

US Army Corps of Engineers®

CHICAGO DISTRICT

MCCOOK LEVEE

MCCOOK, IL

Appendix F: Hazardous, Radioactive, and Toxic Waste (HTRW) Phase 1 Environmental Assessment

06 April 2018

CELRC-TS-DH

MEMORANDUM FOR FILE

SUBJECT: HTRW Phase I Environmental Site Assessment for the McCook Levee Section 205 Small Flood Risk Management Project

1. Enclosed is the HTRW Phase I Environmental Site Assessment for the McCook Levee Section 205 small fold risk management project. The investigation was conducted to determine if HTRW or non-HTRW environmental issues in the study area, or surrounding area, have impacted the area or will impact implementation of a proposed project. The investigation was conducted during the planning phase of the project and is based on existing information review, database research, historical document and aerial photograph review, and a site visit.
2. No HTRW issues were identified during the investigation. The investigation identified three non-HTRW conditions at the project site that should be considered in the design phase:
 - A sediment sample collected during the Plainfield Road Corridor Study suggests that the sediment in McCook Ditch may contain levels of iron, lead, and chromium above the State of Illinois CCDD clean fill standards. All the reported sediment analytical results are within the State of Illinois risk-based closure value for residential properties, the most restrictive human health risk standards used for State voluntary cleanup actions. If disturbance and/or removal of the sediment is required for construction of the project, the material can be used onsite as fill material with no increased risk to site users.
 - Excess soils and sediment materials generated at the site during construction should be incorporated into the project footprint as much as practicable. If excess sediment generated during construction cannot be reused onsite, it must be disposed in a RCRA Subtitle D landfill facility. Sediments generated from the McCook Ditch must be prepared for disposal by dewatering onsite, with return water allowed to percolate into the existing site soils and not directed to a waterway for surface discharge. If surface discharge is the only option for disposal of dewater, additional sediment and elutriate testing will be required. In addition, if excess soils will be generated at the site that cannot be reused onsite, soil characterization will be required during design to determine appropriate disposal options.
 - All site trash and debris located within the project limits, including materials dumped at Lawndale Avenue and debris located upstream of the Lawndale Avenue culvert should be removed from the site and disposed in accordance with Federal, State, and local laws and regulations.

3. Questions regarding this HTRW investigation should be direct to Casey Pittman at (312) 846-5506.

original signed 11/8/2017

JOEL L. SCHMIDT, P.E.
Chief, Hydraulic & Environmental
Engineering Section

Enclosure

**HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE (HTRW)
PHASE I ENVIRONMENTAL SITE ASSESSMENT
McCOOK LEVEE SECTION 205 PROJECT
COOK COUNTY, ILLINOIS**

Hydraulics and Environmental Engineering Section (TS-DH)
US Army Corps of Engineers, Chicago District

November 2017

**HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE (HTRW)
 PHASE I ENVIRONMENTAL SITE ASSESSMENT
 McCOOK LEVEE SECTION 205 PROJECT
 COOK COUNTY, ILLINOIS
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INTRODUCTION

The purpose of this report is to discuss the hazardous, toxic, and radioactive waste (HTRW) investigation for the McCook Levee Section 205 Project. This report identifies both HTRW and non-HTRW environmental issues, and presents appropriate measures to resolve these issues. The methods used in performing the investigation are described in detail. Conclusions and recommendations regarding potential impacts due to HTRW and non-HTRW issues associated with the project site are provided.

AUTHORITY

Engineer Regulation (ER) 1165-2-132, Hazardous, Toxic, and Radioactive Waste (HTRW) Guidance for Civil Works projects, requires that a site investigation be conducted as early as possible to identify and evaluate potential HTRW problems. According to ER 1165-2-132, non-HTRW issues that do not comply with the federal, state, and local regulations should be discussed in the HTRW investigation along with HTRW issues.

The HTRW investigation presented in this report was conducted during the feasibility phase of the project. This report was performed at the level of detail required and relies on existing information, observations made through database research, an aerial photograph, topographic map, and historical document review, a site visit, and information provided by the local sponsor. As stated in the ER-1165-2-132 an initial assessment as appropriate for Reconnaissance Study should be conducted as a first priority for projects with no prior HTRW consideration. If the initial assessment indicated the potential for HTRW, testing, as warranted, and analysis similar to a Feasibility Study should be conducted prior to proceeding with the project design.

Hazardous, Toxic, and Radioactive Waste

The objective of ER 1165-2-132 is to outline procedures to facilitate early identification and appropriate consideration of HTRW. This investigation, therefore, identifies potential HTRW and discusses resolutions and/or provides recommendations regarding the HTRW identified.

Non-Hazardous, Toxic, and Radioactive Waste

According to ER 1165-2-132, non-HTRW environmental issues that do not comply with federal, state, and local regulations should be discussed in the HTRW investigation along with HTRW. For example, solid waste is a non-HTRW issue considered. Petroleum releases from Leaking Underground Storage Tanks (LUSTs) are not considered HTRW, but are regulated under the Illinois Administrative Code (IAC), Title 35, Part 731 – Underground Storage Tanks, Part 732 – Petroleum Underground Storage Tanks, and Part 742 – Tiered Approach to Corrective Action Objectives (TACO). These sites have the potential to impose environmental hazards. Non-HTRW issues identified during the investigation are also discussed in this report, along with resolutions and/or recommendations for resolution.

GUIDANCE

Supplemental guidance was provided by the Standard Practice for Environmental Assessments: Phase I Environmental Site Assessment Process (Designation: E 1527-13) prepared by the American Society for Testing of Materials (ASTM). The purpose of this guidance is to define good commercial and customary practice in the United States of America for conducting an environmental site assessment of a parcel of commercial real estate with respect to the range of contaminants within the scope of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) (42 U.S.C. §9601) and petroleum products. These standards recommend that an environmental assessment include a records review, site visit, interviews, and report preparation.

The goal of the environmental site assessment process is to identify recognized environmental conditions (RECs) on a property. The term recognized environmental conditions means the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment. De minimis conditions are not recognized environmental conditions; background concentrations of anthropogenic compounds are de minimis.

LAWS AND REGULATIONS

Federal

The definition of HTRW according to ER 1165-2-132, page 1, paragraph 4(a) is as follows: “Except for dredged material and sediments beneath navigable waters proposed for dredging, for purposes of this guidance, HTRW includes any material listed as ‘hazardous substance’ under the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. 9601 et seq (CERCLA). (See 42 U.S.C. 9601(14).) Hazardous substances regulated under CERCLA include ‘hazardous wastes’ under Sec. 3001 of the Resource Conservation and Recovery Act, 42 U.S.C. 6921 et seq; ‘hazardous substances’ identified under Section 311 of the Clean Air Act, 33 U.S.C. 1321, ‘toxic pollutants’ designated under Section 307 of the Clean Water Act, 33 U.S.C. 1317, ‘hazardous air pollutants’ designated under Section 112 of the Clean Air Act 42 U.S.C. 7412; and ‘imminently hazardous chemical substances or mixtures’ on which EPA has taken action under Section 7 of the Toxic Substance Control Act, 15 U.S.C. 2606; these do not include petroleum or natural gas unless already included in the above categories. (See 42 U.S.C. 9601(14).)”

