

Southwestern Illinois Flood
Prevention District Council

Annual Report 2016-2017



August 16, 2017



**Southwestern
Illinois
Flood Prevention
District Council**

104 United Drive
Collinsville, IL 62234

618-343-9120

www.floodpreventiondistrict.org

August 16, 2017

Hon. Robert Elmore
Chairman, Monroe County Board of Commissioners
100 South Main Street
Waterloo, IL 62298

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Hon. Kurt Prenzler
County Board Chairman
Madison County Administration Building
157 N. Main Street, Suite 165
Edwardsville, IL 62025-1963

Charles M. Ewert
Chief Supervisor of
Construction and the Works

Sirs:

Transmitted herewith is the 2016-2017 Annual Report of the Southwestern Illinois Flood Prevention District Council. The submission of this report is in satisfaction of the requirement of our authorizing statute (70 ILCS 750/).

The Council has adopted two primary goals: to assure accreditation by the Federal Emergency Management Agency of area levee systems (limiting any economic damage to the region during the period during which accreditation is being sought) and achieving the Authorized Level of Protection Project to the extent possible with the funds available. The Council has continued to make great progress toward achieving both goals during the last year.

We will enter FY2018 with over ninety six percent of our current ten construction packages complete and anticipate construction of all ten packages to be finished by the end of 2017.

Delays due to high river conditions have continued to push the accreditation schedule back, but the Council is well on its way to achieving accreditation in 2018 or early 2019, using only the revenue available from the dedicated FPD sales tax.

a regional partnership to rebuild Mississippi River flood protection

Three certification reports have been submitted to FEMA. Amec Foster Wheeler submitted the Wood River East & West Forks Package in December 2016 and the Prairie Du Pont/Fish Lake Package in July. They will be submitting the Lower Wood River Package in September, subject to the river receding, allowing for the construction of the remaining four relief wells.

The Corps of Engineers submitted the Upper Wood River Package in March and will submit the MESD Package in early 2018.

It is now anticipated FEMA accreditation review and approval will take at least eight to twelve months. FEMA is working with the Council and has indicated that it doesn't want to issue the maps twice, once before and once after the Council's completes its improvements. Therefore, FEMA isn't going to issue new maps until all of the Council's 100-Year improvements are complete.

All levee improvements leading to certification will be completed by November 2017. The intent is to work closely with FEMA to ensure that when the new maps are issued, they reflect the levee improvements. It is currently anticipated that FEMA will be issuing new maps in the first or second quarter of 2019.

The Council continues to work with the Corps of Engineers regarding the Council's designing and building of 500-Year Authorized Level of Protection Projects. The Council intends to build the most cost effective and highest priority flood protection projects throughout the Counties of Madison, Monroe, and St. Clair, Illinois.

The Corps of Engineers will provide oversight on the design and construction of these projects, to ensure that funds expended by the Council, where applicable, will be eligible for future Work In-Kind credit towards future Corps projects when the Corps able to obtain funding.

During the last year, the Corps of Engineers has 1) determined that a Risk Assessment and a Supplemental Report must be completed prior to amending the Wood River Levee System Project Partnership Agreement, 2) implemented the use of a Risk Informed Process in the Metro East Sanitary District (MESD) Levee System to determine which projects (based on vulnerability and effect) should be completed first, 3) completed the analysis of the 500-Year Authorized Level Projects in the Prairie Du Pont/Fish Lake Levee System in the areas where there were 100-Year Level Improvements, and 4) received FY 2017 Work Plan funding for the Wood River Levee System. These actions have contributed to delays in Work In-Kind Credit being utilized, designs being put on hold, a change in project priorities, and responsibilities for design and construction.

The Council will continue moving forward designing and building projects, while the Corps of Engineers proceeds with their required planning and analyzing procedures.

In summary, I am pleased to report on behalf of our Board of Directors, that we continue to make progress in building and financing significant improvements to the flood protection systems in Metro-East.

Thank you for supporting our efforts throughout the year.

Sincerely,

A handwritten signature in black ink, appearing to read "Charles M. Etwert". The signature is fluid and cursive, with the first name "Charles" being the most prominent.

Charles M. Etwert
Chief Supervisor of Construction and the Works

I. Introduction

On August 15, 2007, the Federal Emergency Management Agency announced their intention to “de-accredit” the Mississippi River levee systems protecting a 174 square mile area in three Illinois counties known as the American Bottom. The practical effect of this action would be to cripple the area economically and put an enormous financial burden on businesses and residents in this area. The threat of this action by FEMA prompted a chain of events that is without precedent in the area. The result is a cooperative regional effort to improve flood protection and secure FEMA accreditation for the levee system protecting the American Bottom from flooding.

The American Bottom is an area of incalculable economic value and historical significance. It is home to some 156,000 residents. Businesses in the area employ upwards of 55,000 people. Some of the nation’s most prestigious companies have major manufacturing facilities having national significance in the area. Additionally, the area is rich in multimodal transportation assets that make it well positioned as a future center of commerce and industry.

The region’s leadership recognized that extraordinary measures were necessary to protect this economic asset and the homes and livelihoods of a large portion of the region’s population. A new revenue source was created in 2008 and a regional organization was formed to carry out an ambitious plan to maintain a level of flood protection that has been in place for some 70 years. That plan is now being implemented.

Acting on a plan to improve flood protection, even one that may be subject to adjustment from time to time, is an essential ingredient in helping businesses and citizens prepare for the future, to restore investor confidence in the area, and to assure taxpayers that their money is being spent effectively. The unpredictability of the Mississippi River serves as constant reminder that we need to demonstrate real progress in carrying out that plan.

The purpose of this report is to outline the activities of the Southwestern Illinois Flood Prevention District Council in 2016-2017 towards implementing flood protection improvements at the 100-Year Level of Protection and the 500-Year Level of Protection (also known as the Authorized Level).

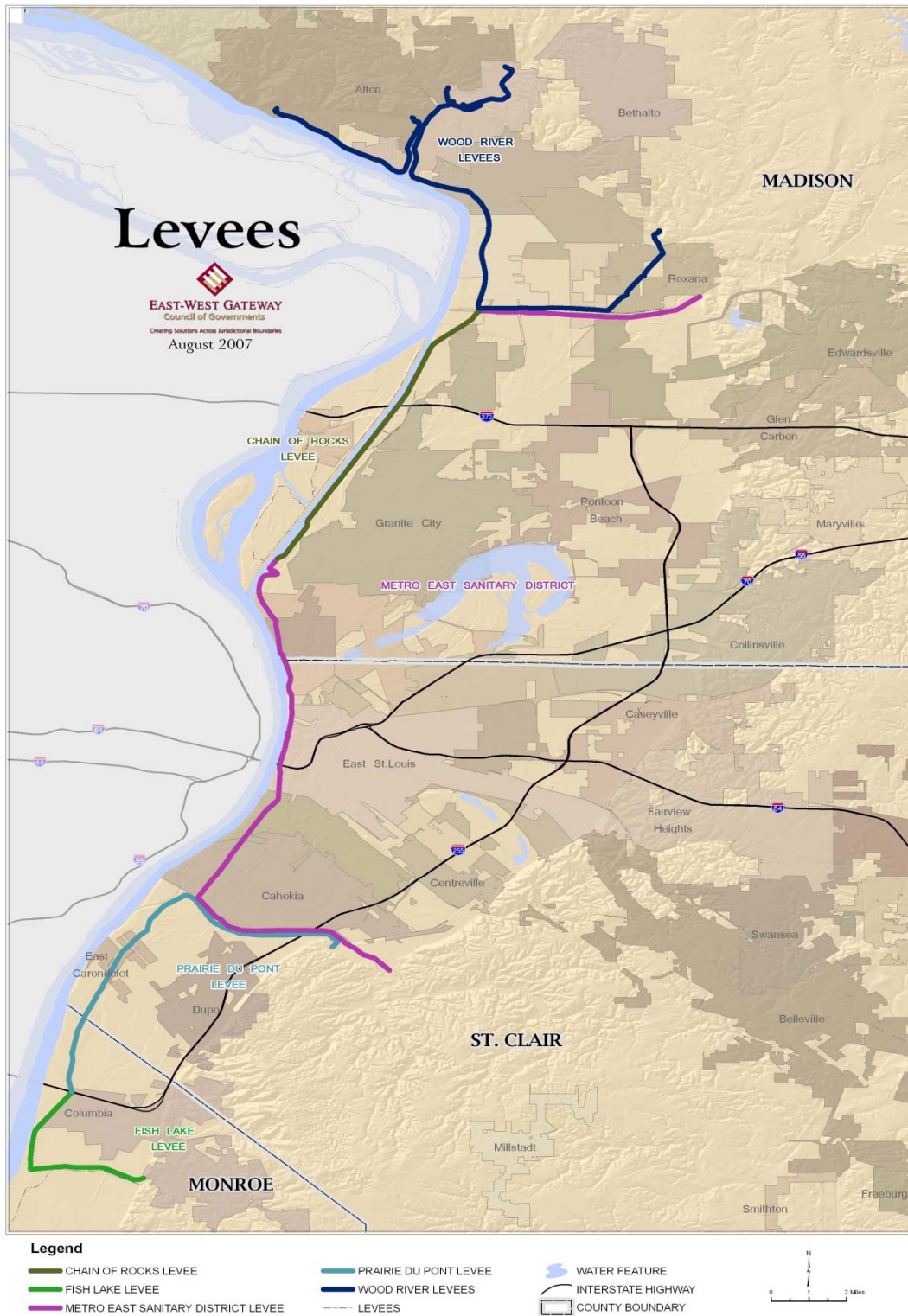
II. Background

A system of 65 miles of mainline and wing levees protects an area called the American Bottom in Southwestern Illinois from flooding by the Mississippi River. The American Bottom is an area of 174 square miles that is home to 156,000 people and 55,000 jobs. The levee system was authorized by Congress, designed, and built by the U.S. Army Corps of Engineers to provide protection from a flood event on the Mississippi River of 54 feet on the St. Louis gauge. The American Bottom has not been flooded by the Mississippi River in the 70 years since the flood protection system was initially built, including during the flood of record in 1993, reportedly as much as a 380-year event.

