REAL ESTATE PLAN (REP)
MANHATTAN LEVEE
FLOOD DAMAGE REDUCTION PROJECT
FEASIBILITY REPORT
RILEY COUNTY AND POTTAWATOMIE COUNTY, KANSAS

1. PURPOSE:

This Real Estate information is developed in support of the Feasibility Report for the subject project under authority of Section 216 of the 1970 Flood Control Act authorizing the review of completed projects. The Reconnaissance Report published in March of 2004 identifies a potential Federal interest in flood damage reduction measures. The non-Federal sponsor (NFS) for the Feasibility Study is the City of Manhattan, Kansas. The purpose of this plan is to include information on any real estate activities that may be involved for the identified project. The levee system is located in and around the City of Manhattan, Kansas, in the counties of Riley and Pottawatomie within the Kansas and Big Blue River basins.

The NFS requested Corps assistance to develop and construct a flood damage reduction project. Potential for overtopping was indicated along the Big Blue River section of the Manhattan levee system during a 1993 flood incident that could result in loss of life and/or property damage in the Big Blue and Kansas River basins created a need for this project.

The City of Manhattan is located in central Kansas, and lies at the confluence of the Big Blue River and the Kansas River. The Big Blue River is on the east side of the downtown area and connects to the Kansas River on the southeast side of the city. Both rivers have a history of repeated and sometimes catastrophic flooding. A number of Corps lake projects have provided some relief for these rivers in the mid-twentieth century, and this has resulted in some reduction of flooding risks in the Manhattan area. The Manhattan levee unit is located generally west and north of the confluence of the Big Blue River and the Kansas Rivers, and is approximately 28,850 feet long. The levee was typically constructed with a 10-foot crown width and three horizontal to one vertical (3H: 1V) embankment slopes. The levee is predominantly an earthen unit - with a limited number of concrete and steel structural components. The land area within the levee unit is almost completely developed and exhibits intense commercial, governmental and light industrial uses accompanied by an extensive residential population generally located near the outer reaches of the current protection.

2. DESCRIPTION OF LANDS, EASEMENTS, RIGHTS OF WAY, RELOCATION AND DISPOSAL (LERRD):

The area consists of a broad range of properties ranging from highly developed urbanized residential, commercial, and industrial areas within the City of Manhattan, to undeveloped areas that are primarily used for agricultural rowcrop production, to the areas riverward of the levee system that consist of remnants of the wooded riparian corridor of the Big Blue and Kansas Rivers.

The recommended plan includes raising approximately 14,100 linear feet of existing levee an average of 1.5 feet and up to 3.3 feet depending on location and existing ground contours. A 500 foot extension and one new sandbag gap is needed for high ground tie-in. The recommended plan will require replacement of five gatewells located between Stations 14+78 and 269+50 , 29 relief wells located between Stations 64+00 to 272+00, one relief well collector system and two underseepage berms located between Stations 120+00 to 173+50.

The plan requires 5.35 acres of permanent easements for flood protection and 6.95 acres of temporary work area easements and is further described in Table 2.1 below. Real Estate interests are not required for the borrow area, which will be purchased from the adjacent landowner on a truckload basis.

Table 2.1 Manhattan Levee LER Requirements

Type of Easement/Estate	**Owner**	**Acreage**	**Number of Tracts**	**Estimated Value**
Permanent Flood Protection Easement	Private Owners	1.85	19	$ 150,482.24
Permanent Flood Protection Easement	City of Manhattan	3.41	18	$ 270,770.79
Permanent Flood Protection Easement	Westar Energy	.02	1	$ 1,587.05
Permanent Flood Protection Easement	Railroad R-O-W	.07	1	$ 5,103.01
Total Permanent Flood Protection Easements		**5.35**	**39**	**$ 427,943.00**
Temporary Work Area Easement (3 yrs)	Private Owners	2.98	41	$ 52,199.61
Temporary Work Area Easement (3 yrs)	City of Manhattan	3.22	22	$ 53,037.92
Temporary Work Area Easement (3 yrs)	Kansas State Military Board	0.14	1	$ 2,152.15
Temporary Work Area Easement (3 yrs)	Westar Energy	0.34	1	$ 5,349.33
Temporary Work Area Easement (3 yrs)	Railroad R-O-W	0.27	3	$ 4,270.90
Total Temporary Work Area Easements		**6.95**	**68**	**$ 117,010.00**
Total LER Requirements		**12.30**	**107**	**$ 544,953.00**

Standard estates to be acquired by the NFS are as follows:

FLOOD PROTECTION LEVEE EASEMENT:
A perpetual and assignable right and easement in (the land to be described) to construct, maintain, repair, operate, patrol and replace a flood protection (levee)(floodwall)(gate closure), including all appurtenances thereto; reserving, however, to the owners, their

heirs and assigns, all such rights and privileges in the land as may be used without interfering with or abridging the rights and easement hereby acquired; subject, however, to existing easements for public roads and highways, public utilities, railroads and pipelines.

TEMPORARY WORK AREA EASEMENT:
A temporary easement and right-of-way in, on, over and across (the land to be described) for a period not to exceed three (3) years, beginning with the date possession of the land is granted to the non-Federal sponsor, for use by the non-Federal sponsor, its representatives, agents, and contractors as a work area, including the right to move, store and remove equipment and supplies, and erect and remove temporary structures on the land and to perform any other work necessary and incident to the construction of the Flood Protection Project together with the right to trim, cut, fell and remove therefrom all trees, underbrush, obstructions, and any other vegetation, structures, or obstacles within the limits of the right-of-way; reserving, however, to the landowners, their heirs and assigns, all such rights and privileges as may be used without interfering with or abridging the rights and easement hereby acquired; subject, however, to existing easements for public roads and highways, public utilities, railroads and pipelines.

3. LERRD OWNED BY NON FEDERAL SPONSOR:

The City of Manhattan owns fee over approximately 264 acres along the project area. These lands are available for the project but not sufficient to cover all improvements, so additional easements will be required as shown in Table 2.1. As per ER 405-1-12, Chapter 12, paragraph 12-38 "The non-Federal sponsor shall not receive credit for the value of any LER, including incidental costs that have been provided previously as an item of cooperation for another Federal project."

4. NON-STANDARD ESTATES:

There will be no non-standard estates proposed for this project area.

5. EXISTING FEDERAL PROJECTS IN THE AREA:

There are no existing Federal Projects within the proposed project area.

6. FEDERALLY OWNED LAND IN PROJECT AREA:

There are no known Federally owned lands within the LER required for the project.

7. NAVIGATIONAL SERVITUDE:

The project does not require any LER below the ordinary high water mark or mean high water mark, therefore Navigational Servitude is not applicable and will not be exercised for this project.

8. REAL ESTATE MAPS:

Project maps are included as EXHIBIT "A" and depict the project boundary, permanent and temporary easements, utilities to be relocated and any known or potential HTRW lands.

9. FLOODING INDUCED BY PROJECT:

Minor induced damages from implementation of the Recommended Plan will occur under certain conditions. Upstream of the project, several residential houses are unprotected by any levee. This area is currently vulnerable to flooding but economic damages did not justify the cost for project inclusion. The hydrologic analysis showed there would be some induced flooding but only once the 190-year event occurred. During these flood events, the Recommended Plan does not significantly increase the area of inundation but can increase the depth of flooding by less than five inches in most cases. Given this, the induced damage impact of the Recommended Plan on each structure is essentially inconsequential compared to the existing damages that would already be occurring from the normal river flooding in these areas. Additional discussion and mapping of the induced damages is provided in the Feasibility Report, Engineering Appendix, Volume 2, Part 2 – Hydrology and Hydraulics, Section 2-3.2.

10. BASELINE COST ESTIMATE ON ACQUISITION OF LERRD:

For a summary of total real estate costs see table 10.1. Temporary work area easements and permanent flood protection levee easements will be required and are included in the cost estimate along with incidental costs for the NFS and in-house Federal administrative costs. When there was an absence of specific information relating to suspect contaminated area, for this cost estimate, it was prudent to value the land as clean. Known areas of contamination will be avoided to the fullest extent possible. The NFS will be responsible for all clean up of environmental contamination and is aware of this fact.

Below is a summary table of the Real Estate Baseline Cost Estimate for LERRD, NFS incidental costs, In-House Labor costs and Contingencies by Sponsor. LERRD values are based upon the Informal Value Estimate completed by the Kansas City District Corps of Engineers Real Estate Appraisal Office.

TABLE 10.1 - Baseline Cost Estimate	
Type of Costs	**Total Costs**
Land Value Estimate	
Temporary Work Area Easement	$ 117,010.00
Permanent Flood Protection Easement	$ 427,943.00
Total Land Value Estimate	**$ 544,953.00**
25% Contingency	$ 136,238.00
Total Real Estate Acquisition Costs w/ Contingency	**$ 681,191.00**
Utility/Facility Relocation Costs	
Utility Relocation	$ 685,700.00
26% Contingency (rounded)	$ 180,760.00
Total Utility/Facility Relocation w/ Contingency	**$ 866,460.00**
LERRD Administrative/Incidental Costs.	
Non-Federal Sponsor Incidental Costs	$698,800.00
Federal Incidental Costs	$ 53,500.00
Total Incidental Costs	**$752,300.00**
20% Contingency	$ 150,460.00
Total Incidental Costs w/ Contingency	**$902,760.00**
Total LERRDS Costs for Project	**$2,450,411.00**

For an estimate of the full project, please see the Cost Engineering Appendix located in the Feasibility Report.

11. RELOCATION ASSISTANCE (P.L. 91-646):

The NFS has been provided information on P.L. 91-646 and is aware of the obligation to ensure compliance. There are no persons, farms or businesses being displaced.

12. MINERAL ACTIVITY IMPACTED PRESENT/FUTURE:

A review of the proposed project has been completed to identify any present or anticipated mineral activity. This review included a search for oil, gas or any other subsurface minerals along with any timber harvesting activity. The review indicates that there are no current or anticipated mineral or timber harvesting activity in the vicinity of the proposed project.

13. ASSESSMENT OF NON-FEDERAL SPONSOR LEGAL CAPABILITY:

The Corps has coordinated with the NFS to complete the Assessment of the Non-Federal Sponsor's Real Estate Acquisition Capabilities Checklist, See Exhibit "C". The NFS has the legal authority to acquire and hold title to real property and condemnation authority and is fully capable of contracting for all real estate needs for the project. The sponsor will not require

USACE assistance with acquiring real estate. Financial capability is addressed in the main report.

Exhibit "C" indicates that this is the first project working with the NFS. The original Manhattan levee project was 100% Federally funded with the NFS responsible for obtaining LER and providing maintenance, of which they performed these duties with full satisfaction.

14. ZONING ORDINANCES CONSIDERED IN SUPPORT OF LERRD REQUIRMENTS:

There are no zoning ordinances proposed in connection with the project.

15. REAL ESTATE ACQUISITION SCHEDULE:

The project sponsor is responsible for acquiring real estate interests required for the project. A time frame for land acquisition has been outline for the area of interest ranging from six months to one year and can begin when final plans an specs have been completed and the Project Partnership Agreement (PPA) has been executed The Project Manager has coordinated with the Sponsors on the formulation of this schedule and has received their concurrence.

- June 2015 - Execute Design Agreement with Sponsor.
- March 2017 - Execute Project Partnership Agreement with Sponsor and issue notice to proceed with land and easement acquisition to the Sponsor.
- March 2018 - Certification of Real Estate.
- April 2018 - Initiate project construction.
- December 2022 - Complete project construction.

16. FACILITY/UTILITY RELOCATION:

In accordance with Policy Guidance Letter No. 31, a preliminary attorney's opinion of compensability has not been prepared because the relocations do not exceed 30% of the total project costs. The estimated costs for utility relocations are less than 5% of the project costs. A real estate assessment has been prepared and details are discussed after Table 16.1.

"ANY CONCLUSION OR CATEGORIZATION CONTAINED IN THIS REAL ESTATE PLAN, OR ELSEWHERE IN THIS PROJECT REPORT, THAT AN ITEM IS A UTILITY OR FACILITY RELOCATION TO BE PERFORMED BY THE NON-FEDERAL SPONSOR AS PART OF ITS LERRD RESPONSIBILITIES IS PRELIMINARY ONLY. THE GOVERNMENT WILL MAKE A FINAL DETERMINATION OF THE RELOCATIONS NECESSARY FOR THE CONSTRUCTION, OPERATION, OR MAINTENANCE OF THE PROJECT AFTER FURTHER ANALYSIS AND COMPLETION AND APPROVAL OF FINAL ATTORNEY'S OPINIONS OF COMPENSABILITY FOR EACH OF THE IMPACTED UTILITIES AND FACILITIES."

The following utilities are located within the footprint of the project:

Table 16.1: Utilities that Require Relocation

Station (ft.)	Type	Owner	Substitute Facility Required
227+00	8” Gas Line	Kansas Gas Service	No
232+28	36” Raw Water Line	City of Manhattan	Yes
197+85 to 212+70	2 Telephone Cable	SBC & Wamego Telecommunications	No
155+00	Wastewater Treatment Plant Outlet Pipe	City of Manhattan	Yes
120+00 to 137+00	18 Power Poles	Westar Energy, Inc.	No
120+00 to 137+00	11 Manhole Raises	City of Manhattan	Yes

The Real Estate Assessment determined that Westar Energy, Inc., Kansas Gas Service and Wamego Telecommunications were all responsible for the relocation of their own lines in the event that the Sponsor has a public project in progress. In a teleconference with the Sponsor’s representative and Attorney, they stated that Southwestern Bell Telephone Company, doing business as AT&T Kansas and Southwestern Bell Telephone L.P., formerly known as SBC Kansas have not agreed to the City’s terms of the franchise, therefore they (not the sponsor) are responsible for relocation of their telephone cables. Since all owners of utilities discussed in this paragraph do not have a compensable interest in the property they are responsible for their own utility relocations and the project will not provide substitute facilities for these utilities.

The 36” raw water line, wastewater treatment plant outlet pipe and manhole raises are all owned by the Sponsor, it owns a compensable interest in them, and they are eligible for a substitute facility, therefore the costs of the substitute facilities for these facilities will be included in the relocation costs of the project.

The Sponsor also owns a 14” sanitary sewer line that is located near Station 178+24 within the project footprint, however this sewer line will not need to be relocated or raised.

The Real Estate Assessment discussing all utility relocations is on file in the Real Estate Division.

17. <u>IMPACT OF HTRW:</u>

A phase I Environmental Site Assessment (ESA) was performed for the Manhattan Levee in February 2004 and an updated review was completed in November 2013. In total, six sites were identified as potential areas of concern. The findings are as follows:

a. Manhattan PWS Wells #14 and #15 – Manhattan Industrial Park North of Kretschner:
This is a CERCLIS (Comprehensive Environmental Response, Compensation and Liability Information System) site. Volatile organic compounds (VOCs) have been detected at the wells intermittently since 1986. These two wells are directly adjacent to the riverward toe of the levee at approximately Station 211+00 and Station 213+00. A specific site causing contamination in PWS #14 and #15 wells was identified as the Former Quaker Manufacturing, LLC Facility located at 1111 Kretschmer. Investigations were performed and a groundwater plume contaminated with Trichloroethylene (TCE) was delineated. The plume extends below the levee from station 215+00 to 218+00. This is the only site that overlaps with the required LER. A remedial action has been taken and includes operation of a soil vapor extraction system and injections to enhance anaerobic bioremediation. There is no permanent acquisition or excavation work for the project at the site.

b. Manhattan PWS Wells #12 and #13 – Hayes Drive and North Kretschner Drive:
This site is also a CERCLIS site. VOCs have been detected at the wells intermittently since 1986. These wells are located about 1000 feet landward of the levee, (between Station 249+49 and Station 260+00) but were included due to the nature of contamination. Similar to the PS #14 and #15 site, separate upgradient sites were identified to be the cause of contamination of the PW wells. The plume for the upgradient sites has been delineated and remains well over 1,000 feet from the levee and should have no impact on the proposed modifications. In addition, this site does not overlap with the LER required for the Recommended Plan.

c. Wildcat Creek – 705 South 15th:
This site contains one leaking underground storage tank with a status of Active indicating that levels of contamination exist at the site that are greater than the cleanup levels set by the state. Further remedial work will be required to bring this site into compliance with state and federal laws. It is believed the site is directly adjacent to the start of the levee at Station 8+50 on the creek side and should have no impact on the Recommended Plan. This site does not overlap with the LER required for the Recommended Plan.

d. Private Disposal Site:
A privately owned disposal site was identified at approximate levee Station 63+00. It is located at the intersection of Temple Lane and the levee, on the southeast corner. A drainage ditch exists between the levee and the site. The site is wooded and approximately 3 acres in size. Contents of the site include large and small vehicles, trailers, loaded dumpsters, tires, and appliances. Potential soil and groundwater contamination from numerous sources is possible at this site however no updated information was found for this site and it has not been identified by Kansas Department of Health and Environment (KDHE) as a contaminated site. The site is on the creek side of the levee and the Recommended Plan is confined to the land side of the levee. This site should have no impact on the modifications and there is no overlap with the LER required for the Recommended Plan.

e. Railroad Tracks:
Railroad tracks exist adjacent to the toe of the landward side of the levee from

approximate Station 89+00 to Station 120+00. Potential contamination in the immediate vicinity of the railroad tracks includes creosote from the railroad ties and petroleum products leaking from cars, including greases, hydraulic fluids, brake fluids, and fuel among other things. Since the 2004 ESA, no additional information has been found to indicate contamination of soil or groundwater along the railroad tracks or spills from rail cars. Although no groundwater contamination has been identified in this area, the potential exists. It is recommended that groundwater data be collected in this area to ensure installation of relief wells will not result in the discharge of contaminants to the surface. If contamination does occur, it is the NFS's responsibility to clean up the site. Additional investigations of contamination in the railroad right-of-way will take place prior to construction and any required clean up or response will be performed by the non-Federal sponsor prior to construction.

f. Manhattan Avenue Battery Site:

This Site is located west of 15th Street, immediately adjacent to the Wildcat Creek side of the levee. The site is a former dumpsite for battery casings discarded during lead reclamation processes. In 2005, lead contaminated soil at the site was excavated and disposed of off-site. The contaminated soil was on the creek site of the levee and the proposed modifications are on the land side of the levee. This site should have no impact on the Recommended Plan as there is no overlap with LER required for the project.

18. OPPOSITION/SUPPORT OF PROJECT BY LOCAL LANDOWNERS:

A Public Workshop/Meeting was held in April 2013 and the local landowners were provided an overview of the proposed project and given a chance to ask question and communicate any opposition to the project. No issues or comments were mentioned by the attendees following the meeting. Communication with the public will continue throughout the Feasibility Phase of the project.

