.

OTHER ALTERNATIVES CONSIDERED: The Corps is evaluating three build alternatives and the "No Action" alternative but has made a preliminary determination that the recommended plan, as described above, represents the most economically viable and environmentally sound alternative identified.

WETLANDS: No wetlands would be affected by the proposed project.

PROPERTY ADJACENT TO PROJECT AREA: The Project Sponsor owns or has secured easements or right of ways on the property where the project would be constructed and borrow areas. Adjacent areas are in private ownership.

CULTURAL RESOURCES: The Kansas City District will comply with the National Historic Preservation Act of 1966 and 36 CFR 800. We have checked the National Register of Historic Places (NRHP) and found no NRHP-listed property recorded in or near the permit area. As the Corps has not yet undertaken a formal background records check with the Kansas State Historic Preservation Officer (SHPO), it is not known if previously recorded sites are present in the proposed project area. However, because the proposed project area is situated on the existing levee and within the creek channel, it is unlikely that the proposed project would impact sites listed on or eligible for inclusion on the NRHP. Therefore, the Corps has made a preliminary determination that the work proposed on the Soldier Creek Diversion Unit levee and channel would have no effect on any properties listed on or eligible for listing on the NRHP. When borrow sources are identified by the project sponsor, the Corps will complete an evaluation of them to determine if any historic properties are present. The Corps will coordinate our review with the State Historic Preservation Officer and evaluate input on historic properties from the public in response to this public notice.

ENDANGERED SPECIES: In compliance with the Endangered Species Act, a preliminary determination has been made that the described work will not affect species designated as threatened or endangered or adversely affect critical habitat. In order to complete our evaluation of this activity, comments are solicited from the U.S. Fish and Wildlife Service and other interested agencies and individuals.

FLOODPLAINS: This recommended plan is located in the base floodplain and subject to Executive Order 11988, "Floodplain Management". The recommended plan would restore the level of flood protection that existed prior to the flood. 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. As the recommended plan would not directly or indirectly support more development in the floodplain or encourage additional occupancy and/or modification of the base floodplain, the Corps has determined that the recommended plan complies with the intent of Executive Order 11988.

WATER QUALITY CERTIFICATION: Section 401 of the Clean Water Act (33 USC 1341) requires that all discharges of dredged or fill material must be certified by the appropriate state agency as complying with applicable effluent limitations and water quality standards. This public notice serves as an application to the state in which the discharge site is located for certification of the discharge. The discharge must be certified before a Department of the Army authorization can be issued. Certification, if issued, expresses the state's opinion that the discharge will not violate applicable water quality standards.

PUBLIC INTEREST REVIEW: The decision to authorize the proposed project will be based on an evaluation of the probable impact including the cumulative impacts of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefits which reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered including the cumulative effects thereof; among those are conservation, economics, esthetics, general environmental concerns, wetlands, cultural values, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs and, in general, the needs and welfare of the people. The evaluation of the impact of the activity on the public interest will include application of the guidelines promulgated by the Administrator, Environmental Protection Agency under authority of Section 404(b) of the Clean Water Act (33 USC 1344). The Corps of Engineers is soliciting comments from the public; Federal, state, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps of Engineers to determine whether to issue, modify, condition or deny authorization for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

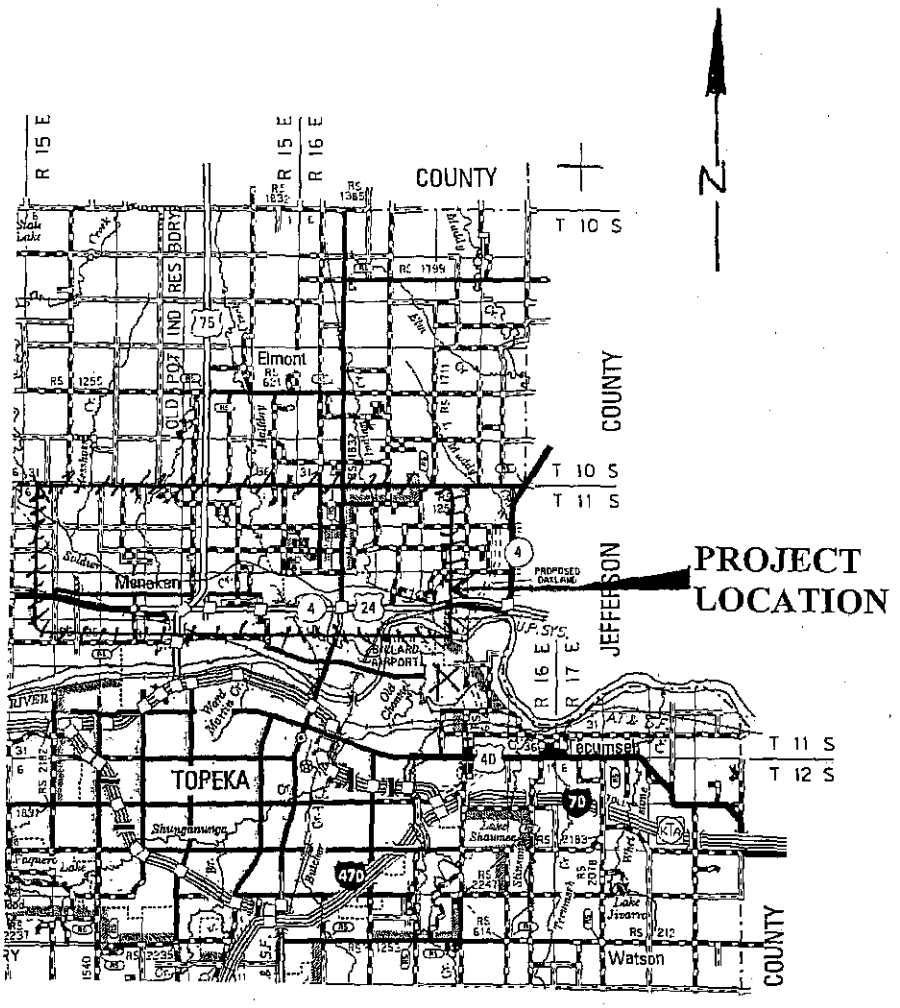
COMMENTS: This notice is provided to outline details of the above-described activity so this District may consider all pertinent comments prior to determining if authorization of the proposed project would be in the public interest. Any interested party is invited to submit to this office written facts or objections relative to the activity on or before the

public notice expiration date. Comments both favorable and unfavorable will be accepted and made a part of the record and will receive full consideration in determining whether it would be in the public interest to issue the Department of the Army authorization. Copies of all comments, including names and addresses of commenters, may be provided to the applicant. Comments should be mailed to **ATTN: OD-E (Hoover), U.S. Army Corps of Engineers, 700 Federal Building, 601 E. 12th St., Kansas City, MO 64106. Further information may be obtained by calling David Hoover, National Disaster Program Manager at (816) 389-3497 or by e-mail at david.r.hoover@nwk02.usace.army.mil.**

PUBLIC HEARING: Any person may request, in writing, prior to the expiration date of this public notice, that a public hearing be held to consider this application. Such requests shall state, with particularity, the reasons for holding a public hearing.

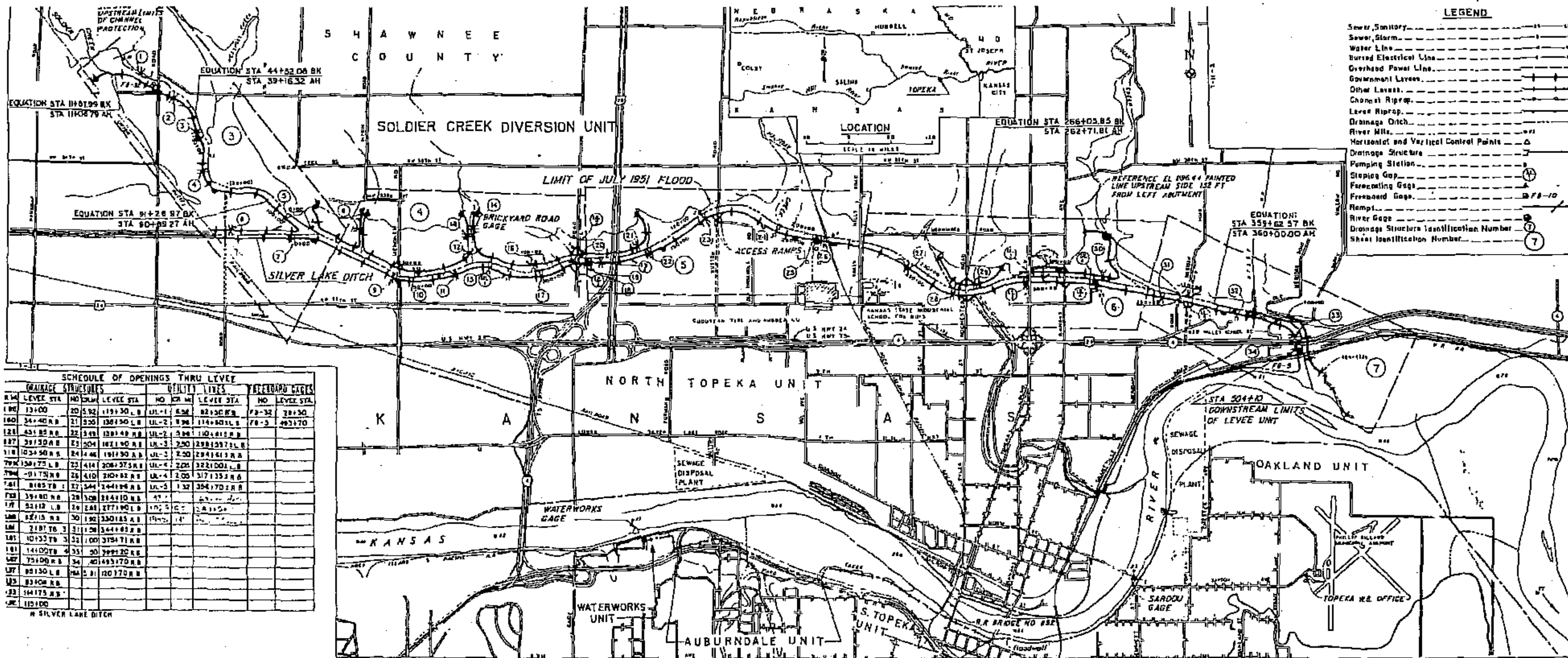
PRELIMINARY SECTION 404(b)(1) EVALUATION REPORT
PUBLIC NOTICE NO. 2007-1097

	YES	POTENTIAL EFFECTS	NO
I. Physical Effects			
A. Potential destruction of wetlands.....			X
B. Impact on water column.....		X	
C. Covering of benthic communities.....		X	
II. Chemical-Biological Interactive Effects			
A. Adverse effect of chemical constituents on water column.....			X
B. Adverse effect of chemical constituents on benthos			X
III. Applicable Water Quality Standards			
A. Will activity be in conformance with applicable standards?.....	X		
IV. Selection of Disposal Sites			
A. Impacts of fill material on chemical, physical, and biological integrity of aquatic ecosystem.....	X		
B. Have the needs for the proposed activity been considered?.....	X		
C. Have alternatives been considered?.....	X		
D. Impacts on water uses at the proposed disposal site.....			X
E. Have mitigation measures to minimize harmful effects been considered?.....	X		
V. Contamination of Fill Material			
A. Contamination of fill material if from a land source.....			X
VI. Mixing Zone			
A. Have mixing zone determinations been established for each disposal site?.....	X		
VII. Impacts to Navigation			
A. Impairment to maintenance of navigation.			X
B. Economic impact on navigation and anchorage.....			X
VIII. Public Participation and Coordination			
A. Will a public interest review be conducted?.....	X		



The Soldier Creek Diversion Unit of the Topeka, Kansas Flood Protection Project is located in the northern part of the city of Topeka, along Soldier Creek in Sections 5, 6, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, Range 15 east and Sections 15, 16, 17 and 18, Range 16 east, all Township 11 south, Shawnee County, Kansas. Longitude -95.689878, Latitude 39.10248.