Mississippi River flood protection consists of five “federal” levees (see Figure 1), i.e. levees designed and built by the federal government and whose owners participate in the Corps of Engineers Public Law 84-99 emergency assistance program. The construction of the following five (5) levees was authorized in federal law:

- ***Wood River Levee*** - Operated and maintained by the Wood River Drainage and Levee District. Construction was authorized under Section 4 of the Flood Control Act of 1938, Pub. L. 75-761, with subsequent improvement was authorized under Section 1001(20) of the Water Resources Development Act of 2007, Pub. L. 110-114 (“WRDA 2007”)
- ***Chain of Rocks Canal, Levee, and Locks*** - Operated and maintained by the Corps. Construction was authorized under the River & Harbors Act of 1945, Pub. L. 79-114
- ***East St. Louis Levee*** - Operated and maintained by the Metro East Sanitary District. The Flood Control Act of 1936, Pub., authorized construction. Law 74-738, as modified by the Flood Control Act of 1965, Pub. L. 89-298, and the Water Resources Development Act of 1976, Pub. L. 94-587. Subsequent improvement was authorized under the Energy and Water Development Appropriations Act of 1988, Pub. L. 100-202
- ***Prairie Du Pont Levee*** - Operated and maintained by the Prairie Du Pont Levee and Sanitary District. Construction was authorized under the Federal Flood Control Act of 1936. Subsequent improvement was authorized under Section 102(8) of the Water Resources Development Act of 2000, Pub. L. 106-541 (“WRDA 2000”) and Section 5070 of the WRDA 2007
- ***Fish Lake Levee*** - Operated and maintained by the Fish Lake Drainage and Levee District. The Flood Control Act of 1954 authorized construction. Subsequent improvement was authorized under Section 102(8) of WRDA 2000 and Section 5070 of WRDA 2007

The Metro-East Sanitary District (formerly the East Side Levee and Sanitary District, originally formed in 1910) is authorized by the Metro-East Sanitary District Act of 1974, 70 ILCS 2905/. The Wood River and Fish Lake districts were authorized by the Illinois Drainage Code, 70 ILCS 605/. The Prairie Du Pont district was authorized by the Sanitary District Act of 1907, 70 ILCS 2205/. The levee districts own and have primary responsibility for maintaining the levee systems (with the exception of the Chain of Rocks Levee, which is owned and maintained by the Corps of Engineers).



**Figure 1 –
 Levee Systems**

The Southwestern Illinois Flood Prevention District Council was formed in 2009 through an Intergovernmental Agreement between the Flood Prevention Districts of Madison, St. Clair and Monroe counties as authorized by the Illinois Flood Prevention District Act of 2008, 70 ILCS 750/. The primary responsibility of the FPD Council is to plan, finance, design, and build capital improvements to the levee system. The Council's interim goal is to assure accreditation by FEMA in accordance with criteria described in 44 CFR 65.10 – Mapping of Areas Protected by Levee Systems. The Council's long-term goal is to achieve the Authorized Level of Protection, as defined by the Corps of Engineers.

In 2007, the Corps indicated that the agency had “reduced confidence” that the levee system could protect against a flood that has a 1% chance of being equaled or exceeded in any single year (commonly referred to as a 100-year flood or a base flood) without flood fighting. FEMA's announced decision to deaccredit the levee systems in our area, which is the industrial core of the St. Louis region, was based on this assertion by the Corps. In July 2009, FEMA issued preliminary flood insurance rate maps for the area that showed the American Bottom as a flood hazard area with no protection from flooding. Appeals of those maps were submitted by a number of local governments during the 90-day period provided by law; all of those appeals were denied in September 2010.

The region's leadership did not agree with the decision by FEMA to deaccredit the levee system. A number of area governments, businesses and citizens joined to file a lawsuit challenging this decision based, in part, on the lack of any documentation of levee system deficiencies. In part as a result of that lawsuit and complaints about the mapping process across the country, FEMA agreed to revamp its mapping process and has not yet issued any new flood insurance rate maps from the area.

While the Corps built the levee systems in this area generally in the 1940s and 1950s using design standards in place at the time for a high level of flood protection, the current “design deficiencies” are measured relative to current engineering standards. The issue is not a failure of adequate maintenance by local levee districts, or any dramatic change in the condition of the levees, but primarily a change in engineering standards and in the procedures for measuring risk. The levee systems have consistently been determined to be in *acceptable* or *marginally acceptable* condition by annual and more thorough 3-year periodic inspections by the Corps.

According to its own preliminary evaluations and cost estimates, the Corps suggested that it could cost hundreds of millions of dollars to restore and maintain the authorized (54 feet flood elevation) level of flood protection. Further, the schedule to make these investments would essentially be open-ended, dependent entirely on the pace of federal appropriations. Making assumptions consistent with typical levels of federal appropriations, the project could take decades to complete. While the federal government could pay as much as 65% of the cost, it could take decades for those funds to be authorized and appropriated, so there would be significant uncertainty about the cost and schedule of the project. That continued uncertainty would impose very high costs on residents and businesses in the area, and, more importantly, would subject the area to increased flood risk.

Because of the uncertainty of federal funding and the complexity and time-consuming nature of the USACE project development process, levee improvements will be primarily locally funded. The three affected counties have imposed a ¼% sales tax to pay for the restoration of the levee system and formed a new organization, the Southwestern Illinois Flood Prevention District Council, to carry out the levee improvement project. The tax has been collected since January 2009 and produces about \$11.5 million annually.

III. FPD Council Activities

The following describes the work of the Council over its eight-year existence. Work done this year has brought the Council much closer to meeting its objectives. The Project Timeline since the announcement of de-accreditation by FEMA is shown in Figure 2.

Over the last few of years, the greatest challenge and source of doubt about the project has been the continued involvement of the Corps of Engineers in granting permission for most of the improvements to the levee system that the Council has proposed. The Corps is an institution that moves very deliberately, is governed by elaborate and extensive guidelines and procedures, most of which apply to federally funded projects but are being applied to our locally funded project. This process caused significant delays in the design process, but most of that is now behind us. The focus now is completing all construction by the end of 2017.

The FPD Council began operations in July 2009. Since that time, the organization has:

- Completed a comprehensive inspection of the levee system
- Performed an economic analysis of the costs of mandatory flood insurance
- Provided support to local governments to appeal preliminary flood insurance rate maps,
- Conducted a design competition to determine the most cost-effective approach to assuring compliance with FEMA standards for levee system accreditation
- Sold \$94 million in bonds to pay for levee improvements.
- Completed the design of levee system improvements that will meet FEMA standards
- Developed a budget to complete the project solely with the proceeds from the FPD sales tax
- Received all required permits from state and federal agencies to proceed with construction
- Awarded contracts on the ten construction packages required to complete the project
- Committed to restore the federally Authorized Level of Mississippi Flood River Protection in the Metro-East
- Design and Build the most critical and cost effective projects to restore the federally Authorized Level of flood protection
- Sold an additional \$83.8 million in bonds for 500-Year Authorized Level Protection Projects
- Started designing 500-Year Authorized Level Protection Projects in Madison, Monroe, and St. Clair Counties.

The Council's general goals have been to:

- assure compliance with FEMA accreditation standards with currently available revenue sources by the end of 2017 (originally the end of 2015, but extended due to obtainment of easements, several high river stage events, construction alternatives & additions, and construction delays);
- minimize economic and financial hardship should the levee systems be de-accredited by FEMA; and
- build as many critical and cost effective Authorized Level Protection Projects, with the funds available, to achieve 500-Year flood level protection

Notwithstanding the Council's strong disagreements with FEMA's decision to deaccredit the Metro-East levees and the agency's continuing efforts to overturn that decision, every effort is being made to remove all doubt about compliance with FEMA accreditation criteria. In October 2010, the Council engaged a team of engineering consultants led by AMEC Environment & Infrastructure, Inc. to design and manage construction of improvements to the levee system.

Today, after years of design work, multiple levee system inspections, drilling over 2000 borings along the entire length of the levee system, and submitting thousands of pages and many gigabytes of electronic files of design documentation to the Corps of Engineers, the Council is performing major construction. The 100-Year construction is nearing completion, financial plans have been developed and kept updated, and a current project budget demonstrates convincingly that the Council will build the project using only the funds from the dedicated sales tax and have significant funds to utilize towards the 500-Year Authorized Level of Protection.

The Council has worked to comply with all relevant environmental laws and regulations. The Illinois Environmental Protection Agency has granted approval for the project under Sec. 401 of the Clean Water Act to certify that the project will not discharging pollutants into any bodies of water. Similarly, the Corps of Engineers has granted conditional approval under Sec. 404 of the Clean Water Act for mitigating the project's impact on wetlands.

The Council continues to work closely with our congressional delegation to help expedite the project and to advance legislation that would streamline future design approvals and would enable future funding of improvements to the levee system. All of the members continue to be supportive of the project and are working on our behalf to advance our interests with the Corps, with FEMA, and in Congress.

The general design features of the Proposed FEMA Certification Levee System Improvements are shown in Appendix I to this report.

In December 2015, the Council was successful with the issuance of additional sales tax revenue bonds which will generate a net \$77.5 million for the 500-Year Authorized Level of Protection Projects. It is the intent, to use these funds, to build the most cost effective and highest priority flood protection projects throughout the Counties of Madison, Monroe, and St. Clair, Illinois.

The Corps of Engineers will provide oversight on the design and construction of these projects, to ensure that funds expended by the Council will be eligible for future Work In-Kind Credit towards future Corps projects when the Corps is able to obtain funding.

The Council has accepted Authorized Level Project Summary Reports for the Wood River Levee System, the Metro East Sanitary District (MESD) Levee System, and the Prairie DuPont/Fish Lake Levee System Phase I.

