

**U.S. Army Corps of Engineers, Kansas City District**



**Appendix H**

**Hazardous, Toxic  
and Radioactive Wastes Assessment**

**City of Topeka, Kansas  
Flood Risk Management Study  
Draft Environmental Assessment**



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# **HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE ASSESSMENT**

## **Topeka Flood Risk Management Project**

February 2007

A Hazardous, Toxic, And Radioactive Waste (HTRW) assessment was completed as part of the Topeka, Kansas Reconnaissance Report (USACE, 1997). It included a database search and site visit to identify areas of concern within 500 feet of either side of the levee. No sites registered in the database were reported on the National Priorities List, Comprehensive Environmental Response, Compensation, and Liability Information System, and Kansas Hazardous Waste Sites Report.

The assessment identified four areas of concern if the design included disturbance of land side soil:

- Union Pacific Railroad – a potential area of concern due to three above ground storage tanks currently in use.
- Magnus Co., Inc. AT&SF Yards West Gate – this site showed up in the database as a result of site discovery and two subsequent preliminary assessments, but its location could not be determined.
- Fenced yard – located on the south bank of the Kansas River west of the railroad bridge along river road. Contents unknown.
- Remaining area on Oakland Unit – there were several sites listed either in the Leaking Underground Storage Tank database or Registered Storage Tanks database whose status had not been visually confirmed with site visit.

Since completion of the assessment, more precise areas of proposed work have been identified for the project. With this information an updated environmental assessment was performed to determine the risk of the proposed activities being impacted by contaminated sites. The following sources of information were used in the assessment:

- USEPA Enviromapper Database search for known HTRW Sites
- Kansas Department of Health and Environment (KDHE) Bureau of Environmental Remediation database search for known contaminated sites
- KDHE Bureau of Waste Management Solid Waste database
- KDHE database of Permitted Storage Tanks
- KDHE database of Leaking Above Ground and Underground Storage Tanks
- Discussions with existing and former KDHE employees
- Site photographs

Following is a discussion of each of the proposed areas of work and the potential risks associated with HTRW contamination impacting the alternatives being considered for each of those areas.

**North Topeka Unit, Station 165+00 to 189+00 – Problem: Underseepage**

Alternatives to address the underseepage problem in this area include the addition of an underseepage berm or installation of relief wells. Based on the data in the assessment, there are no known contaminated sites in the immediate vicinity. There were seven leaking underground storage tank sites located to the north and northwest of this area and two contaminated sites located to the northwest, but the sites were located 2,000 to 6,700 feet from this area. Therefore, there is little or no risk of encountering soil contamination associated with the identified sites. In terms of groundwater contamination that may impact the relief well alternative, groundwater flow in this area is described as being in the east-northeasterly direction. Therefore, there appears to be very low risk that groundwater contamination from these sites would have migrated towards of the work area. The only potential concern is rubble piles that show up on a site photo and may interfere with placement of the underseepage berm. However, this does not appear to be an HTRW concern. The only HTRW concern is to ensure that any soil brought on-site for use in an underseepage berm has been tested and certified to be clean.

**North Topeka Unit, Station 246+00 to 250+00 – Problem: Underseepage**

For this area, space for installation of an underseepage berm is limited due to the close proximity of railroad tracks. Therefore, relief wells were considered the only feasible alternative to address the underseepage. There are no known contaminated sites in the vicinity of this area. The only potential concern is the close proximity to the railroad tracks. Petroleum and polyaromatic hydrocarbon contamination in soil is not uncommon near railroad tracks, particularly in areas where loading, off-loading, and staging of rail cars occurs. Therefore, there is a potential risk that soil contamination may be encountered in this area. It is recommended that the design of the relief well system minimize soil disturbance to the greatest extent practical. Any soil that is removed from the site during construction will need to be tested to ensure proper disposal.

**North Topeka Unit, Station 364+60, Fairchild Pump Station – Problem: Uplift**

The alternative selected for this location is removal and disposal of the pump station. There are no known contaminated sites in the vicinity of this proposed work. The nature of this work (demolition and disposal of a structure) is not likely to be significantly impacted even if a contaminated site were located nearby. The only concern would be to ensure any soil brought in to backfill the void left by removal of the structure has been tested and certified to be clean.

**Waterworks Unit, Station 0+78 to 7+00 and 10+00 to 16+60 – Problem: Sliding Stability**

The alternative selected to address the sliding stability of floodwall in this area includes the addition of a stability berm adjacent to the wall. The only concern is to ensure the material brought on-site for use has been tested and certified to be clean.