PERMIT NO. 2007-1097
BY NORTH TOPEKA DRAINAGE DISTRICT
FOR LEVEE REPAIR
SOLDIER CREEK
SHAWNEE COUNTY, KANSAS
SHEET 1 OF 5
DATED 21 AUGUST 2007



SCHEDULE OF OPENINGS THRU LEVEE

DRAINAGE STRUCTURES					UTILITY LINES			FREEBOARD GAGES	
R.M.	LEVEE STA	NO	[illegible]	LEVEE STA	NO	[illegible]	LEVEE STA	NO	LEVEE STA
[illegible]	13+00	20	5.92	119+30 L.B	UL-1	6.58	82+50 R.B	FB-32	28+50
160	34+40 R.B	21	3.56	138+50 L.B	UL-2	3.96	114+80 L.B	FB-5	493+70
128	45+85 R.B	22	3.49	138+49 R.B	UL-2	3.96	110+41 R.B		
187	31+50 R.B	23	3.04	162+90 R.B	UL-3	2.50	298+55 L.B		
118	103+50 R.B	24	4.46	191+30 R.B	UL-3	2.50	294+51 R.B		
[illegible]	150+75 L.B	25	4.14	208+37.5 R.B	UL-4	2.05	322+00 L.B		
[illegible]	-01+75 R.B	26	4.10	210+82 R.B	UL-4	2.05	317+35 R.B		
7.61	81+05 TB 1	27	3.44	244+96 R.B	UL-5	1.32	354+70 R.B		
[illegible]	39+80 R.B	28	3.08	264+10 R.B	[illegible]		[illegible]		
[illegible]	52+12 L.B	29	2.88	277+90 L.B	[illegible]	[illegible]	[illegible]		
[illegible]	82+15 R.B	30	1.92	330+85 R.B	[illegible]	[illegible]	[illegible]		
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[illegible]	10+33 TB 3	32	1.00	379+71 R.B					
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[illegible]	75+00 R.B	34	.40	493+70 R.B					
[illegible]	89+30 L.B	NA	5.31	120+70 R.B					
[illegible]	83+08 R.B								
[illegible]	114+75 R.B								
[illegible]	115+00								

* SILVER LAKE DITCH

GENERAL NOTES

This sheet compiled from U.S. Geological Survey quadrangles Topeka, Silver Lake and Grantville, with revisions in the Kansas River Flood Plain from Aerial Survey dated Nov and Dec 1954.

Elevations, referred to mean sea level, are based on the U.S. Coast and Geodetic Survey 1929 general adjustment.

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SYM	DESCRIPTION	DATE	APP'D
	REVISIONS		

OPERATIONAL DRAWING
TOPEKA, KANSAS FLOOD PROTECTION PROJECT
SOLDIER CREEK UNIT

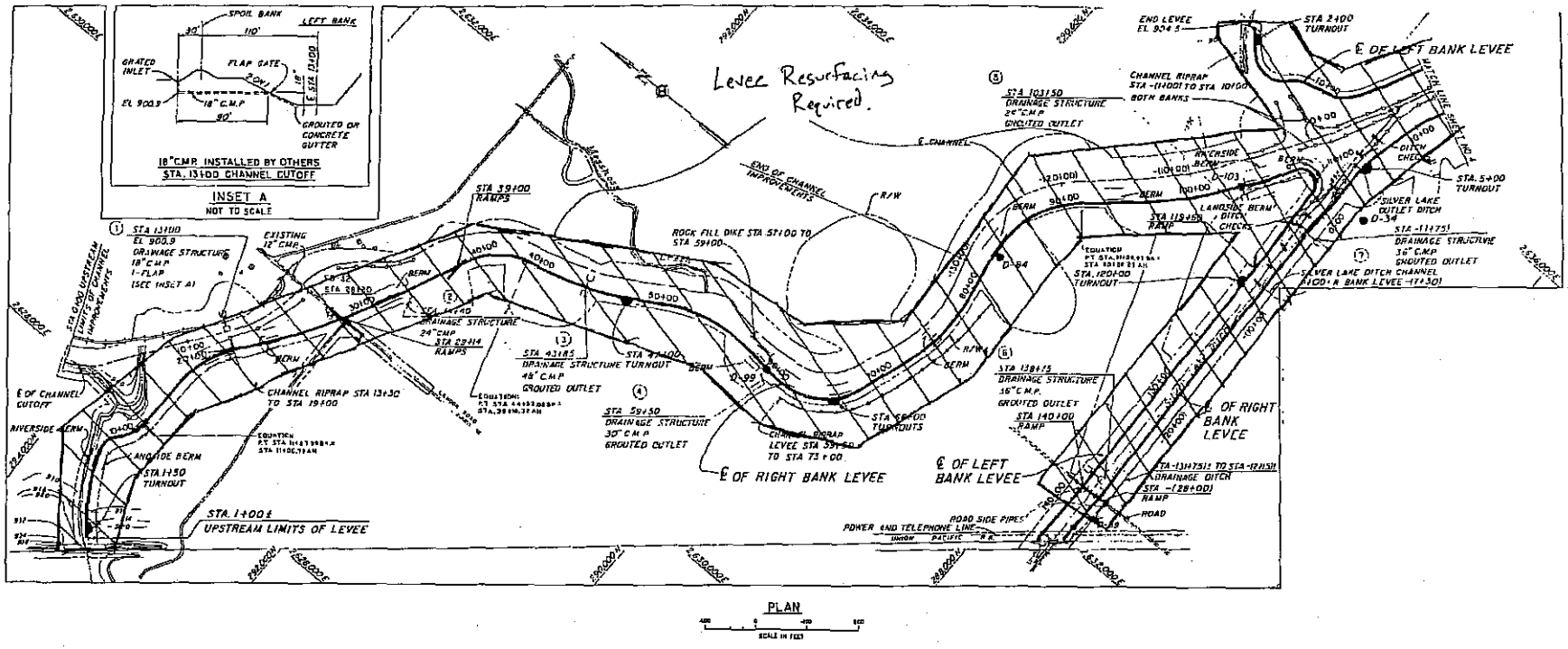
LOCATION, VICINITY AND INDEX

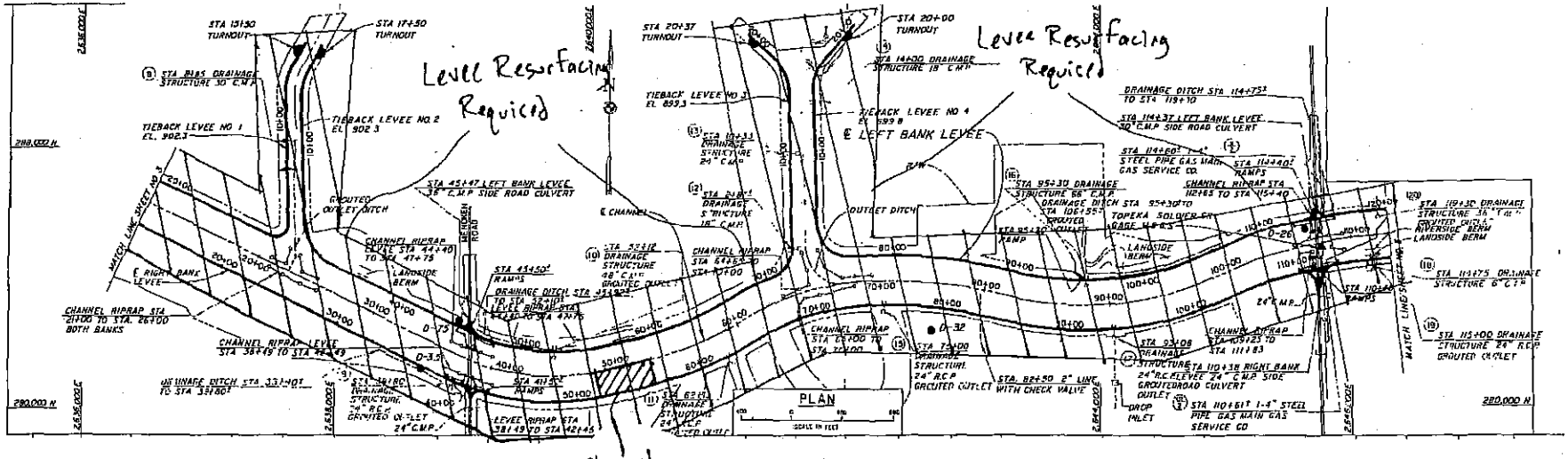
In 7 sheets — Sheet No. 1 — Scale: as shown