The Council has adopted policies that emphasize the use of our local workforce on the construction of the project. It is our policy that all contractors working on the project will use a Project Labor Agreement (PLA) and comply with Illinois law regarding the use of prevailing wages. The Council is also implementing a minority business and workforce utilization policy. The Council remains committed to employing local labor and local firms to the maximum extent possible on the project, and to paying fair wages and providing good working conditions for everyone working on the project.

The Corps of Engineers reviewed the Project Labor Agreement issue for over two years. The Corps agreed that PLAs can contribute to project cost savings and efficiency, however, they indicated, they cannot mandate the use of PLAs.

In June 2016, the Corps tested the use of a Best Value Tradeoff Approach for the construction of the Wood River Shallow Cutoff Wall Phase II. The evaluation criteria was to give weight to proposals that include PLAs and demonstrate the ability to achieve economy and efficiency.

The Corps originally requested 35% Council cash funding for this project, with the Council countering with a request for Work In-Kind Credit in lieu of cash. The Corps agreed to the Work In-Kind Credit but then determined that it could not be utilized until after the amendment of the Project Partnership Agreement, which would take up to a year. Therefore, the Corps decided to proceed utilizing only federal funds to build the project.

The Corps awarded the contract to Mi-Con, a division of Michels Corporation, whose proposal did not include a Project Labor Agreement (PLA). None of the four proposals received had a PLA. Therefore, per the Council's policy of requiring Project Labor Agreements on all construction contracts, the Council future participation with the Corps utilizing the Best Value Tradeoff Approach is very unlikely.

The Council is going to maximize Work In-Kind Credit work as much as possible, satisfying the 5% cash requirement by providing the Corps funds for oversight on design and construction, and constructing projects 100% where the Corps' benefit cost ratio is low and Corps funds are not anticipated.

During the last year there have been five significant events that have impacted the 100-Year and 500-Year Levee System Improvements affecting certification, design and construction.

In December 2016, the Corps of Engineers informed the Council the Wood River Levee System amended Project Partnership Agreement, originally scheduled to be approved in January 2017, would not be approved for at least two years. This delay was due to additional field information obtained during the design and construction of the 100-Year Projects and the design of the 500-Year projects. This information indicated that the estimated cost of the Wood River Levee Systems projects would exceed the amount identified in the Wood River Levee System Reevaluation Report for Design Deficiency Corrections approved in 2011 by more than twenty percent, which requires a new decision document be approved.

A new decision document requires that a Risk Assessment and a Supplemental Report be completed, which takes twenty-four months. An amended Project Partnership Agreement for the Wood River Levee System is now scheduled to be executed in September 2019, instead of January 2017. During this time delay, the Council can continue to accumulate eligible Work In-Kind Credit (such as the fourteen millions spent on the Wood River Deep Cutoff Wall Project), but none can be utilized until the Project Partnership Agreement is executed.

In the spring of 2017, at the end of April and the beginning of May, the Metro East area experienced its second record flood event in the last two years. The April/May flood event was the sixth highest elevation ever recorded, following the third highest flood event which occurred December/January

2016. Two record flood events, in less than two years, confirm the need for the work the Council is completing for the 100-Year accreditation and ultimately for the 500-Year Authorized Level.

All of the Council's projects performed as designed and no problems were experienced, which reflects the design and construction management provided by Amec Foster Wheeler and the performance of the Council's contractors. The April/May flood event was a good test of the improvements that have been constructed to date.

Unfortunately, the flood event has delayed construction that needs to be completed, such as the East St. Louis 126 Inch Sewer Rehabilitation, the MESD clay cap project, and the four remaining relief wells in the Wood River Levee System.

In late May, the Corps of Engineers received notification of FY 2017 Work Plan Funding and FY 2018 President's Budget Funding. The Corps received FY 2017 Work Plan Funding of \$31.7 million for the Wood River Levee System and zero dollars for the MESD Levee System. Due to the Risk Assessment and Supplemental Report mentioned earlier, the Corps of Engineers only has the ability to use about fifty percent of the \$31.7 million dollars in the Wood River area on the second phase of the Wood River Deep Cutoff Wall Project in the next two years.

Therefore, the Council and the Corps of Engineers' St. Louis District have both requested a portion of the funds be reallocated to the MESD Levee System, where the Corps of Engineers has a project (Cahokia Relief Wells) designed and ready to build.

In June 2017, the Corps of Engineers informed the Council that it would be utilizing a Risk Informed Design Process for the East St. Louis Design Deficiency Project for the Metro East Sanitary District (MESD) Levee System. The Risk Informed Design Process determines which projects (based on vulnerability and effect) should be completed first, to achieve the most effective use of available funds.

In the past the Corps looked at a system in general when assessing a risk factor, now they will be providing a risk factor for individual hazards or segments. The determination of individual project risk factors changes project priorities and design responsibilities between the Corps of Engineers and Amec Foster Wheeler.

The Risk Informed Design Process has identified the MESD Deep Cutoff Wall as the project which should be built first. Design and construction responsibilities for the Deep Cutoff Wall are still being discussed and finalized by the Corps and the Council. The potential reallocation of the Wood River funds to the MESD Levee System will affect the final decision. If the Corps designs, the Corps would construct. If Amec Foster Wheeler designs, construction could be by either the Council or the Corps of Engineers.

Amec Foster Wheeler will complete the design of Bid Package 14. Bid Packages 11 and 12/13 will be dependent on the Risk Informed Solution identification.

In July, the Corps of Engineers completed its reanalysis of the Prairie Du Pont/Fish Lake Levee System, in areas where 100-Year Level Projects were built. Amec Foster Wheeler will present the overall Authorized Level Project Summary Report for the Prairie Du Pont/Fish Lake area at the Council's August meeting. This will complete the identification of improvements needed in the Prairie Du Pont/Fish Lake System.

The general design features of the Wood River Levee System, the Metro East Sanitary District (MESD) Levee System and the Prairie Du Pont/Fish Lake Levee System Authorized Level Projects are provided in Section V and Appendix III of this report.

In summary, progress continues in building and financing significant improvements to the flood protection systems in the Metro-East. The Council remains committed to achieving accreditation in 2018. With the continued support of the area's leadership and cooperation from the Corps of Engineers and FEMA, the Council will be able to meet any remaining challenges to completion of the project.

Figure 2
Project Timeline

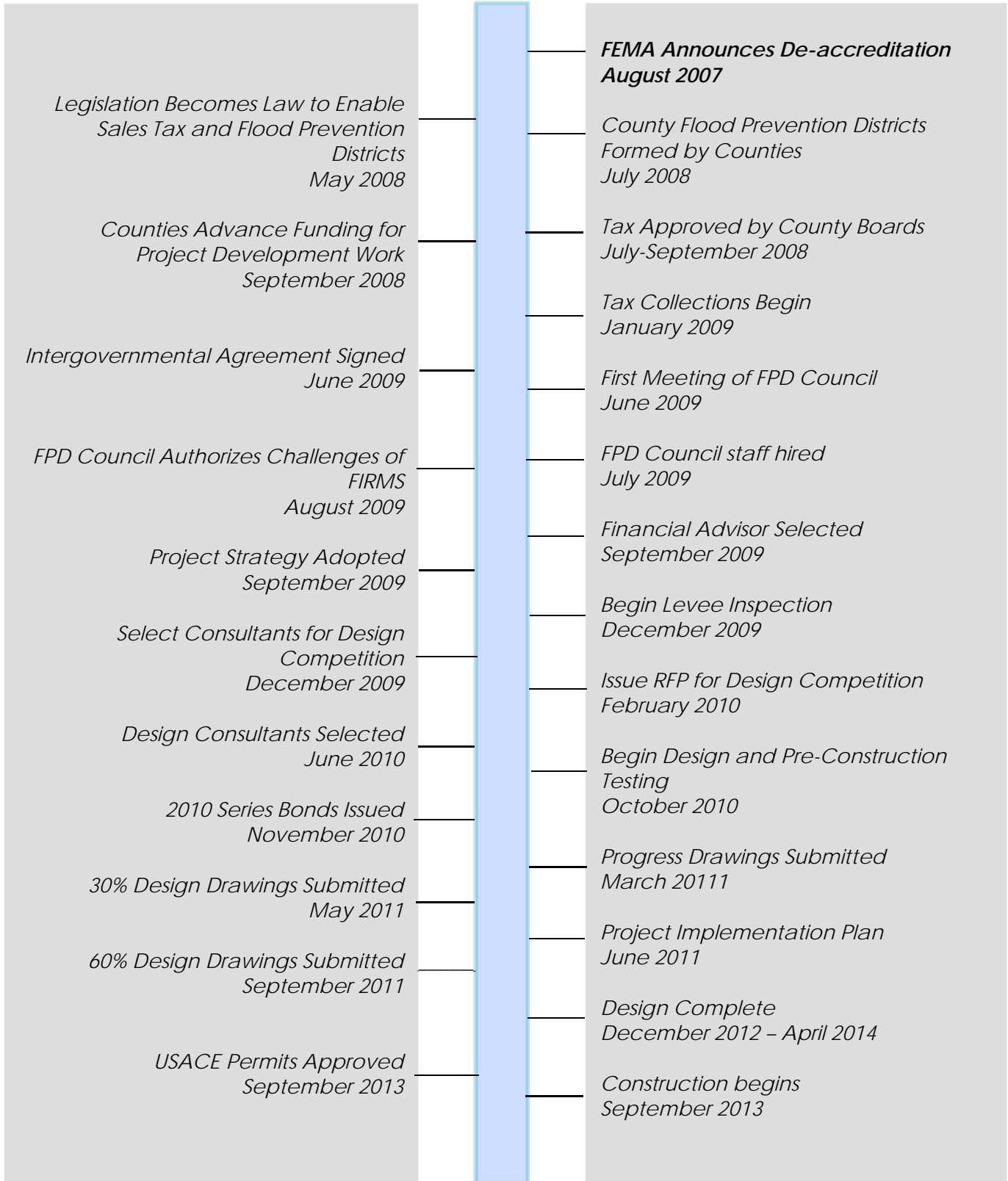
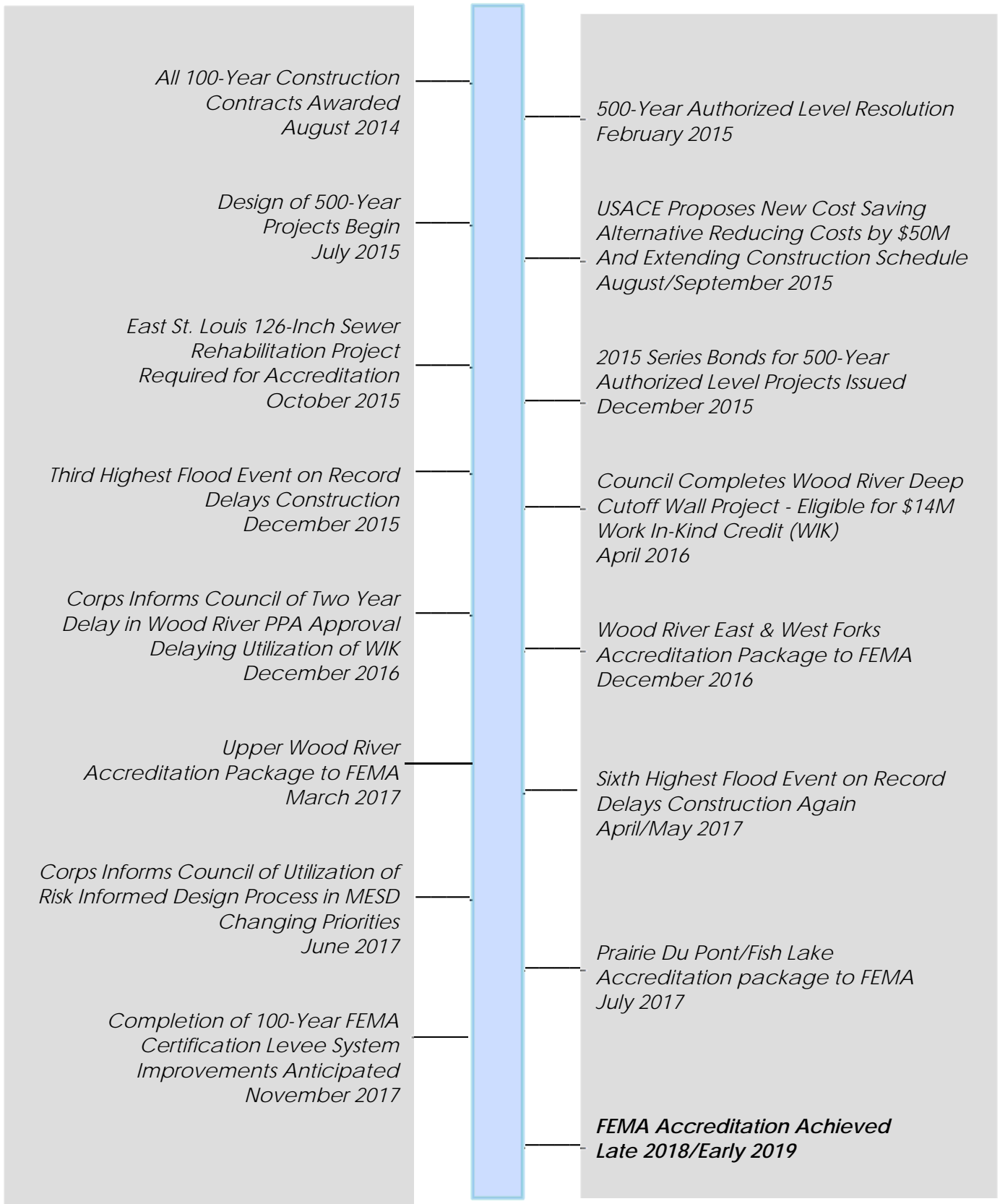