19. NOTIFICATION TO NON-FEDRAL SPONSOR OF EARLY ACQUISITION OF LERRD:

The NFS was issued a risk letter on 25 September 2013 outlining the risk of acquiring lands prior to the issuance of a Notice to Proceed.

20. ALL OTHER REAL ESTATE ISSUES:

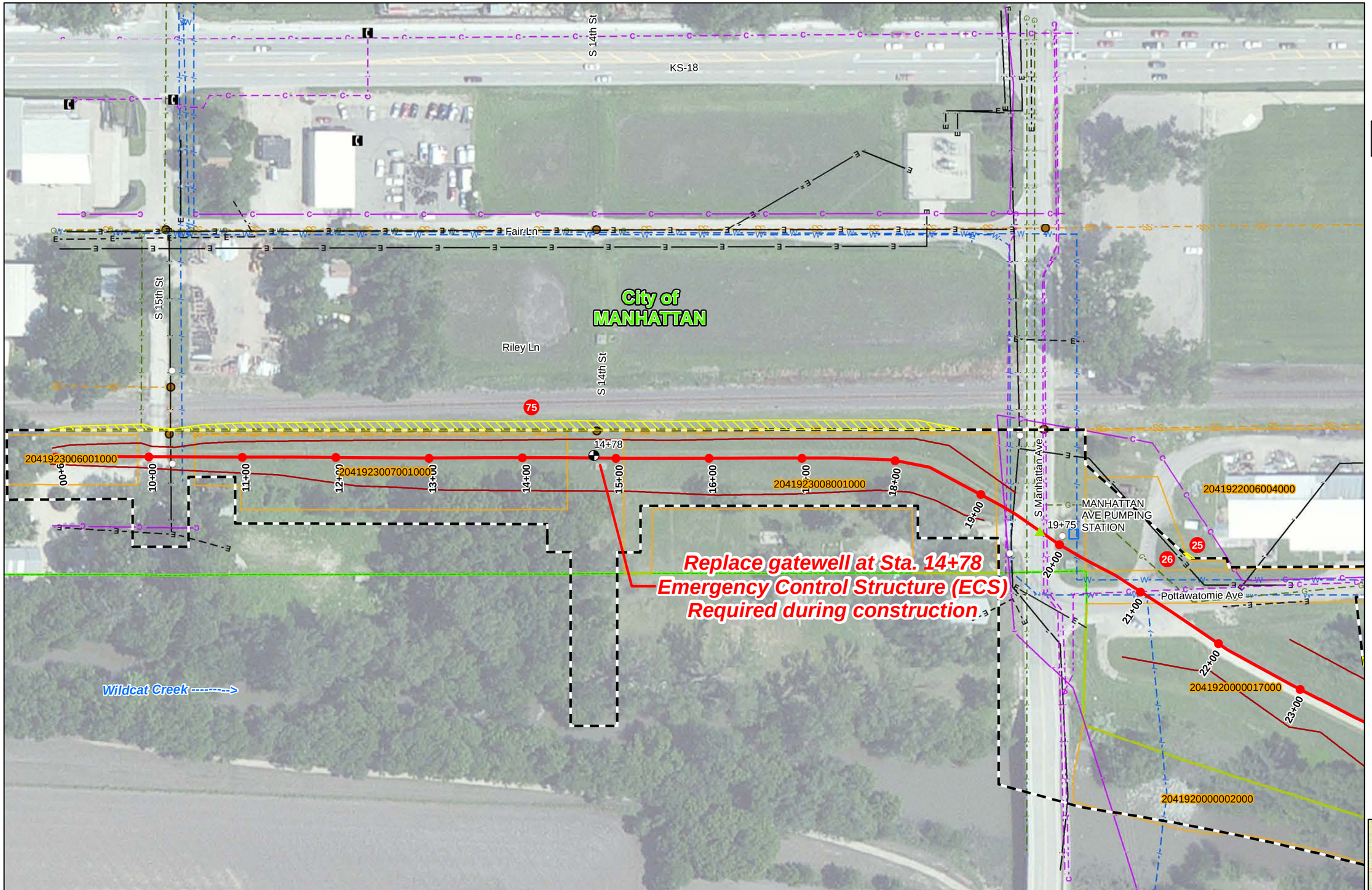
District Cultural Resources and Archeologists have researched and performed field surveys of the project area. Coordination with the Kansas State Historic Preservation Office (SHPO) is ongoing. It has been determined that the project will result in no known adverse effects on historic properties, but appropriate measures will be taken to avoid, minimize or mitigate any effects.

Unidentified public utilities could be an issue as most of the areas of interest are heavily developed and have been for close to one hundred years. PDT members are working closely with sponsors to identify possible problem areas and avoid or address any utilities in question.

Manhattan Levee

Feasibility Study
Existing Conditions and Reliability Improvements

Plan 3
Real Estate
Station 8+00 to 23+75



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75			RR R/W		0.184002106		0.184002106

Key

- ROW
- TCE Plume
- County Boundary
- City Boundary
- Parcels

Proposed Features

- Berm
- Berm and Raise
- Ponding
- Raise
- Relief Wells
- Proposed Sandbag Gap
- Proposed Levee Extension
- Permanent Real Estate Easement
- Temporary Real Estate Easement

Existing UL Features

- Aerial Com & Fiber Optic (FO)
- Underground Com & FO
- Aerial Electrical & Light
- Underground Electrical & Light
- Natural Gas Lines
- Water Lines
- Storm Sewer Lines
- Sanitary Sewer Lines
- Communication Structure
- Electrical Poles
- Manholes

Existing Levee Features

- Gate Well
- Sandbag Gap
- Stoplog Gap
- Pump Station
- Piezometers
- Manhattan Levee Unit
- Toe 2006 Survey

N

US Army Corps of Engineers
Kansas City District

Photography Date: 2010

Projection: State Plane, Kansas North
Datum: NAD 83

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Kansas City District, GDS Team

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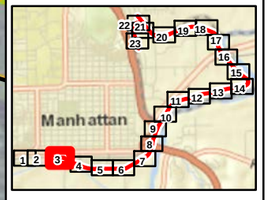
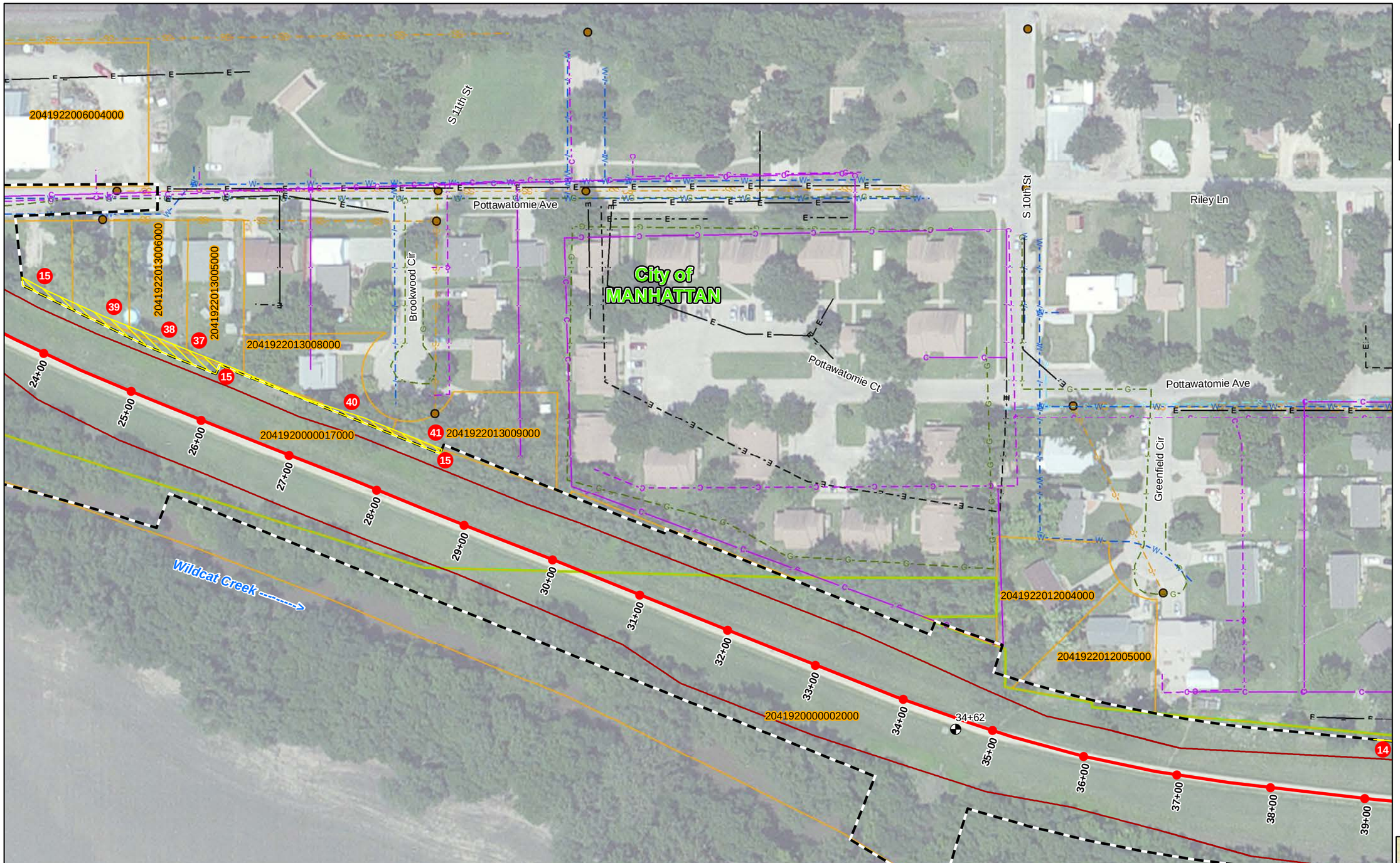


Sheet No. 3

Manhattan Levee

Feasibility Study
Existing Conditions and Reliability Improvements

Plan 3
Real Estate
Station 23+50 to 39+25



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15	2041920000017000	2041920000017000	CITY OF MANHATTAN	3.306945882	0.042778276		3.349724158
37	2041922013005000	2041922013005000	COLEMAN, MAUREEN S	0.203406522	0.003388177		0.206794699
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41	2041922013009000	2041922013009000	SCROGGIN, COLLEEN J	0.248973588	0.001923631		0.250897219

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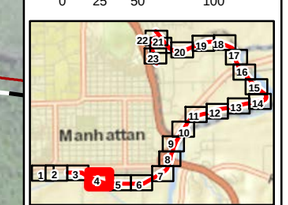
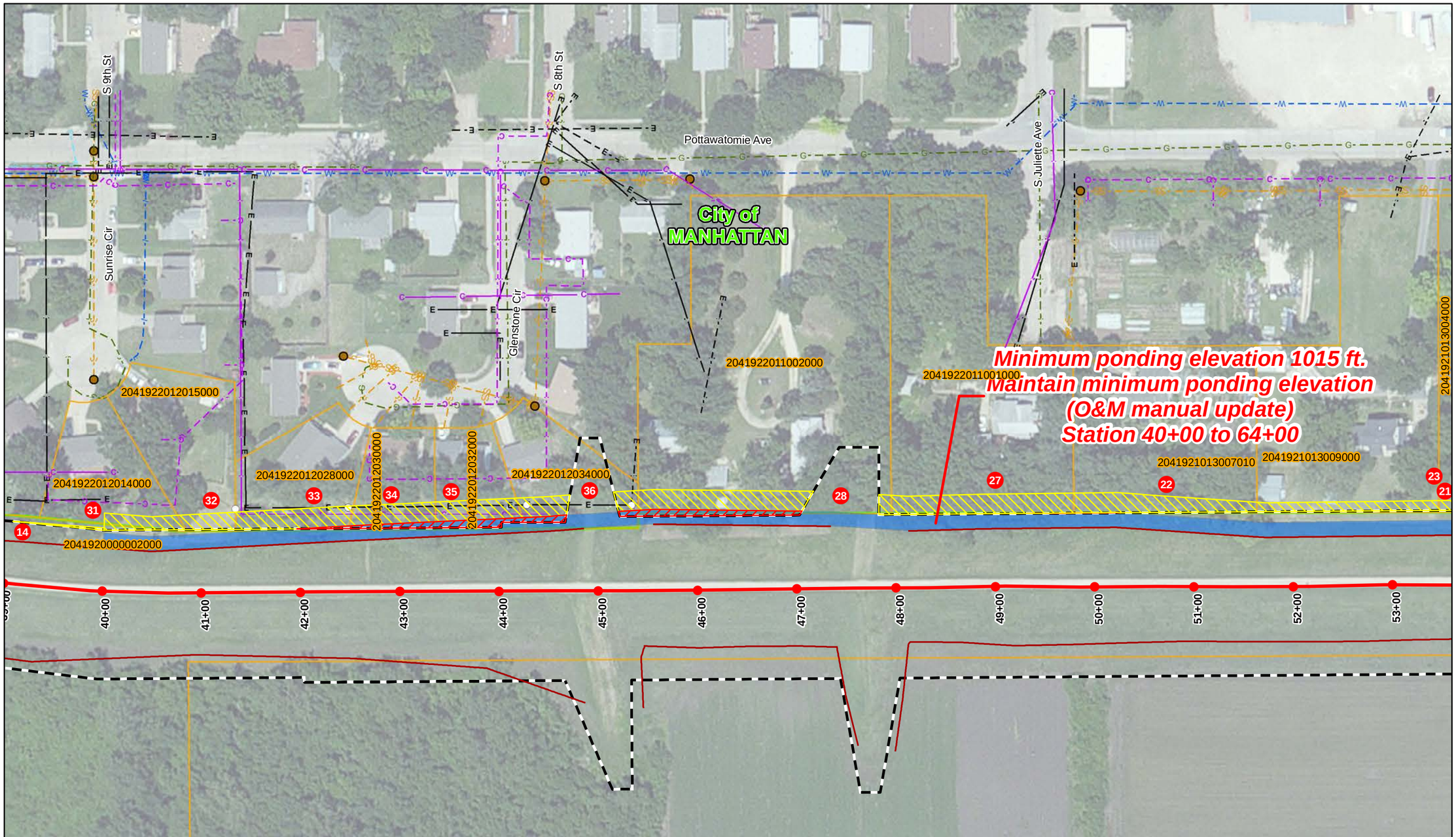


Sheet No. 4

Manhattan Levee
Feasibility Study
Existing Conditions and Reliability Improvements

Plan 3
Real Estate
Station 39+00 to 53+50



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21	2041921013004000	2041921013004000	HUMMEL, TRAVIS DALE	0.852480389	0.035422938		0.887903327
22	2041921013007010	2041921013007010	GIBSON, ROGER E	0.644437351	0.068785117	0.000109456	0.713331924
23	2041921013009000	2041921013009000	FLEEKER,CHARLES & JUDITH L	1.014897094	0.04007302		1.054970113
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31	2041922012014000	2041922012014000	MEYER, RODNEY D	0.245449715	0.022120758		0.267570472
32	2041922012015000	2041922012015000	FLEEKER,CHARLES & JUDITH L	0.323789609	0.019874599		0.343664208
33	2041922012028000	2041922012028000	ERDMAN, ASHLEY A	0.240959601	0.051654397	0.001479136	0.294093134
34	2041922012030000	2041922012030000	Meladze, Vakhtang	0.132677246	0.038895335	0.008444457	0.180017038
35	2041922012032000	2041922012032000	JONES,EDGAR A III KISSICK,STACY D	0.126171457	0.038871051	0.013419982	0.178462489
36	2041922012034000	2041922012034000	AMBROSE, JASON W	0.239217573	0.03299225	0.008341588	0.280551411

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- Storm Sewer Lines
- Sanitary Sewer Lines
- Communication Structure
- Electrical Poles
- Manholes

Existing Levee Features

- Gate Well
- Sandbag Gap
- Stoplog Gap
- Pump Station
- Piezometers
- Manhattan Levee Unit
- Toe 2006 Survey

N

US Army Corps of Engineers
Kansas City District

Photography Date: 2010

Projection: State Plane, Kansas North
Datum: NAD 83

Created by:
U.S. Army Corps of Engineers
Kansas City District, GDS Team

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Feet
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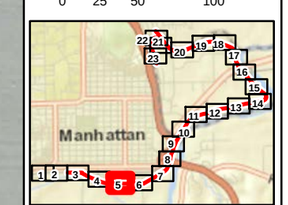
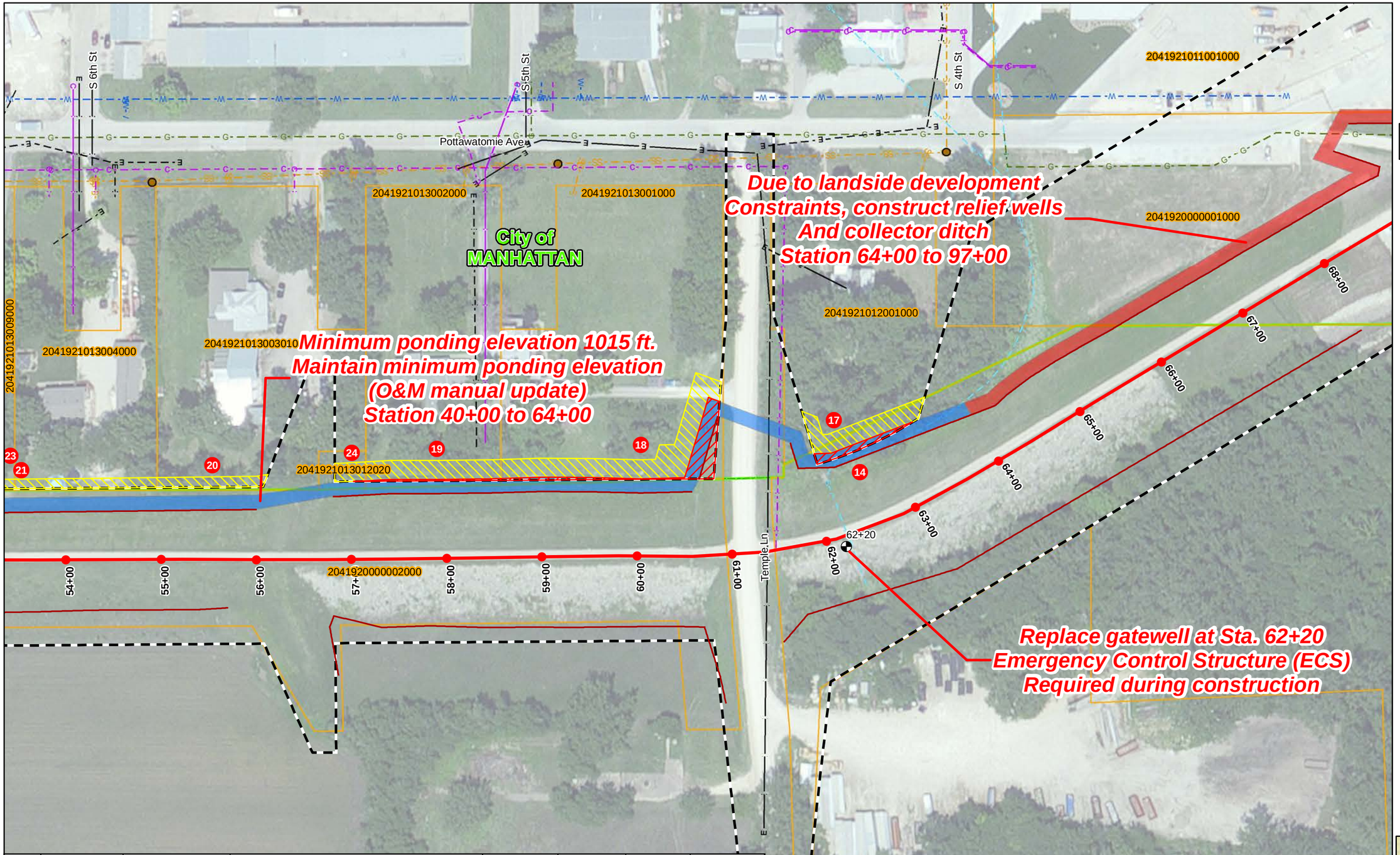