CORPS OF ENGINEERS U.S. ARMY
KANSAS CITY DISTRICT
SEPTEMBER 1978

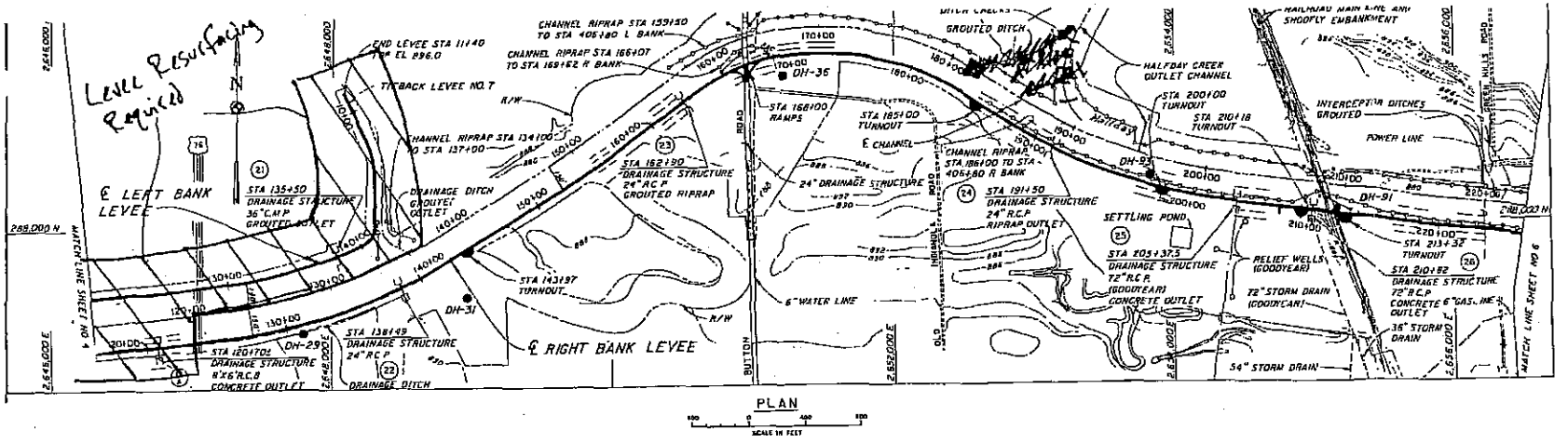
Designed by — Drawn by: C.R.E. — Checked by — File No. OPN-A-12-0009

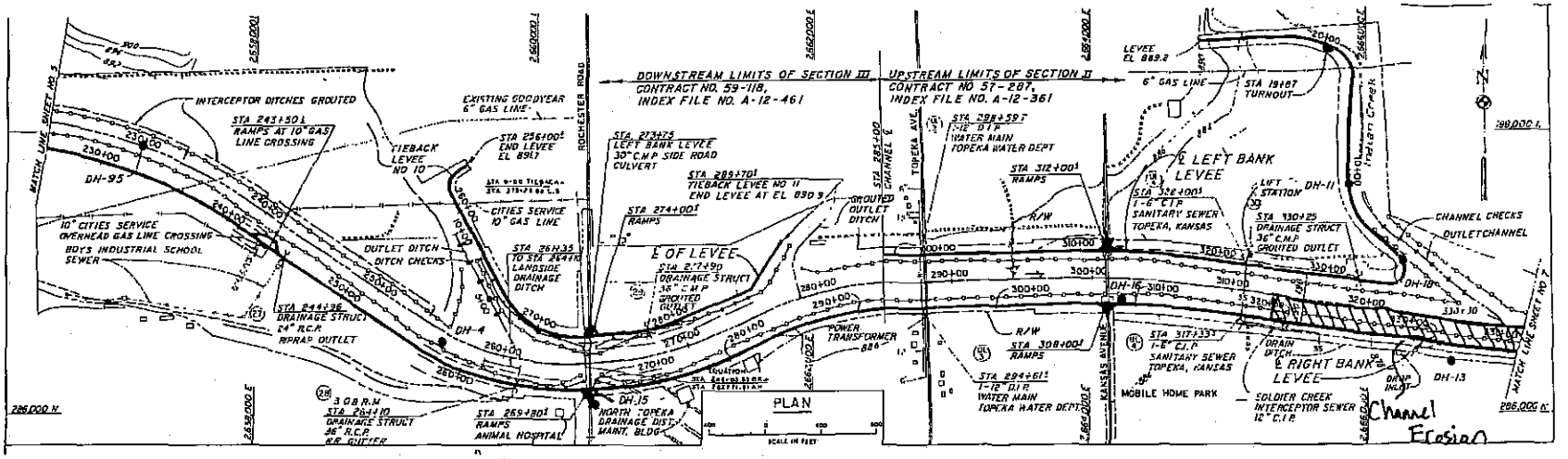
APPLICATION NO. 2007-1097
BY NORTH TOPEKA DRAINAGE DISTRICT
FOR LEVEE REPAIR
SOLDIER CREEK
SHAWNEE COUNTY, KANSAS
SHEET 2 OF 5
DATED 21 AUGUST 2007



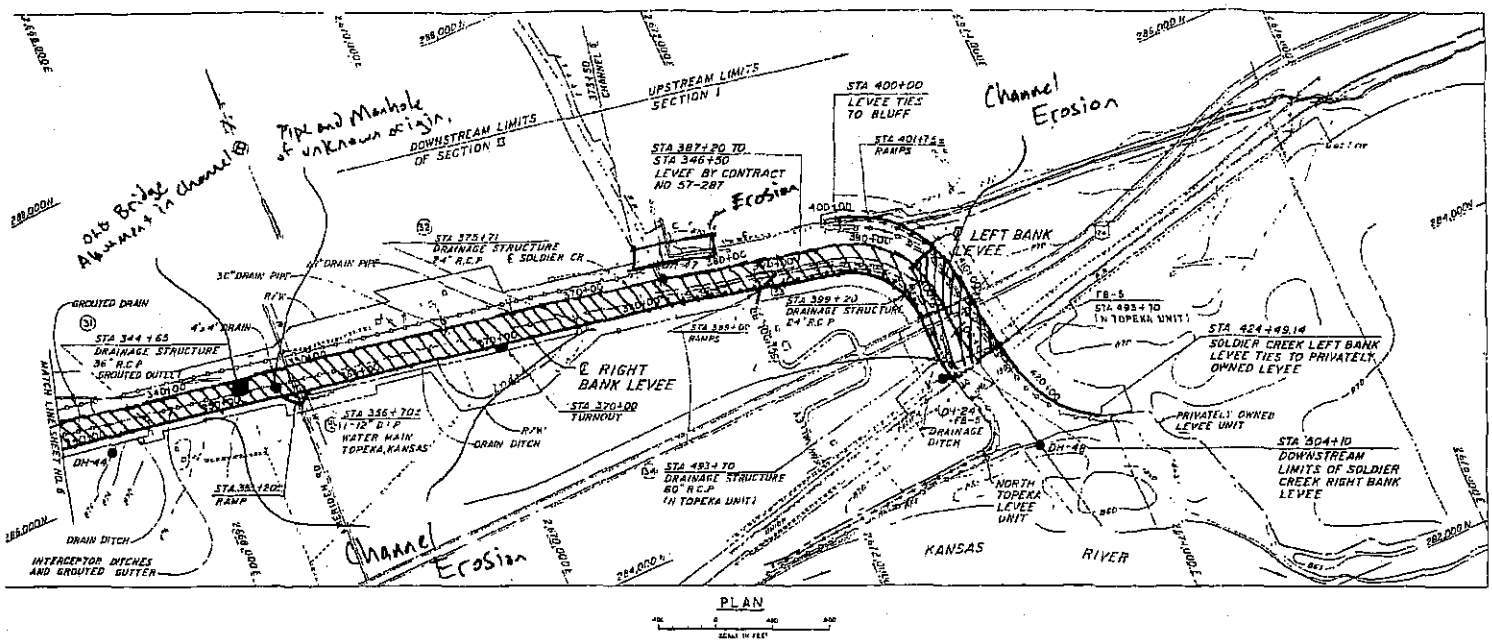


PERMIT NO. 2007-1097
BY NORTH TOPEKA DRAINAGE DISTRICT
FOR LEVEE REPAIR
SOLDIER CREEK
SHAWNEE COUNTY, KANSAS
SHEET 3 OF 5
DATED 21 AUGUST 2007

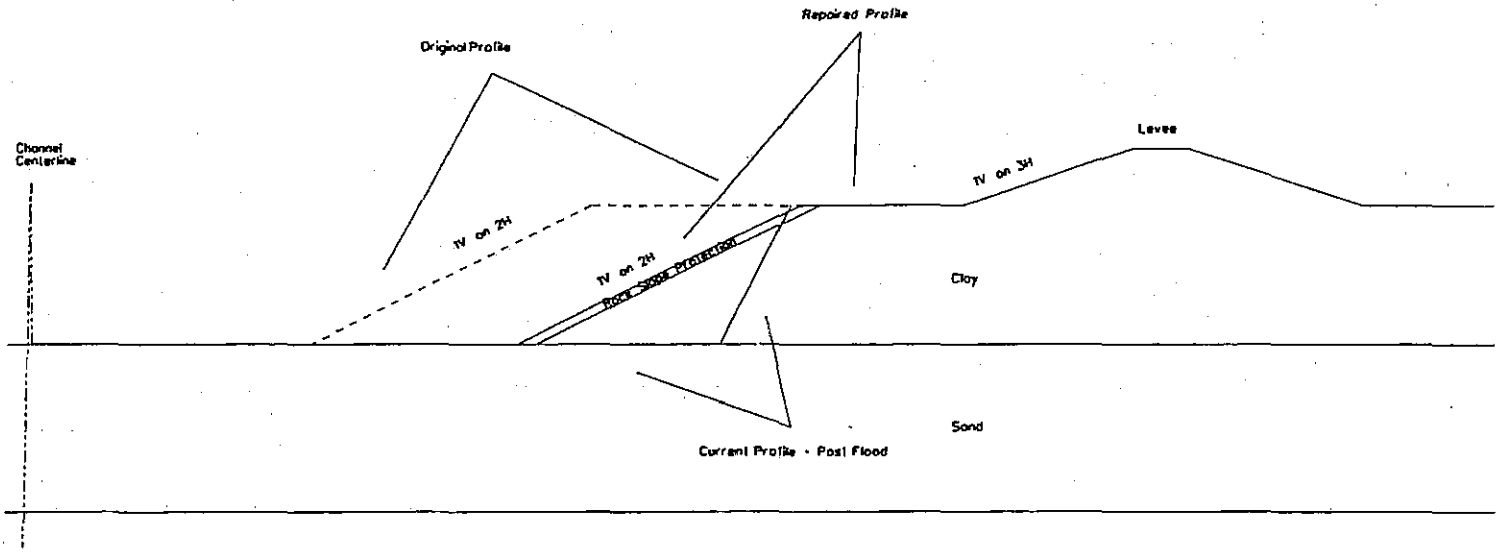




PERMIT NO. 2007-1097
BY NORTH TOPEKA DRAINAGE DISTRICT
FOR LEVEE REPAIR
SOLDIER CREEK
SHAWNEE COUNTY, KANSAS
SHEET 4 OF 5
DATED 21 AUGUST 2007



PLAN



TYPICAL CROSS SECTION

PERMIT NO. 2007-1097
BY NORTH TOPEKA DRAINAGE DISTRICT
FOR LEVEE REPAIR
SOLDIER CREEK
SHAWNEE COUNTY, KANSAS
SHEET 5 OF 5
DATED 21 AUGUST 2007

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Last Updated 10 July 2007							

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Kansas Ecological Services Office
2609 Anderson Avenue
Manhattan, Kansas 66502-2801

September 20, 2007

David Hoover, National Disaster Program Manager
Emergency Management Branch
700 Federal Building
601 East 12th Street
Kansas City, Missouri 64106

RE: CENWK-CO-RW (2007-1097) FWS Tracking # 2007-B-0777

Dear Mr. Hoover:

This letter is in response to your request for comments on the proposal by the North Topeka Drainage District for construction to repair sections of the Soldier Creek Diversion Unit (SCDU) levee and channel damaged by high flows in an October 2005 flood event. Project rehabilitation cost under this program for this Federally constructed levee is 100% Federal, with the exception of lands, easements, right-of-ways, and borrow which must be provided by the local sponsor. The SCDU consists of 17.9 miles of earthen levee, 9.2 miles of improved channel, and 35 drainage structures. Approximately 10 miles of levee was damaged by overtopping. In locations where the levee was overtopped, the levee crest suffered minor damage. The overtopping caused minor erosion of the earthen embankment, and completely washed away the crushed aggregate surfacing. The Soldier Creek channel also suffered severe erosion due to the flooding event. Approximately 10,000 feet of channel bank was damaged, and between 10 and 50 feet of bank has been eroded away, leaving near vertical banks.