Figure 2
Project Timeline



IV. Financing and Budget

Table 1 is a financial summary of the Council’s activities through September 30, 2016, prepared by Scheffel Boyle.

Revenue from a dedicated sales tax is used to support the Council’s ongoing design and construction activities. Sales tax revenue showed substantial growth in 2009, 2010 and 2011 coming out of the recession, growth was slowed in 2012, declined in 2013, but has reached new highs in 2014, 2015, and 2016. (See Figure 3).

The Council issued bonds in the amount of \$94,195,000 in November 2010. After setting aside funds for a debt service reserve and costs of issuance, \$87 million was available to fund construction of the FEMA Certification Levee System Improvements. In December 2015, additional bonds were issued providing \$77.5 million in funds for the 500-Year Authorized Level of Protection Projects. The Council will meet its goal of achieving FEMA certification in 2018 utilizing only the revenues available from the dedicated FPD sales tax.

Figure 3
Flood Prevention District Sales Tax Trends 2009-2012-2015-2016

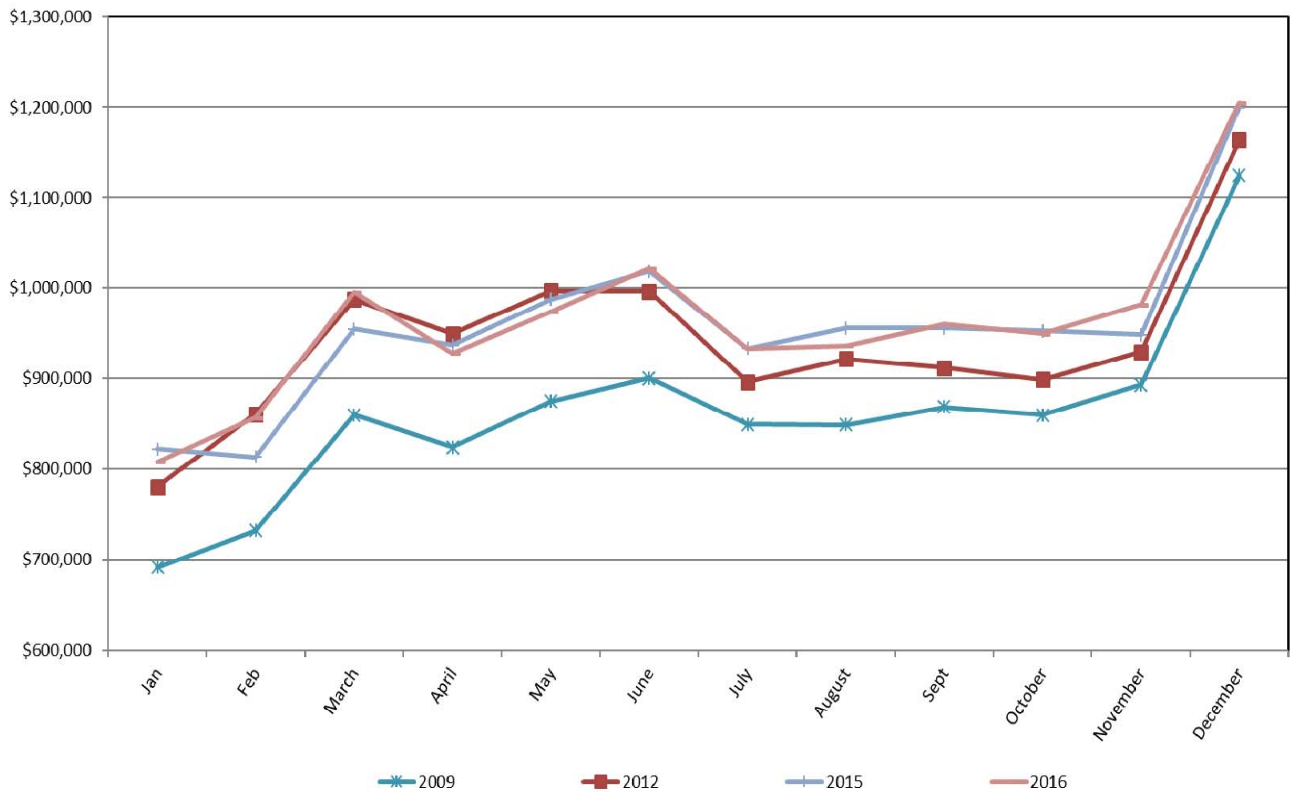


Table 1

**SOUTHWESTERN ILLINOIS FLOOD PREVENTION DISTRICT COUNCIL
STATEMENT OF REVENUES, EXPENDITURES. AND
CHANGES IN FUND BALANCES - GOVERNMENTAL FUND
FOR THE YEAR ENDED SEPTEMBER 30, 2016**

REVENUES:	
District Sales Tax	\$ 11,510,574
Less: Return of Excess Sales Tax to Districts	(3,048,352)
Interest Income	<u>589,243</u>
Total Revenues	<u>\$ 9,051,465</u>
 EXPENDITURES:	
Current:	
General and Administrative	\$ 252,024
Design and Construction	29,534,503
Professional Services	504,917
Debt Service:	
Principal	2,685,000
Interest	5,359,432
Bond Issuance Costs	846,724
Less: Federal Interest Subsidy	(848,250)
Total Expenditures	<u>\$ 38,334,350</u>
DEFICIENCY OF REVENUE OVER EXPENDITURES	<u>\$ (29,282,885)</u>
 OTHER FINANCING SOURCES (USES):	
Bond Issuance	\$ 83,835,000
Bond Discount	\$ (1,177,844)
Bond Premium	<u>\$ 1,862,033</u>
Total Other Financing Sources (Uses)	<u>\$ 84,519,189</u>
NET CHANGE IN FUND BALANCE	\$ 55,236,304
 FUND BALANCE:	
Beginning of Year	<u>\$ 24,706,799</u>
End of Year	\$ 79,943,083

Table 2 summarizes estimated project costs for FY2018.

Table 3 compares expenses to revenues between 7/1/2017 and 9/30/2018. The table illustrates, all 2010 Bond Issue construction funds have been spent, the amount of available 2015 Bond Issue construction funds is \$45,097,276, and total amount of individual County FPD funds is \$29,192,280.

Table 4 illustrates potential Authorized Level funding is approximately \$91 million.