As noted in 42 U.S.C. 9601(14), the term “hazardous substance” does not include crude oil or any fraction thereof which is not otherwise specifically listed or designated as a hazardous substance, nor does the term include natural gas, natural gas liquids, liquefied natural gas, or synthetic gas usable for fuel. Underground storage tanks (USTs) are federally regulated under 40 CFR Part 280, which includes technical standards and corrective action requirements for owners and operators of USTs.

State

The Illinois State regulations were examined to determine which regulations governed the state specific hazardous waste disposal, release, and cleanup requirements. Illinois regulates USTs under Illinois Administrative Code, Title 35, Subtitle G, Chapter I, Subchapter D, Part 731, Underground Storage Tanks. The definition of a regulated substance under this regulation means any “hazardous substance” or “petroleum”. Hazardous substance UST is defined as an UST system that contains a “hazardous substance”, or any mixture of “hazardous substances” and “petroleum” which is not a petroleum UST system. Petroleum UST means any UST system that contains petroleum or a mixture of petroleum with minimal quantities of other regulated substances.

Owners and operators of petroleum or hazardous substance UST systems must comply with the requirements of Part 731 except for USTs excluded under Section 731.110(b) and UST systems subject to RCRA corrective action requirements under 35 Ill. Adm. Code 724.200, 724.296, 725.296, or 725 Subpart G. Other Illinois hazardous waste regulations included in 35 Illinois Administrative Code Subtitle G, Chapter I, Waste Disposal include Subchapter b, Permits; Subchapter c, Hazardous Waste Operating Requirements; Subchapter d, Part 738, Hazardous Waste Injection Restrictions; Subchapter e, Specific Hazardous Waste Management Standards; and Subchapter h, Illinois “Superfund” Program.

SITE DESCRIPTION

The McCook Levee Section 205 Small Flood Risk Management Project study area is located in McCook, Illinois, see Figure 1. The study area is located along the Des Plaines River from 45th Street to the Indiana Harbor Belt Railway (see Figure 2). The portion of the study area where a project is likely to be implemented is along the western bank of the Des Plaines River, and the boundaries are demarcated by 45th Street in the north, Route 171 in the South, and the Des Plaines River in the east. There are two existing levees adjacent to the River that can be found within the project boundaries, the McCook levee and the West Lyons levee. The Des Plaines River has a relatively wide floodplain, and thus much of the land surrounding the River, particularly on the west side, is densely wooded. Industrial and residential development is located west of the project area. The McCook Ditch also runs parallel along the western bank of the Des Plaines River within the project boundaries and west of the McCook levee. Though outside the project boundaries, the Chicago Sanitary and Ship Canal (CSSC) flows southeast of the project site approximately a quarter mile away from the Des Plaines River.

PROJECT DESCRIPTION

The proposed project will be implemented small flood risk management to reduce potential impacts of flooding around the Des Plaines River. The Des Plaines River is surrounded by banks with relatively flat slopes composed of clayey soils. The project may include levee improvements, new levee/tieback construction, drainage improvements or structures, modifications to McCook Ditch, and other structural or nonstructural measures necessary to

reduce flood risk in the adjacent area. Grading and excavation in the project area, and McCook Ditch, will be required for project implementation.

GENERAL METHODS

The following sections contain information that was requested and gathered in accordance with ER 1165-2-132 for this assessment. The information was obtained from:

- Existing information review
- Historical topographic map and aerial photograph review
- Database research

This information was used to identify any environmental conditions in the proposed project area that would prevent USACE from implementing flood risk management measures and also provide environmental information to guide the team in the development of measures and the associated implementation costs.

EXISTING INFORMATION REVIEW

Soil Type

The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining, and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information obtained from the NRCS website (Attachment 1) is based on Soil Conservation Service SSURGO data.

The dominant soil type in the project area is a Sawmill silty clay loam, undrained, with a slope of 0 to 2 percent. This soil straddles the Des Plaines River throughout the site and is frequently flooded; frequent ponding also occurs due to the poor infiltration rate and low gradient. However, at a greater slope, the Sawmill silty clay loam has a high runoff rate. The depth to water table is 0 to 6 inches. There is also a small amount of Orthents (clayey, rolling) in the area.

Sediment Quality

Soil and sediment samples were collected as part of the MWRD Plainfield Road Corridor Study to evaluate the subsurface soils. The findings were intended to provide a preliminary recommendation for soil disposal for the Plainfield Road study (Attachment 6). One sediment sample was collected in the project area in the McCook Ditch near the First Avenue off ramp (see Figure 3); the sample was collected directly from the creek bed, consisted of silt and organic material, and was saturated with water at the time of sampling. The sediment was analyzed for PNAs, metals, mercury, and pH. Results of sampling were compared to the State of Illinois Maximum Allowable Concentrations (MAC) of Chemical Constituents in uncontaminated soil

used as fill to determine if the material can be disposed as uncontaminated soil as part of the study evaluation. Results suggest that iron (16,700 mg/kg), lead (179 mg/kg), and chromium (46.5 mg/kg) were detected in concentrations exceeding the MAC standards. Findings of the Plainfield Road investigation suggest that the materials in the found in the ditch do not meet the MAC standards for uncontaminated soil used as fill and cannot be disposed offsite as clean construction and demolition debris (CCDD). Elevated metal concentrations found in the sediment collected from the ditch are indicative of the developed nature of the watershed and its function as a storm water conveyance.

Sediment sampling results are summarized in **Table 1** below. Though the sediment sample was collected in the study area, it is unclear if the analytical results presented reflect the existing condition in McCook Ditch. One sediment sample collected in ditch may not accurately reflect the conditions within the ditch throughout the entire. In addition, it is unclear if this same material sampled is present now or will be impacted as part of the USACE project. Concentrations of chromium, iron, and lead found in the sediment are above the MAC standard for disposal as CCDD as discussed above; in addition, several metals exceed the normal background concentrations of contaminants found in upland soils (aluminum, barium, cadmium, calcium, chromium, cobalt, copper, iron, lead, magnesium, nickel, potassium, sodium, zinc, and mercury). All the reported sediment analytical results are within the State of Illinois risk-based closure value for residential properties, the most restrictive human health risk standards used for State voluntary cleanup actions. If disturbance and/or removal of the sediment is required for construction of the project, the material can be used onsite as fill material with no increased risk to site users.