**South Topeka Unit, Station 75+84, Kansas Avenue Pump Station – Problem Strength**

The work associated with this location is reinforcing the structure of the pump station, so there is little or no risk of HTRW impacting this work.

**South Topeka Unit, Station 86+00, Madison St. Pump Station – Problem: Uplift**

The alternatives considered for this location that could be impacted by HTRW contamination involve removal and replacement or heel extension. However, based on the HTRW assessment, the risk of contamination impacting either alternative is very low. However, any soil removed from the site should be tested to ensure proper disposal and any soil brought onto the site should be tested to ensure it is clean.

**South Topeka Unit, Stations 16+07, 84+10, 84+10a, 85+57, Manholes – Problem: Uplift**

The alternatives considered at each of these locations are either removal or replacement of the manhole or the addition of a heel extension. Based on the HTRW assessment, there are no known contaminated sites located near the manhole at station 16+07, but there are several known contaminated sites located to the east, south, and west of the manholes at stations 84+10 and 85+67. Even though there are contaminated sites in the vicinity, it is not believed that contamination exists at the exact location of the manholes. Also, the proposed work appears to cover a fairly small footprint at each of these locations. Therefore, the risk of HTRW having a significant impact on this work is considered low. However, any soil removed from these locations should be tested and properly disposed based upon test results.

**South Topeka Unit, Station 74+41 to 93+86 – Problem: Floodwall foundation weakness**

The alternative selected for this location is removal and replacement of the floodwall on the existing alignment. Also, it includes the replacement of four gate wells and three sluice gates as part of the wall replacement. There are several known contaminated sites located to the east, south, and west of this

location. There is no known soil contamination in the immediate vicinity of the wall. However, the description from the Scotch Cleaners site located to the southeast of the site indicates a groundwater plume of chlorinated solvents is emanating from this site and extends north-northeast to the Kansas River. This plume is likely to be present below the floodwall. Therefore, any work associated with the wall, gate well, or sluice gate replacement that will encounter groundwater is at high risk of being negatively impacted by the contaminated plume.

**South Topeka Unit, Station 22+00 to 48+00 – Problem: Underseepage**

The alternatives being considered for this location are either an underseepage berm or relief wells. Research associated with the HTRW assessment identified two known contaminated sites about 1,000 feet east of this location. The primary contaminants on these sites was lead and some limited petroleum contamination. Based on their proximity and nature of the contamination, the risk of these sites impacting the proposed work is low. There is another site located 2,700 feet to the southwest of the proposed work where an underground storage tank was removed. There was no contamination found during removal of the tank so it is not believed this site poses any HTRW risk to the work. There are also railroad tracks located south of the site, but they appear to be far enough away not to pose a contaminant risk to the proposed work. However, any soil removed from the site should be tested to ensure proper disposal and any material brought onto the site should be tested to ensure it is clean.

**Oakland Unit, Station 220+00, East Oakland Pump Station – Problem: Uplift**

The work proposed at this location is to add a heel extension to resist uplift pressures. There are several former solid waste facilities identified within 400 feet to the east and north east of this location. These are identified as construction and demolition disposal facilities so there is not believed to be any risk of HTRW contamination associated with these sites. This combined with the fact that the proposed work will be isolated to a small footprint adjacent to the existing pump station, makes the risk of HTRW contamination impacting the work very low.

### **Oakland Unit, Station 75+50, Manhole – Problem: Uplift**

The alternatives considered at this location are removal and replacement of the manhole or the addition of a heel extension. Based on the HTRW assessment, there were several underground storage tanks closed about 1,300 feet southeast of the site. The description provided indicated very little contamination found during these removals. No other sites were identified near this location. Therefore, it is believed the risk of HTRW contamination impacting the work is very low. However, any soil removed from these locations should be tested and properly disposed based upon test results.

### **Oakland Unit, Station 485+86 to 491+01 – Problem: Sliding Stability**

The alternative selected to address the sliding stability of floodwall in this area includes the addition of a stability berm adjacent to the wall. The only HTRW concern for this work is to ensure the material brought on-site for use has been tested and certified to be clean.