Table 2

Estimated Project Expenditures 10.1.2017 -9.30.2018

Design & Construction Management		FY 2018
Engineering Design		
<i>W. O. #1 Program Mgmt.</i>		\$200,000
<i>W. O. #3 Preconstruction Activities</i>		\$100,000
<i>W.O. #5 COR Investigation</i>		\$1,000
<i>W. O. #9 Wood River Cutoff Walls</i>		\$5,000
Authorized Level Work Orders		
<i>W.O. #13 Wood River Field & Design BP #8, BP #9, & BP #10</i>		\$300,000
<i>W.O. #14 MESD Field & Design</i>		\$2,100,000
<i>W.O. #16 Prairie Du Pont/Fish Lake Field & Design</i>		\$2,400,000
<i>W.O. #17 Life-Cycle Cost Analysis FEMA Improvements</i>		\$100,000
Construction Management.		
<i>W. O. #8 Construction Management BP #1 - #6 & Amendment #4</i>		\$276,934
<i>W. O. #10 Construction Management BP #7A & #7B</i>		\$15,000
<i>Construction Management BP #8 & BP #14</i>		\$50,000
<i>QC/Materials Testing</i>		\$140,104
TOTAL ENGINEERING DESIGN & CONSTRUCTION MGMT.		\$5,688,038
Construction		
<i>Bid Package #3</i>		\$24,443
<i>Bid Package #4</i>		\$350,005
<i>Bid Package #5</i>		\$1,500,798
<i>Bid Package #5A</i>		\$319,410
<i>Bid Package #7B</i>		\$444,412
<i>Bid Package #8</i>		\$400,000
<i>Bid Package #14</i>		\$400,000
<i>Contingency (10% FPD Construction)</i>		\$343,907
<i>Utilities</i>		\$200,000
<i>Property Acquisition Authorized Level - Wood River</i>		\$500,000
<i>Property Acquisition Authorized Level - East St. Louis</i>		\$500,000
<i>Property Acquisition Authorized Level - Prairie Du Pont/Fish Lake</i>		\$500,000
<i>Wetland Mitigation</i>		\$27,970
<i>HazMat Mitigation</i>		\$1,500,000
<i>Legal</i>		\$320,000
<i>Corps of Engineers Authorized Level Costs</i>		\$6,157,291
TOTAL CONSTRUCTION		\$13,488,236
TOTAL ENGINEERING DESIGN & CONSTRUCTION		\$19,176,274

REFUND OF SURPLUS FUNDS TO COUNTY FPD ACCOUNTS	\$3,000,000
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Operations & Financing

<i>General & Administrative</i>	\$281,900
<i>Debt Service</i>	\$10,798,620
<i>Interest Rate Subsidy</i>	(\$847,340)
Professional Services	
<i>Legal</i>	\$410,000
<i>Legislative</i>	\$76,000
<i>Financial Advisor</i>	\$65,000
<i>Diversity Program Mgr.</i>	\$11,525
<i>Bond Trustee</i>	\$16,000
TOTAL OPERATIONS	\$10,811,705
TOTAL EXPENSES	\$32,987,979

Table 3

Estimated Revenues 7.1.2017 - 9.30.2018

Fund Sources

<i>Cash on hand (6/30/2017)</i>	\$235,695
<i>2010 Bond Project Funds (6/30/2017)</i>	\$0
<i>2015 Bond Project Funds (6/30/2017)</i>	\$45,097,276
<i>County FPD Tax Bal. (6/30/2017)</i>	\$29,192,280
<i>Sales Tax Revenue (7/1/2017-9/30/2017)</i>	\$2,982,176
<i>Interest Income (7/1/2017-9/30/2017)</i>	\$170,037
<i>Federal Interest Subsidy (September 2017)</i>	\$423,670
<i>Sales Tax Revenue (10/1/2017-9/30/2018)</i>	\$11,835,000
<i>Interest Income (10/1/2017-9/30/2018)</i>	\$225,000
Total Available Funds	\$90,161,134

Estimated Expenditures 7.1.2017 - 9.30.2018

Expenditures	
<i>Engineering Design and Construction Mgmt. (7/1/2017-9/30/2017)</i>	\$1,629,147
<i>Construction (7/1/2017-9/30/2017)</i>	\$4,776,731
<i>Professional Services (7/1/2017-9/30/2017)</i>	\$143,676
<i>General & Administrative (7/1/2017-9/30/2017)</i>	\$62,234
<i>Engineering Design and Construction Mgmt. (10/1/2017-9/30/2018)</i>	\$5,688,038
<i>Construction (10/1/2017-9/30/2018)</i>	\$13,488,236
<i>Professional Services (10/1/2017-9/30/2018)</i>	\$578,525
<i>Refund of Surplus Funds to County FPD Accounts</i>	\$3,000,000
<i>Debt Service (10/1/2017-9/30/2018)</i>	\$9,951,280
<i>General & Administrative (10/1/2017-9/30/2018)</i>	\$281,900
Estimated Expenditures	\$39,599,767

Net Estimated Available Funds on 9/30/2018 \$50,561,367

Table 4

Potential Authorized Level Funding

<i>Design FY2016</i>	\$1,785,889
<i>Design FY 2017</i>	\$3,532,761
<i>Design & CM FY 2018 Budgeted</i>	\$4,950,000
<i>Concrete Pipe Change Orders</i>	\$9,446,022
<i>FPD Construction FY2018 Budgeted</i>	\$4,400,000
<i>Corps of Engineers Funding FY 2016</i>	\$2,439,618
<i>Corps of Engineers Funding FY 2017</i>	\$7,652,000
<i>Corps of Engineers Funding FY 2018 Budgeted</i>	\$6,157,291
<i>Net Available Funds (9/30/2018)</i>	\$50,561,367
Total Potential Authorized Level Funding	\$90,924,948

This information illustrates that the Council will meet the interim goal of achieving FEMA certification in either late 2018 or early 2019 with the revenue available from the dedicated FPD sales tax and have significant funds available for the 500-Year Authorized Level Protection Projects.

V. FEMA Certification Construction Costs and Completion

Southwestern Illinois Flood Prevention District Council FEMA Certification Levee Improvement Projects

BID PACKAGE	LOCATION/PROJECT	CONTRACTOR	CONSTRUCTION CONTRACT	COMPLETION STATUS
2A	Fish Lake 1 Pump Station	Korte & Luitjohan	\$797,599.53	Complete
2B	Prairie DuPont, MESD, and Wood River 5 Pump Stations	Korte & Luitjohan	\$5,345,510.92	100%
2C	MESD Site 12 Force Mains	Haier Plumbing	\$311,692.00	Complete
3	Wood River Blanket Drains, Earth Fill, Relief Wells, Seepage Berms, Piping, Weirs	Keller Construction	\$12,922,903.94	100%
4	MESD 1 Pump Station, Clay Cap, Piping, RWs	Haier Plumbing	\$6,474,784.05	97%
5	MESD Clay Cap, Earth Fill, Piping, Relief Wells Rip Rap, Sluice Gate Rehabs	Keller Construction	\$14,229,073.12	86%
6	Prairie du Pont & Fish Lake Clay Cap, Seepage Berms, Piping, Relief Wells, Sluice Gate Rehabs	Lane Construction	\$15,436,257.14	100%
7A	Upper Wood River Shallow Cutoff Wall	Kamadulski Excavating	\$3,375,350.25	Complete
7B	Lower Wood River Deep Cutoff Wall	TREVIICOS	\$14,812,263.26	97%
5A	East St. Louis 126 Inch Sewer Repair	SAK Construction	\$699,900.00	29%
		TOTAL	\$74,405,334.21	

VI. Authorized Level Levee Improvement Projects

The Board of Directors has approved the design of Authorized Level Projects in the Wood River Levee System, the Metro East Sanitary District (MESD) Levee System, and the Prairie Du Pont/Fish Lake Levee System. Amec Foster Wheeler is continuously working with the Corps of Engineers regarding the design the following Bid Packages

Wood River Levee System

Bid Package 8 - Includes the design and construction of a new 13,520-gpm pump station at Canal Road, approximately 27 relief wells, conveyance systems, and grading work. This package spans Lower Wood River from station 122+00 to 455+00, with most of the improvements along Canal Road, between levee station 431+00 and 455+00.

Estimated Construction Cost \$ 4,100,000.

Bid Package 9 - Currently spans the Lower Wood River Levee from station 493+35 to 480+15. This package currently includes the design and construction of a new pump station and 18 relief wells; however, this package is currently on hold pending completion of the Corps' Lower Wood River Risk Assessment. The Risk Assessment will likely change the scope and cost of this package.

Estimated Construction Cost \$ 4,776,688 (*initial estimate*)

Bid Package 10 - Currently spans the Lower Wood River Levee from station 530+50 to 630+30. This package currently includes the design and construction of a new pump station, 36 relief wells, seepage berms, and earthwork fill; however, this package is currently on hold pending completion of the Corps' Lower Wood River Risk Assessment. The Risk Assessment will likely change the scope and cost of this package.

Estimated Construction Cost \$ 11,461,714 (*initial estimate*)

Metro East Sanitary District (MESD) Levee System

Bid Package 11 - Spans the MESD levee system from Station 148+00 to 891+00 (less the Chain of Rocks system). This package currently includes the design and construction of 132 relief wells, conveyance systems, and an existing pump station upgrade.

Estimated Construction Cost \$ 14,000,000.

Bid Package 12 - Spans the MESD Levee system from station 1014+00 to 1482+00 and includes the design and construction of 103 relief wells, conveyance systems, and a pump station.

Estimated Construction Cost \$ 15,000,000.

Bid Package 13 - Has been eliminated and most of the contents have been merged into Bid Package 12.

Bid Package 14 - Spans the MESD Levee system from station 41+00 to 244+00 on the MESD North Flank, 822+00 to 863+00 on the MESD Main Stem, and 960+00 to 974+00 on the MESD Main Stem. It includes the design and construction of 12 seepage berms, 2 clay cutoff trenches and clay blankets, a filter blanket, stormwater conveyance systems, and fill. This package also includes substantial utility relocation.

Estimated Construction Cost \$ 12,000,000.