Table 1: Sediment Sampling Results (Plainfield Road Study)

Contaminant	Result (mg/kg)	MAC standard (mg/kg)	TACO Residential Risk Exposure (mg/kg)	Background (mg/kg)
Aluminum	9,540	-	-	9,500
Antimony	1.8 J	5	31	4.0
Arsenic	8.6	13.0	13.0	13.0
Barium	115	1,500	5,500	110
Beryllium	0.46 J	22	160	0.59
Cadmium	2.4	5.2	78	0.6
Calcium	98,300	-	-	9,300
Chromium	46.5	21	230	16.2
Cobalt	9.0	20	4,700	8.9
Copper	113	2,900	2,900	19.6
Iron	16,700	15,900	-	15,900
Lead	179	107	400	36.0
Magnesium	43,100	325,000	325,000	4,820
Manganese	308	636	1,600	636
Nickel	31.6	100	1,600	18.0
Potassium	2,860	-	-	1,268
Sodium	445	-	-	130

Contaminant	Result (mg/kg)	MAC standard (mg/kg)	TACO Residential Risk Exposure (mg/kg)	Background (mg/kg)
Vanadium	23.0	550	550	25.2
Zinc	330	5,100	23,000	95.0
Mercury	0.36	0.89	10	0.06
Anthracene	0.312	12,000	12,000	0.4
Benzo(a)anthracene*	1.31	1.8	1.8	1.8
Benzo(a)pyrene*	1.71	2.1	2.1	2.1
Benzo(b)fluoranthene*	1.8	2.1	2.1	2.1
Benzo(ghi)perylene	1.3	-	-	1.7
Benzo(k)fluoranthene	1.56	9	9	1.7
Chrysene	1.88	88	88	2.7
Dibenzo(ah)anthracene*	0.369	0.42	0.42	0.42
Fluoranthene	3.79	3,100	3,100	4.1
Fluorene	0.118 J	560	560	0.18
Indeno(123-cd)pyrene*	1.05	1.6	1.6	1.6
Phenanthrene	1.82	-	-	2.5
Pyrene	2.92	2,300	2,300	3.0
pH	7.2	6 - 9	-	

*within a populated are in a MSA excluding Chicago

Soil Quality

No project specific investigations were conducted to characterize soils in the project area. Based on review of historical documents discussed in other areas of this report, there are no instances indicating a release of petroleum products or hazardous substances within the project boundaries, nor has the project site been developed for industrial purposes. Soils are expected to contain background de minimis concentrations of PAHs and metals similar to soils found in the Chicago region. The U.S. Geological Survey, in cooperation with the Chicago Department of Environment, assessed the concentration of PAHs and inorganic constituents in ambient surface soils in the City of Chicago (USGS 2003). USGS found that PAH compounds are ubiquitous in ambient surface soils due to atmospheric settling of particulate matter. The majority of PAHs released to the environment are derived from anthropogenic sources such as the operation of motor vehicles; burning coal, wood, or trash in a residential furnace; and industrial sources such as thermoelectric power generation and coking operations. USGS also found that while concentrations of various inorganic constituents (metals) in surface soils in the City of Chicago appeared to be affected by the natural development of the soils, the concentrations of arsenic, mercury, calcium, magnesium, phosphorus, copper, molybdenum, zinc, selenium were from 2 to 8 times higher, and concentrations of lead were about 20 times higher, than in typical soils from the surrounding area and indicate an anthropogenic source for these analytes as well. Background de minimis concentrations of PAHs and metals found in soils on the Chicago region are not RECs.

Surface Water Quality

The surface waters in the project area include the Des Plaines River and the McCook Ditch. The Des Plaines River originates in Wisconsin and flows south into Illinois through Lake County to Cook County. The Des Plaines River then flows southwest to its confluence with the Kankakee River, where the two rivers combine to form the Illinois River. The McCook Ditch is a relatively stagnant waterway that accepts stormwater runoff from adjacent properties and the developed watershed, and provides internal drainage on the landward side of the levee. The Summit conduit directs flow from the ditch to the CSSC.

The State of Illinois is responsible for specifying appropriate water uses for state waters; identification of appropriate water uses takes into consideration the usage and value of public water supply, protection of fish, wildlife, recreational waters, agricultural, industrial, and navigational water ways. The assessment of suitability of a river, lake, stream, or wetland for a particular use is based on physical, chemical, and biological characteristics of the water body. Illinois Environmental Protection Agency (IEPA) applies water quality criteria to protect designated uses of waters of the state, and documents the quality of water of the state in the *National Water Quality Inventory Report*, an integrated report submitted biennially to EPA that is required to comply with Sections 305(b) and 303(d) of the Clean Water Act (CWA).

Section 303(d) of the Clean Water Act requires that all states maintain and publish lists of impaired waterways, which is defined as a waterway that does not meet water quality standards set by their respective state(s). In its 2016 303(d) list, the State of Illinois identified impairments in Des Plaines River. Because this is a large waterway and only a small segment passes through the proposed project area, only assessment units within the project boundaries are discussed in this report. The Des Plaines River does not meet the designated uses of aquatic life, fish consumption, of primary recreation contact due to unacceptable levels of aldrin, arsenic, chloride, lindane, methoxychlor, other flow regime alterations, dissolved oxygen, pH, total phosphorus, mercury, polychlorinated biphenyls, and fecal coliform. Potential sources include contaminated sediments, combined sewer overflows, municipal point source discharges, urban runoff/storm sewers, impacts from hydrostructure flow regulation/modification, dam or impoundment, atmospheric deposition of toxins, or other unknown sources.

No project specific studies have been done to characterize the surface water quality at the project site. The water quality of surface waters in McCook Ditch are unknown.

Groundwater

No project specific studies have been done to characterize the groundwater water quality at the project site. The available topographic maps indicate that the project site is relatively flat along the Des Plaines River. The groundwater in the area likely flows toward the Des Plaines River.

HISTORICAL TOPOGRAPHIC MAP AND AERIAL PHOTOGRAPH REVIEW

Indications of potential RECs can be determined by identifying the past land use and site activities at the project area and surrounding areas. Identifying industrial and residential areas, observing any evidence of topographic changes, and locating extensive areas that lack vegetation can determine indications of a potential REC. Historical topographic maps and aerial photographs for the project area are included in Attachments 3 and 4. The series of historical topographic maps date from 1891 to 2012. Findings are presented in **Table 2**.

Table 2: Summary of Topographic Map Review

Map Year	Observation
1891 Topographic Map	Railroad track is constructed over Des Plaines River. The Indiana and Michigan Canal (I&M) runs southeast of the River. A large road (now Highway 171) runs over the River approximately one-mile downstream of where the railroad tracks intersect the River.
1893 Topographic Map	No significant changes.
1900 Topographic Map	Much of the Des Plaines River south of the railroad track has been channelized. The Chicago Sanitary and Shipping Canal (CSSC) has been constructed and runs northwest and parallel of the I&M canal.
1901 Topographic Map	No significant changes.
1928 Topographic Map	Island in the Des Plaines River has transformed into a wetland area; this has resulted in a widened River and a few small nearby oxbow lakes. The River south of the railroad tracks has meandered slightly and several small islands are visible. A road (47 th St.) has been constructed north of railroad track and runs over the River. The neighborhood north of 47 th St. has expanded and developed.
1945 Topographic Map	No significant changes. Small structures in areas southwest of the project site can now be seen.
1953 Topographic Map	The River appears to have narrowed directly south of the railroad tracks. Structures have been built in the area directly west of the River between 47 th St. and the railroad tracks. A portion of land between the River and the CSSC has been portioned off. This land has been identified as the Harlem Avenue Solids Management Area (HASMA) operated by the Municipal Water Reclamation District of Chicago (MWRD).
1963 Topographic Map	The small islands and areas of sediment buildup in the Des Plaines River are gone and there now exists a backwater area northwest of the highway. HASMA, between the River and the CSSC, displays topographic changes. Small pits can now be seen in the northwestern area between the railroad tracks and the River.
1972 Topographic Map	The 171/55 Interchange has been constructed. Development has continued in the area west of the River, between 47 th St. and the railroad tracks.
1980 Topographic Map	No significant changes. Development west of the River has continued.