Sheet No. 5

Manhattan Levee

Feasibility Study
Existing Conditions and Reliability Improvements

Plan 3
Real Estate
Station 53+25 to 68+75



MAP ID	Parcel ID Riley County	Parcel ID Pottawatomie County changes	Party_Name	Non-affected acres	Temporary Acres	Permanent Acres	Total Acres
14	2041920000002000	2041920000002000	CITY OF MANHATTAN	77.26366952	0.047502556	0.022332996	77.33350507
17	2041921012001000	2041921012001000	LITTLE, MARY LOU	1.085480896	0.025830922		1.111311818
18	2041921013001000	2041921013001000	SOWELL, RONALD A	1.279307532	0.142041509	0.049820535	1.471169576
19	2041921013002000	2041921013002000	SOWELL, RONALD A	0.961374429	0.065128381	0.005280007	1.031782817
20	2041921013003010	2041921013003010	MAULE, DAVID C	1.362017759	0.028600512		1.390618271
21	2041921013004000	2041921013004000	HUMMEL, TRAVIS DALE	0.852480389	0.035422938		0.887903327
23	2041921013009000	2041921013009000	FLEEKER,CHARLES & JUDITH L	1.014897094	0.04007302		1.054970113
24	2041921013012020	2041921013012020	SOWELL, RONALD A	0.030785927	0.014983678	9.67779E-05	0.045866384

Key

- ROW
- TCE Plume
- County Boundary
- City Boundary
- Parcels

Proposed Features

- Berm
- Berm and Raise
- Ponding
- Raise
- Relief Wells
- Proposed Sandbag Gap
- Proposed Levee Extension
- Permanent Real Estate Easement
- Temporary Real Estate Easement

Existing UL Features

- Aerial Com & Fiber Optic (FO)
- Underground Com & FO
- Aerial Electrical & Light
- Underground Electrical & Light
- Natural Gas Lines
- Water Lines
- Storm Sewer Lines
- Sanitary Sewer Lines
- Communication Structure
- Electrical Poles
- Manholes

Existing Levee Features

- Gate Well
- Sandbag Gap
- Stoplog Gap
- Pump Station
- Piezometers
- Manhattan Levee Unit
- Toe 2006 Survey

N

US Army Corps of Engineers
Kansas City District

Photography Date: 2010

Projection: State Plane, Kansas North
Datum: NAD 83

Created by:
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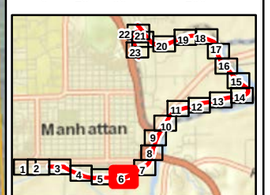
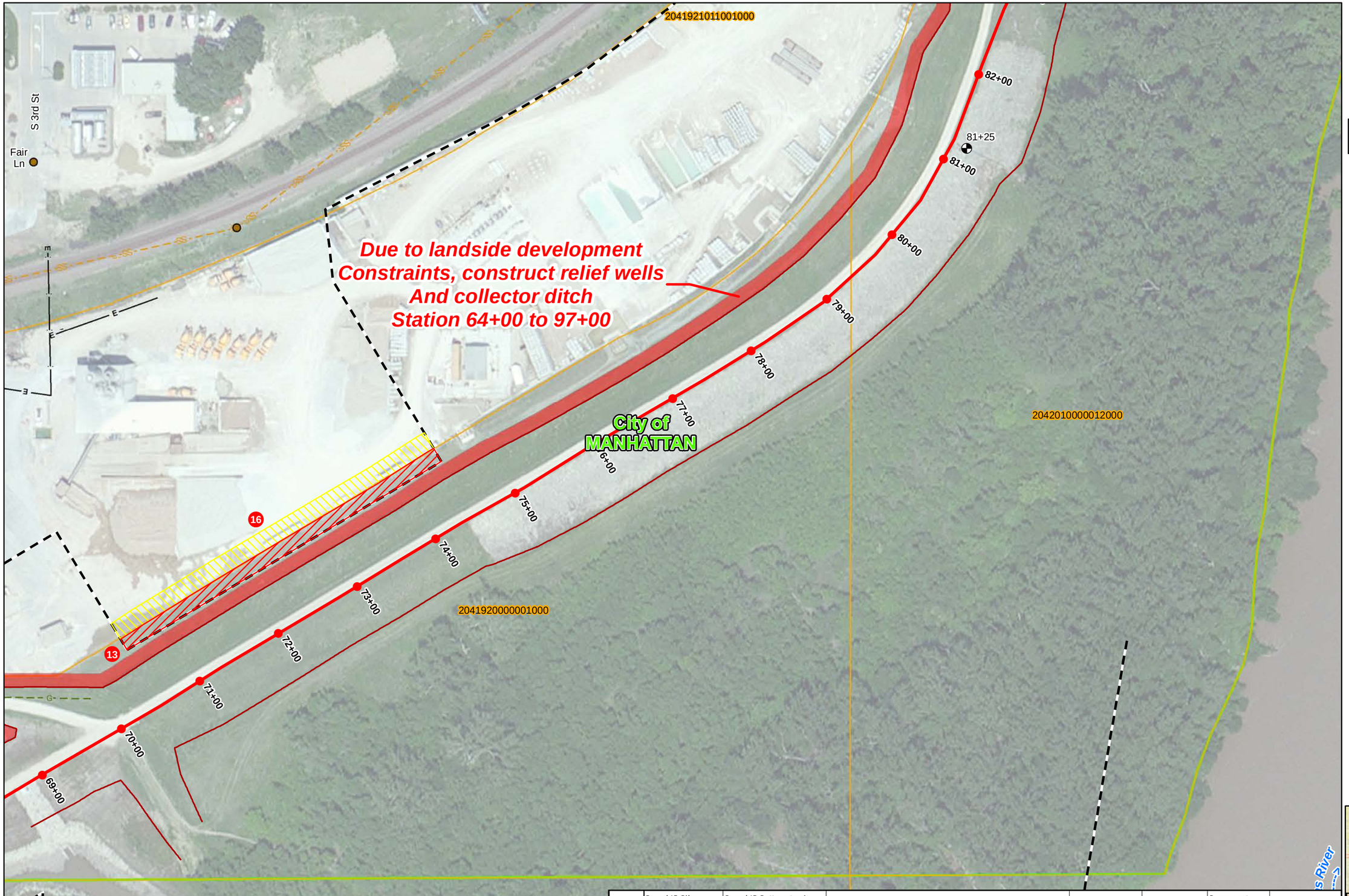


Sheet No. 6

Manhattan Levee

Feasibility Study
Existing Conditions and Reliability Improvements

Plan 3
Real Estate
Station 68+50 to 82+80



MAP ID	Parcel ID Riley County	Parcel ID Pottawatomie County changes	Party_Name	Non-affected acres	Temporary Acres	Permanent Acres	Total Acres
13	2041920000001000	2041920000001000	CITY OF MANHATTAN	11.77025374	0.001609658	0.139751586	11.91161498
16	2041921011001000	2041921011001000	WAMEGO SAND COMPANY INC DBA MIDWEST CONCRETE MATR	11.14663868	0.182072912	0.002130426	11.33084202

Key

- ROW
- TCE Plume
- County Boundary
- City Boundary
- Parcels

Proposed Features

- Berm
- Berm and Raise
- Ponding
- Raise
- Relief Wells
- Proposed Sandbag Gap
- Proposed Levee Extension
- Permanent Real Estate Easement
- Temporary Real Estate Easement

Existing UL Features

- Aerial Com & Fiber Optic (FO)
- Underground Com & FO
- Aerial Electrical & Light
- Underground Electrical & Light
- Natural Gas Lines
- Water Lines
- Storm Sewer Lines
- Sanitary Sewer Lines
- Communication Structure
- Electrical Poles
- Manholes

Existing Levee Features

- Gate Well
- Sandbag Gap
- Stoplog Gap
- Pump Station
- Piezometers
- Manhattan Levee Unit
- Toe 2006 Survey

N

US Army Corps of Engineers
Kansas City District

Photography Date: 2010

Projection: State Plane, Kansas North
Datum: NAD 83

Created by:
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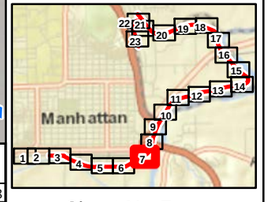
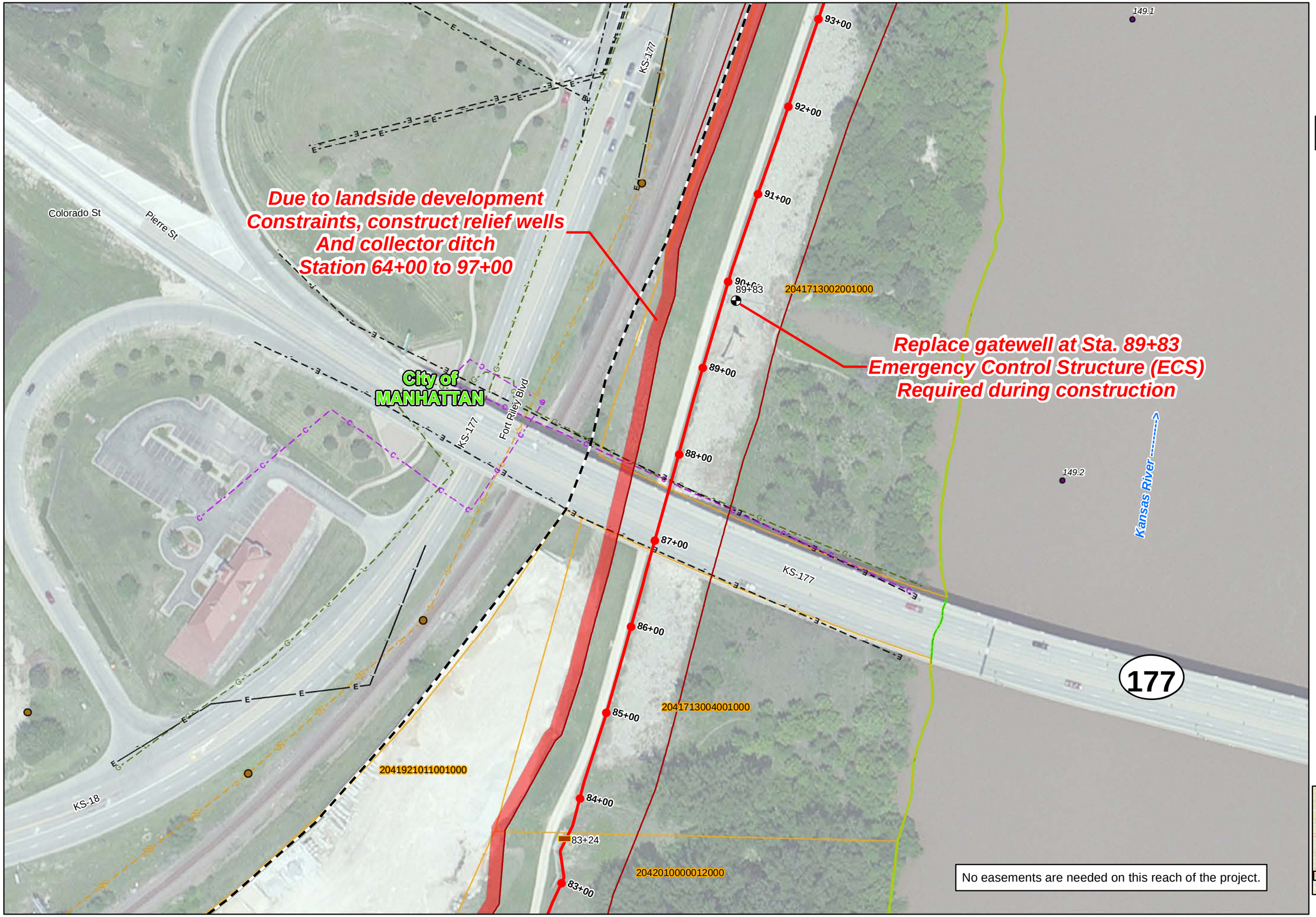


Sheet No. 7

Manhattan Levee

Feasibility Study
Existing Conditions and Reliability Improvements

Plan 3
Real Estate
Station 82+75 to 93+00



Key

- ROW
- TCE Plume
- County Boundary
- City Boundary
- Parcels

Proposed Features

- Berm
- Berm and Raise
- Ponding
- Raise
- Relief Wells
- Proposed Sandbag Gap
- Proposed Levee Extension
- Permanent Real Estate Easement
- Temporary Real Estate Easement

Existing UL Features

- Aerial Com & Fiber Optic (FO)
- Underground Com & FO
- Aerial Electrical & Light
- Underground Electrical & Light
- Natural Gas Lines
- Water Lines
- Storm Sewer Lines
- Sanitary Sewer Lines
- Communication Structure
- Electrical Poles
- Manholes

Existing Levee Features

- Gate Well
- Sandbag Gap
- Stoplog Gap
- Pump Station
- Piezometers
- Manhattan Levee Unit
- Toe 2006 Survey

N

US Army Corps of Engineers
Kansas City District

Photography Date: 2010

Projection: State Plane, Kansas North
Datum: NAD 83

Created by:
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Kansas City, Missouri, 64106

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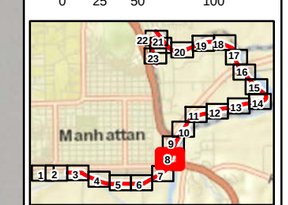
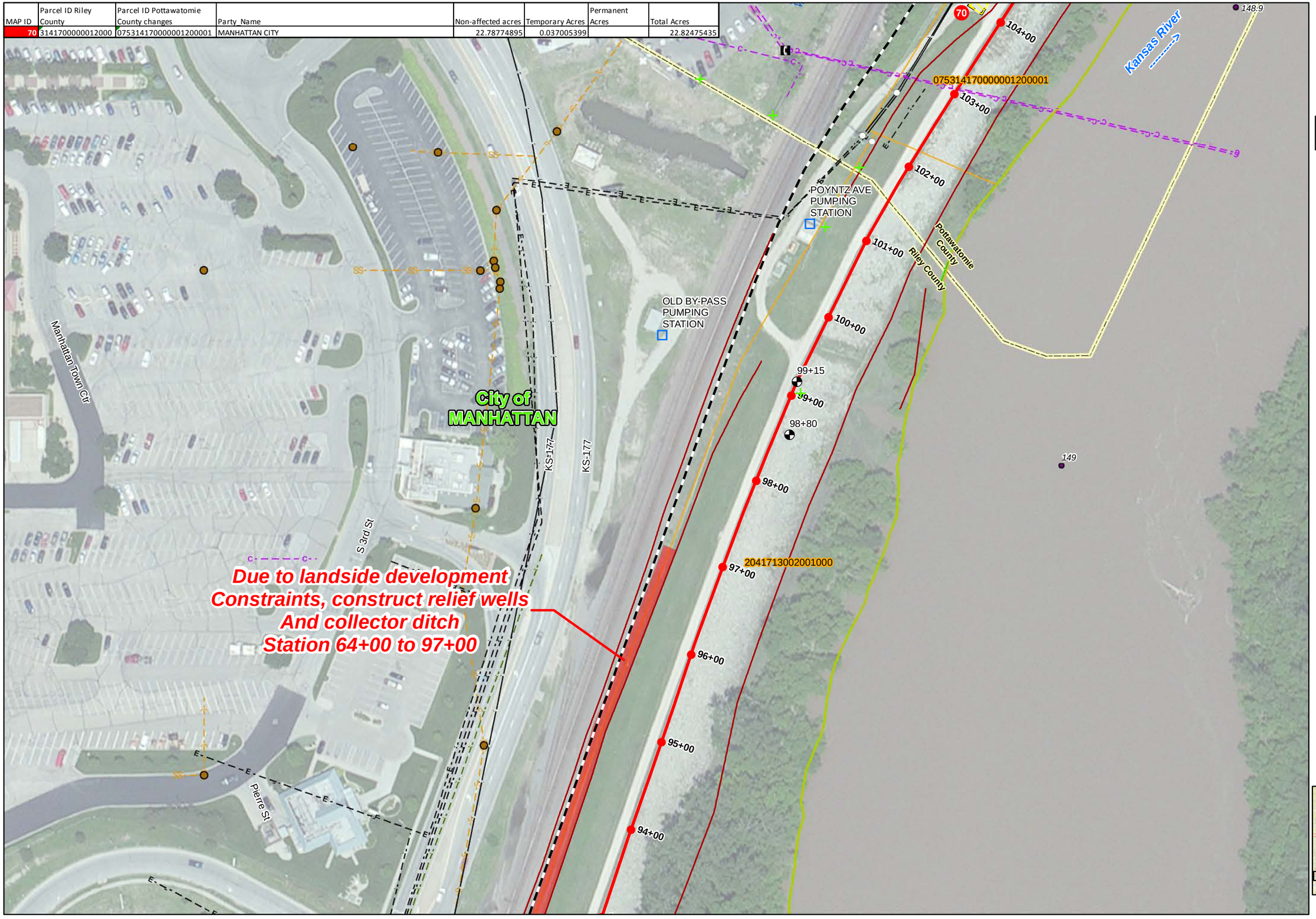


Sheet No. 8

MAP ID	Parcel ID Riley County	Parcel ID Pottawatomie County changes	Party_Name	Non-affected acres	Temporary Acres	Permanent Acres	Total Acres
70	3141700000012000	07531417000001200001	MANHATTAN CITY	22.78774895	0.037005399		22.82475435