MESD Deep Cutoff Wall / Cahokia Relief Wells–

The Corps of Engineers is utilizing a Risk Informed Design Process to determine which projects (based on vulnerability and effect) should be completed first, to achieve the most effective use of available funds. At this time, the MESD Deep Cutoff Wall and the Cahokia Relief Wells Projects have been identified as the projects to be built first. The design and construction responsibilities are still being discussed and finalized by the Corps and the Council. The potential reallocation of the Wood River funds to the MESD Levee System will affect the final decision. No estimated construction costs are available at this time.

Prairie Du Pont/ Fish Lake Levee System

In the Prairie Du Pont/Fish Lake Levee System, the Corps of Engineers has recently completed their analysis of 500-Year Authorized Level Projects in the areas where there were 100-Year Level Improvements. Amec Foster Wheeler will provide an Authorized Level Project Summary Report Phase II to the Council for acceptance in August 2017 with design approval to follow.

Bid Packages 15, 16 & 17 - Spans the Prairie du Pont/Fish Lake Levee System from station 165+00 to 735+25. These three packages currently include the design and construction of two pump stations, 168 relief wells and 74 seepage berms.

Estimated Construction Cost \$ 41,750,000.

The Corps of Engineers has determined the Prairie Du Pont/Fish Lake Levee System Design Deficiency Project has a low benefit cost ratio, which prevents the Corps from obtaining federal funds. The Council will provide the Corps of Engineers funds for oversight of the designs and construction.

VII. FEMA Certification and Mapping

Certification reports are being submitted to FEMA as each levee system is completed. Amec Foster Wheeler is preparing reports for Lower Wood River, Wood River East/West Forks, and Prairie Du Pont/Fish Lake.

The USACE will be preparing National Flood Insurance Program (NFIP) Levee System Evaluation Reports (LSER) for the for East St. Louis (MESD) Levee System, including the Chain of Rocks levee and the Upper Wood River Levee System, which includes the Mel Price uncontrolled underseepage area.

Concern remains about the timeline for the Corps of Engineers to make necessary improvements to a critical stretch of levee in the Wood River area in the vicinity of the Mel Price Lock and Dam. This is the most serious problem on the entire levee system. Fortunately, FEMA has agreed to accept the Corps' certification of that portion of the system with the Corps utilizing an interim operations plan until final improvements can be made.

Certification reports submitted to date:

System	Date	Submitted by
Wood River East & West Forks	December 5, 2016	Amec Foster Wheeler
Upper Wood River	March 10, 2017	Corps of Engineers
Prairie Du Pont & Fish Lake	July 6, 2017	Amec Foster Wheeler

Certification reports to be submitted:

Lower Wood River	October 2017	Amec Foster Wheeler
MESD	Spring 2018	Corps of Engineers

It is anticipated FEMA accreditation review and approval will take eight to twelve months. FEMA is working with the Council and has indicated that it doesn't want to issue the maps twice, once before and once after the Council's completes its improvements. Therefore, FEMA isn't going to issue new maps until all of the Council's 100-Year improvements are complete.

All levee improvements leading to certification will be completed by November 2017. The intent is to work closely with FEMA to ensure that when the new maps are issued, they reflect these levee improvements.

It is currently anticipated that FEMA would be issuing new maps in the first or second quarter of 2019

VIII. Work In-Kind Credit

The Council continues to work with the Corps of Engineers regarding the process of the Council moving ahead with the 500-Year Authorized Level of protection projects to ensure that the work the Council does is eligible for future Work In-Kind Credit.

This is an elaborate and multi tasked process that can take up to two years before a project is completely guaranteed to be eligible for Work In-Kind Credit. A project is only guaranteed to be eligible if there is a properly executed Project Partnership Agreement (PPA) for the Levee System.

The Council first operated under Memorandums of Understanding, which allowed work to be considered for Work In-Kind Credit prior to the execution of an amended Project Partnership Agreement. The credit is only good towards the non-Federal contribution of funds for a project, and it will not be considered for the five percent cash requirement.

Next, an Integral Determination Report (IDR) that identifies the work the Council intends to perform as In-Kind contributions in a Levee System must be approved. The approved IDRs for Wood River and East St. Louis have been received.

Finally, the amendments to the PPAs have to be finalized and submitted to the Corps' Mississippi Valley Division (MVD). After approval by the MVD, they are forwarded to headquarters in Washington, D.C. for approval.

Due to the additional field information obtained during the design and construction of the 100-Year Projects and the design to date of the 500-Year Projects, the Corps of Engineers in December 2016 determined that the estimated cost of the Wood River Levee Systems projects will exceed the amount identified in the Wood River Levee System Reevaluation Report for Design Deficiency Corrections approved in 2011 by more than twenty percent, which requires a new decision document be approved.

A new decision document requires that a Risk Assessment and a Supplemental Report be completed. It is estimated to take twenty-four months to complete the assessment and report. An amended Project Partnership Agreement for the Wood River Levee System is now scheduled to be executed in September 2019, instead of the January 2017, the date originally indicated by the Corps. The Council must now wait over two and half years to utilize Work In-Kind Credit for the fourteen million dollars spent on the Wood River Deep Cutoff Wall Project.

There is a similar situation in the Metro East Sanitary District (MESD) Levee System where the cost estimate may be more than twenty percent less than the amount identified. However, a Risk Assessment has been completed and an amended Project Partnership Agreement is scheduled to be executed in March 2018. The Council will receive Work In-Kind Credit for the installation of the Reinforced Concrete Pipe, which replaced the high-density polyethylene (HDPE) pipe originally approved by the Corps of Engineers.

In Prairie Du Pont/Fish Lake Levee System, the Council will operate under the Memorandum of Understanding signed in 2015 and a 408-model agreement, which allows the Council to provide funds to the Corps of Engineers for design and construction oversight. A Project Partnership Agreement cannot be utilized, since the Corps of Engineers has determined the Prairies Du Pont/Fish Lake Levee System Design Deficiency Project has a low benefit cost ratio, which prevents the Corps from obtaining funds. At this time, the Corps does not foresee the benefit cost ratio improving which would allow for federal funding in conjunction with non-federal funding and Work In-Kind Credit. Therefore, the Council will pay all project costs in the Prairie Du Pont / Fish Lake Levee System.

There is a slight risk of moving forward without amended Project Partnership Agreements, however, it is felt that the risk is low since the Council is working with the Corps and will be designing and constructing projects that the Corps has identified as part of the Authorized Level of Protection. In addition, the Corps will be providing design and construction oversight,

Starting the design process now with a low risk, allows projects to be built two years earlier and provide additional flood protection to the Metro-East area sooner.

The Council will satisfy the Corps' five percent cash requirement by providing the Corps funds for the oversight of the design and construction of authorized projects being built by the Council.

IX. Conclusions, Issues and Next Steps

Much progress has been made in the eight years that the Council has been in existence towards the regional goal of maintaining a high level of flood protection for the American Bottom area. Doing so is a regional priority and the Council has acted with a great sense of urgency, commitment, and cooperation in conceiving major improvements to the flood protection system. That process reached an important milestone this year with ninety six percent of the construction of the ten current projects being completed as of July of this year, and the remaining four percent estimated to be completed before the end year.

With the interim goal of achieving FEMA accreditation in sight, the process of achieving the long-term goal of 500-Year Authorized Level of Protection is well on its way. The Council's intent has been expressed by resolution; action has been initiated by the authorization of the design of Authorized Level Projects in the Wood River Levee System, the Metro East Sanitary District (MESD) Levee System, and the Prairie Du Pont/Fish Lake Levee System and a successful bond sale generating an additional \$77.5 million in construction funds.

There are a number of critical next steps as we move forward:

- Complete remaining 100-Year Construction Projects
- Submit the remaining two Certification reports for Lower Wood River and MESD as each levee system is completed
- Achieve FEMA certification
- Continue to work with levee districts to establish sufficient funding for ongoing maintenance of improvements
- Continue to identify the most cost effective and high priority projects in the Wood River and MESD Levee Systems as the Corps of Engineers completes its Risk Assessment & Supplemental Report for Wood River and utilizes the Risk Informed Design Process for the East St. Louis Design Deficiency Project
- Prioritize the Authorized Level Projects in the Prairie Du Pont/Fish Lake Levee Systems, now that the Corps has identified the necessary Phase II projects
- Complete the design of the 500-Year Authorized Level of Protection Projects that can be built either by the FPD or the Corps of Engineers
- Construct as many cost effective and high priority Authorized Level Projects, which qualify for Work In-Kind Credit