The Corps is evaluating three build alternatives and the "No Action" alternative. Based on the Corps' preliminary evaluation, the Corps selected one alternative as the recommended plan. The other alternatives were not described in the Public Notice. The recommended plan consists of excavation of the remaining vertical channel slopes along the right and left banks (with the exception of the areas in the vicinity of existing bridges) and reconstruction of the channel slope to the original 1 (V) to 2 (H) levee slope to the channel bottom with compacted material obtained from the excavation and borrow material provide by the sponsor. The damaged areas will be repaired to a channel bottom 25 feet wider than the original channel (as opposed to the original 100 feet). The desired slope in the eroded areas would initially be established with compacted earthen material, then overlain with a 6-inch thick layer of rock bedding and finally topped with an 18-inch thick layer of riprap slope protection. Channel damage in the vicinity of existing

bridges will be brought to the original profile to protect the integrity of the bridge foundation features. Areas where the crest has been damaged with overtopping will be graded, brought to the original elevation, and resurfaced with 6 inches of crushed aggregate surfacing. Stone slope protection will be placed on repaired channel slopes that were originally protected by stone slope protection. Total of fill material placed in the channel would include 28,000 cubic yards of riprap, 9,000 cubic yards of rock bedding, and approximately 141,555 cubic yards of earthen fill material. Approximately 105,762 cubic yards of this earthen fill material would be new obtained from offsite borrow sites and approximately 35,793 cubic yards of this earthen material would be excavated from the channel and replaced. Of these totals approximately 19,000 cubic yards of riprap, 6,000 cubic yards of rock bedding, and 93,426 cubic yards of earthen material would be used to regrade and resurface approximately 18,000 linear feet of the levee crest, restoring it to its original height. Approximately 50 acres of levee slope disturbed during construction would be reseeded.

The Soldier Creek Diversion unit protects numerous commercial and industrial enterprises, the municipal airport, a major sewage treatment plant, city streets, and county roads. The levee was designed for approximately 200 year flood frequency level of protection. The project purpose is to rehabilitate the damaged flood damage reduction project to ensure the continuing social and economic benefits associated with this congressionally authorized project. The project is located in the northern part of the City of Topeka, along Soldier Creek in Sections 5, 6, 8, 9,10,11,12,13,14,15,16, and17, Township 11 south, Range 15 east and Sections 15, 16, 17, and 18, Township 11 south, Range 16 east, Shawnee County, Kansas.

We have reviewed the permit application pursuant to our authorities under the Fish and Wildlife Coordination Act (16 U.S.C. 661 et seq.); section 404(b) of the Clean Water Act (33 U.S.C 1344); the Migratory Bird Treaty Act of 1918 (MBTA), as amended (16 U.S.C. 703 *et seq*); the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 *et seq*.); and executive orders 11990 (wetland protection) and 11988 (floodplain management).

Description of Area

Soldier Creek, a north bank tributary, joins the Kansas River at Topeka. The narrow watershed of approximately 157 square miles traverses southern Nemaha, Jackson, and northern Shawnee Counties flowing in a south-southeasterly direction. Approximately one half of the present Pottawatomie Indian Reservation lies in the lower Soldier Creek Basin.

The mainstem of Soldier Creek has been extensively altered in the lower reach for flood control purposes. An extensive array of levees, channelization and other stream alteration work has been completed. These alterations have caused stream degradation. The channel degradation, which includes both widening and deepening of the stream channel through erosion, has slowly moved upstream endangering roads, bridges, and railroads and destroying much of the remaining stream-side vegetation. In response to the degradation, grade control structures have been installed, to help slow down and perhaps stop the severe erosion, scouring, silting, and water quality degradation that has occurred. However, stream degradation has persisted.

Soldier Creek has been classified as moderate fishery resource (Value Class III) by the Kansas

Department of Wildlife and Parks, (formerly the Kansas Fish and Game Commission). There are several important game fish present in this stream including catfish, crappie, and walleye. Due to channelization, Soldier Creek is characterized with shallow water, steep mud banks, and very little diversity within the city limits. In this lower reach most fishing is confined to backwater areas of the Kansas River at the mouth of the stream. In its upper reach Soldier Creek still supports specialized species including stoneroller, bluntnose minnow, sand shiner, and slender madtom.

Wetlands are present in the cut-off remnants of the old Soldier Creek channel. These wetlands consist of narrow linear habitats with prairie cordgrass, smartweed, switchgrass, and cattails in the wettest areas. Remnants of the riparian woodlands that once covered the banks also persist in a few areas, particularly at the mouth of the old Soldier Creek where it enters the Kansas River.

Concerns

We have reviewed our list of federally-listed species and concur that the project should not affect threatened or endangered species or critical habitats.

Although the bald eagle has been removed from the Federal Threatened and Endangered Species list, it is still protected by the Bald and Golden Eagle Protection Act (Eagle Act) and Migratory Bird Treaty Act (MBTA). Further information can be found in The Draft National Bald Eagle Management Guidelines at:
http://www.fws.gov/migratorybirds/issues/BaldEagle/Mgmt.Guidelines.2006.pdf.
If any project activity appears likely to harass or disturb any bald eagle observed at or near any construction site, this office should be notified prior to commencement of the activity, so that an assessment may be made of the potential for adverse impacts.

The Migratory Bird Treaty Act prohibits the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests, except when specifically authorized by the Department of the Interior. Takings could result from projects in prairies, wetlands, stream and woodland habitats, and those that occur on bridges and other structures if swallow or phoebe nests are present. While the provisions of MBTA are applicable year-round, most migratory bird nesting activity in Kansas occurs during the period of April 1 to July 15. However, some migratory birds are known to nest earlier than this (e.g., hawks and owls) and some later (e.g., goldfinches). If the proposed project appears likely to result in the take of migratory birds, I recommend a field survey during the nesting season of the affected habitats and structures to determine the presence of active nests. Our office should be contacted immediately for further guidance if a field survey identifies the existence of one or more active bird nests that you believe cannot be avoided temporally or spatially by the planned activities.

While the MBTA has no provision for allowing unauthorized take, the USFWS realizes that some birds may be killed during project construction and implementation even if all reasonable measures to protect them are used. The USFWS Office of Law Enforcement carries out its mission to protect migratory birds through investigations and enforcement, as well as by fostering relationships with individuals, companies, and industries that have taken effective steps to minimize their impacts on migratory birds, and by encouraging others to enact such programs.

It is not possible to absolve individuals, companies, or agencies from liability even if they implement avian mortality avoidance or similar conservation measures. However, the Office of Law Enforcement focuses its resources on investigating and prosecuting individuals and companies that take migratory birds without regard for their actions or without following recommendations to avoid take.

The project will convert riparian and grassed areas into low quality aquatic habitat. This will negatively impact wildlife that currently use these areas as the few, remaining areas of native vegetation provide valuable wildlife habitat. Work in the riparian areas will displace wildlife due to disturbances from noise, dust, human activity, machinery and destruction of habitat. Depending on construction timing, this displacement could result in serious consequences to wildlife such as loss of reproduction and possible death of individual animals from accidents (crossing roads and unknown hazards in new areas), starvation, competition for other areas, etc. There is little refuge habitat in close proximity to the project area and available habitat is presumably at carrying capacity which further reduces the likelihood of wildlife surviving the displacement and intensifies the competition for the limited habitat available. Although the temporal displacement may be relatively short, the repercussions could be long-term. Impacts to migrating songbirds are of particular concern. Existing wildlife travel corridors linking the construction and borrow areas to other areas of suitable floodplain upstream and downstream of the construction and borrow areas should be maintained during project construction. Establishment of mitigation areas prior to the onset of project construction would lessen the impacts to wildlife from habitat loss.

Construction activities would cause temporary, short-term impacts to fish and wildlife from noise, dust, and the presence of workers and machinery. Runoff from construction areas, access roads, staging areas and unprotected fills could degrade water quality inside the levee system. Accidental spills of fuels, lubricants, hydraulic fluids, and other petrochemicals would be harmful to aquatic life.

Remaining wetlands in the project area are few and relatively small. Impacts to these wetlands should be avoided. In addition, the removal of fill from cropland areas has the potential to cause the loss of farmed wetland. Farmed wetland should be delineated within proposed borrow sites and should be avoided if possible. If an unavoidable loss is incurred, the quantity and quality of the farmed wetland will determine the amount of compensation necessary to offset project losses. The wetland mitigation plan would be developed in coordination with the Corps, EPA, and KDWP. This plan should include site locations, time frames, construction plans, a monitoring plan, progress reports, and standards of success. This plan should be a condition of any permit issued for the project. Borrow operations could be used to create wetlands or aquatic habitats. The potential for borrow sites to be designed to enhance habitat should be initiated with the project sponsors and borrow site owners. The completed plan should be implemented regardless of whether impacted wetlands are classified as jurisdictional for purposes of the Clean Water Act.

A substantial amount of earthen fill will be required for the project. Obtaining the earthen fill would likely have additional impacts to wildlife habitat and could be significant. We understand that he borrow sites used to obtain that fill have not yet been selected and that the selection of the

borrow areas will be coordinated with the natural resource agencies, including our office.

Obtaining fill from the river channel could negatively impact aquatic species by disrupting breeding activities, suspension of sediments in the water column, smothering of feeding and breeding areas by sediments, and disruption of life activities and displacement of species due to construction activities.