Manhattan Levee

Feasibility Study
Existing Conditions and Reliability Improvements

Plan 3
Real Estate
Station 93+00 to 104+00

Key

- ROW
- TCE Plume
- County Boundary
- City Boundary
- Parcels

Proposed Features

- Berm
- Berm and Raise
- Ponding
- Raise
- Relief Wells
- Proposed Sandbag Gap
- Proposed Levee Extension
- Permanent Real Estate Easement
- Temporary Real Estate Easement

Existing UL Features

- Aerial Com & Fiber Optic (FO)
- Underground Com & FO
- Aerial Electrical & Light
- Underground Electrical & Light
- Natural Gas Lines
- Water Lines
- Storm Sewer Lines
- Sanitary Sewer Lines
- Communication Structure
- Electrical Poles
- Manholes

Existing Levee Features

- Gate Well
- Sandbag Gap
- Stoplog Gap
- Pump Station
- Piezometers
- Manhattan Levee Unit
- Toe 2006 Survey

N

US Army Corps of Engineers
Kansas City District

Photography Date: 2010

Projection: State Plane, Kansas North
Datum: NAD 83

Created by:
U.S. Army Corps of Engineers
Kansas City District, GDS Team

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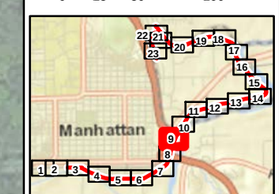
0 25 50 100 Feet

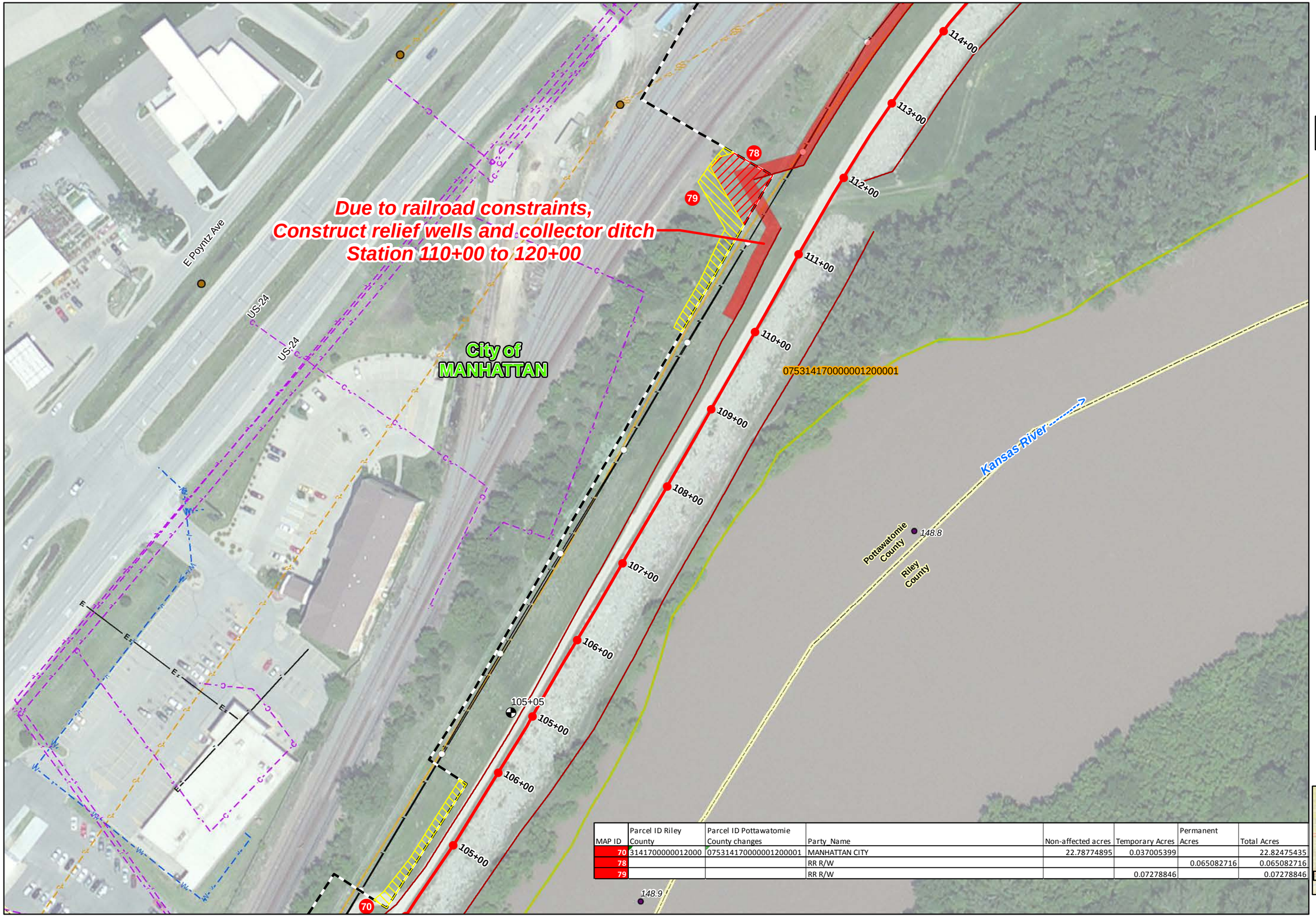


Sheet No. 9

Manhattan Levee

Feasibility Study
Existing Conditions and Reliability Improvements

Plan 3
Real Estate
Station 104+00 to 114+25



MAP ID	Parcel ID Riley County	Parcel ID Pottawatomie County changes	Party Name	Non-affected acres	Temporary Acres	Permanent Acres	Total Acres
70	3141700000012000	07531417000001200001	MANHATTAN CITY	22.78774895	0.037005399		22.82475435
78			RR R/W			0.065082716	0.065082716
79			RR R/W		0.07278846		0.07278846

Key

- ROW
- TCE Plume
- County Boundary
- City Boundary
- Parcels

Proposed Features

- Berm
- Berm and Raise
- Ponding
- Raise
- Relief Wells
- Proposed Sandbag Gap
- Proposed Levee Extension
- Permanent Real Estate Easement
- Temporary Real Estate Easement

Existing UL Features

- Aerial Com & Fiber Optic (FO)
- Underground Com & FO
- Aerial Electrical & Light
- Underground Electrical & Light
- Natural Gas Lines
- Water Lines
- Storm Sewer Lines
- Sanitary Sewer Lines
- Communication Structure
- Electrical Poles
- Manholes

Existing Levee Features

- Gate Well
- Sandbag Gap
- Stoplog Gap
- Pump Station
- Piezometers
- Manhattan Levee Unit
- Toe 2006 Survey

N

US Army Corps of Engineers
Kansas City District

Photography Date: 2010

Projection: State Plane, Kansas North
Datum: NAD 83

Created by:
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Kansas City, Missouri, 64106

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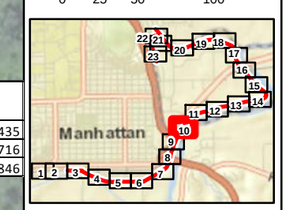
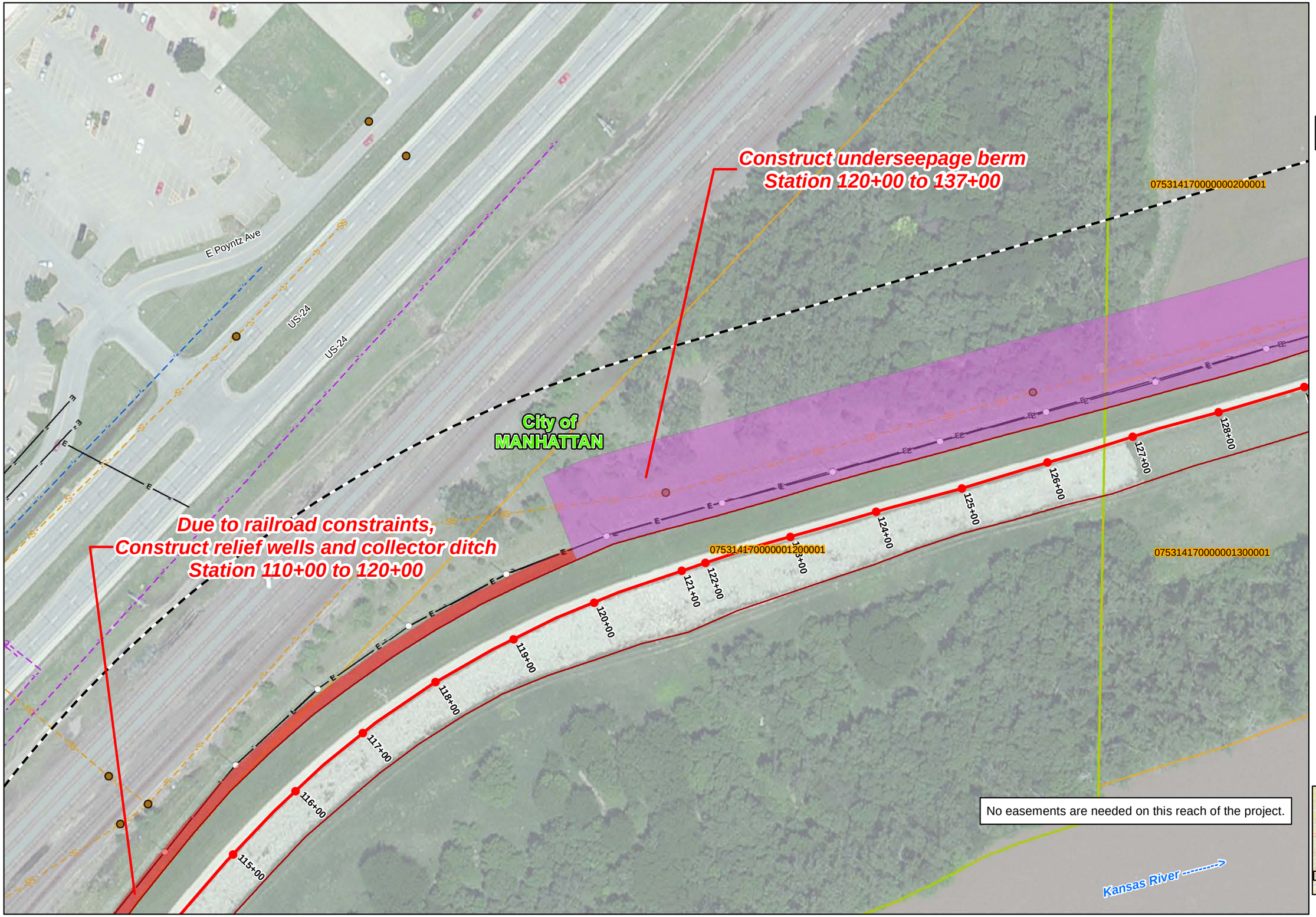


Sheet No. 10

Manhattan Levee

Feasibility Study
Existing Conditions and Reliability Improvements

Plan 3
Real Estate
Station 114+00 to 129+00



Key

- ROW
- TCE Plume
- County Boundary
- City Boundary
- Parcels

Proposed Features

- Berm
- Berm and Raise
- Ponding
- Raise
- Relief Wells
- Proposed Sandbag Gap
- Proposed Levee Extension
- Permanent Real Estate Easement
- Temporary Real Estate Easement

Existing UL Features

- Aerial Com & Fiber Optic (FO)
- Underground Com & FO
- Aerial Electrical & Light
- Underground Electrical & Light
- Natural Gas Lines
- Water Lines
- Storm Sewer Lines
- Sanitary Sewer Lines
- Communication Structure
- Electrical Poles
- Manholes

Existing Levee Features

- Gate Well
- Sandbag Gap
- Stoplog Gap
- Pump Station
- Piezometers
- Manhattan Levee Unit
- Toe 2006 Survey

N

US Army Corps of Engineers
Kansas City District

Photography Date: 2010

Projection: State Plane, Kansas North
Datum: NAD 83

Created by:
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Kansas City District, GDS Team

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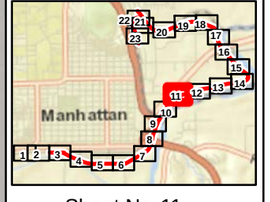
0 25 50 100 Feet

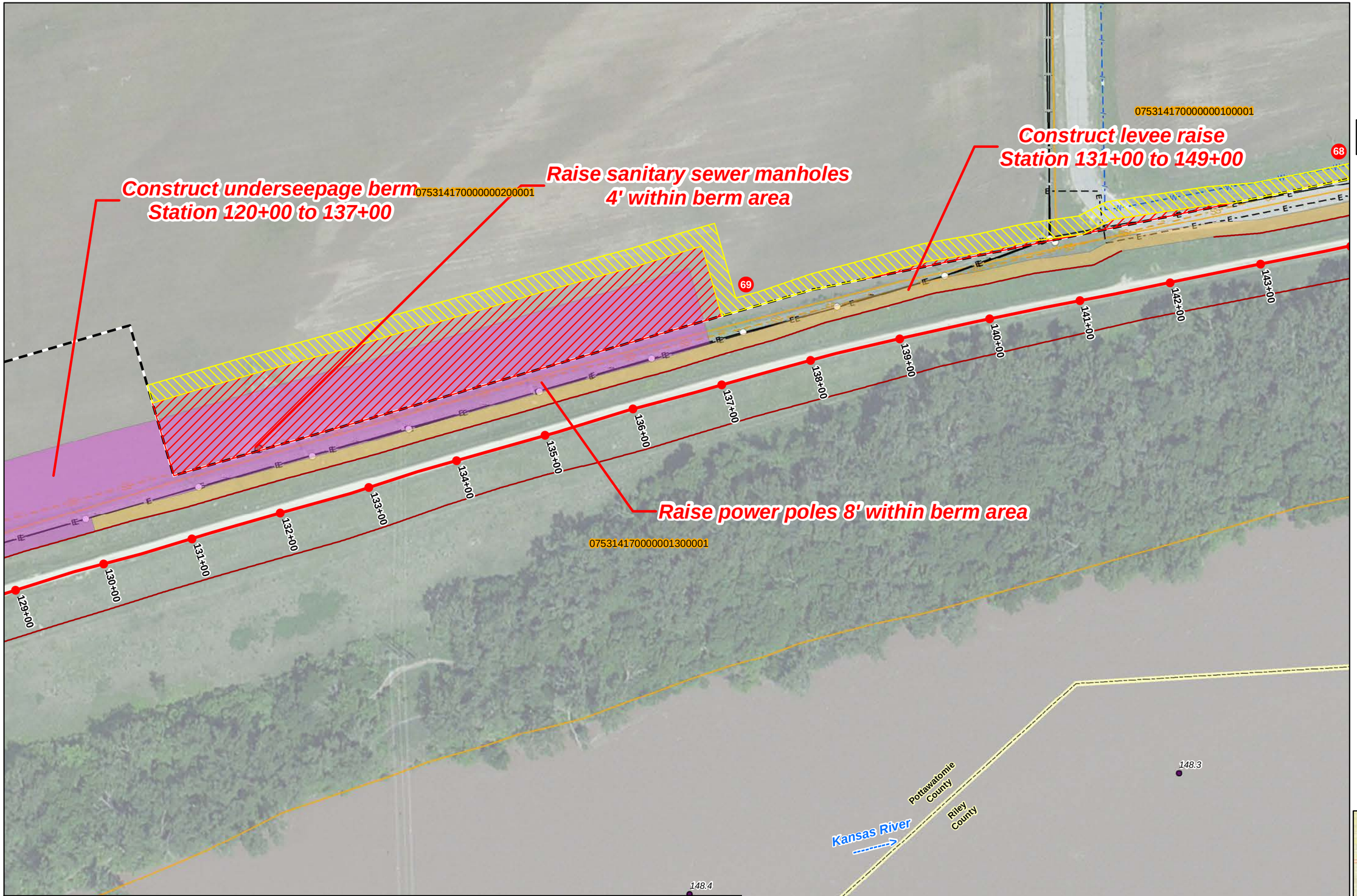


Sheet No. 11

Manhattan Levee

Feasibility Study
Existing Conditions and Reliability Improvements

Plan 3
Real Estate
Station 129+00 to 144+00



MAP ID	Parcel ID Riley County	Parcel ID Pottawatomie County changes	Party_Name	Non-affected acres	Temporary Acres	Permanent Acres	Total Acres
68		07531417000000100001	WESTAR ENERGY	39.36602953	0.341121366	0.020240886	39.72739179
69		07531417000000200001	FAY BETTY J .5 INT	34.86045659	0.481854994	1.153678165	36.49598975

Key

- ROW
- TCE Plume
- County Boundary
- City Boundary
- Parcels

Proposed Features

- Berm
- Berm and Raise
- Ponding
- Raise
- Relief Wells
- Proposed Sandbag Gap
- Proposed Levee Extension
- Permanent Real Estate Easement
- Temporary Real Estate Easement

Existing UL Features

- Aerial Com & Fiber Optic (FO)
- Underground Com & FO
- Aerial Electrical & Light
- Underground Electrical & Light
- Natural Gas Lines
- Water Lines
- Storm Sewer Lines
- Sanitary Sewer Lines
- Communication Structure
- Electrical Poles
- Manholes

Existing Levee Features

- Gate Well
- Sandbag Gap
- Stoplog Gap
- Pump Station
- Piezometers
- Manhattan Levee Unit
- Toe 2006 Survey