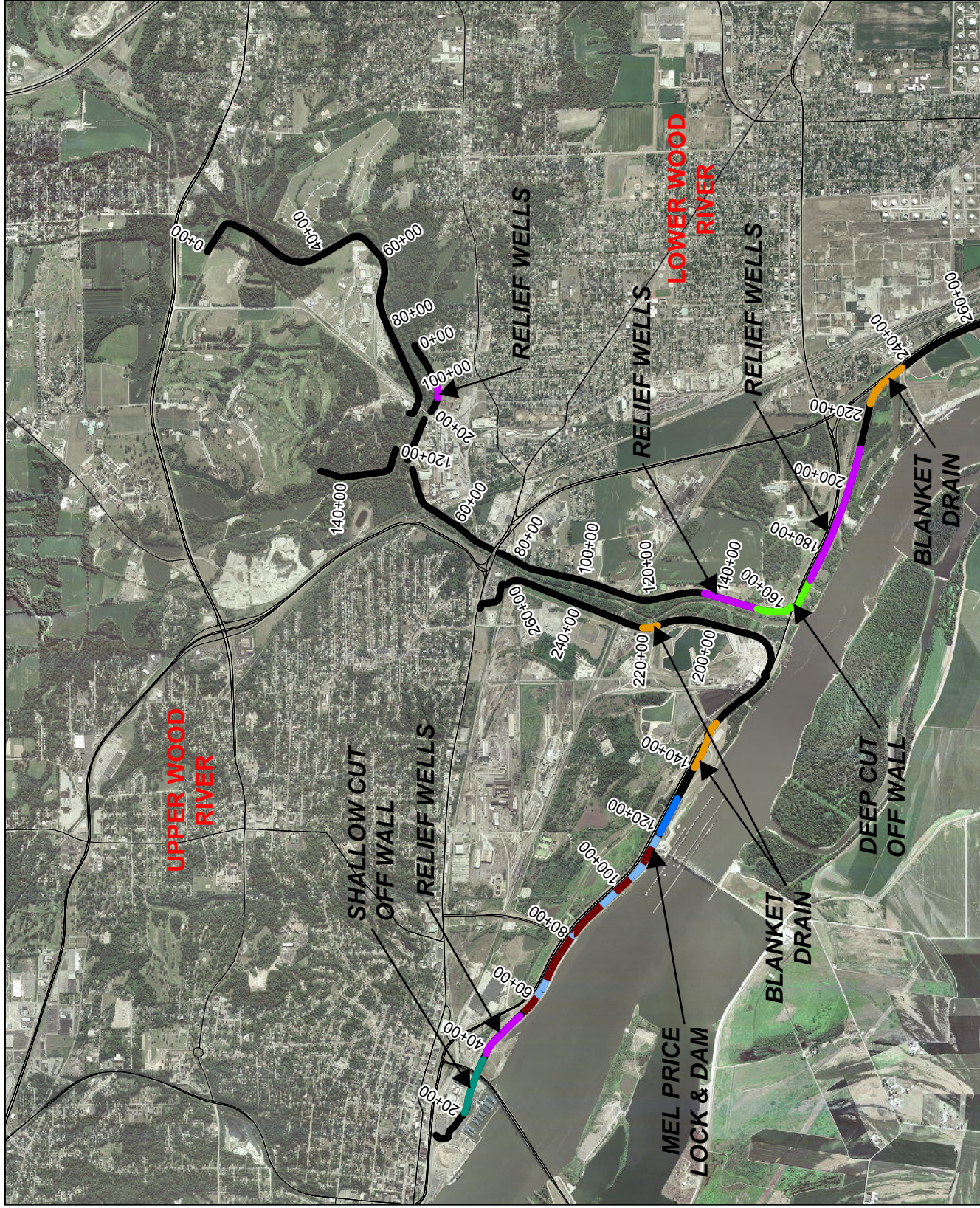
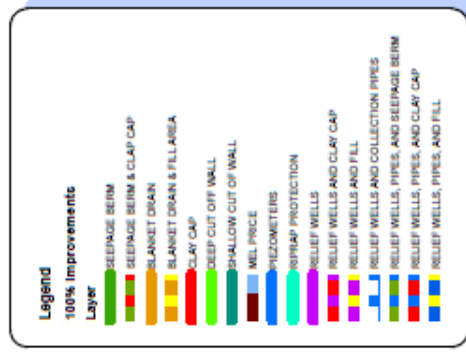
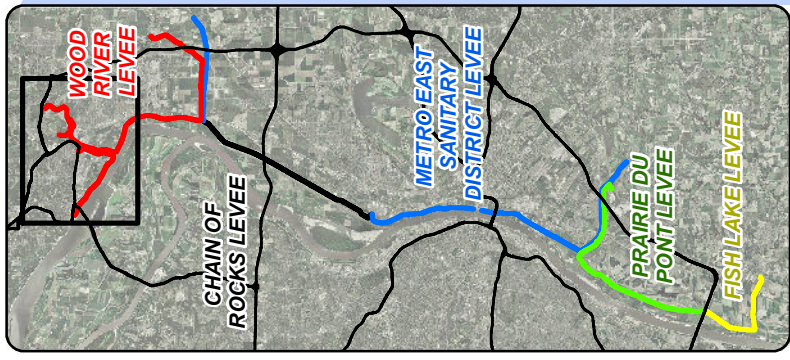
Mississippi River flood stages in December 2015/January 2016 (third highest elevation recorded) and April/May 2017 (sixth highest elevation record) have delayed construction completion and pushed accreditation back, but the Council will meet its interim goal of achieving FEMA certification with the revenue available from the dedicated FPD sales tax.

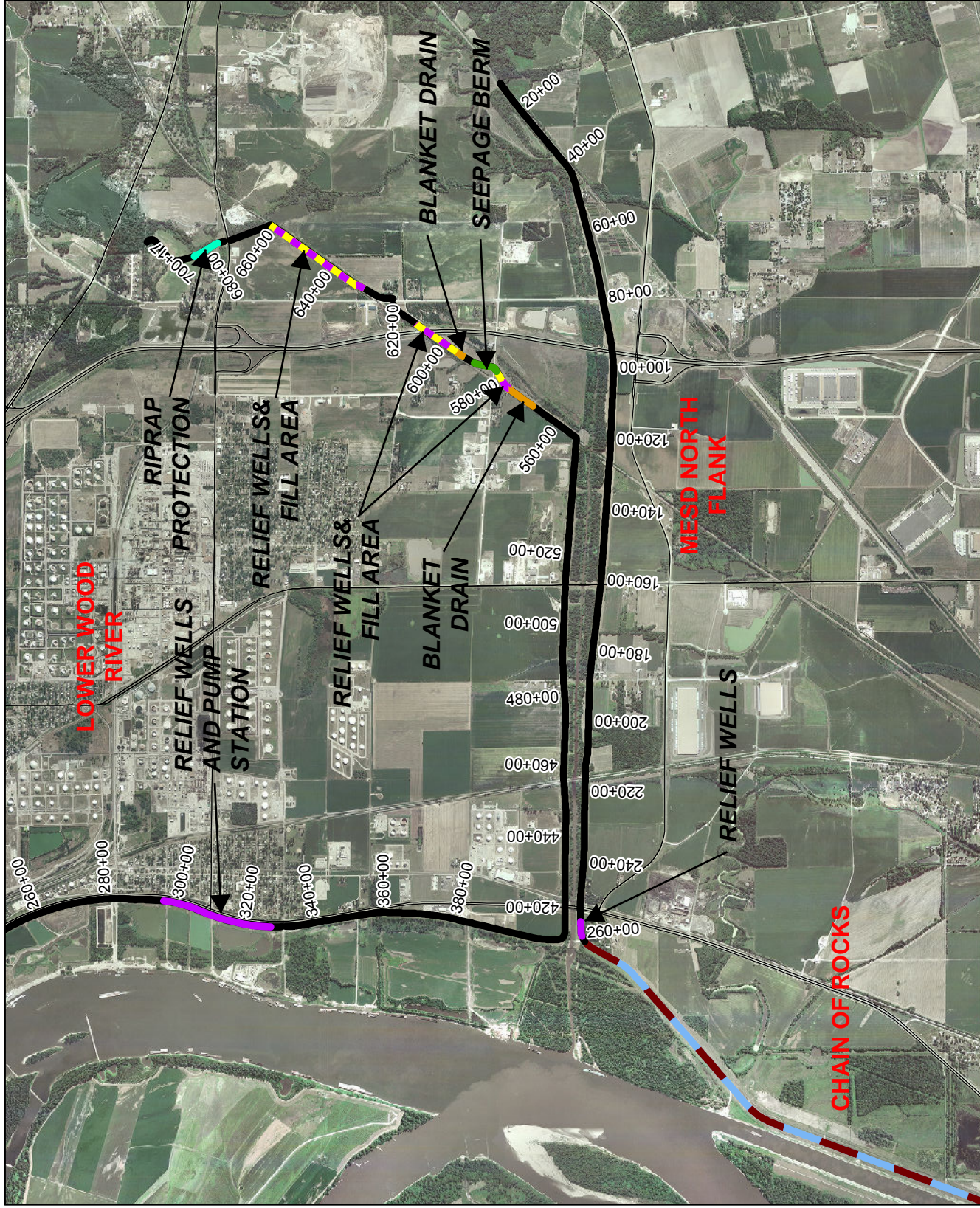
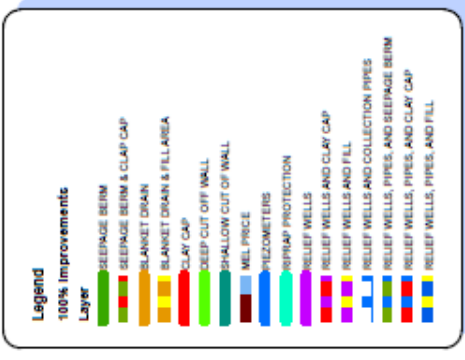
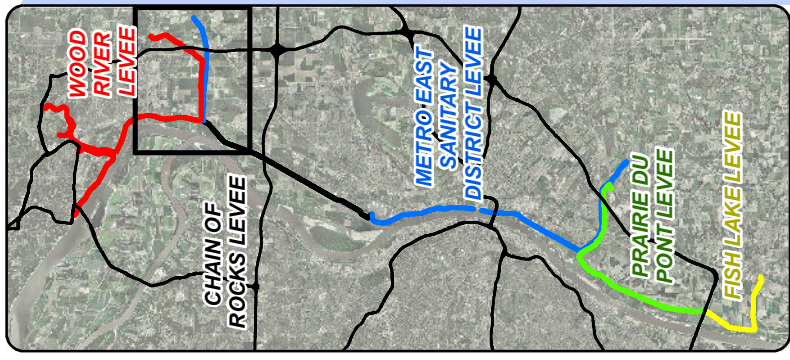
Two record flood events, in less than two years, confirm the need for the work the Council is completing for the 100-Year accreditation and the ultimately for the 500-Year Authorized Level of Protection.

With the added 2015 bond issue revenue, the Council is able to pursue the ultimate goal of providing Authorized Level of Protection to the Metro-East. If the Corps of Engineers can obtain additional federal funding in FY 2019 and future years, the Authorized Level of Protection could be achieved twenty years sooner than original thought.

