



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

Finding of No Significant Impact

CITY OF TOPEKA FLOOD RISK MANAGEMENT PROJECT TOPEKA, KANSAS

SUMMARY

The U.S. Army Corps of Engineers, Kansas City District (USACE), at the request and with the cooperation of the City of Topeka (local sponsor), proposes to provide flood risk management for the City of Topeka, Kansas. Specifically, this project will correct the existing geotechnical and structural weaknesses and increase the reliability of the flood risk management system for the City of Topeka. The Topeka flood risk management levee system is located in Shawnee County, Topeka, Kansas at the confluence of Soldier Creek and the Kansas River, and is a unit of the Kansas River Basin System. The levee units in Topeka that are proposed for modifications in this plan are: South Topeka Unit, Waterworks Unit, Oakland Unit, and North Topeka Unit. Proposed improvements include the installation of landside underseepage berms, heel extensions, fill behind floodwalls, new pressure relief wells, a wall stiffener on Kansas Avenue Pump Station, stability berms, removal of the Fairchild Pump Station, replacement of a section of the floodwall, and replacement of floodwall gatewells and sluice gates. The Auburndale and Soldier Creek units were studied for deficiencies in the early phase of the project. However, there were no deficiencies found; therefore, no work has been proposed for the Auburndale and Soldier Creek units. The authority for the study of this project is provided by Section 216 of the 1970 Flood Control Act.

PUBLIC INVOLVEMENT

A public meeting was held on 14 November 1996 at the Garfield Community Center in Topeka, Kansas. The purpose was to inform the public of the proposed study and to get feedback on the alternatives proposed in the study. Comments were addressed by USACE representatives and a record of these comments was included in the 1997 Reconnaissance Report. A second public meeting was conducted October 22, 2008 during the 30-day public review period of the Draft EA and Feasibility Report. The Draft Report was mailed to Federal and state agencies, local media, residents within the affected community and other interested parties. All comments received during the public review period were addressed. Comments were received during the public review period from the following entities: City of Topeka, Friends of the Kaw, North Topeka Drainage District, U.S. Fish & Wildlife Service, Kansas State Historical Society,

Natural Resources Conservation Service, and Federal Aviation Administration. There were no comments that required reevaluation of the alternatives, identification of a new recommended plan, or a critical change to impact analysis. Copies of the comment letters and USACE responses can be found in the Appendix B of the Main Feasibility Report.

ALTERNATIVES

A total of four alternatives were evaluated in terms of individual and cumulative effects for the proposed project, which are Alternative 1-Recommended Plan, Alternative 2- Pressure Relief Wells, Alternative 3- Commercial Fill, Alternative 4- No-Action. These are addressed below.

Alternative 1- Recommended Plan: The Recommended Plan consists of the preferred alternatives for each levee unit and these are listed below. In addition, the Recommended Plan will require fill from two borrow areas. Fill will be obtained from two agricultural areas within the Oakland and South Topeka units. Approximately 19.3 acres will be excavated at the Oakland borrow site and 27.3 acres at the South Topeka borrow site.

Oakland Unit: A new earthen underseepage berm will be installed landward of the levee behind the water treatment plant. The berm will be placed along the toe of the levee for about 1,600 linear feet at a height of 6.5 feet, sloping to three feet thick at a distance of about 240 feet outward from the levee. At stations 75+50 and 220+00, heel extensions will be added to the manholes and to the East Oakland Pump Station to mitigate uplift pressures. Two feet of additional fill will be required behind the Shunganunga Creek floodwall to meet sliding stability requirements. About 388 cubic yards of fill will be used and will extend about five feet from the floodwall centerline and taper at a 1:3 slope.

North Topeka Unit: A new earthen underseepage berm will be installed landward of the levee from station 165+00 to 189+00. The berm will be placed along the levee toe for 2,400 linear feet. About 122,250 cubic yards of fill will be used for construction of the berm. New pressure relief wells will be installed along the levee for about 400 linear feet between stations 246+00 and 250+00. Six wells will be placed 75 feet apart and 75 feet deep. The existing Fairchild Pump Station will be removed. However, the below ground level structures will be left in place, filled with concrete-like material, and then covered with soil.