N

US Army Corps of Engineers
Kansas City District

Photography Date: 2010

Projection: State Plane, Kansas North
Datum: NAD 83

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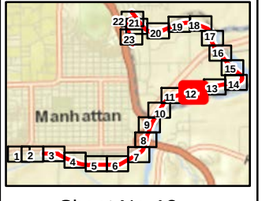
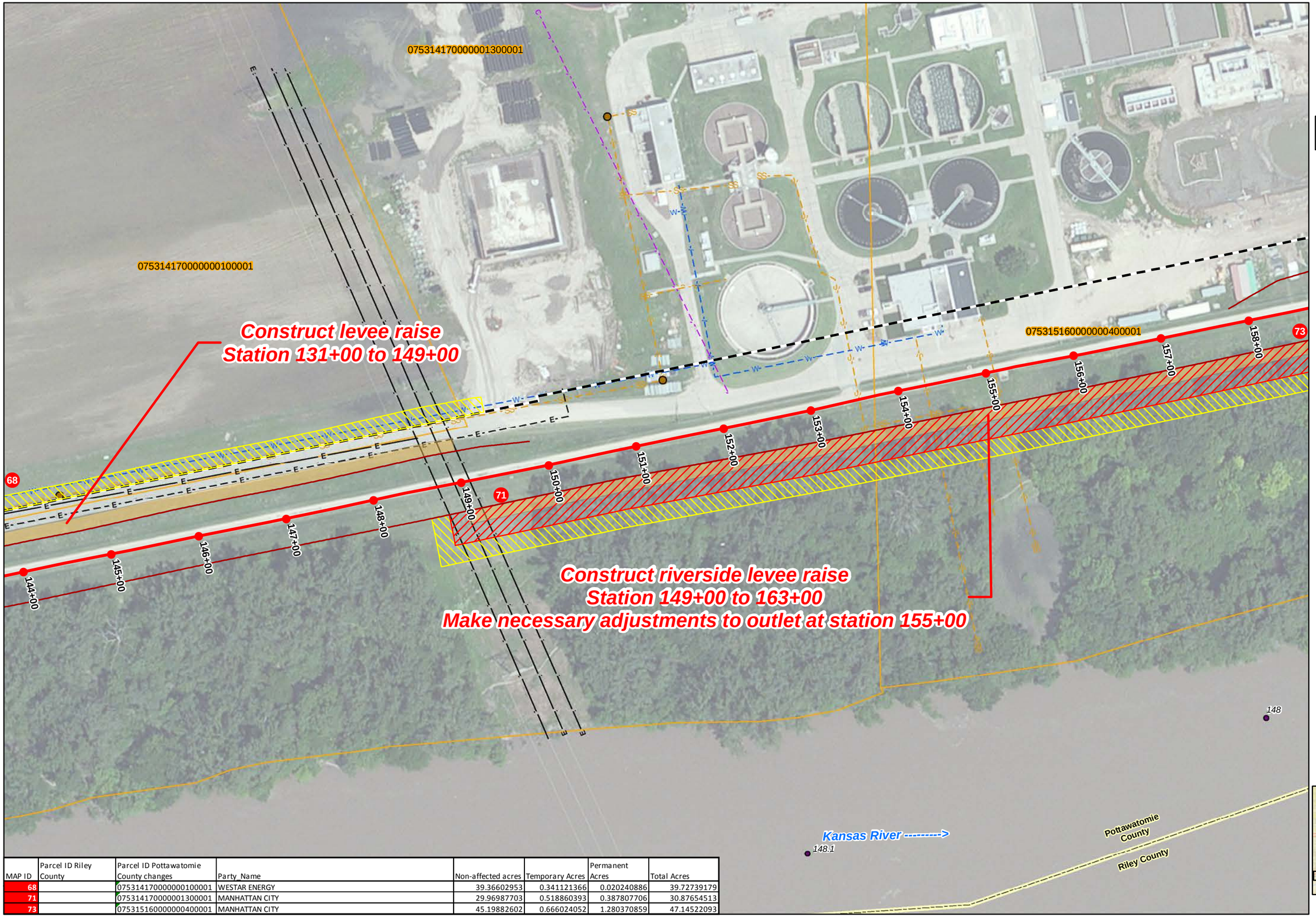


Sheet No. 12

Manhattan Levee

Feasibility Study
Existing Conditions and Reliability Improvements

Plan 3
Real Estate
Station 144+00 to 158+75



Key

- ROW
- TCE Plume
- County Boundary
- City Boundary
- Parcels

Proposed Features

- Berm
- Berm and Raise
- Ponding
- Raise
- Relief Wells
- Proposed Sandbag Gap
- Proposed Levee Extension
- Permanent Real Estate Easement
- Temporary Real Estate Easement

Existing UL Features

- Aerial Com & Fiber Optic (FO)
- Underground Com & FO
- Aerial Electrical & Light
- Underground Electrical & Light
- Natural Gas Lines
- Water Lines
- Storm Sewer Lines
- Sanitary Sewer Lines
- Communication Structure
- Electrical Poles
- Manholes

Existing Levee Features

- Gate Well
- Sandbag Gap
- Stoplog Gap
- Pump Station
- Piezometers
- Manhattan Levee Unit
- Toe 2006 Survey

N

US Army Corps of Engineers
Kansas City District

Photography Date: 2010

Projection: State Plane, Kansas North
Datum: NAD 83

Created by:
U.S. Army Corps of Engineers
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Kansas City, Missouri, 64106

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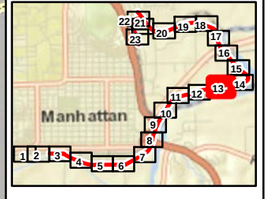
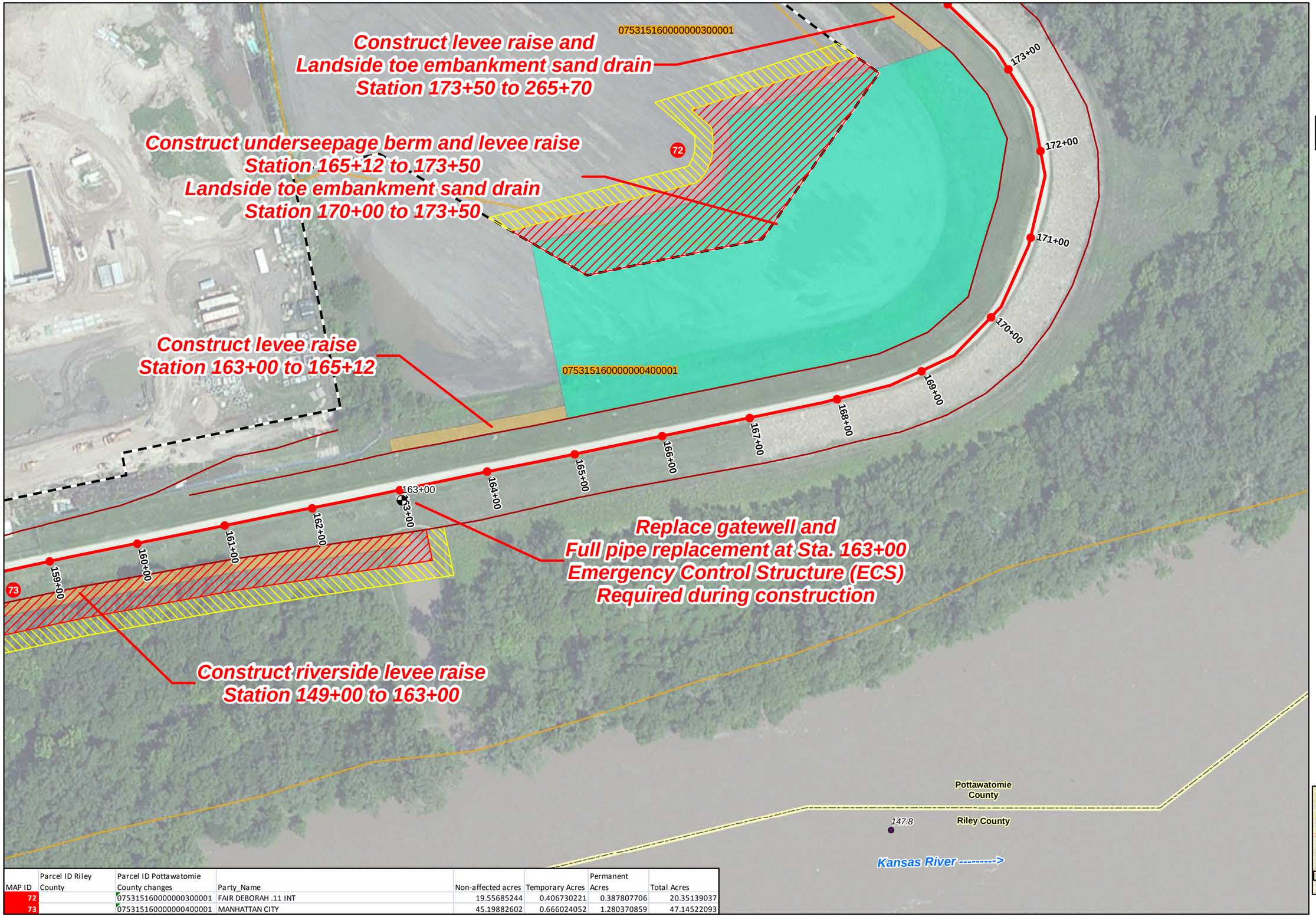


Sheet No. 13

MAP ID	Parcel ID Riley County	Parcel ID Pottawatomie County changes	Party_Name	Non-affected acres	Temporary Acres	Permanent Acres	Total Acres
68		07531417000000100001	WESTAR ENERGY	39.36602953	0.341121366	0.020240886	39.72739179
71		07531417000001300001	MANHATTAN CITY	29.96987703	0.518860393	0.387807706	30.87654513
73		07531516000000400001	MANHATTAN CITY	45.19882602	0.666024052	1.280370859	47.14522093



MAP ID	Parcel ID Riley County	Parcel ID Pottawatomie County changes	Party_Name	Non-affected acres	Temporary Acres	Permanent Acres	Total Acres
72		07531516000000300001	FAIR DEBORAH .11 INT	19.55685244	0.406730221	0.387807706	20.35139037
73		07531516000000400001	MANHATTAN CITY	45.19882602	0.666024052	1.280370859	47.14522093

Manhattan Levee

Feasibility Study
Existing Conditions and Reliability Improvements

Plan 3
Real Estate
Station 158+00 to 174+00

Key

- ROW
- TCE Plume
- County Boundary
- City Boundary
- Parcels

Proposed Features

- Berm
- Berm and Raise
- Ponding
- Raise
- Relief Wells
- Proposed Sandbag Gap
- Proposed Levee Extension
- Permanent Real Estate Easement
- Temporary Real Estate Easement

Existing UL Features

- Aerial Com & Fiber Optic (FO)
- Underground Com & FO
- Aerial Electrical & Light
- Underground Electrical & Light
- Natural Gas Lines
- Water Lines
- Storm Sewer Lines
- Sanitary Sewer Lines
- Communication Structure
- Electrical Poles
- Manholes

Existing Levee Features

- Gate Well
- Sandbag Gap
- Stoplog Gap
- Pump Station
- Piezometers
- Manhattan Levee Unit
- Toe 2006 Survey

N

US Army Corps of Engineers
Kansas City District

Photography Date: 2010

Projection: State Plane, Kansas North
Datum: NAD 83

Created by:
U.S. Army Corps of Engineers
Kansas City District, GDS Team

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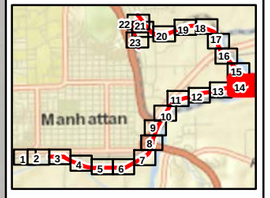
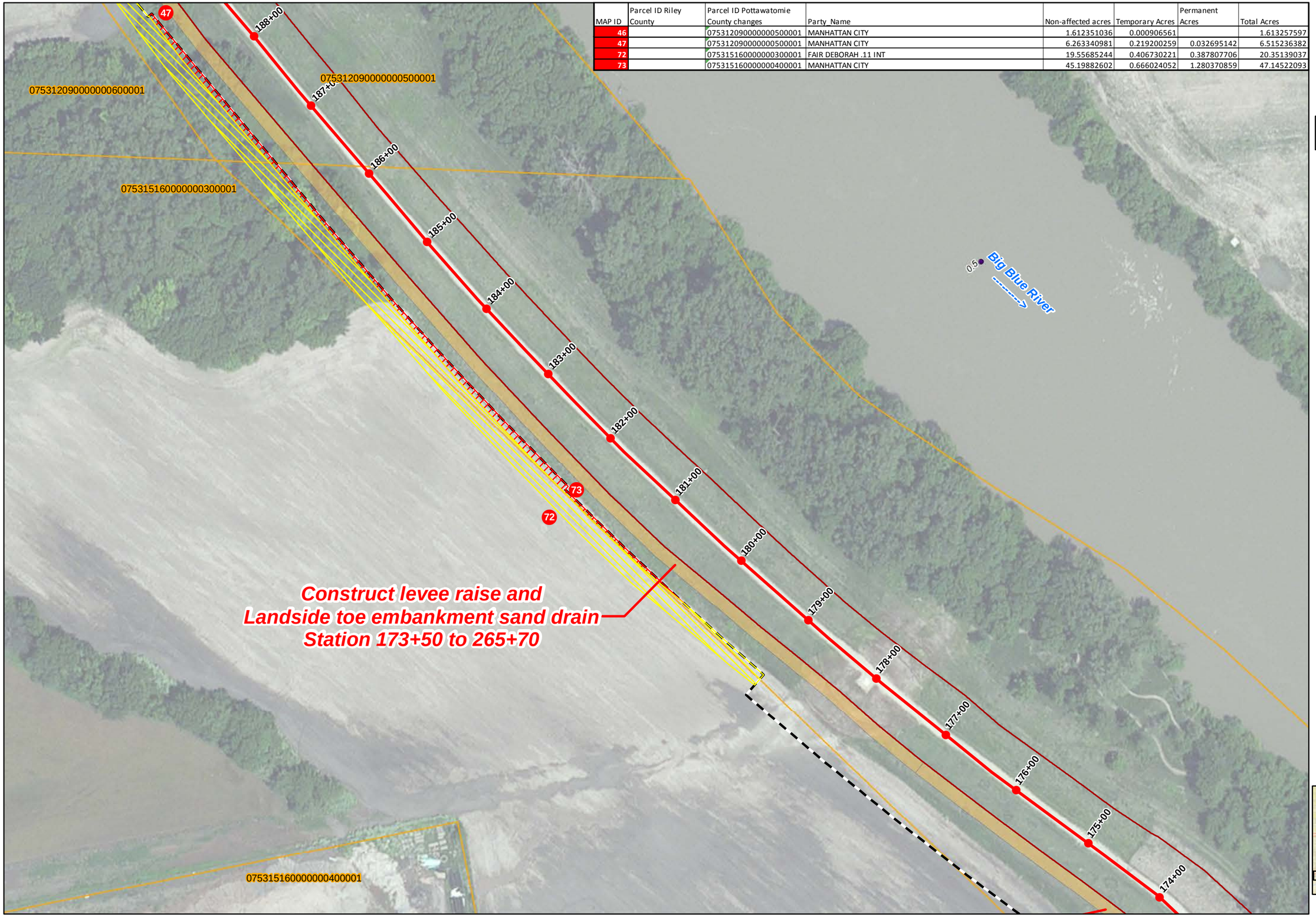


Sheet No. 14

MAP ID	Parcel ID Riley County	Parcel ID Pottawatomie County changes	Party_Name	Non-affected acres	Temporary Acres	Permanent Acres	Total Acres
46		075312090000000500001	MANHATTAN CITY	1.612351036	0.000906561		1.613257597
47		075312090000000500001	MANHATTAN CITY	6.263340981	0.219200259	0.032695142	6.515236382
72		075315160000000300001	FAIR DEBORAH .11 INT	19.55685244	0.406730221	0.387807706	20.35139037
73		075315160000000400001	MANHATTAN CITY	45.19882602	0.666024052	1.280370859	47.14522093



Manhattan Levee

Feasibility Study
Existing Conditions and Reliability Improvements

Plan 3
Real Estate
Station 173+75 to 188+25

Key

- ROW
- TCE Plume
- County Boundary
- City Boundary
- Parcels

Proposed Features

- Berm
- Berm and Raise
- Ponding
- Raise
- Relief Wells
- Proposed Sandbag Gap
- Proposed Levee Extension
- Permanent Real Estate Easement
- Temporary Real Estate Easement

Existing UL Features

- Aerial Com & Fiber Optic (FO)
- Underground Com & FO
- Aerial Electrical & Light
- Underground Electrical & Light
- Natural Gas Lines
- Water Lines
- Storm Sewer Lines
- Sanitary Sewer Lines
- Communication Structure
- Electrical Poles
- Manholes

Existing Levee Features

- Gate Well
- Sandbag Gap
- Stoplog Gap
- Pump Station
- Piezometers
- Manhattan Levee Unit
- Toe 2006 Survey

N

US Army Corps of Engineers
Kansas City District

Photography Date: 2010

Projection: State Plane, Kansas North
Datum: NAD 83

Created by:
U.S. Army Corps of Engineers
Kansas City District, GDS Team

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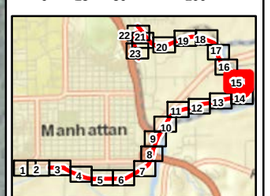
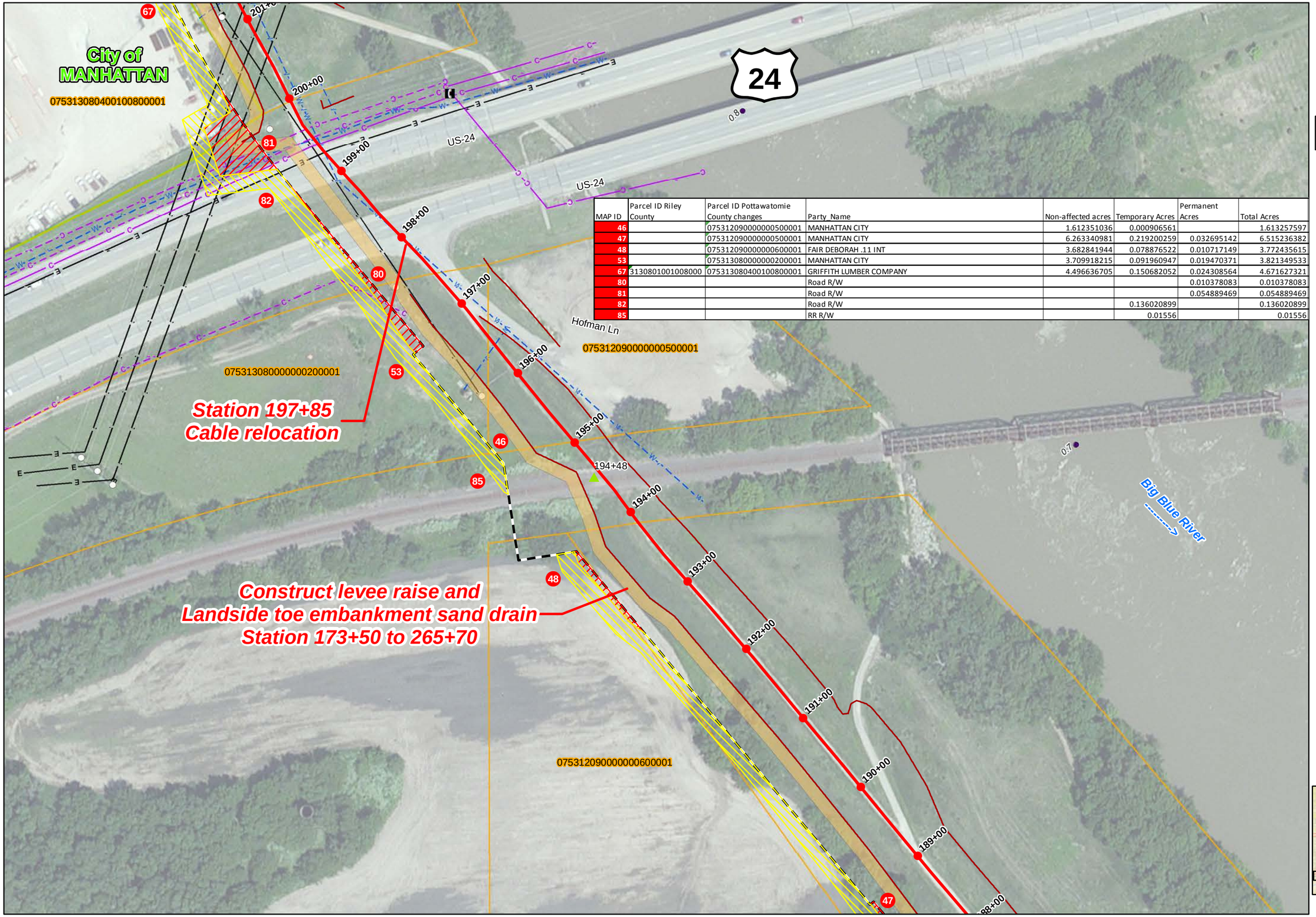