Mitigation and Enhancement

Since channelization, levee construction and floodplain development have already resulted in dramatic loss of riparian and wetland habitats in the Kansas River basin, the applicant should focus on bare or cropland areas for borrow. Riparian and wetland habitats should be avoided to the maximum extent practicable when selecting borrow sites for the proposed levee repairs due to habitat impacts. Borrow taken from such areas will contain tree roots and other vegetative debris. All losses of native vegetation should be mitigated. If possible, establish mitigation areas prior to the onset of impacts from the project to lessen the impacts to wildlife from habitat loss. A mitigation plan should be developed in coordination with the U.S. Fish and Wildlife Service (Service), Environmental Protection Agency (EPA), and the Kansas Department of Wildlife and Parks (KDWP). We encourage the Corps to investigate the potential use of borrow sites for wetland and aquatic habitat enhancement and public recreation with the project sponsors and borrow site owners.

All disturbed areas should be immediately planted with native vegetation following construction to prevent erosion and the establishment of invasive species. Planted or seeded vegetation should be endemic to an area within 100 miles of the project site to protect local genotypes.

We recommend that the levee and levee easements be seeded with native, warm-season short grasses such as buffalo grass (*Buchloe dactyloides*). Buffalo grass is a drought tolerant, perennial, native, turf grass that reaches a height of 8 – 10 inches. Native grasses are superior to turf grasses for erosion control because of their deep roots, and provide higher quality wildlife habitat. The use of buffalo grass or other native short grasses will also reduce maintenance costs as they will rarely need to be mowed or irrigated.

Aquatic habitat within the project site is of fairly low quality due to the prior alterations of the riverine environment and the cumulative effects of those actions. The proposed work will likely further degrade the aquatic environment by making low flows even shallower and by eliminating riparian and in-stream vegetation. We recommend that floodplain benches be constructed within the proposed over-widened channel. The floodplain benches would recreate a low flow channel which would concentrate low flows to a more natural depth, provide riparian vegetation for filtering of surface water runoff and habitat, and provide additional bank stability. However, during flood events, the stream would be able to flow over the planting benches, utilizing the entire channel width.

The proposed channel slope is very steep and likely promotes instability. A 3:1 or gentler slope would likely provide more stability. In addition, vegetation would be easier to start and maintain on a gentler slope and wildlife would have easier access to the stream.

The proposed plan utilizes a substantial amount of rock bedding and rip rap for bank and channel stabilization. Natural stream dynamics techniques, use of natural structural materials, and bioengineering methods promote natural re-vegetation, dissipate stream energy, establish aquatic and riparian habitat, and restore natural channel structure and morphology. Bioengineering techniques preserve fish and wildlife habitat while providing protection from erosion that is extremely strong and self-maintaining once it is established. In addition, the use of large amounts of rock and riprap may induce thermal pollution of the stream and the Kansas River due to the rock's ability to retain a significant amount of heat which is released into the water.

If riprap must be used, live plants can be incorporated into a riprap structure to enhance its habitat and aesthetic value. Live staking (i.e., planting live woody vegetation) of the riprap interstices is common, and root wads can be incorporated into a riprap structure. The woody vegetation enhances the habitat value of the structure, and as an added benefit, it can also increase bank stability and reduce chances of structure failure. In areas where aesthetics are especially important, the stone above the normal high water level can be covered with soil and planted in grasses.

We also recommend the use of a floating silt curtain around the perimeter of the work area to reduce the migration of turbidity beyond the construction zone.

Grade control structures within the stream channel likely inhibit aquatic organism passage. Clean Water Act Regulations (CFR33 Part 330) states that no activity may substantially disrupt the movement of those species of aquatic life indigenous to the waterbody, including those species which normally migrate through the area. Grade control structures constructed with a 20:1 backslope would allow most aquatic organisms to pass over the grade control structure (the gentler the slope, the greater number of organisms will be able to pass both upstream and downstream).

Invasive species have been identified as a major factor in the decline of native flora and fauna and impact aquatic resources. Invasive species of particular concern in Kansas include the zebra mussel (*Dreissena polymorpha*), Eurasian watermilfoil (*Myriophyllum spicatum*), purple loosestrife (*Lythrum salicaria*), Johnson grass (*Sorghum halepense*), sericea lespedeza (*Lespedeza cuneata*), salt cedar (*Tamarix spp.*), and reed canary grass (*Phalaris arundinacea*). Additional information on aquatic invasive species in Kansas can be found on KDWP's website http://www.kdwp.state.ks.us/news/fishing/aquatic_nuisance_species Executive order 13112 Section 2 (3) directs Federal agencies to not authorize, fund, or carry out actions that it believes are likely to cause or promote the introduction or spread of invasive species in the United States or elsewhere and to ensure that all feasible and prudent measures to minimize risk of harm will be taken in conjunction with the actions. Proactive measure to prevent the inadvertent spread of exotic and invasive species would appear to satisfy this directive. Therefore we recommend the implementation of the following BMP as a permit condition.

> All equipment brought on site will be thoroughly washed to remove dirt, seeds, and plant parts. Any equipment that has been in any body of water within the past 30 days will be thoroughly cleaned with hot water greater 140° F (typically the temperature found at

commercial car washes) and dried for a minimum of five days before being used at this project site. In addition, before transporting equipment from the project site all visible mud, plants and fish/animals will be removed, all water will be eliminated, and the equipment will be thoroughly cleaned. Anything that came in contact with water will be cleaned and dried following the above procedure.

Recommendations

1. Riparian and wetland habitats should be avoided to the maximum extent practicable when selecting borrow sites for the proposed levee improvements. Compensatory mitigation should be undertaken for unavoidable impacts. Since channelization, levee construction and floodplain development have already resulted in dramatic loss of riparian and wetland habitats in the Kansas River basin within the project area, the applicant should focus on bare or cropland areas for borrow.

2. Levees and levee easements should be seeded with native, warm-season grasses such as buffalo grass (*Buchloe dactyloides*). Buffalo grass is a drought tolerant, perennial, native, turf grass that reaches a height of 8 – 10 inches.

3. The Corps should create wetland mitigation habitat to compensate for the loss of wetland acreage from construction of the projects in accordance with the FWS Region 6 Wetland Mitigation Guidelines, generally at a minimum of 1.5:1 ratio for emergent wetland and at a 2:1 ratio for forested wetland. If farmed wetland is directly impacted by borrow activities it should be mitigated at a 1.0 to1.0 ratio.

4. All losses of native vegetation should be mitigated. A mitigation plan should be developed in coordination with the Service, EPA, and KDWP. If possible, establish mitigation areas prior to the onset of impacts from the project.

5. Best Management Practices to prevent the transport of invasive species to or from the construction sites should be included as an integral component of the project.

6. Establish native vegetation riverward of levee segments where riparian woodlands are sparse or nonexistent or where invasive species, i.e. reed canary grass, has become established.

7. All disturbed areas should be immediately planted with native vegetation following construction to prevent erosion and the establishment of invasive species. Planted or seeded vegetation should be endemic to an area within 100 miles of the project site to protect local genotypes.

8. The potential use of borrow sites for wetland and aquatic habitat enhancement and public recreation should be investigated with the project sponsors and borrow site owners.

9. If possible, establish mitigation areas prior to the onset of impacts from the project to lessen the impacts to wildlife from habitat loss.

10. Use a floating silt curtain around the perimeter of the work area to reduce the migration of turbidity and sediment beyond the construction zone.

11. Focus on bare or cropland areas for borrow. Riparian and wetland habitats should be avoided to the maximum extent practicable.

12. Removal of woodlands and other native vegetation should be avoided where possible. If avoidance if not possible a mitigation plan should be developed in coordination with the U.S. Fish and Wildlife Service (Service), Environmental Protection Agency (EPA), and the Kansas Department of Wildlife and Parks (KDWP). Woody vegetation and native grasses should be replaced by establishing two acres of native vegetation for every acre impacted.

13. Construction activities should avoid the general spawning dates of April 1 – July 31 and migratory bird nesting activity from April 1 – July 15.

14. Construct floodplain benches within the over widened channel to concentrate low flows into a more natural stream configuration (pattern, profile, and dimensions) to provide habitat, and to promote water quality and stream stability.

We recognize that the Soldier Creek levees protect valuable infrastructure and assets important to the City of Topeka. However, we believe that levee and channel modifications for the purpose of flood control could be done in a manner that would promote environmental values as well. We encourage the use of environmentally friendly techniques that will protect the remaining habitat and perhaps even restore some of that which has been lost due to previous flood control activities. Thank you for the opportunity to comment on this project. If you have any questions, please contact me or Susan Blackford, of my staff, at (785) 539-3474.

Sincerely,

Susan Blackford

for: Michael J. LeValley
Field Supervisor

cc: EPA, Kansas City, KS (Wetland Protection Section)
KDWP, Pratt, KS (Environmental Services)
KDHE, Topeka, KS (Bureau of Water)

MJL/shb

KANSAS
DEPARTMENT OF WILDLIFE AND PARKS

Kathleen Sebelius, Governor
J. Michael Hayden, Secretary
www.kdwp.state.ks.us

8/30/2007

Track: 19970361
SN
Ref: D1.0500

Mr. David R. Hoover
National Disaster Program Manager
Emergency Management Branch
601 East 12th Street
700 Federal Building
Kansas City, Missouri 64106

Dear Mr. Hoover :

We have reviewed Public Notice No. 2007-1097. The project was reviewed for potential impacts on crucial wildlife habitats, current state-listed threatened and endangered wildlife species, and public recreation areas for which this agency has some administrative authority.

We consider this project to be an impact level 1, meaning minor impacts to terrestrial or aquatic wildlife or their habitats will occur. We advocate incorporating the following project recommendations to mitigate impacts to wildlife; avoid disturbing the bed and banks of streams during the general spawning period from April 1 – July 31, minimize encroachment or development in floodplains, minimize the disturbance to riparian or native hardwood timber, protect warm-season pastures or rangeland, do not fill wetlands or areas that routinely pond water, install appropriate temporary erosion measures (e.g. silt fencing, hay bale ditch checks, erosion control blankets, rock ditch checks, etc.) to control soil erosion and protect water quality during construction, revegetate all disturbed areas with similar native species.

No information was provided regarding the source of earthen fill materials. If removal of such material may impact threatened or endangered species, we would need to review such a project separately.

No Department of Wildlife and Parks permits or special authorizations are required. Because the Department's recreational land obligations, state threatened and endangered species list and critical habitat designations periodically change; if construction has not started within one year of the date of this review, or if design changes are made in the project plans, the project sponsor must contact this office to verify continued applicability of this review assessment. For our purposes, we consider construction started when advertisements for bids are distributed.