Map Year	Observation
1993 Topographic Map	Ponds have formed in HASMA.
1998 Topographic Map	No significant changes. Ponds in the HASMA area have expanded, and a small stream east of the River and directly south of the railroad tracks now flows from the main channel and into a densely wooded area (Portage Woods).
2012 Topographic Map	No significant changes. The stream south of the tracks, flowing east from the main channel of the River, can no longer be seen.

The series of historical aerials date from 1938 to 2012. Findings are presented in **Table 3**.

Table 3: Summary of Historical Aerial Photograph Review

Photo Year	Observation
1938 Aerial Photograph	Des Plaines River flows beneath large road (47 th St.) and railroad tracks. A small island bisects the Des Plaines River in the southwest corner of the photograph. The Chicago Sanitary and Ship Canal (CSSC) can be seen the southeast of the River. Large black area can be seen northwest of the River, and a small stream can be seen running through the area toward and then along the River. South of the railroad tracks and west of the River there is an area that appears to be utilized for agricultural purposes. North of 47 th St. and west of the River there is a sparsely populated neighborhood. There is a large building, likely industrial in nature, on the southwest side of the aerial, north of the River.
1951 Aerial Photograph	The River has seemingly widened, possibly due to anthropogenic activities. The banks of the River appear to have more trees. The small island has shrunk considerably. Black area is gone, though the small stream still runs toward and along the River. There is a new complex of buildings directly west of the River, between 47 th St. and the railroad. There has been continued development of the building in the southwest corner of the project site. In the area southeast of the railroad, it appears that the River has formed a knob-like pool directly east of the main channel. A large portion of the area between the River and the CSSC appears darker with several ponds; this area has been identified as the HASMA, managed by MWRD.
1962 Aerial Photograph	The property between the railroad tracks west of the River has continued to be developed. Most of the island in the River has disappeared and the small area of land has created a backwater area. There are more buildings, parking lots, and driveways in the area between the railroad tracks and 47 th St. and there has been continued development of complex in the southwest corner of the aerial photograph. The crop lines are no longer present in the area below the train tracks; this area now contains a couple of small darker expanses. There is a small stream in this area that runs parallel to the River on the northwest side for the entirety of its confluence. The neighborhood north of 47 th St. has continued to develop. HASMA appears to primarily contain solid material, with only a small area appearing to contain water. There is also a smaller fill area that has been developed southwest.

Photo Year	Observation
1972 Aerial Photograph	The building complexes west of the River and the neighborhood north of 47 th St. have continued to develop and expand. The previously agricultural land south of the railroad tracks and northwest of the River appears to have fill areas. HASMA has expanded slightly northward. Two large parking lots have been constructed northwest of the River, adding to the industrial complex that lies north of the recently-completed highway. The banks of the River appear to be more densely vegetated.
1978 Aerial Photograph	Few notable changes. The knob-like pool east of the River has been mostly filled in and the area is covered with vegetation.
1983 Aerial Photograph	Continued activity at HASMA. The knob-like pool has been completely filled in. A driveway running east-northeast from the factory complex directly northwest of the highway and the River has been constructed.
1988 Aerial Photograph	There has been large expansion of both industrial complexes north and south of the railroad tracks, along with HASMA. The area south of the railroad tracks and northwest of the River appears to be utilized as a material storage or staging facility.
1993 Aerial Photograph	No significant changes. Vegetation along the banks continues to expand. Most of the water pits in HASMA appear to be filled with solid material.
1999 Aerial Photograph	No significant changes.
2005 Aerial Photograph	The backwater area in the southwest area of the project looks bright green. There are small structures in area northwest of River and south of railroad tracks in what appears to be a quarry storage facility.
2007 Aerial Photograph	Most of the bright green in backwater area has dissipated, though can be seen in parts of ditch flowing parallel to River and other small streams in the area. Possible rock outcroppings (small grey dots) are visible in the River, north of the highway. Small structures in quarry storage facility have been removed.
2009 Aerial Photograph	No significant changes. Backwater area appears to have been partially filled in.
2010 Aerial Photograph	No significant changes. Sediment in and near backwater area has dissipated. Area surrounding HASMA is mostly vegetated.
2011 Aerial Photograph	No significant changes.
2012 Aerial Photograph	No significant changes.

Review of historical topographic maps and aerial photographs suggests that development took place near the project area over the past century. Much of the industrial activity, west of the Des Plaines River, expanded and eliminated most of the open, undeveloped land west of the project area. It does not appear that there has been any industrial development with the study area boundaries.

DATABASE SEARCH

A search of available environmental records was conducted utilizing Environmental Database Resources, Inc. (EDR). EDR searched federal and state databases using the minimum search distances issued in the ASTM E 1527-13 guidelines. **Table 4** notes the recommended ASTM search distances for federal and state databases. See Figure 4 for results from database report. The database search was extended ½ mile to accommodate the length of the study area. As a result, the number of returns in the database search is extensive; only those entries with the highest risk of impacting the project area on or directly adjacent, and sites where there is a known release, were reviewed as part of this investigation.

Table 4: Minimum Search Distance for Federal and State Databases

Database	Approximate Minimum Search Distance (mi)
Federal NPL Site List	1.0
Federal CERCLIS List	0.5
Federal NPL Site List	1.0
Federal CERCLIS List	0.5
Federal CERCLIS NFRAP (SEMS-ARCHIVE) site list	Property and Adjoining Properties
Federal RCRA CORRACTS Facilities List	1.0
Federal RCRA non-CORRACTS TSD Facilities List	0.5
Federal RCRA Generators List	Property and Adjoining Properties
State Equivalent NPL	1.0
State Equivalent CERCLIS	0.5
State Landfill/Solid Waste Disposal Site Lists	0.5
State LUST Lists	0.5
State registered UST List	Property and Adjoining Properties

CERCLIS

The Comprehensive Environmental Response, Compensation, and Liability, Information System (CERCLIS) contains data on any potential hazardous waste site that has been reported by states, municipalities, private companies, or private persons pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The CERCLIS database indicates the stages of evaluation and remediation that have been completed for any given site. The CERCLIS database includes the National Priority List (NPL), which identifies over 1,200 sites for priority cleanup under the Superfund program. SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the

Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA’s knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that based upon available information, the location is not judged to be potential NPL site. There are eight sites in the SEM-ARCHIVE database; none are on or adjacent to the project area.

RCRIS

The Resource Conservation and Recovery Information System (RCRIS) lists sites which generate, transport, store, and/or dispose of hazardous waste defined by the Resource Conservation and Recovery Act (RCRA). The RCRIS database includes RCRA Corrective Action Report (CORRACTS), which identify hazardous waste handlers with RCRA corrective action activity; RCRA treatment, storage, and disposal facilities (TSDFs), and RCRA conditionally exempt small quantity generators (CESQGs), RCRA small quantity generators (SQGs), and large quantity generators (LQGs) facilities. The database search returned six RCRA corrective action site in the area of the study, but none of the CORRACTS sites are on or near the project area. There are multiple RCRA generators in the database report; one RCRA-CESQG is on or near the project area, see **Table 5**.

Table 5: RCRIS Database Search Results

EDR Map ID	Database	Site Name	Status	Potential Impact
A16	RCRA-CESQG	Denton Cartage	RCRA-CESQG for corrosive waste, no RCRA violations found.	No known releases. REC unlikely.