Sheet No. 15

Manhattan Levee
Feasibility Study
Existing Conditions and Reliability Improvements

Plan 3
Real Estate
Station 188+00 to 201+00



MAP ID	Parcel ID Riley County	Parcel ID Pottawatomie County changes	Party Name	Non-affected acres	Temporary Acres	Permanent Acres	Total Acres
46		07531209000000050000 1	MANHATTAN CITY	1.612351036	0.000906561		1.613257597
47		07531209000000050000 1	MANHATTAN CITY	6.263340981	0.219200259	0.032695142	6.515236382
48		07531209000000060000 1	FAIR DEBORAH .11 INT	3.682841944	0.078876522	0.010717149	3.772435615
53		07531308000000020000 1	MANHATTAN CITY	3.709918215	0.091960947	0.019470371	3.821349533
67	3130801001008000	07531308040010080000 1	GRIFFITH LUMBER COMPANY	4.496636705	0.150682052	0.024308564	4.671627321
80			Road R/W			0.010378083	0.010378083
81			Road R/W			0.054889469	0.054889469
82			Road R/W		0.136020899		0.136020899
85			RR R/W		0.01556		0.01556

Key

- ROW
- TCE Plume
- County Boundary
- City Boundary
- Parcels

Proposed Features

- Berm
- Berm and Raise
- Ponding
- Raise
- Relief Wells
- Proposed Sandbag Gap
- Proposed Levee Extension
- Permanent Real Estate Easement
- Temporary Real Estate Easement

Existing UL Features

- Aerial Com & Fiber Optic (FO)
- Underground Com & FO
- Aerial Electrical & Light
- Underground Electrical & Light
- Natural Gas Lines
- Water Lines
- Storm Sewer Lines
- Sanitary Sewer Lines
- Communication Structure
- Electrical Poles
- Manholes

Existing Levee Features

- Gate Well
- Sandbag Gap
- Stoplog Gap
- Pump Station
- Piezometers
- Manhattan Levee Unit
- Toe 2006 Survey

N

US Army Corps of Engineers
Kansas City District

Photography Date: 2010

Projection: State Plane, Kansas North
Datum: NAD 83

Created by:
U.S. Army Corps of Engineers
Kansas City District, GDS Team

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Kansas City, Missouri, 64106

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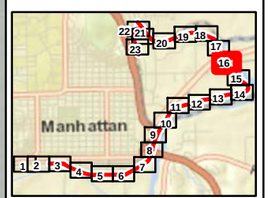
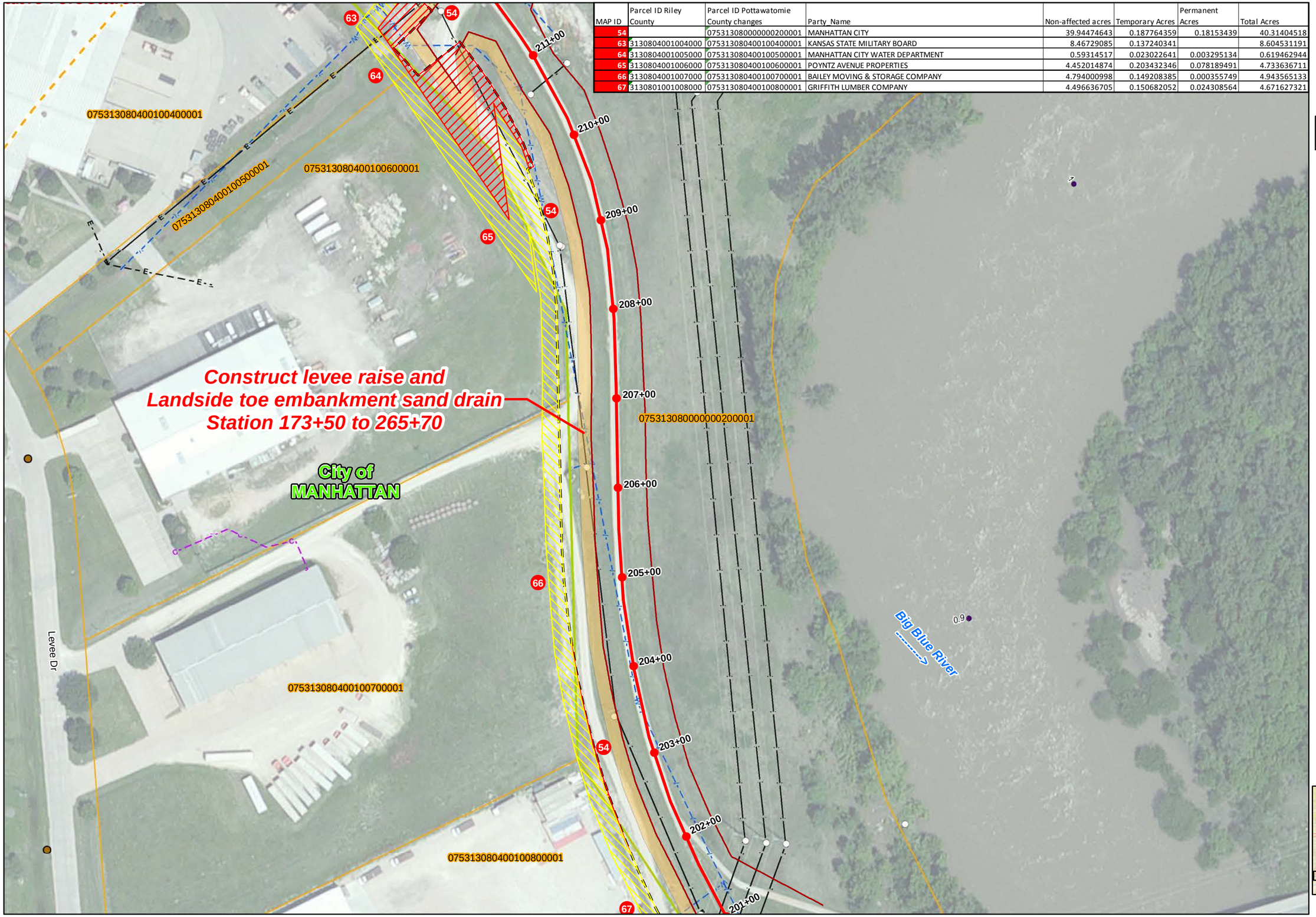


Sheet No. 16

Manhattan Levee
Feasibility Study
Existing Conditions and Reliability Improvements

Plan 3
Real Estate
Station 201+00 to 211+50

MAP ID	Parcel ID Riley County	Parcel ID Pottawatomie County changes	Party Name	Non-affected acres	Temporary Acres	Permanent Acres	Total Acres
54		075313080000000200001	MANHATTAN CITY	39.94474643	0.187764359	0.18153439	40.31404518
63	3130804001004000	075313080400100400001	KANSAS STATE MILITARY BOARD	8.46729085	0.137240341		8.604531191
64	3130804001005000	075313080400100500001	MANHATTAN CITY WATER DEPARTMENT	0.59314517	0.023022641	0.003295134	0.619462944
65	3130804001006000	075313080400100600001	POYNTZ AVENUE PROPERTIES	4.452014874	0.203432346	0.078189491	4.733636711
66	3130804001007000	075313080400100700001	BAILEY MOVING & STORAGE COMPANY	4.794000998	0.149208385	0.000355749	4.943565133
67	3130801001008000	075313080400100800001	GRIFFITH LUMBER COMPANY	4.496636705	0.150682052	0.024308564	4.671627321



Key

- ROW
- TCE Plume
- County Boundary
- City Boundary
- Parcels

Proposed Features

- Berm
- Berm and Raise
- Ponding
- Raise
- Relief Wells
- Proposed Sandbag Gap
- Proposed Levee Extension
- Permanent Real Estate Easement
- Temporary Real Estate Easement

Existing UL Features

- Aerial Com & Fiber Optic (FO)
- Underground Com & FO
- Aerial Electrical & Light
- Underground Electrical & Light
- Natural Gas Lines
- Water Lines
- Storm Sewer Lines
- Sanitary Sewer Lines
- Communication Structure
- Electrical Poles
- Manholes

Existing Levee Features

- Gate Well
- Sandbag Gap
- Stoplog Gap
- Pump Station
- Piezometers
- Manhattan Levee Unit
- Toe 2006 Survey

N

US Army Corps of Engineers
Kansas City District

Photography Date: 2010

Projection: State Plane, Kansas North
Datum: NAD 83

Created by:
U.S. Army Corps of Engineers
Kansas City District, GDS Team

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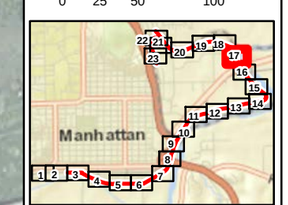
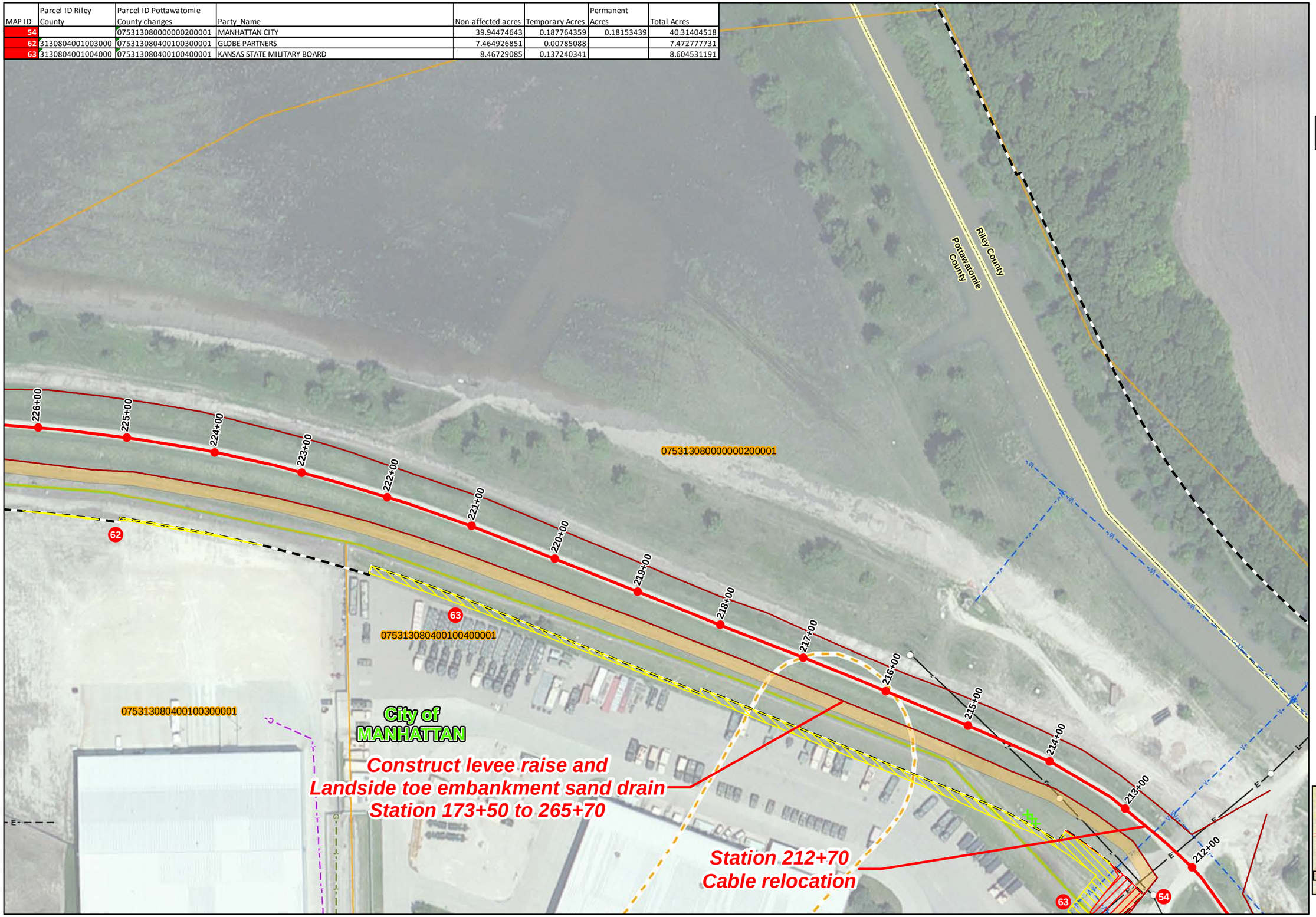


Sheet No. 17

MAP ID	Parcel ID Riley County	Parcel ID Pottawatomie County changes	Party_Name	Non-affected acres	Temporary Acres	Permanent Acres	Total Acres
54		07531308000000200001	MANHATTAN CITY	39.94474643	0.187764359	0.18153439	40.31404518
62	3130804001003000	07531308400100300001	GLOBE PARTNERS	7.464926851	0.00785088		7.472777731
63	3130804001004000	07531308400100400001	KANSAS STATE MILITARY BOARD	8.46729085	0.137240341		8.604531191



Manhattan Levee

Feasibility Study
Existing Conditions and Reliability Improvements

Plan 3
Real Estate
Station 211+50 to 226+25

Key

- ROW
- TCE Plume
- County Boundary
- City Boundary
- Parcels

Proposed Features

- Berm
- Berm and Raise
- Ponding
- Raise
- Relief Wells
- Proposed Sandbag Gap
- Proposed Levee Extension
- Permanent Real Estate Easement
- Temporary Real Estate Easement

Existing UL Features

- Aerial Com & Fiber Optic (FO)
- Underground Com & FO
- Aerial Electrical & Light
- Underground Electrical & Light
- Natural Gas Lines
- Water Lines
- Storm Sewer Lines
- Sanitary Sewer Lines
- Communication Structure
- Electrical Poles
- Manholes

Existing Levee Features

- Gate Well
- Sandbag Gap
- Stoplog Gap
- Pump Station
- Piezometers
- Manhattan Levee Unit
- Toe 2006 Survey

N

US Army Corps of Engineers
Kansas City District

Photography Date: 2010

Projection: State Plane, Kansas North
Datum: NAD 83

Created by:
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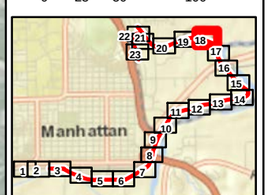
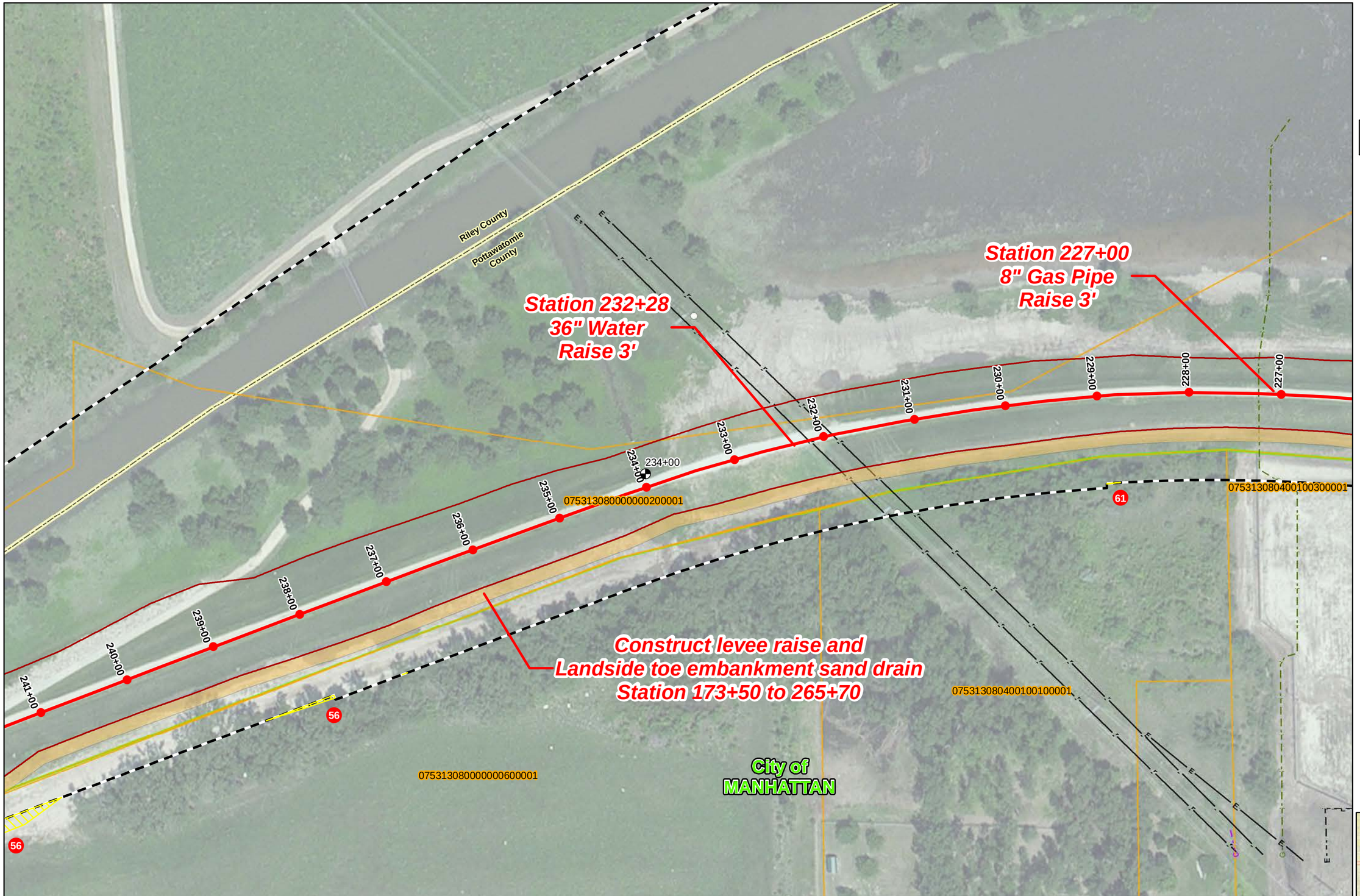