Thank you for the opportunity to provide these comments and recommendations.

Sincerely,

James Larson, Aquatic Ecologist
Environmental Services Section

xc:
KDHE, Carlson
USFWS, Blackford
USEPA, Mulder

PRATT OPERATIONS OFFICE
512 SE 25th Ave., Pratt, KS 67124-8174
(620) 672-5911 • Fax: (620) 672-6020

CITY OF TOPEKA

William W. Bunten, Mayor
City of Topeka
215 SE 7th Street
Topeka, KS 66603
(785) 368-3895
(785) 368-3850 fax

September 18, 2007

Kansas City District, Corps of Engineers
700 Federal Building
Kansas City, MO 64106-2896

Dear Sir or Madam:

I am writing to express my support of U. S. Army Corps of Engineers repairs to Soldier Creek as proposed in Permit No. 2007 – 1097.

The North Topeka Drainage District maintains the levee system for water drainage north of the Kansas River in the City of Topeka, as well as the water drainage in the area outside the City of Topeka, which is located in the boundaries of the North Topeka Drainage District.

Your favorable consideration of this permit will be appreciated.

Sincerely,

Wm. W. Bunten

William W. Bunten
Mayor

RECEIVED
REGULATORY BRANCH
07 SEP 20 PM 2:17

KANSAS

KSR&C No. 07-08-269

Kansas State Historical Society
Cultural Resources Division

KATHLEEN SEBELIUS, GOVERNOR

August 30, 2007

David Hoover
US Army Corps of Engineers
700 Federal Building
601 East 12th Street
Kansas City, MO 64106

RE: Soldier Creek levee Repair.
Permit No. 2007-1097
Shawnee County

Dear Mr. Hoover:

The Kansas State Historic Preservation Office has reviewed its cultural resources files for the area of the above referenced project in accordance with 36 CFR 800. The project as proposed should have no effect on properties listed on the National Register of Historic Places or otherwise identified in our files. This office has no objection to implementation of the project.

Any changes to the project area that include additional ground disturbing activities will need to be reviewed by this office prior to beginning construction. If construction work uncovers buried archeological materials, work should cease in the area of the discovery and this office should be notified immediately.

This information is provided at your request to assist you in identifying historic properties, as specified in 36 CFR 800 for Section 106 consultation procedures. If you have questions or need additional information regarding these comments, please contact Tim Weston 785-272-8681 (ex. 214). Please refer to the Kansas Review & Compliance number (KSR&C#) above on all future correspondence relating to this project.

Sincerely,

Jennie Chinn
State Historic Preservation Officer

Timothy Weston for

Patrick Zollner
Deputy State Historic Preservation Officer

6425 SW Sixth Avenue • Topeka, KS 66615-1099
Phone 785-272-8681 Ext. 240 • Fax 785-272-8682 • TTY 785-272-8683
www.kshs.org

KANSAS

DEPARTMENT OF HEALTH
AND ENVIRONMENT

Kathleen Sebelius, Governor
Roderick L. Bremby, Secretary

www.kdheks.gov

October 16, 2007

Mr. David R. Hoover
National Disaster Program Manager
Emergency Management Branch
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: PN- NWK2007-1097: The Topeka, Kansas Flood Protection Project, of which the Soldier Creek Diversion Unit is a part, was authorized as outlined by the Flood Control Act approved 22 June 1936 (House Document 195, 73rd Congress, 2nd Session). Additional Studies undertaken in the Kansas River Basin resulted in the development of the project which was recommended in 1947 and included in House Document 642, which was published in 1950. Subsequent to the July 1951 flood, and prior to authorization, modifications were again made in the proposed plan for the Topeka project. These modifications were outlined during Committee Hearings in May 1954 and the plan, as modified, was authorized by the Flood Control Act approved 2 September 1954 (House Document 642, 81st Congress, 2nd Session). The Soldier Creek Diversion Unit and the North Topeka Unit act as a complete, independent flood protection system. **PROPOSED WORK:** The applicant has requested project authorization and funding from the U.S. Army Corps of Engineers under Public Law 84-99 of the Flood Control Act of 1944 for construction to repair sections of the Soldier Creek Diversion Unit levee and channel damaged by high flows in an October 2005 flood event. Project rehabilitation cost under this program for this Federally constructed levee is 100% Federal, with the exception of lands, easements, right-of-ways, and borrow which must be provided by the local sponsor. The levee is operated and maintained by the local sponsor, the North Topeka Drainage District. The Soldier Creek Diversion Unit consists of 17.9 miles of earthen levee, 9.2 miles of improved channel, and 35 drainage structures. In locations where the levee was overtopped, the levee crest suffered minor damage. Approximately 10 miles of levee was damaged by overtopping. The overtopping caused minor erosion of the earthen embankment, and completely washed away the crushed aggregate surfacing. The Soldier Creek channel also suffered severe erosion due to the flooding event. Approximately 10,000 feet of channel bank was damaged, and between 10 and 50 feet of bank has been eroded away, leaving near vertical banks. The Corps is evaluating three build alternatives and the "No Action" alternative.

Based on our preliminary evaluation, the recommended plan consists of excavation of the remaining vertical channel slopes along the right and left banks (with the exception of areas in the vicinity of existing bridges) and reconstruction of the channel slope to the original 1 (V) to 2 (H) levee slope to the channel bottom with compacted material obtained from the excavation and borrow material provided by the sponsor. The damaged areas will be repaired to a channel bottom 25 feet wider than the original channel (as opposed to the original 100 feet). The desired slope in the eroded areas would initially be established with compacted earthen material, then overlain with a 6- inch thick layer of rock bedding and finally topped with an 18-inch thick layer of riprap slope protection. Channel damage in the vicinity of existing bridges will be brought to the original profile to protect the integrity of the bridge foundation features. Areas where the crest has been damaged with overtopping will be graded, brought to the original elevation, and resurfaced with 6 inches of crushed aggregate surfacing. Stone slope protection will be placed on repaired channel slopes that were originally protected by stone slope protection. Totals of fill material placed in the channel would include 28,000 cubic yards of riprap, 9,000 cubic yards of rock bedding, and approximately 141,555 cubic yards of earthen fill material. Approximately 105,762 cubic yards of this earthen fill material would be new obtained from offsite borrow sites and approximately 35,793 cubic yards of this earthen material would be excavated from the channel and replaced. Of these totals approximately 19,000 cubic yards of riprap, 6,000 cubic yards of rock bedding, and 93,426 cubic yards of earthen material would be placed below the ordinary high water mark. In addition, approximately 3,400 cubic yards of rock aggregate and approximately 2,400 cubic yards of earthen material would be used to re-grade and resurface approximately 18,000 linear feet of the levee crest, restoring it to its original height. Approximately 50 acres of levee slope disturbed during construction would be reseeded.

The Soldier Creek Diversion unit protects numerous commercial and industrial enterprises, the municipal airport, a major sewage treatment plant, city streets, and county roads. The levee was designed for ~200 year flood frequency level of protection. The project purpose is to rehabilitate the damaged flood damage reduction project to ensure the continuing social and economic benefits associated with this Congressionally authorized project.

The Soldier Creek Diversion Unit of the Topeka, Kansas Flood Protection Project is located in the northern part of the city of Topeka, along Soldier Creek in Sections 5, 6, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, Range 15 east and Sections 15, 16, 17 and 18, Range 16 east, all Township 11 south, Shawnee County, Kansas. Longitude -95.689878, Latitude 39.10248.

ACTION AGENCY: Kansas City District, Corps of Engineers, 700 Federal Building, Kansas City, Missouri 64106-2896. **APPLICANT:** North Topeka Drainage District, Mr. Ron Meier, President, 2123 NW 48th Street, Topeka, Kansas 66608

Dear Mr. Hoover:

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

1. Construction activities including grading and filling, equipment and materials storage, equipment fueling and maintenance, etc.

2. Operations and maintenance of the constructed structures

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. Soldier Creek is described in the Kansas Surface Water Register [KAR 28-16-28(g)] as having the following designated uses: primary contact recreation stream segment is by law or written permission of the landowner open to and accessible by the public, expected aquatic life use, drinking water supply, food procurement, groundwater recharge, industrial supply, irrigation and livestock water supply.

Additionally, a Total Maximum Daily Load (TMDL) for biological impairment has been established for Soldier Creek. TMDLs are quantitative objectives and strategies needed to achieve water quality standards. The water quality standards constitute the goals of water quality adequate to fully support designated uses of streams, lakes, and wetlands.

Pursuant to Section 401and KAR 28-16-28(c) the Kansas Department of Health and Environment finds this project (including mitigation activities) 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:

1) **This certification shall be posted on site through the duration of the project.**

2) North Topeka Drainage District shall avoid or control the discharge of plant nutrients from construction activities, removal of permanent riparian vegetation, **so that the project does not cause:**

   a. Any surface waters of the state within and below the project area to contain discarded solid material, including trash, garbage rubbish, offal, grass clippings, discarded building or construction materials, car bodies, tires, wire and other unwanted or discarded materials [KAR 28-16-28e(b)(3)].

   b. Any surface waters of the state within and below the project to have floating debris, scum, foam, froth and other floating materials directly or indirectly attributable to the project [KAR 28-16-28e(b)(4)].

   c. Any surface waters of the state within or below the project to have of deposits of sludge or fine solids [KAR 28-16-28e(b)(6)].

   d. Alteration of the natural appearance of surface waters of the state within or below the project by the addition of color-producing or turbidity-producing substances of artificial origin [KAR 28-16-28e(b)(8).

   e. The concentration of dissolved oxygen in Soldier Creek to be lower than 5.0 mg/L, Kansas Surface Water Quality Standards [KAR 28-16-28e(d)] in table1g, found in a separate document found at: http://www.kdhe.state.ks.us/water/download/swqs_numeric_criteria.pdf

3) The North Topeka Drainage District shall avoid or control the discharge of toxic substances, oil and grease and other fluids from construction activities, **so that the project does not cause:**

   a. Any surface waters of the state within and below the project area to have a public health hazard, nuisance condition or impairments of designed uses [KAR 28-16-28e(b)(1)].

   b. Any surface waters of the state within and below the project area to have toxic substances, radioactive isotopes, and infectious microorganisms in concentrations or in combinations that jeopardize the public health or the survival or well-being of livestock, domestic animals, terrestrial wildlife or aquatic or semi-aquatic life [KAR 28-16-28e(b)(2)].

   c. Any surface waters of the state within and below the project area to have a visible oil and grease film or sheen on the water surface or on submerged substrate or adjoining shore lines, nor have a sludge or emulsion deposit below the water surface of adjoining shorelines [KAR 28-16-28e(b)(5)].