ERNS/SPILLS

The SPILLS database contains a listing of hazardous materials incidents reported to the Illinois Emergency Management Agency and the Office of Emergency Response. There are multiple reported spills within the database report, six are near the project area, see **Table 6**.

Table 6: SPILLS Database Search Results

EDR Map ID	Database	Site Name	Status	Potential Impact
C7/ C8	SPILLS	7601 W 47 th St. (Ortek Inc.)	Occurred in 2010. No additional information.	Multiple spill incidents appear to have taken place near the project area in a concentrated location. Conduct site visit to ascertain if the spills may have impacted project area, or McCook Ditch.
E41	SPILLS	7601 W. 47 th St. (Vortech Industries)	Occurred in 2000. No additional information.	
E42	SPILLS	7800 47 th St. (Pelron Industries)	Occurred in 2005. No additional information.	
E43	SPILLS	7647 47 th St. (Pelron Industries)	Occurred in 2002. No additional information.	
I60	SPILLS	7601 W 47 th St. (Ortek Industries)	Occurred in 2000. No additional Information.	

SSU

A State equivalent CERCLIS database: the State Response Action Program database identifies the status of all sites under the responsibility of the Illinois EPA’s State Sites Unit. These sites may or may not have already been listed on the federal CERCLIS list. There are four (4) IL SSU sites in the database search report, but none of the sites are on or near the project area.

SWF/LF

The IEPA records the state’s Solid Waste Facilities/Landfill sites (SWF/LF). These sites may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites. There are 6 SWF/LF disposal sites in the database report, but none are on or near the project area.

CCDD

Construction and demolition (C and D) debris is nonhazardous, uncontaminated material resulting from construction, remodeling, repair, or demolition of utilities, structures, and roads. There is one CCDD in the database report; it is not on or near the project area.

Special Waste LF

These landfills, as of January 1, 1990, accept non-hazardous special waste pursuant to the Illinois EPA Non-Hazardous Special Waste Definition. List A includes landfills that may receive any non-hazardous waste, Non-Regional Pollution Control Facilities are so noted. List B includes landfills designed to receive specific non-hazardous wastes. List B landfills are

designated as a Regional Pollution Control Facility by RPCF, or Non-Regional Pollution Control Facility by Non-RPCF. There is one special waste landfill in the database report; it is not on or near the project area.

IL NIPC

NIPC is an inventory of active and inactive solid waste disposal sites, based on state, local government and historical archive data. Included are numerous sites which previously had never been identified largely because there was no obligation to register such sites prior to 1971. There are three NIPC sites in the database report; none are on or near the project area.

LUST/UST

The Illinois State Fire Marshall maintains a listing of registered underground storage tanks (UST), as required by RCRA Subtitle I. The Illinois Environmental Protection Agency maintains a listing of leaking underground storage tank reports (LUST). There are multiple LUSTs and USTs in the database report. One UST is located near the project area, discussed in **Table 7** below.

Table 7: IL UST Database Search Results

EDR Map ID	Database	Site Name	Status	Potential Impact
A40	UST	AMF Forest Lanes	Tank exempt from registration. Last used 1973.	Tank not on or adjacent to project area: impacts to project implementation unlikely.

SRP and INST/ENG CONTROL

The Site Remediation Program (SRP) database lists all voluntary remediation projects administered through the pre-notice site clean-up program (1989 to 1995) and the site remediation program (1996 to present). Some of the SRP sites have engineering and/or institutional controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health. Institutional controls include administrative measures, such as groundwater use restriction, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls. There are eleven SRP sites, some with or without engineering and/or institutional controls in the database report. None of the sites are on or near the project area.

Others

Various other databases are searched that include supplemental information to the above databases, including: RCRA non generators, CERCLA consent decrees, National Priority list deletions, Nuclear Regulatory Commission’s database of sites possessing radioactive materials,

Superfund Liens, NPDES, AIRS, PCB Activity Database, Department of Defense sites, Brownfield's, Toxic Chemical Release Inventory, FIFRA/TSCA tracking system, oil and gas pipelines, historical auto and service stations, electric transmission lines, sensitive receptors, flood zone data, and the national wetlands inventory. Findings from other databases not discussed in other areas of this report are included in **Table 8**.

Table 8: Other Database Search Results

EDR Map ID	Database	Site Name	Status	Potential Impact
A1/ A2	BOL HMIRS	Rierden Chemical and Trading Company (7701 W 47 th St.)	IEPA database entry 0311715107. Hazardous material spill reported to DOT. Location similar to SPILLS incidents.	Check location to confirm if possible area of concern (see SPILLS table).
C5	FINDS ECHO	RS Used Oil Services (7601 W 47 th)	ECHO database. No response on the database, 10/20/20107.	No indication of a release onsite. REC unlikely.
I59	IL AIRS BOL	Ortek, Inc	031174ACF – operating. Petroleum lubricating oil and grease manufacturer. Violations on file for excessive odor – not other complaints. Facility manages/stores used oil onsite (500,000 gallons).	No known unauthorized releases, REC unlikely.
I61	IL AIRS	Moreco Energy (Orteck)	031174ABT – operation ceased 5/6/2014	No known unauthorized releases, REC unlikely.
I62	IL AIRS	Fertech Environment al Inc.	031174ABZ – facility permanently closed 5/16/2014	No known unauthorized releases, REC unlikely.

Adjacent Industry

In support of the economic benefits for the project, a listing of businesses that are within the study area and may have been impacted by flooding in the past was generated. The businesses, which are mostly adjacent to the McCook Ditch and west of the existing levee within the Des Plaines River floodplain, were searched using USEPA online databases (Enviromapper) to determine any environmental compliance activities at the facilities. Results are summarized in **Table 9**. With the exception of Denton Cartage spill activity (EDR Site A16), there are no known instances of releases at the adjacent industrial properties.

Table 9: Adjacent Industry Search Results

EDR Map ID	Business	Address	Database Entries and Status	Potential Impact
A16	Denton Cartage	7701 47 th St Lyons	RCRAINFO – corrosive waste trucking, no violations	Check location to confirm if possible area of concern (see SPILLS table).
	MBT Transportation INC	7753 47 th St McCook	No database returns.	No indication of a release onsite. REC unlikely.
	LTS Truck Repair Pasha	7801 47 th St McCook	No database returns.	No known unauthorized releases, REC unlikely.
	Action Turbine Repair Services	5120 W Lawndale Ave Summit	No database returns.	No known unauthorized releases, REC unlikely.
	Furex Inc	5200 W Lawndale Ave Summit	No database returns.	No known unauthorized releases, REC unlikely.
	Rosi Transportation	7635 W Lawndale Ave Summit	No database returns	No known unauthorized releases, REC unlikely.
	R D Logistics	515 W Lawndale Ave Summit	No database returns	No known unauthorized releases, REC unlikely.
	Liv Transportation Inc	5151 Lawndale Ave Summit	No database returns	No known unauthorized releases, REC unlikely.
	Freight Consolidation Centers	5151 Lawndale Ave Summit	No database returns	No known unauthorized releases, REC unlikely.
	BHT Truck Repair	5130 W Lawndale Ave Summit	No database returns	No known unauthorized releases, REC unlikely.
	Pro Stop Truck Service Inc	5150 W Lawndale Ave McCook	No database returns	No known unauthorized releases, REC unlikely.
	K&K Iron Works LLC	5100 Lawndale Ave McCook	No database returns	No known unauthorized releases, REC unlikely.