Sheet No. 18

Manhattan Levee

Feasibility Study
Existing Conditions and Reliability Improvements

Plan 3
Real Estate
Station 226+25 to 241+25



MAP ID	Parcel ID Riley County	Parcel ID Pottawatomie County changes	Party_Name	Non-affected acres	Temporary Acres	Permanent Acres	Total Acres
56	3130800000006000	07531308000000000600001	MANHATTAN CITY % FARRAR CORPORATION	31.30539167	0.082019131		31.3874108
61	3130804001001000	07531308040010010000 1	MANHATTAN CITY	5.732019429	0.000148521		5.73216795

Key

- ROW
- TCE Plume
- County Boundary
- City Boundary
- Parcels

Proposed Features

- Berm
- Berm and Raise
- Ponding
- Raise
- Relief Wells
- Proposed Sandbag Gap
- Proposed Levee Extension
- Permanent Real Estate Easement
- Temporary Real Estate Easement

Existing UL Features

- Aerial Com & Fiber Optic (FO)
- Underground Com & FO
- Aerial Electrical & Light
- Underground Electrical & Light
- Natural Gas Lines
- Water Lines
- Storm Sewer Lines
- Sanitary Sewer Lines
- Communication Structure
- Electrical Poles
- Manholes

Existing Levee Features

- Gate Well
- Sandbag Gap
- Stoplog Gap
- Pump Station
- Piezometers
- Manhattan Levee Unit
- Toe 2006 Survey

N

US Army Corps of Engineers
Kansas City District

Photography Date: 2010

Projection: State Plane, Kansas North
Datum: NAD 83

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Kansas City, Missouri, 64106

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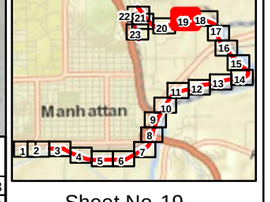
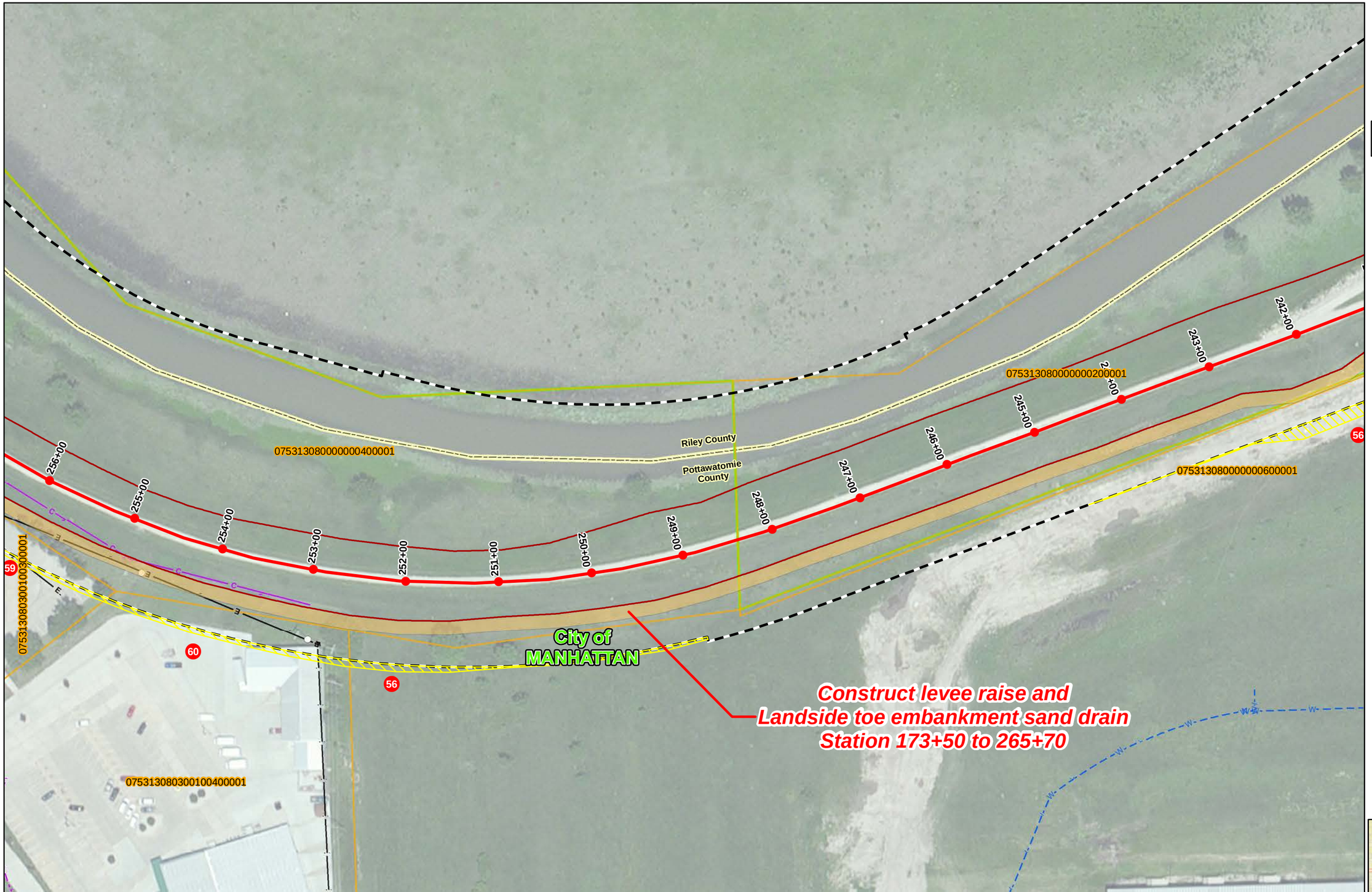


Sheet No. 19

Manhattan Levee

Feasibility Study
Existing Conditions and Reliability Improvements

Plan 3
Real Estate
Station 241+25 to 256+50



MAP ID	Parcel ID Riley County	Parcel ID Pottawatomie County changes	Party_Name	Non-affected acres	Temporary Acres	Permanent Acres	Total Acres
56	3130800000006000	07531308000000000600001	MANHATTAN CITY % FARRAR CORPORATION	31.30539167	0.082019131		31.3874108
59	3130803001003000	07531308030010030000 1	MANHATTAN CITY	1.926306269	0.032561735	0.002145809	1.961013813
60	3130803001004000	07531308030010040000 1	BIG LAKES DEVELOPMENTAL CENTER	6.035534474	0.033513158		6.069047632

Key

- ROW
- TCE Plume
- County Boundary
- City Boundary
- Parcels

Proposed Features

- Berm
- Berm and Raise
- Ponding
- Raise
- Relief Wells
- Proposed Sandbag Gap
- Proposed Levee Extension
- Permanent Real Estate Easement
- Temporary Real Estate Easement

Existing UL Features

- Aerial Com & Fiber Optic (FO)
- Underground Com & FO
- Aerial Electrical & Light
- Underground Electrical & Light
- Natural Gas Lines
- Water Lines
- Storm Sewer Lines
- Sanitary Sewer Lines
- Communication Structure
- Electrical Poles
- Manholes

Existing Levee Features

- Gate Well
- Sandbag Gap
- Stoplog Gap
- Pump Station
- Piezometers
- Manhattan Levee Unit
- Toe 2006 Survey

N

US Army Corps of Engineers
Kansas City District

Photography Date: 2010

Projection: State Plane, Kansas North
Datum: NAD 83

Created by:
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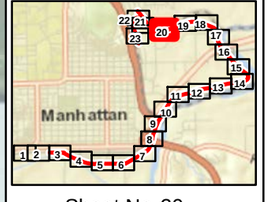
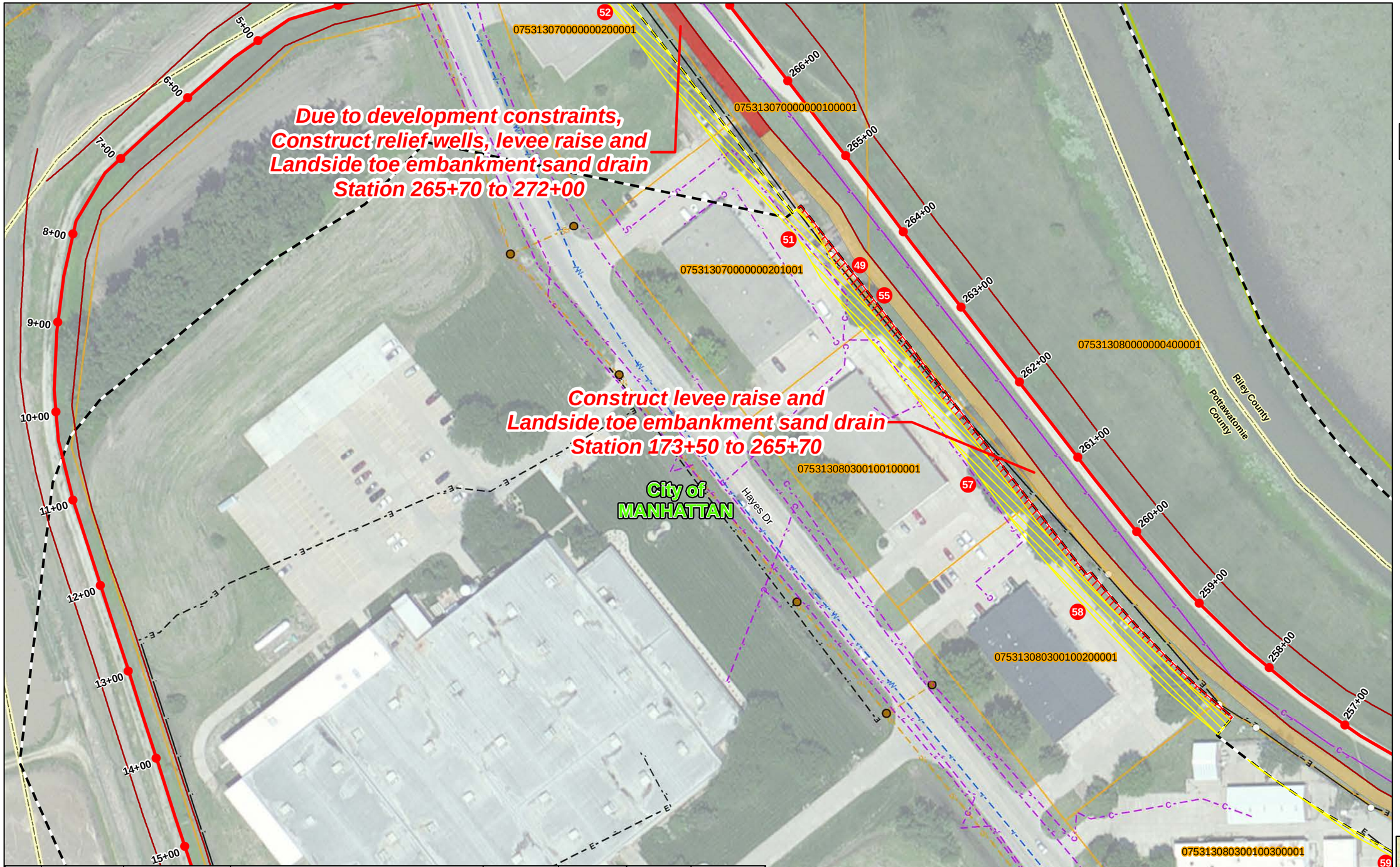


Sheet No. 20

Manhattan Levee

Feasibility Study
Existing Conditions and Reliability Improvements

Plan 3
Real Estate
Station 256+50 to 267+00



MAP ID	Parcel ID Riley County	Parcel ID Pottawatomie County changes	Party Name	Non-affected acres	Temporary Acres	Permanent Acres	Total Acres
49	3130700000001000	07531307000000000100001	MANHATTAN CITY	2.773527966	0.017769425	0.011369251	2.802666642
51	3130700000002010	07531307000000000201001	CLAY SHERWOOD RENTALS	0.928338326	0.112110939	0.012534385	1.05298365
52	3130700000002000	07531307000000000200001	MANHATTAN CITY	0.895232964	0.102772307		0.998005272
55	3130800000004000	07531308000000000400001	MANHATTAN CITY	11.93179721		0.002973514	11.93477072
57	3130803001001000	07531308030010010000 1	R W M PROPERTIES	0.909266804	0.11581894	0.041299953	1.066385697
58	3130803001002000	07531308030010020000 1	PAWNEE MENTAL HEALTH SERVICES ENDOWMENT ASSOC	1.126840081	0.131874924	0.04065078	1.299365785
59	3130803001003000	07531308030010030000 1	MANHATTAN CITY	1.926306269	0.032561735	0.002145809	1.961013813

Key

- ROW
- TCE Plume
- County Boundary
- City Boundary
- Parcels

Proposed Features

- Berm
- Berm and Raise
- Ponding
- Raise
- Relief Wells
- Proposed Sandbag Gap
- Proposed Levee Extension
- Permanent Real Estate Easement
- Temporary Real Estate Easement

Existing UL Features

- Aerial Com & Fiber Optic (FO)
- Underground Com & FO
- Aerial Electrical & Light
- Underground Electrical & Light
- Natural Gas Lines
- Water Lines
- Storm Sewer Lines
- Sanitary Sewer Lines
- Communication Structure
- Electrical Poles
- Manholes

Existing Levee Features

- Gate Well
- Sandbag Gap
- Stoplog Gap
- Pump Station
- Piezometers
- Manhattan Levee Unit
- Toe 2006 Survey

N

US Army Corps of Engineers
Kansas City District

Photography Date: 2010

Projection: State Plane, Kansas North
Datum: NAD 83

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Kansas City District, GDS Team

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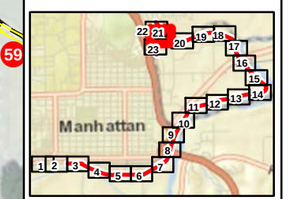
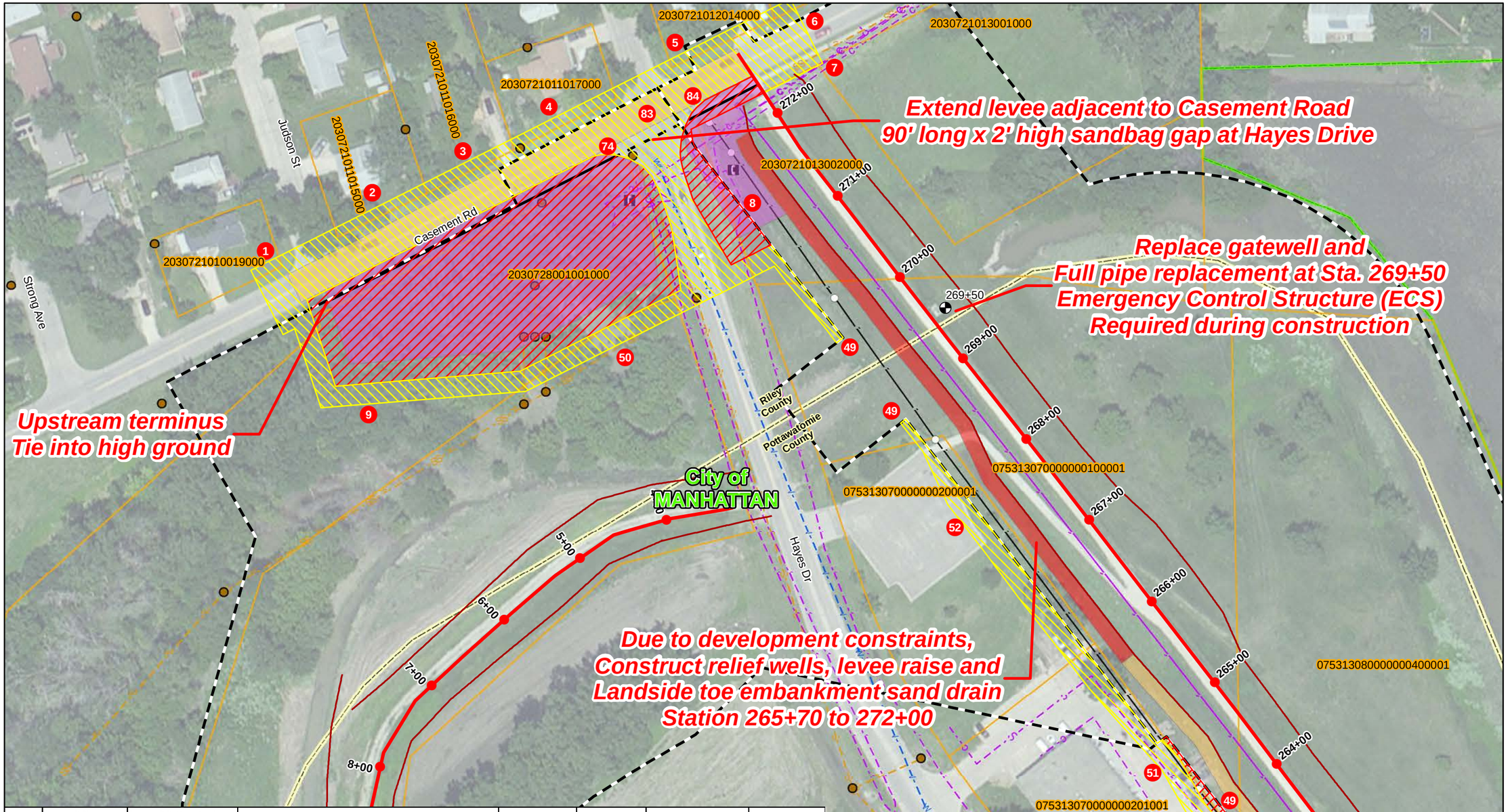