   d. Any surface waters of the state within and below the project to contain taste and odor producing substances at concentrations which interfere with the production of potable water by conventional water treatment processes, impart an unpalatable flavor to edible aquatic or semi-aquatic life or terrestrial wildlife or that result in noticeable odors in the vicinity [KAR 28-16-28e(b)(7).

   e. The concentration of dissolved oxygen in Soldier Creek to be lower than 5.0 mg/L, Kansas Surface Water Quality Standards [KAR 28-16-28e(d)] in table1g, found in a separate document found at: http://www.kdhe.state.ks.us/water/download/swqs_numeric_criteria.pdf

   f. The pH in Soldier Creek to be below 6.5 or above 8.5 including effects by concentrations of toxic substances. Refer to Surface Water Quality Standards [KAR 28-16-28e(d)] in table1g, a separate document found at: http://www.kdhe.state.ks.us/water/download/swqs_numeric_criteria.pdf

4) The North Topeka Drainage District shall avoid or control the discharge of plant nutrients from construction activities, removal of permanent riparian vegetation, **so that the project does not cause:**

   a. Any surface waters of the state within and below the project area to have a public health hazard, nuisance condition or impairments of designed uses [KAR 28-16-28e(b)(1)].
   b. The concentration of dissolved oxygen in Soldier Creek to be lower than 5.0 mg/L, Kansas Surface Water Quality Standards [KAR 28-16-28e(d)] in table1g, found in a separate document found at: http://www.kdhe.state.ks.us/water/download/swqs_numeric_criteria.pdf

5) The North Topeka Drainage District shall avoid or control the discharge of *Escherichia-coli* bacteria from the project site, especially construction activities, to avoid exceeding a geometric mean of 427 organisms per 100 milliliters during the period of Apri1 through October 31 and geometric mean of 3,843 organisms per 100 milliliters during the period of November 1 through March 31. [KAR 28-16-28e(d) in table 1j].

6) Construction activities disturbing 1 acre or more, are subject to the National Pollutant Discharge Elimination System (N.P.D.E.S.) storm water permit requirements of 40 C.F.R. 122.26. This certification does not relieve the North Topeka Drainage District Inc. of its obligation to secure such permit. Information on construction site NPDES permits is available from Bureau of Water - Industrial Programs website: www.kdheks.gov/stormwater or Mr. Larry Hook at 785/296-5549. A stormwater pollution prevention plan is required.

7) North Topeka Drainage District is strongly encouraged to include items a-e below in the Stormwater Pollution Prevention Plan (SWPP) required by the Construction Stormwater NPDES Permit described in item 6 above.

   a. **Riparian Areas:** Minimize removal or disturbance of riparian areas (areas adjacent to water bodies). KDHE encourages the use of native vegetation or at least being consistent with adjoining vegetation materials to minimize impacts from improper handling of fertilizers and pesticides.

   b. **Solid Waste:** All waste materials produced by the construction project shall be disposed of in accordance with the provisions of the Kansas solid waste management statutes and regulations (K.S.A. 65-3401 and K.A.R. 28-29-1 et. seq.) or applicable local rules. Good house keeping including personal refuse such as food containers, sacks etc. shall be addressed.

   c. **Fuels, Chemicals and Maintenance Areas:** All fuels and chemicals necessary to complete the project shall be stored in such a manner that accidental spillage is minimized or can be temporarily contained before reaching the water body. Equipment maintenance areas shall also be located in this manner.

   d. **Spills:** Should a spill of fuel or discharge of pollutants occur, the local emergency staff should be contacted **first** by dialing 911. The Kansas Department of Health and Environment shall then be notified immediately: **(785)- 296-1679 (24 hours a day.)** These incidences should also be reported to the National Spill Response Center (1-800-424-8802). *Hazardous materials spills and air releases that meet federal reportable quantities must* ***also*** *be reported to Kansas Division of Emergency Management (800-275-0297)."* **These reporting numbers shall be posted in several locations around the site. A Spill Prevention and Response Plan should be prepared.**

   e. **Floating Debris:** The applicant shall take appropriate measures to capture any floating debris released to surface waters as a result of this project.

f. **Repair/Protection :** Any materials used to protect the levee surface shall be free of pollutants in surface runoff or leaching to the groundwater.

8) The applicant should be aware of the on-going process of developing a watershed restoration protection strategy (WRAPS) for the Middle Kansas River Watershed, which includes Soldier Creek. WRAPS entails:1) development of a local stakeholder leadership team, 2) assessing watershed water quality and quantity needs, 3) setting goals and developing a plan of actions to meet goals and 4) financial and technical assistance resources to implement the actions. For more information please contact Mr. John Bond at: (785) 463-5804 or johnloribond@yahoo.com.

9) Public Water Supply Wells are located ½ mile south of some of proposed locations. The applicant shall contact Shawnee County RWD 4, Mr. Mike Weishaar, (785) 286-1729, or mweishaar@kscoxmail.com before initiating work.

10) This certification does not relieve North Topeka Drainage District of the responsibility for any discharge into waters of the state. The Kansas Department of Health and Environment retains the option of revoking or revising this certification any time an inappropriate discharge may occur. As provided by K.S.A. 65-171(f), failure to comply with the conditions of this certification may subject the responsible party to fines up to $10,000 per violation with each day the violation occurs constituting a separate violation.

11) 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(lll) and KAR 28-16-28f(e).

Questions concerning this certification may be directed to Mr. Scott Satterthwaite, 785-296-5573.

Sincerely,

Scott L. Satterthwaite

Scott L. Satterthwaite, M.S.
Non-point Source Pollution Control Specialist
Bureau of Water-Watershed Management Section

EC: KDHE- Hook, Rowlands
KDA-Matt Scherer,
Middle KS WRAPS- John Bond
Shawnee County RWD #4- Mike Weishaar
City of Topeka, Public Works

APPENDIX III – SECTION 404(b)(1) EVALUATION

Soldier Creek Diversion Unit
Topeka, Kansas Flood Protection Project
P.L. 84-99 Levee Rehabilitation Project
Shawnee County, Kansas
June 2008

SECTION 404(b)(1) EVALUATION
SOLDIER CREEK DIVERSION UNIT
TOPEKA, KANSAS FLOOD PROTECTION PROJECT
P.L. 84-99 LEVEE REHABILITATION PROJECT

1. Project Description

a. Location

The Soldier Creek Diversion Unit, Topeka, Kansas Flood Protection Project is located in the northern part of the city of Topeka, along Soldier Creek in Sections 5, 6, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, Range 15 east and Sections 15, 16, 17 and 18, Range 16 east, all Township 11 south, Shawnee County, Kansas. Longitude -95.689878, Latitude 39.10248.

b. General Description

Alternative 1 (Recommended Plan) consists of excavation of the remaining vertical channel slopes along the right and left banks (with the exception of areas in the vicinity of existing bridges) and reconstruction of the channel slope to the original 1 (V) to 2 (H) levee slope to the channel bottom with compacted material obtained from the excavation and borrow material provided by the sponsor. The damaged areas will be repaired to a channel bottom 25 feet wider than the original channel (as opposed to the original 100 feet). The desired slope in the eroded areas would initially be established with compacted earthen material, then overlain with a 6-inch thick layer of rock bedding and finally topped with an 18-inch thick layer of riprap slope protection. Channel damage in the vicinity of existing bridges will be brought to the original profile to protect the integrity of the bridge foundation features. Areas where the crest has been damaged with overtopping will be graded, brought to the original elevation, and resurfaced with 6 inches of crushed aggregate surfacing. Stone slope protection will be placed on repaired channel slopes that were originally protected by stone slope protection. Totals of fill material placed in the channel would include 28,000 cubic yards of riprap, 9,000 cubic yards of rock bedding, and approximately 141,555 cubic yards of earthen fill material. Approximately 105,762 cubic yards of this earthen fill material would be new obtained from offsite borrow sites and approximately 35,793 cubic yards of this earthen material would be excavated from the channel and replaced. Of these totals approximately 19,000 cubic yards of riprap, 6,000 cubic yards of rock bedding, and 93,426 cubic yards of earthen material would be placed below the ordinary high water mark. In addition, approximately 3,400 cubic yards of rock aggregate and approximately 2,400 cubic yards of earthen material would be used to regrade and resurface approximately 18,000 linear feet of the levee crest, restoring it to its original height. Approximately 50 acres of levee slope disturbed during construction would be reseeded.

c. Authority and Purpose

The proposed project would be constructed under the authority of Section 404 of the Clean Water Act (33 USC 1344) and P.L. 84-99 of the Flood Control Act of 1944. The project purpose is to rehabilitate the damaged flood damage reduction project to ensure the continuing social and economic benefits associated with this Congressionally authorized project.

d. General Description of Dredged or Fill Material

(1) General Characteristics of Material

The soil type associated with the natural Soldier Creek channel is an Osage silty clay loam. A portion of the constructed channel on the downstream end crosses a short section of Osage very fine silty loam. As borrow material would originate form borrow areas on the adjacent floodplain typically be located within the channel or involve the excavation of displaced material within the channel these types of material would be expected to be used for fill activity. In addition, clean rock fill from commercial quarries would be used.

(2) Quantity of Material (cu. yds.)

Totals of fill material placed in the Soldier Creek channel would include 28,000 cubic yards of riprap, 9,000 cubic yards of rock bedding, and approximately 141,555 cubic yards of earthen fill material. Approximately 105,762 cubic yards of this earthen fill material would be new obtained from offsite borrow sites and approximately 35,793 cubic yards of this earthen material would be excavated from the channel and replaced. Of these totals approximately 19,000 cubic yards of riprap, 6,000 cubic yards of rock bedding, and 93,426 cubic yards of earthen material would be placed below the ordinary high water mark.

(3) Source of Material

Borrow material would include displaced material from channel excavation and additional material obtained from nearby areas on the flood plain of Soldier Creek and/or the Kansas River. Rock would include displaced material from channel excavation and material obtained from commercial quarries.

e. Description of proposed discharge Site(s)

(1) Location

See Appendix I/Enclosure 1 of the Environmental Assessment.

(2) Size

Approximately 15 acres.

(3) Type of Site

Disposal site is unconfined, riverine permanent water.

(4) Types of Habitat

The project area consists of the Soldier Creek channel which was extensively modified during construction of the original project. Soldier Creek in the project area is bordered for most of its length by the adjacent levee slopes or natural high ground. The channel bottom consists of unconsolidated earthen material, displaced rock riprap and for a short reach one bank of the channel is formed by a natural rock outcrop.

(5) Timing and Duration of Discharge

Construction activity would be completed during anticipated dry times of the year and would be expected to require 1 year to complete construction.

f. Description of Disposal Method

Typical heavy construction equipment (bulldozers, scrapers, loaders, backhoes, dump trucks, rollers, etc.) would be used to excavate and place fill material.