### **Oakland Unit, Station 64+00 to 80+00 – Problem: Underseepage**

The alternatives being considered for this location are either an underseepage berm or relief wells. Based on the HTRW assessment, there were several underground storage tanks (UST) closed about 1,300 feet southeast of the site. The description provided indicated very little contamination was found during the removal of the tanks. No other sites were identified near this location. Since these sites are 1,300 feet from the proposed work, there is little or no HTRW risk of impacting the underseepage berm alternative. Also, there was no contaminated groundwater concern cited in associated with the UST removals, therefore risk of groundwater contamination impacting relief well installation and operation is considered low. However, any soil removed from the site should be tested to ensure proper disposal and any material brought onto the site should be tested to ensure it is clean.

### **South Topeka Borrow Site**

The HTRW assessment found only one site with a potential impact to the use of this area as a borrow site. A site located at the southwest corner of the proposed borrow area was once permitted as a city dump. It is not known what types of waste were accepted at this facility or the lateral limits of the disposal cells. Even if contaminated material were disposed in this area, it is unlikely to impact areas outside the disposal cells. Liquid waste or contaminants mobilized by infiltrating precipitation would migrate vertically until intercepting groundwater rather than horizontally. Therefore, the borrow areas would still be usable provided an adequate buffer zone between the disposal cells and borrow areas is established. However, depending on the lateral limits of the disposal cells, there may not be as much borrow material available for use as anticipated.

It is recommended that more detailed information regarding the lateral limits of the disposal areas be obtained through research and field investigations if necessary. After the limits of the disposal area is determined and the remaining area available for borrow established, it is recommended that samples for chemical analysis be collected from the proposed borrow area. This will ensure that no contamination material is being transferred from one location to another within the project limits.

### **Oakland Borrow Site**

The HTRW assessment found only one site with a potential impact to the use of this area as a borrow site. A site located at the southwest corner of the proposed borrow area was once permitted as a city dump. Information provided on the site indicated that debris from the 1968 tornado was buried in that location. The range of waste types is unknown that may have been disposed in this location or the lateral limits of the disposal cells. Even if contaminated material were disposed in this area, it is unlikely to impact areas outside the disposal cells. Liquid waste or contaminants mobilized by infiltrating precipitation would migrate vertically until intercepting groundwater rather than horizontally. Therefore, the borrow areas would still be usable provided an adequate buffer zone between the disposal cells and borrow areas is established.

However, depending on the lateral limits of the disposal cells, there may not be as much borrow material available for use as anticipated. It is recommended that more detailed information regarding the lateral limits of the disposal areas be obtained through research and field investigations if necessary to more closely estimate the amount of borrow available. After the limits of the disposal area is determined and the remaining area available for borrow established, it is recommended that samples for chemical analysis be collected from the proposed borrow area. This will ensure that no contamination material is being transferred from one location to another within the project limits.

### **Conclusions and Recommendations**

Overall, the environmental assessment found very little risk associated with HTRW contamination on proposed activities. However there were three areas where there was a potential HTRW or solid waste impact to the proposed work. There is a need to insure that the lateral limits of any contamination be established to insure that remediation measures are incorporated into the final construction plans.

### **South Topeka Unit, Station 74+41 to 93+86**

There is a high probability that groundwater below this area is contaminated with chlorinated solvents. Any alternatives that will encounter groundwater during construction activities have a high risk of encountering HTRW. Also, if

operation of the new facilities results in the discharge of groundwater to the surface, environmental impacts will need to be evaluated.

### **South Topeka Borrow Site**

A former city dump was identified at the southwest corner of the proposed borrow area. The limits of the disposal cells are unknown so there may not be as much borrow area available as anticipated. Investigations are recommended to determine the nature of materials accepted and the lateral limits of the dump. Also, samples from the proposed borrow should be collected and analyzed to ensure material to be used on other sites is clean.

### **Oakland Borrow Site**

A former city dump was identified at the southwest corner of the proposed borrow area. It was described as having debris from a 1968 tornado. The limits of the disposal cells are unknown so there may not be as much borrow area available as anticipated. Investigations are recommended to determine the nature of materials accepted and the lateral limits of the dump. Also, samples from the proposed borrow should be collected and analyzed to ensure material to be used on other sites is clean.

Also, it is recommended that any soil removed from a site associated with the levee work be analyzed to ensure proper disposal. Any soils used to upgrade the levee system should be analyzed to ensure it is not contaminated. Both of these practices ensure that contamination is not being inadvertently spread from one site to another.

Prepared by Paul Speckin,  
HTRW Specialist

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