Sheet No. 21

Manhattan Levee

Feasibility Study
Existing Conditions and Reliability Improvements

Plan 3
Real Estate
Station 260+50 to 272+50



MAP ID	Parcel ID Riley County	Parcel ID Pottawatomie County changes	Party_Name	Non-affected acres	Temporary Acres	Permanent Acres	Total Acres
1	2030721010019000	2030721010019000	Cline,Larry E & Norma K;Trust	0.184231459	0.006909178		0.191140637
2	2030721011015000	2030721011015000	TEENER,DOUGLAS R & LINDA I	0.224107747	0.021109602		0.245217349
3	2030721011016000	2030721011016000	MCLAIN, JON G	0.392863274	0.021682289		0.414545564
4	2030721011017000	2030721011017000	SANDOVAL, IAN E	0.183374026	0.026643494		0.21001752
5	2030721012014000	2030721012014000	HOOK, MARVIN L	0.17872136	0.023355212		0.202076572
6	2030721012015000	2030721012015000	DREHER,RONALD D & KIMBERLY	0.186007521	0.005253133		0.191260653
7	2030721013001000	2030721013001000	REITZ,RUSSELL L MD;TRUST REITZ,RUSSELL L MD;TRUSTEE	1.820868222	7.26051E-05		1.820940827
8	2030721013002000	2030721013002000	CITY OF MANHATTAN	1.323009668	0.020382969	0.028573538	1.371966176
9	2030728001001000	2030728001001000	CITY OF MANHATTAN	15.64562761	0.132438051	0.933580841	16.71164651
49	3130700000001000	07531307000000000100001	MANHATTAN CITY	2.773527966	0.017769425	0.011369251	2.802666642
50	3130700000001000	07531307000000000100001	MANHATTAN CITY	14.43863788	0.059566771	0.001153301	14.49935796
51	3130700000002010	07531307000000000201001	CLAY SHERWOOD RENTALS	0.928338326	0.112110939	0.012534385	1.05298365
52	3130700000002000	07531307000000000200001	MANHATTAN CITY	0.895232964	0.102772307		0.998005272
55	3130800000004000	07531308000000000400001	MANHATTAN CITY	11.93179721		0.002973514	11.93477072
57	3130803001001000	07531308030010010001	R W M PROPERTIES	0.909266804	0.11581894	0.041299953	1.066385697
74			Road R/W			0.194323416	0.194323416
83			Road R/W		0.818069347		0.818069347
84			Road R/W			0.101503606	0.101503606

Key

- ROW
- TCE Plume
- County Boundary
- City Boundary
- Parcels

Proposed Features

- Berm
- Berm and Raise
- Ponding
- Raise
- Relief Wells
- Proposed Sandbag Gap
- Proposed Levee Extension
- Permanent Real Estate Easement
- Temporary Real Estate Easement

Existing UL Features

- Aerial Com & Fiber Optic (FO)
- Underground Com & FO
- Aerial Electrical & Light
- Underground Electrical & Light
- Natural Gas Lines
- Water Lines
- Storm Sewer Lines
- Sanitary Sewer Lines
- Communication Structure
- Electrical Poles
- Manholes

Existing Levee Features

- Gate Well
- Sandbag Gap
- Stoplog Gap
- Pump Station
- Piezometers
- Manhattan Levee Unit
- Toe 2006 Survey

N

US Army Corps of Engineers
Kansas City District

Photography Date: 2010

Projection: State Plane, Kansas North
Datum: NAD 83

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Kansas City District, GDS Team

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Feet
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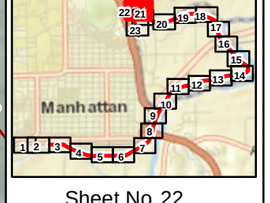
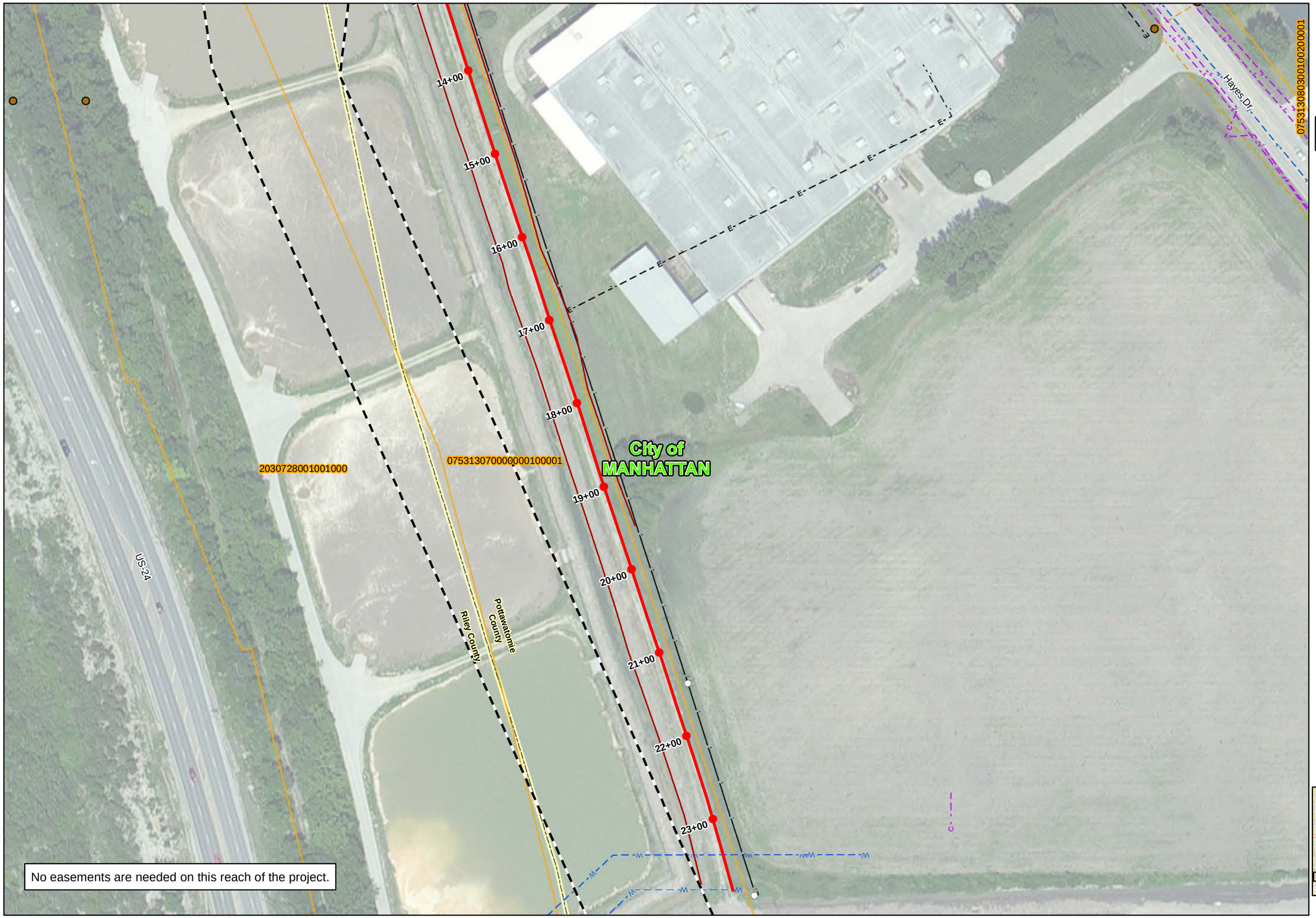


Sheet No. 22

Manhattan Levee

Feasibility Study
Existing Conditions and Reliability Improvements

Plan 3
Real Estate
Station 13+25 to 23+50



Key

- ROW
- TCE Plume
- County Boundary
- City Boundary
- Parcels

Proposed Features

- Berm
- Berm and Raise
- Ponding
- Raise
- Relief Wells
- Proposed Sandbag Gap
- Proposed Levee Extension
- Permanent Real Estate Easement
- Temporary Real Estate Easement

Existing UL Features

- Aerial Com & Fiber Optic (FO)
- Underground Com & FO
- Aerial Electrical & Light
- Underground Electrical & Light
- Natural Gas Lines
- Water Lines
- Storm Sewer Lines
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- Communication Structure
- Electrical Poles
- Manholes

Existing Levee Features

- Gate Well
- Sandbag Gap
- Stoplog Gap
- Pump Station
- Piezometers
- Manhattan Levee Unit
- Toe 2006 Survey

N

US Army Corps of Engineers
Kansas City District

Photography Date: 2010

Projection: State Plane, Kansas North
Datum: NAD 83

Created by:
U.S. Army Corps of Engineers
Kansas City District, GDS Team

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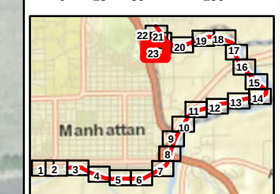
601 East 12th, Room 527,
Kansas City, Missouri, 64106

0 25 50 100 Feet



Sheet No. 23

MAP ID	Parcel ID Riley County	Party_Name	Non-affected acres	Temporary Acres	Permanent Acres	Total Acres
1	2030721010019000	Cline,Larry E & Norma K;Trust	0.18423145913	0.00690917792		0.19114063705
2	2030721011015000	TEENER,DOUGLAS R & LINDA I	0.22410774697	0.02110960219		0.24521734916
3	2030721011016000	MCLAIN, JON G	0.39286327432	0.02168228940		0.41454556371
4	2030721011017000	SANDOVAL, IAN E	0.18337402569	0.02664349406		0.21001751975
5	2030721012014000	HOOK, MARVIN L	0.17872136027	0.02335521221		0.20207657249
6	2030721012015000	DREHER,RONALD D & KIMBERLY	0.18600752065	0.00525313253		0.19126065318
7	2030721013001000	REITZ,RUSSELL L MD;TRUST REITZ,RUSSELL L MD;TRUSTEE	1.82086822178	0.00007260514		1.82094082692
8	2030721013002000	CITY OF MANHATTAN	1.32300966830	0.02038296910	0.02857353824	1.37196617564
9	2030728001001000	CITY OF MANHATTAN	15.64562761350	0.13243805135	0.93358084124	16.71164650609
13	2041920000001000	CITY OF MANHATTAN	11.77025373780	0.00160965803	0.13975158579	11.91161498162
14	2041920000002000	CITY OF MANHATTAN	77.26366952150	0.047502556	0.022332996	77.33350507396
15	2041920000017000	CITY OF MANHATTAN	3.30694588217	0.04277827572		3.34972415789
16	2041921011001000	WAMEGO SAND COMPANY INC DBA MIDWEST CONCRETE MATR	11.14663868030	0.18207291243	0.00213042611	11.33084201884
17	2041921012001000	LITTLE, MARY LOU	1.08548089575	0.02583092210		1.11131181785
18	2041921013001000	SOWELL, RONALD A	1.27930753177	0.14204150864	0.04982053543	1.47116957585
19	2041921013002000	SOWELL, RONALD A	0.96137442933	0.06512838055	0.00528000669	1.03178281657
20	2041921013003010	MAULE, DAVID C	1.36201775882	0.02860051250		1.39061827132
21	2041921013004000	HUMMEL, TRAVIS DALE	0.85248038879	0.03542293813		0.88790332692
22	2041921013007010	GIBSON, ROGER E	0.64443735125	0.06878511708	0.00010945552	0.71333192384
23	2041921013009000	FLEEKER,CHARLES & JUDITH L	1.01489709351	0.04007301978		1.05497011329
24	2041921013012020	SOWELL, RONALD A	0.03078592730	0.01498367848	0.00009677786	0.04586638364
25	2041922006004000	SOWELL,SCOTT & DEBORAH JO	1.25820058810	0.00047358768		1.25867417578
26	2041922006005000	CITY OF MANHATTAN	0.22868353181	0.00009827537		0.22878180718
27	2041922011001000	MOHR FAMILY TRUST MOHR,R L & D E;TRUSTEES	0.97687826646	0.07911186722		1.05599013369
28	2041922011002000	Cashman,Kathleen A, & Steinmetz,Nikki R, & Sutherland,Sammy G	1.59366429860	0.08375981	0.01334991545	1.69077402371
31	2041922012014000	MEYER, RODNEY D	0.24544971457	0.02212075793		0.26757047249
32	2041922012015000	FLEEKER,CHARLES & JUDITH L	0.32378960926	0.01987459921		0.34366420847
33	2041922012028000	ERDMAN, ASHLEY A	0.24095960104	0.05165439678	0.00147913581	0.29409313363
34	2041922012030000	Meladze, Vakhtang	0.13267724618	0.03889533490	0.00844445706	0.18001703814
35	2041922012032000	JONES,EDGAR A III KISSICK,STACY D	0.12617145652	0.03887105095	0.01341998182	0.17846248930
36	2041922012034000	AMBROSE, JASON W	0.23921757256	0.03299225	0.008341588	0.28055141095
37	2041922013005000	COLEMAN, MAUREEN S	0.20340652161	0.00338817737		0.20679469898
38	2041922013006000	ZOELLER, AMBER	0.17426687767	0.00589974054		0.18016661821
39	2041922013007000	HALL,RON L & SHEILA L	0.13688733779	0.00904105936		0.14592839715
40	2041922013008000	WASHINGTON, CLEOPHUS	0.20676960519	0.00642517577		0.21319478095
41	2041922013009000	SCROGGIN, COLLEEN J	0.24897358814	0.00192363069		0.25089721883
46		MANHATTAN CITY	1.61235103559	0.00090656106		1.61325759665
47		MANHATTAN CITY	6.26334098103	0.21920025875	0.032695142	6.51523638160
48		FAIR DEBORAH .11 INT	3.68284194369	0.07887652182	0.01071714922	3.77243561473
49	3130700000001000	MANHATTAN CITY	2.77352796632	0.017769425	0.01136925060	2.80266664189
50	3130700000001000	MANHATTAN CITY	14.43863788300	0.05956677076	0.00115330138	14.49935795514
51	3130700000002010	CLAY SHERWOOD RENTALS	0.92833832602	0.11211093926	0.01253438456	1.05298364983
52	3130700000002000	MANHATTAN CITY	0.89523296438	0.10277230750		0.99800527188
53		MANHATTAN CITY	3.70991821485	0.09196094717	0.01947037115	3.82134953316

54		MANHATTAN CITY	39.94474643	0.18776435854	0.18153439	40.31404517557
55	3130800000004000	MANHATTAN CITY	11.93179721110		0.00297351370	11.93477072480
56	3130800000006000	MANHATTAN CITY % FARRAR CORPORATION	31.30539167	0.082019131		31.38741079570
57	3130803001001000	R W M PROPERTIES	0.90926680422	0.11581893960	0.04129995323	1.06638569705
58	3130803001002000	PAWNEE MENTAL HEALTH SERVICES ENDOWMENT ASSOC	1.12684008091	0.13187492378	0.04065078034	1.29936578503
59	3130803001003000	MANHATTAN CITY	1.92630626917	0.032561735	0.00214580902	1.96101381307
60	3130803001004000	BIG LAKES DEVELOPMENTAL CENTER	6.03553447392	0.03351315759		6.06904763151
61	3130804001001000	MANHATTAN CITY	5.73201942881	0.00014852088		5.73216794969
62	3130804001003000	GLOBE PARTNERS	7.46492685095	0.00785088		7.47277773079
63	3130804001004000	KANSAS STATE MILITARY BOARD	8.46729084963	0.13724034119		8.60453119082
64	3130804001005000	MANHATTAN CITY WATER DEPARTMENT	0.59314517008	0.02302264050	0.00329513354	0.61946294412
65	3130804001006000	POYNTZ AVENUE PROPERTIES	4.45201487437	0.20343234557	0.07818949091	4.73363671085
66	3130804001007000	BAILEY MOVING & STORAGE COMPANY	4.79400099842	0.14920838483	0.00035574945	4.94356513269
67	3130801001008000	GRIFFITH LUMBER COMPANY	4.49663670535	0.15068205170	0.024308564	4.67162732096
68		WESTAR ENERGY	39.36602953340	0.34112136648	0.02024088569	39.72739178557
69		FAY BETTY J .5 INT	34.86045658770	0.48185499403	1.153678165	36.49598974628
70	3141700000012000	MANHATTAN CITY	22.78774895	0.03700539925		22.82475434605
71		MANHATTAN CITY	29.96987703	0.51886039329	0.38780770614	30.87654513236
72		FAIR DEBORAH .11 INT	19.55685244150	0.406730221	0.38780770614	20.35139036823
73		MANHATTAN CITY	45.19882602200	0.666024052	1.280370859	47.14522093366
74		Road R/W			0.19432341618	0.19432341618
75		RR R/W		0.18400210561		0.18400210561
78		RR R/W			0.06508271593	0.06508271593
79		RR R/W		0.07278845965		0.07278845965
80		Road R/W			0.01037808287	0.01037808287
81		Road R/W			0.05488946878	0.05488946878
82		Road R/W		0.12046100000		0.12046100000
83		Road R/W		0.81806934714		0.81806934714
84		Road R/W			0.10150360591	0.10150360591
85		RR R/W		0.01556		0.01556000000
TOTAL			**492.41699359297**	**6.94798420668**	**5.34548683511**	**504.71046463476**

ASSESSMENT OF NON-FEDERAL SPONSOR'S REAL ESTATE ACQUISITION CAPABILITY

MANHATTAN LEVEE
FLOOD DAMAGE REDUCTION PROJECT
RILEY COUNTY AND POTTAWATOMIE COUNTY, KANSAS

I. Legal Authority:

a. Does the sponsor have the legal authority to acquire and hold title to real property for project purposes? YES

b. Does the sponsor have the power of eminent domain for this project? YES

c. Does the sponsor have "quick take" authority for this project? YES

d. Are any of the lands/interests in land required for the project located outside the sponsor's political boundary? NO

e. Are any of the lands/interests in land required for the project owned by an entity whose property the sponsor cannot condemn? NO

II. Human Resource Requirements:

a. Will the sponsor's in-house staff require training to become familiar with the real estate requirement of Federal projects including P.L. 91-646, as amended? NO

b. If the answer to II.a. is "yes", has a reasonable plan been developed to provide such training? N/A

c. Does the sponsor's in-house staff have sufficient real estate acquisition experience to meet its responsibilities for the project? YES

d. Is the sponsor's projected in-house staffing level sufficient considering its other work load, if any, and the project schedule? YES (at this time)

e. Can the sponsor obtain contractor support, if required, in a timely fashion? YES

f. Will the sponsor likely request USACE assistance in acquiring real estate? NO

III. Other Project Variables:

a. Will the sponsor's staff be located within reasonable proximity to the project site? YES

b. Has the sponsor approved the project/real estate schedule/milestones? YES

IV. Overall Assessment:

a. Has the sponsor performed satisfactorily on other USACE projects? Yes. The original Manhattan Levee Project was 100% Federally funded and the sponsor was responsible for obtaining LER and providing maintenance, all of which were performed with full satisfaction.

b. With regard to this project, the sponsor is anticipated to be: (Highly, Fully, Moderate, Marginally capable) Fully Capable.

V. Coordination:

a. Has this assessment been coordinated with the sponsor? YES

b. Does the sponsor concur with this assessment? YES

Prepared by: Patty Richardson — 8/4/14
Patty Richardson, Team Leader — Date

Reviewed by: Kevin L. Bishop — 8/4/14
Kevin Bishop, Chief, Civil Branch & Military - Installation Support Real Estate Division — Date

Approved by: [signature] — 8/4/14
Gregory G. Wilson, Chief, Real Estate Division — Date

Exhibit C