SITE VISIT

A site visit was conducted on October 31, 2017. The purpose of the trip was to examine the project site for evidence of HTRW or other environmental issues. Sites of concern discussed in other sections of this report were investigated further to determine if activities at adjacent facilities have impacted the project area. See Attachment 9 for site visit photographs.

The project area was accessible from local roadways. The existing levee was accessed on the southern portion of the study area at Lawndale, which dead ends into the existing levee. The site was also accessible from 47th Street. Members of TS-DH walked the length of the McCook levee from Lawndale to 45th Street, with the exception of the portion of the levee that crosses the railroad corridor on the northern portion of the site. The portion of the study area from 47th to 45th Street (Lyons levee) has a paved walking/bike trail; the remainder of the levee is undeveloped, overgrown with vegetation in most areas, with the exception of portions that have been recently cleared and snagged. The following observations were made during the site visit:

- A steel sheet pile wall prevents access from the levee to the Des Plaines River. The adjacent floodplain area east of the levee to the Des Plaines River is free of trash and debris (photos 9 and 24).
- McCook Ditch appears to flow from south to north on the southern portion of the study area towards the Summit conduit. Summit conduit area is shown in photos 15 through 17. A series of changes in the channel bed elevation causes a rippling/pooling effect along points of McCook Ditch between Lawndale and the Summit conduit (photos 5, 6, and 8). Water in McCook Ditch north of the Summit conduit is stagnant. In areas where the water is stagnant it exhibits a dark color and foul odor (photo 18 and 23). Several pipes outlet to McCook Ditch on the west bank, as shown in Photos 11 through 14. One appears to be a gated structure.
- Garbage and debris is present in McCook Ditch at the inlet of the Lawndale Avenue culvert (photo 1), which was mostly under water when the site visit was conducted.
- There is sign of little dumping in the project area. Trash and debris has been dumped in the area where Lawndale Avenue dead ends at the levee (photo 2 and 3).
- Areas adjacent to the study area to the west are primarily service (tree service), industrial, manufacturing, or construction-type material storage. In the area where several SPILLS were noted in the EDR database report along 47th Street, there were no culverts or outlets visible from the adjacent industrial area to the McCook Ditch that would direct contaminants into the study area. It is likely that SPILLS were contained at the facilities themselves; no offsite impact were visible in the area. There were no signs that vegetation in the study area adjacent to previous SPILL incidents have been impacted.
- North of 47th Street, adjacent properties are residential in nature and appear to be well-kept, with a variety of outbuildings and recreational type structures located adjacent to the study area.

While the site visit was conducted in the fall and leaves had already begun to fall, there were no areas of the site where vegetation was sparse; the banks of the existing levees are densely vegetated with trees and understory brush and/or turf grass. There are no indications that the site contains HTRW.

FINDINGS AND CONCLUSIONS

This HTRW investigation was performed to determine if HTRW and non-HTRW environmental issues at the McCook levee 205 study area, or surrounding area, have impacted the project site or will impact implementation of a project. According to ER 1165-2-132, non-HTRW environmental issues that do not comply with federal, state, and local regulations should be discussed in the HTRW evaluation along with HTRW issues.

No HTRW issues were identified during this investigation. The investigation identified three non-HTRW conditions at the project site should be considered in design phase:

- A sediment sample collected during the Plainfield Road Corridor Study suggests that the sediment in McCook Ditch may contain levels of iron, lead, and chromium above the State of Illinois CCDD clean fill standards. All the reported sediment analytical results are within the State of Illinois risk-based closure value for residential properties, the most restrictive human health risk standards used for State voluntary cleanup actions. If disturbance and/or removal of the sediment is required for construction of the project, the material can be used onsite as fill material with no increased risk to site users.
- Excess soils and sediment materials generated at the site during construction should be incorporated into the project footprint as much as practicable. If excess sediment generated during construction cannot be reused onsite, it must be disposed in a RCRA Subtitle D landfill facility. Sediments generated from the McCook Ditch must be prepared for disposal by dewatering onsite, with return water allowed to percolate into the existing site soils and not directed to a waterway for surface discharge. If surface discharge is the only option for disposal of dewater, additional sediment and elutriate testing will be required. In addition, if excess soils will be generated at the site that cannot be reused onsite, soil characterization will be required during design to determine appropriate disposal options.
- All site trash and debris located within the project limits, including materials dumped at Lawndale Avenue and debris located upstream of the Lawndale Avenue culvert should be removed from the site and disposed in accordance with Federal, State, and local laws and regulations.

No HTRW investigation can wholly eliminate uncertainty regarding the potential for HTRW associated with a project area. Performance of the HTRW investigation is intended to reduce, but not eliminate, uncertainty regarding the potential for HTRW in connection with a project area.

REFERENCES

- American Society for Testing of Materials. Publication E 1527-13. Standard Practice for Environmental Assessments: Phase I Environmental Site Assessment Process.
- Department of the Army. U.S. Army Corps of Engineers. ER 1165-2-132. Hazardous, Toxic, and Radioactive Waste (HTRW) Guidance for Civil Works Projects. June 1992.
- IEPA Bureau of Water, 2014. Illinois Integrated Water Quality Report and Section 303(d) List, Water Resource Assessment Information and Listing of Impaired Waters.
- USGS 2003. Kay and others - Concentrations of Polynuclear Aromatic Hydrocarbons and Inorganic Constituents in Ambient Surface Soils, Chicago, Illinois: 2001-02—U.S. Geological Survey Water-Resources Investigations Report 03-4105.
- 35 Illinois Administrative Code. Environmental Regulations for the State of Illinois.