II. Factual Determinations (Section 230.11) 2

a. Physical Substrate Determinations (consider items in Sections 230.11(a# and 230.20)

(1) Substrate Elevation and Slope

Elevations within the Soldier Creek channel vary from approximately 880.0 feet, mean sea level at the upstream end of the project to approximately 852.5 feet mean sea level near the confluence with the Kandsaas River. Soldier Creek channel slopes are constructed 1 vertical on 2 horizontal and the bed gradient is low, typical of a major floodplain stream.

(2) Sediment Type

Earthen fill material excavated from areas immediately adjacent or in close proximity to the proposed construction activity. Clean rock fill obtained from commercial quarries.

(3) Dredged/Fill Material Movement

Extensive movement of dredged/fill material is expected and much of the work would be completed in the wet. Most work would occur during the anticipated dry times of the year, temporary sediment controls would be utilized during construction, disturbed area would be minimized to the absolute necessary to complete construction, disturbed areas would be stabilized upon completion of construction.

(4) Physical Effects on Benthos

Benthos would be buried as result of the fill placement activity. Minimal secondary effects on benthos are anticipated, as runoff from construction activity would be minimal.

(5) Other Effects

Minor short-term construction related impacts to fish and wildlife resources.

(6) Actions Taken to Minimize Impacts (Subpart H)

Measures to minimize impacts include implementation of Best Management Practices during construction. This would include measures such as completing the work in the dry as much as possible, minimizing the disturbed area to that absolutely necessary for construction of the project, implementation of run-off control devices (silt fences, detention basins, temporary seeding), storing equipment and petroleum products where they would not be subject to flooding, and seeding disturbed areas as soon as practicable after construction.

b. Water Circulation, Fluctuation and Salinity Determinations

(1) Water:

(a) Salinity

None.

(b) Water Chemistry (PH. Etc.)

None identified.

(c) Clarity

Minimal construction related temporary increases in turbidty resulting in reduced water clarity.

(d) Color

Minimal construction related temporary changes in water color due to increased turbidty.

(e) Odor

None identified.

(f) Taste

None identified.

(g) Dissolved Gas Levels

None identified.

(h) Nutrients

None identified.

(i) Eutrpohication

None identified.

(j) Others as Appropriate

None identified.

(2) Current Patterns and Circulation:

(a) Current Patterns and Flow

Some benefits to current patterns and circulation would be expected as the base channel width would be increased 25 feet.

(b) Velocity

None identified.

(c) Stratification

None identified.

(d) Hydrologic Regime

None identified.

(3) Normal Water Level Fluctuations

None identified.

(4) Salinity Gradients (consider items in Sections 230.11(b) and 230.25)

Not applicable.

(5) Actions that Will Be Taken to Minimize Impacts (refer to Subpart H)

e. Suspended Particulate/Turbidity Determinations

(1) Expected Changes in Suspended Particulates and Turbidity Levels in Vicinity of Disposal Site

Exposed soil resulting from construction activity is anticipated to result in increased runoff and turbidity impacts to adjacent waterbodies. Appropriate measures to avoid and/or minimize these effects have been incorporated into the proposed project.

(2) Effects (degree and duration) on Chemical and Physical Properties of the Water Column (consider environmental values in Section 230.21, as appropriate)

(a) Light Penetration

Minor short term construction related impacts.

(b) Dissolved Oxygen

Minor short term construction related impacts.

(c) Toxic Metals and Organics

None.

(d) Pathogens

None.

(e) Aesthetics

Minor short term construction related impacts.

(f) Others as Appropriate

None.

(3) Effects on Biota (consider environmental values in Sections 230.21, as appropriate)

(a) Primary Production, Photosynthesis

(b) Suspension/Filter Feeders

(c) Sight Feeders

Minor short term construction related impacts.

(4) Actions to Minimize Impacts (Subpart H)

d. Contaminant Determinations (consider requirements in Section 230.11(d))

e. Aquatic Ecosystem and Organism Determinations (use evaluation and testing Procedures in Subpart G, as appropriate)

(1) Effects on Plankton

None identified.

(2) Effects on Benthos

Minimal adverse. Benthos would be buried as result of the fill placement activity. Minimal secondary effects on benthos are anticipated, as runoff from construction activity would be minimal.

(3) Effects on Nekton

None identified.

(4) Effects on Aquatic Food Web (refer to Section 230.31)

Minimal short-term construction related adverse effects on the aquatic food web are anticipated.

(5) Effects on Special Aquatic Sites

(a) Sanctuaries and Refuges (refer to Section 230.40)

No adverse effects.

(b) **Wetlands (refer to Section 230.41)**

Not applicable.

(c) Mud Flats (refer to Section 230.42)

Not applicable.

(d) Vegetated Shallows (refer to Section 230.43)

Not applicable.

(e) Coral Reefs (refer to Section 230.44)

Not applicable.

(f) Riffle and Pool Complexes (refer to Section 230.45)

Not Applicable.

(6) Threatened and Endangered Species (refer to Section 230.30)

No impacts. Refer to Section 10 of the Environmental Assessment.

(7) Other Wildlife (refer to Section 230.32)

(8) Actions to Minimize Impacts (refer to Subpart H)

f. <u>Proposed Disposal Site Determination</u>

(1) Mixing Zone Determination (consider factors in Sections 230.11(f)(2))

(2) Determinations of Compliance with Applicable Water Quality Standards (present the standards and rationale for compliance or non-compliance with each standard)

(3) Potential Effects on Human Use Characteristics

(a) Municipal and private Water Supply (refer to Section 230.50)

None identified.

(b) Recreational and Commercial Fisheries (refer to Section

No adverse effects.

(c) Water Related Recreation (refer to Section 230.52)

No adverse effects.

(d) Aesthetics (refer to Section 230.53)

Minor short term construction related impacts.

(e) Parks, National and Historical Monuments, National Seashores, Wilderness Areas, Research Sites, and Similar Preserves (refer to Section 230.54)

No impacts.

g. Determination of Cumulative Effects on the Aquatic Ecosystem (consider requirements in Section 230.11(g))

No significant cumulative effects were identified.

h. Determination of Secondary Effects on the Aquatic Ecosystem (consider requirements in Section 230.11(h))

No significant secondary effects were identified.

III. Findings of Compliance or Non-Compliance With the Restrictions on Discharge

a. Adaptation of the Section 404(b)(1) Guidelines to this Evaluation

No significant adaptations of the guidelines were made relative to this evaluation.

b. Evaluation of Availability of Practicable Alternatives to the proposed Discharge Site Which Would Have Less Adverse Impact on the Aquatic Ecosystem

Project as proposed and described in the Environmental Assessment has very similar impacts to the aquatic ecosystem as the other 2 build alternatives considered. The proposed project does incorporate a 25 foot widening of the existing project channel. By widening the stream bottom an additional 25 feet the channel will be less restricted, have greater opportunity to meander and a more natural low flow channel should become established, especially in the segments upstream of those areas influenced by the back water of the Kansas River. The other build alternatives do not include this feature.

c. Compliance with Applicable State Water Quality Standards

Proposed project is in full compliance, see Appendix II of the Environmental Assessment.

d. Compliance with Applicable Toxic Effluent Standard or Prohibition Under Section 307 of the Clean Water Act

Proposed project is in full compliance.

e. Compliance with Endangered Species Act of 1973

Proposed project is in full compliance.

f. Compliance with Specified Protection Measures for Marine Sanctuaries Designated by the Marine Protection, Research, and Sanctuaries Act of 1972

Not applicable.

g. Evaluation of Extent of Degradation of the Waters of the United States

(1) Significant Adverse Effects on Human Health and Welfare

(a) Municipal and Private Water Supplies

No adverse effects.

(b) Recreation and Commercial Fisheries

Short term construction related minimal adverse.

(c) Plankton

None.

(d) Fish

Short term construction related minimal adverse.

(e) Shellfish

Short term construction related minimal adverse.

(f) Wildlife

Short term construction related minimal adverse.

(g) Special Aquatic Sites

(2) Significant Adverse Effects on Life Stages of Aquatic Life and Other Wildlife Dependent on Aquatic Ecosystems

The proposed project would have no significant adverse effects on life stages of aquatic life and other wildlife dependent on aquatic ecosystems.

(3) Significant Adverse Effects on Aquatic Ecosystem Diversity, Productivity and Stability

The proposed project would have no significant adverse effects on aquatic ecosystem diversity, productivity or stability.

(4) Significant Adverse Effects on Recreational, Aesthetic, and Economic Values

The proposed project would have no significant adverse effects on recreational, aesthetic, and economic values.

h. Appropriate and Practicable Steps Taken to Minimize Potential Adverse Impacts of the Discharge on the Aquatic Ecosystem

All appropriate and practicable steps have been taken to avoid and/or minimize potential adverse impacts of the discharge on the aquatic ecosystem.

i. On the basis of the Guidelines, the Proposed Disposal Site(s) for the Discharge of Dredged or Fill Material:

_____ **Complies with the requirements of these guidelines.**

__X__ **Complies with the requirements of these guidelines, with the inclusion of appropriate and practical conditions to minimize pollution or adverse effects on the aquatic ecosystem.**

_____ **Fails to comply with these guidelines.**

EVALUATION RESPONSIBILITY

This evaluation was prepared by:

David R. Hoover, ERS-Biologist — 9 June 08

NAME	TITLE	DATE
David R. Hoover	Emergency Management Specialist (Biologist)	

This evaluation was reviewed by:

David R. Hibbs, Acting Chief, ERS — 18 Jun 08

NAME	TITLE	DATE
David R. Hibbs	Acting Chief, Environmental Resources Section	

This evaluation was approved by:

30 June 08

ROGER A. WILSON, JR.
COLONEL, CORPS OF ENGINEERS
KANSAS CITY DISTRICT

DATE

1/ This outline is furnished for guidance in preparing 404(b)(1) evaluations under the December 1980 Guidelines. The outline should be considered flexible. Each evaluation should be tailored to fit project specific characteristics.

2/ The primary subheadings in this section (II) should be contained in every section 404(b)(1) evaluation since these items are specified to be included by the guidelines. If a particular item is not applicable to a project (such as salinity considerations at a freshwater site), so state.

3/ The Findings and Compliance or Non-Compliance with Restriction on the Discharge on the Discharge should be a narrative and cover items listed in Section III of the outline. The data presented in the Factual Determination should be compared to the restrictions on the discharge in paragraph 230.10, and a determination should be made as to whether the discharge will or will not be in compliance. Do not repeat data given in the Factual Determination in the Finding of Compliance. See attached Example of a Finding of Compliance.