South Topeka Unit: A new earthen underseepage berm will be installed landward of the levee from station 22+00 to 48+00. The berm will be installed at the toe of the levee for about 2,200 linear feet. About 48,150 cubic yards of fill will be used for the construction of the berm. At station 74+41 to 93+86, the existing South Topeka floodwall will be removed and replaced. The new floodwall will be concrete and built along the existing wall alignment to the same length and height. Also, a working platform will be constructed on the bank of the river. This platform is not likely to extend into or impact

the river itself. Access to this area will be from the landside through the first removed section of the existing wall. The existing gate wells and sluice gates will be replaced as part of the floodwall replacement. Three existing manholes will require heel extensions to mitigate uplift pressures. In addition, a wall stiffener at Kansas Avenue Pump Station will be installed to meet the required strength factor for safety.

Waterworks Unit: Approximately two feet of additional fill will be placed behind the floodwall to meet sliding stability requirements. About 1,272 linear feet of fill will be placed along the tow of the wall to five feet out from the floodwall centerline and tapered on a 1 to 3 slope. At stations 13+07 and 15+95, two feet of backfill will be placed behind the stop-log gap sidewalls to address sliding stability. A total of 958 cubic yards of fill will be used to meet sliding stability requirements.

Alternative 2 - Pressure Relief Wells: Under this alternative, the proposed actions will be the same as those described in the Recommended Plan, except pressure relief wells will be installed in place of the proposed underseepage berms on the North Topeka, South Topeka and Oakland Units. The relief wells will be placed landward and within the maintained right-of-way of the levee. The relief well system provides the reliability required with minor, negligible environmental impacts. With the use of pressure relief wells, the amount of borrow material required will be reduced. Both the Waterworks and the Oakland stability berms will be supplied by a single borrow cell. However, this alternative will be more expensive than the recommended plan due to its associated annual operation and maintenance costs.

Alternative 3 - Commercial Fill: Under this alternative, the proposed actions will be the same as those described in the Recommended Plan except under this alternative, borrow fill will be obtained from a commercial source. Commercially obtained fill will likely come from permitted dredging operations in the Kansas River. The estimated amount of commercial fill needed is about 281,000 cubic yards. Several large dump trucks will be used to haul the fill from the commercial dredge site to the project area. This option was not selected as part of the recommended plan because there is a risk that this option may not be available at the time of construction. However, if the total amount of fill needed cannot be obtained from the proposed borrow sites at the time of project construction; then commercial fill will be obtained if available.

Alternative 4 - No-Action Alternative: Under the No-Action Alternative, the proposed project will not be constructed by the USACE. Existing weaknesses in the levees system would be allowed to continue and the risks to public safety and community infrastructure from potential flooding would remain.

SUMMARY OF ENVIRONMENTAL IMPACTS

The recommended plan has relatively minor impacts to the natural environment with overall positive benefits to the socio-economic environment. Impacts to the natural environment are minor because the project is located within a previously disturbed environment that is highly industrial and urbanized. The recommended plan would not

result in any impacts to Federally-listed threatened or endangered species or their habitat. The proposed action would have no impact to sites listed on or eligible for inclusion on the National Register of Historic Places. Temporary, short-term construction impacts to natural and human environment would be related to noise, visual disturbance. The adverse impacts to the natural environment are minor and include the loss of about seven and one-half acres of woodland from the proposed construction of the underseepage berm at South Topeka unit. These impacts will be compensated through replanting and establishment of a natural area within a designated mitigation site. In addition, for borrow excavations from the two agricultural areas, appropriate measures will be taken to allow these areas to return to agricultural use after borrow and construction operations. For borrow operations, the top one foot of soil will be removed, stockpiled, and returned to the site after completion of excavation. In addition, excavation depths in agricultural areas will be kept to a minimum (four feet or less) to reduce impacts to field drainage and to allow farming operations to resume after construction is complete. Also, borrow cells will be excavated after the crops are harvested to avoid crop loss.

MITIGATION

Compensatory mitigation will include establishing a 15-acre planting regime within the South Topeka and North Topeka unit areas. Native tree and grass plantings will be implemented concurrently and/or following project construction. Additional mitigation measures will include the avoidance of construction activities in woodland areas during the migratory bird nesting season of April 1 to July 15. In addition, to minimize risk associated with HTRW contamination from proposed activities, any soil removed from a site associated with the levee work or borrow areas will be analyzed to ensure proper disposal.

CONCLUSION

Based on the environmental assessment, it has been determined that the Recommended Plan will not have any substantial adverse impacts on the natural and human environment. All practicable means to avoid and/or minimize adverse environmental effects have been incorporated into the Recommended Plan. Therefore, the Recommended Plan is the environmentally preferable alternative. Further, the USACE has determined that construction of the proposed project would not significantly impact the human environment and, therefore, an Environmental Impact Statement will not be prepared.

Date: 22 DEC 08



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District Commander