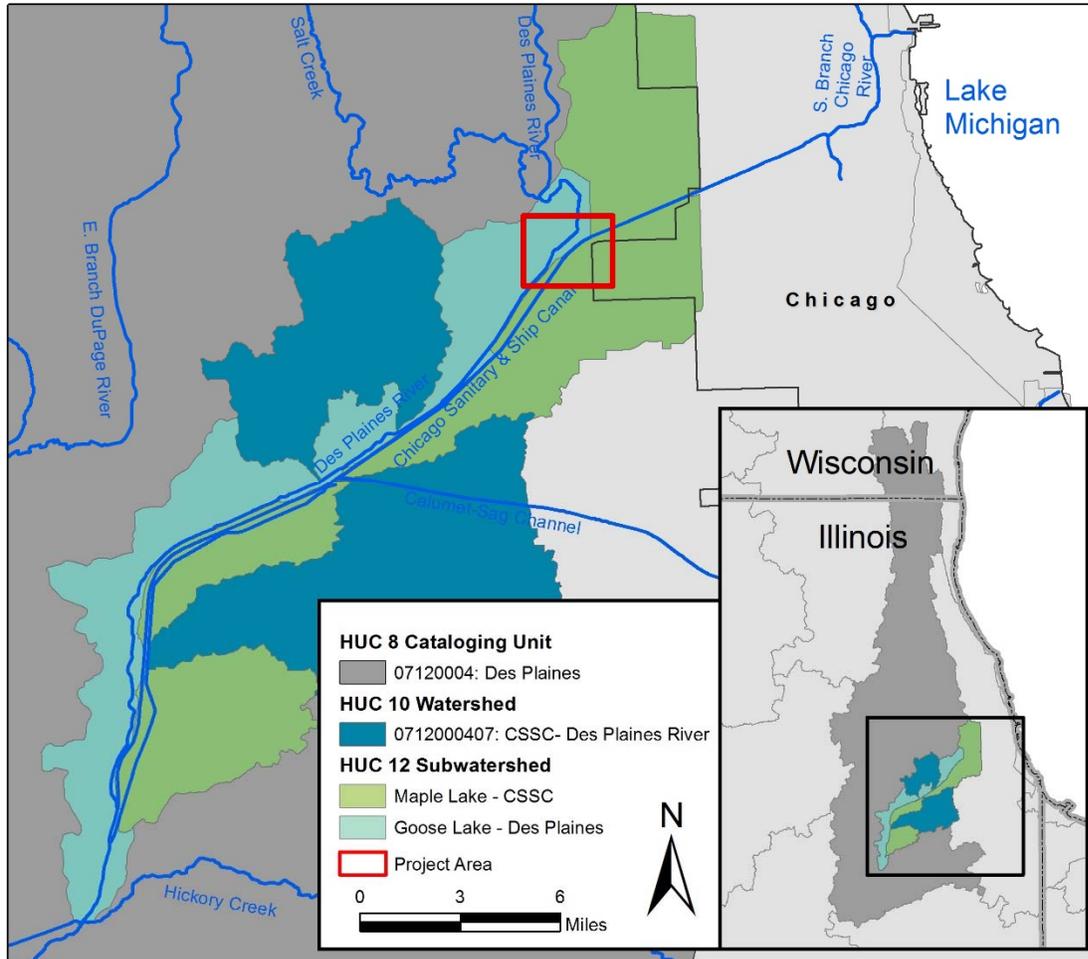


Figure 1: McCook Levee Project Location Map

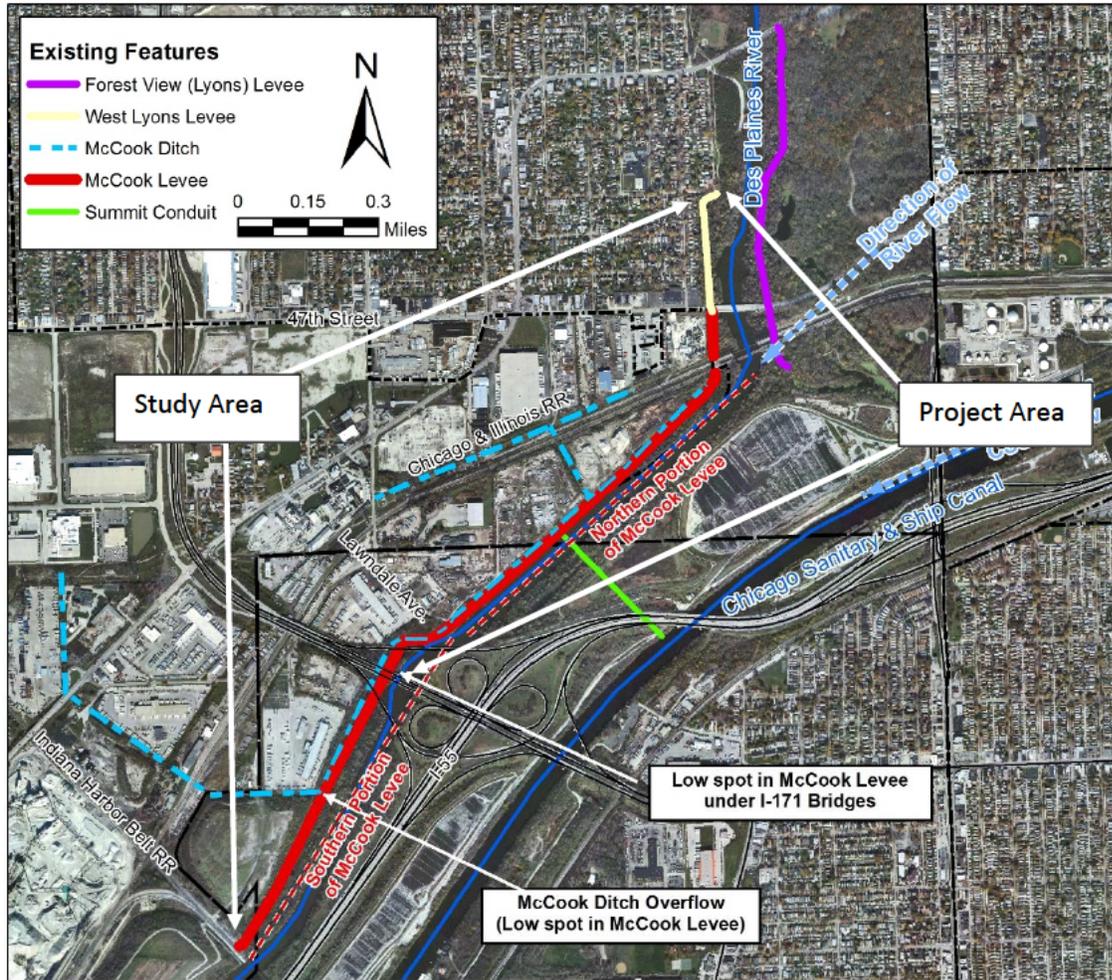


Figure 2: McCook Levee Project Area Map

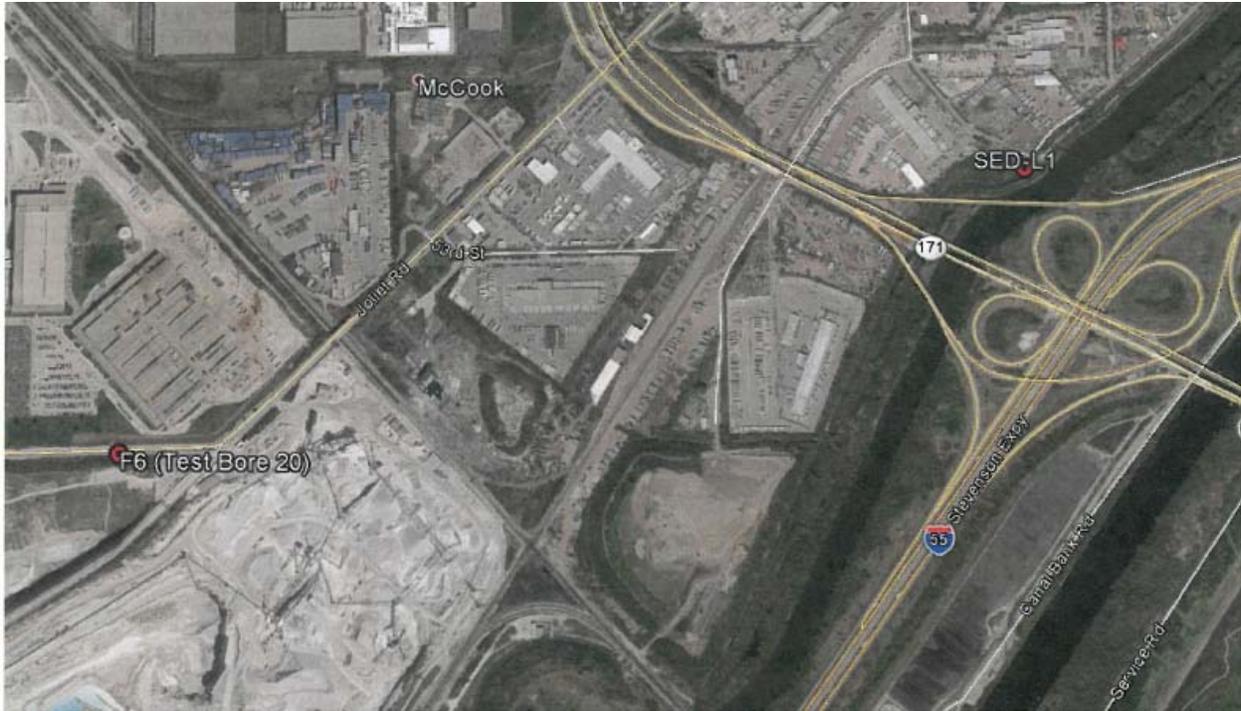
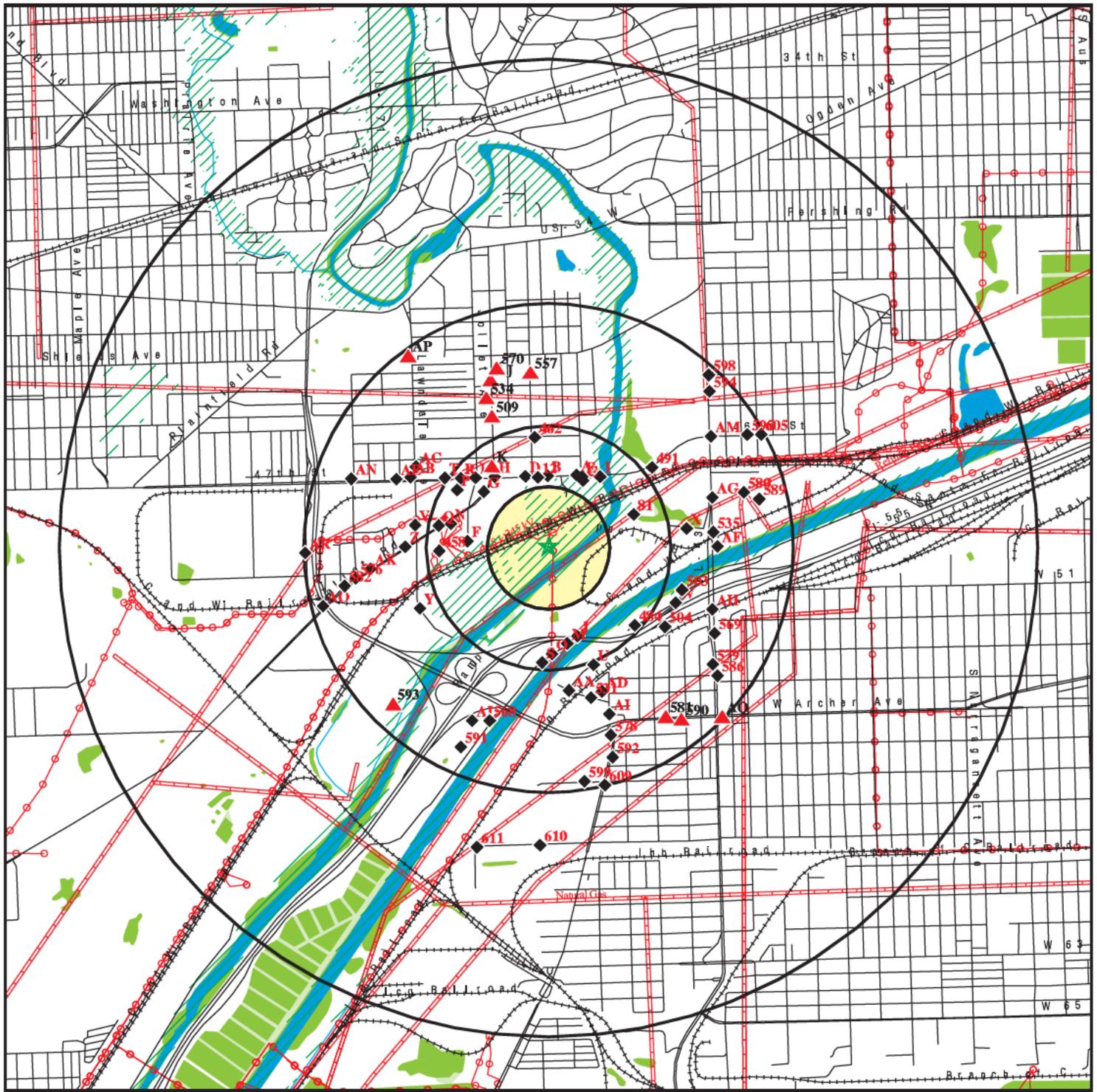


Figure 3: EDI Sediment Sample Location

Figure 4 - EDR Database Search Map **OVERVIEW MAP - 4810367.2S**



- ★ Target Property
- ▲ Sites at elevations higher than or equal to the target property
- ◆ Sites at elevations lower than the target property
- ▲ Manufactured Gas Plants
- National Priority List Sites
- Dept. Defense Sites

- Indian Reservations BIA
- ⚡ Power transmission lines
- ⚡ Pipelines
- ▨ 100-year flood zone
- ▨ 500-year flood zone
- National Wetland Inventory
- State Wetlands

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: McCook Levee 205 Project
 ADDRESS: McCook Ditch
 La Grange IL 60525
 LAT/LONG: 41.801902 / 87.814788

CLIENT: U.S. Army Corps of Engineers
 CONTACT: Casey Pittman
 INQUIRY #: 4810367.2s
 DATE: December 19, 2016 3:51 pm

ATTACHMENTS AVAILABLE DIGITALLY UPON REQUEST

**HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE (HTRW)
PHASE I ENVIRONMENTAL SITE ASSESSMENT
McCOOK LEVEE SECTION 205 PROJECT
COOK COUNTY, ILLINOIS**

Attachment 1: NRCS Soil Maps

**HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE (HTRW)
PHASE I ENVIRONMENTAL SITE ASSESSMENT
McCOOK LEVEE SECTION 205 PROJECT
COOK COUNTY, ILLINOIS**

Attachment 2: EDR Database Report

**HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE (HTRW)
PHASE I ENVIRONMENTAL SITE ASSESSMENT
McCOOK LEVEE SECTION 205 PROJECT
COOK COUNTY, ILLINOIS**

Attachment 3: Historical Topographic Maps

**HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE (HTRW)
PHASE I ENVIRONMENTAL SITE ASSESSMENT
McCOOK LEVEE SECTION 205 PROJECT
COOK COUNTY, ILLINOIS**

Attachment 4: Historical Aerial Photographs

**HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE (HTRW)
PHASE I ENVIRONMENTAL SITE ASSESSMENT
McCOOK LEVEE SECTION 205 PROJECT
COOK COUNTY, ILLINOIS**

Attachment 5: Site Visit Photographs

**HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE (HTRW)
PHASE I ENVIRONMENTAL SITE ASSESSMENT
McCOOK LEVEE SECTION 205 PROJECT
COOK COUNTY, ILLINOIS**

Attachment 6: Sediment Sampling Report