Appendix I

FEMA Certification Levee System Improvements



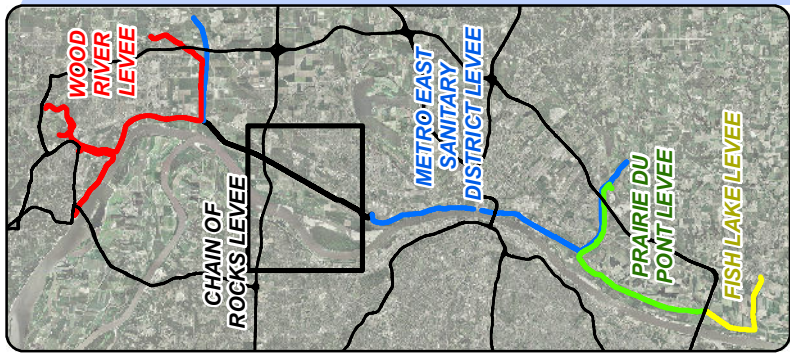
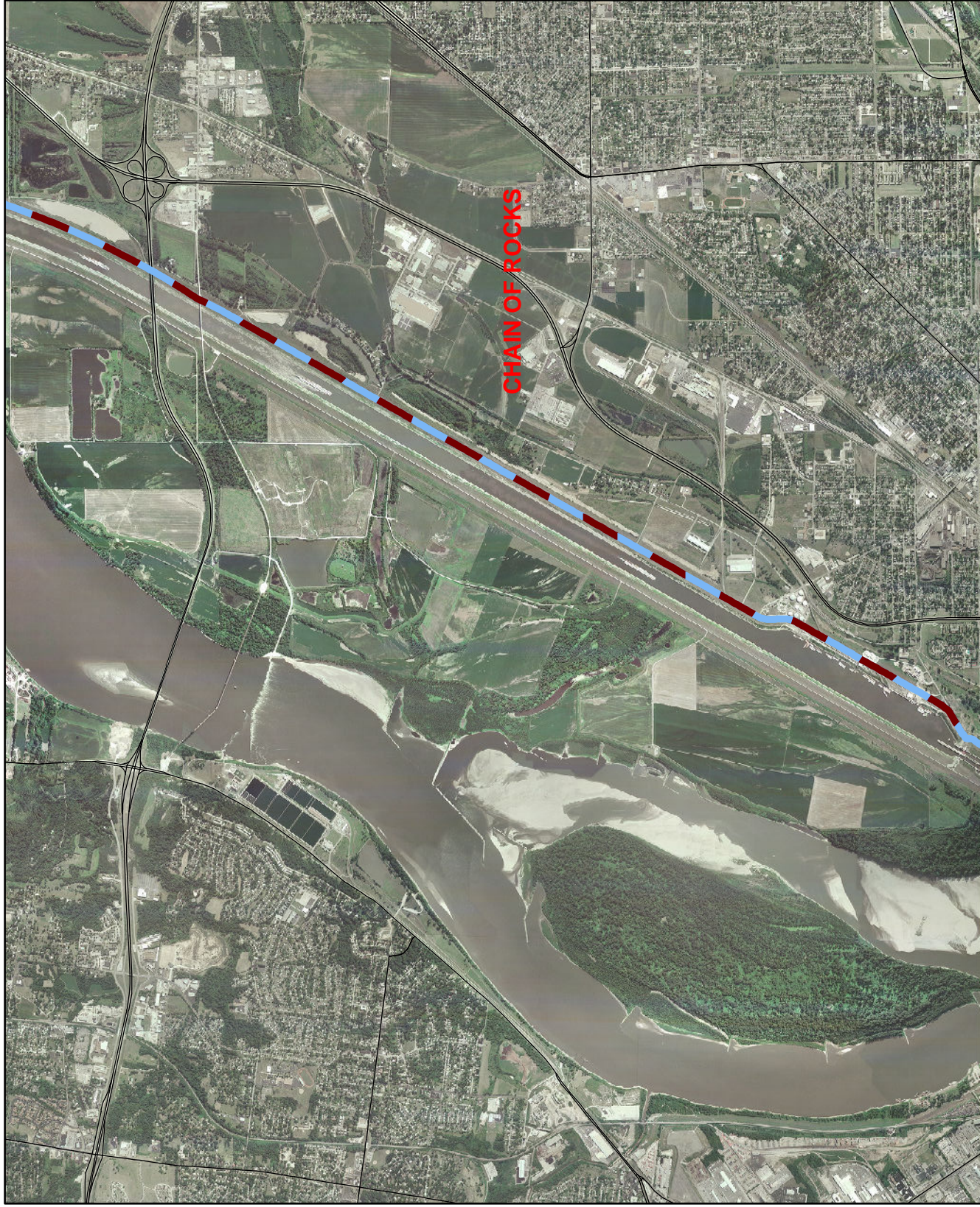


15933 CLAYTON ROAD, SUITE 215
BALLWIN, MO 63011

FEMA CERTIFICATION DESIGN - 100% SOLUTIONS

WOOD RIVER (WR) & METRO EAST SANITARY DISTRICT (MESSD) LEVEES

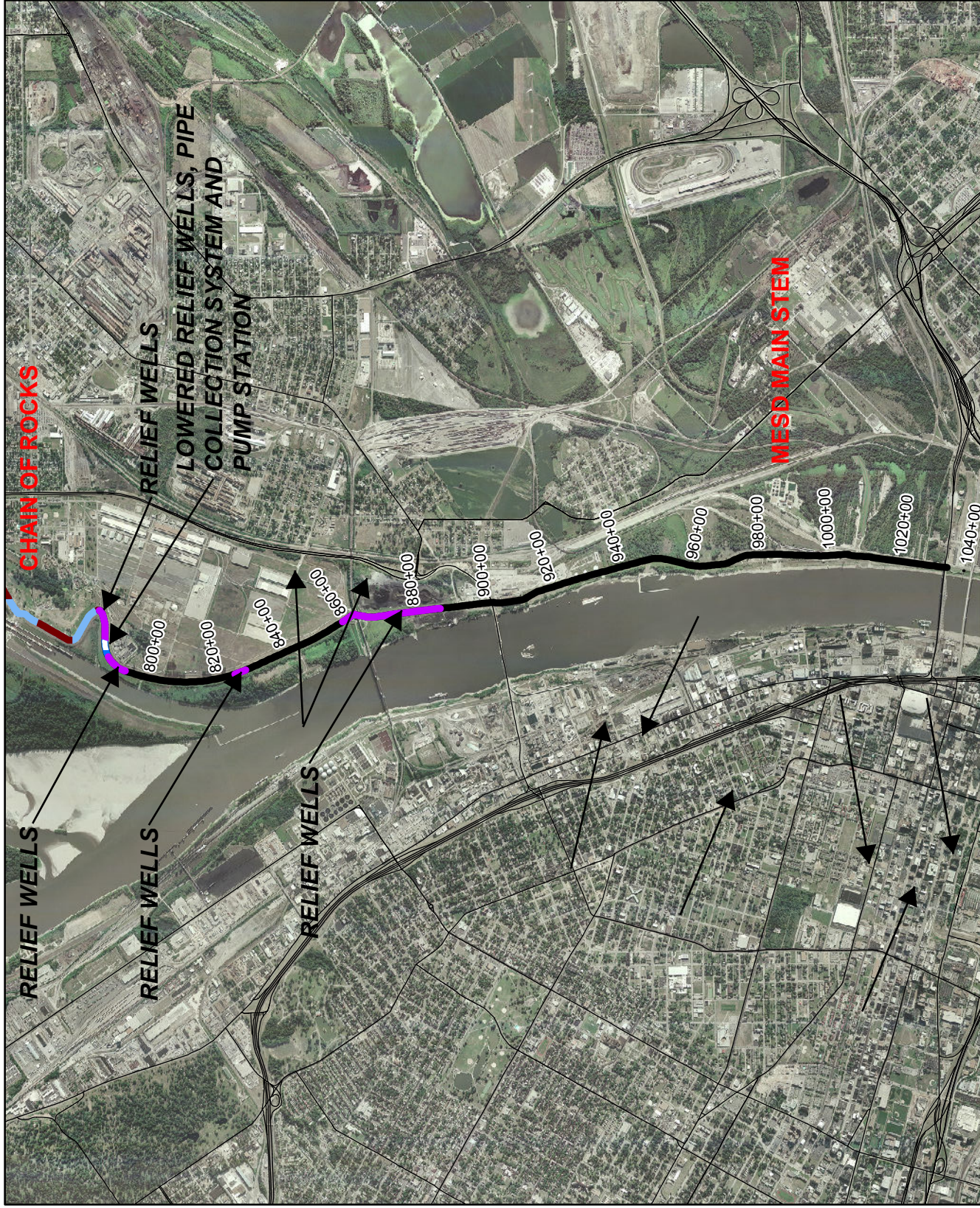
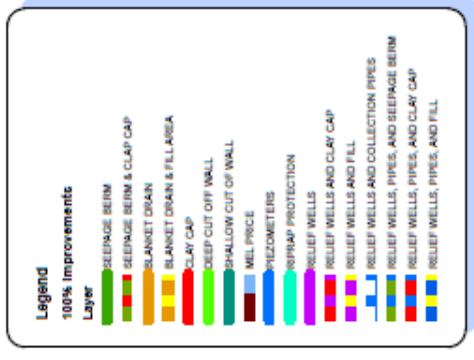
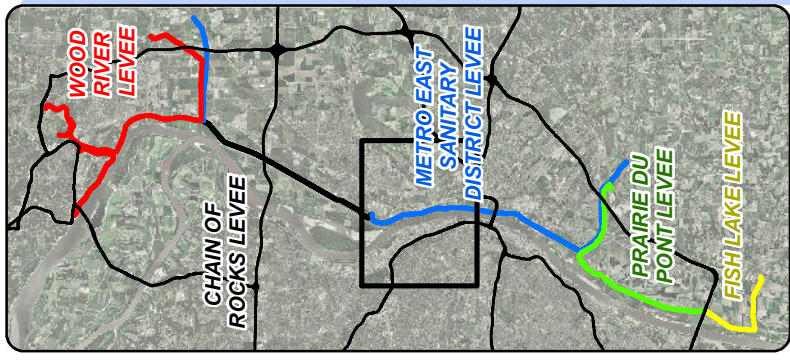


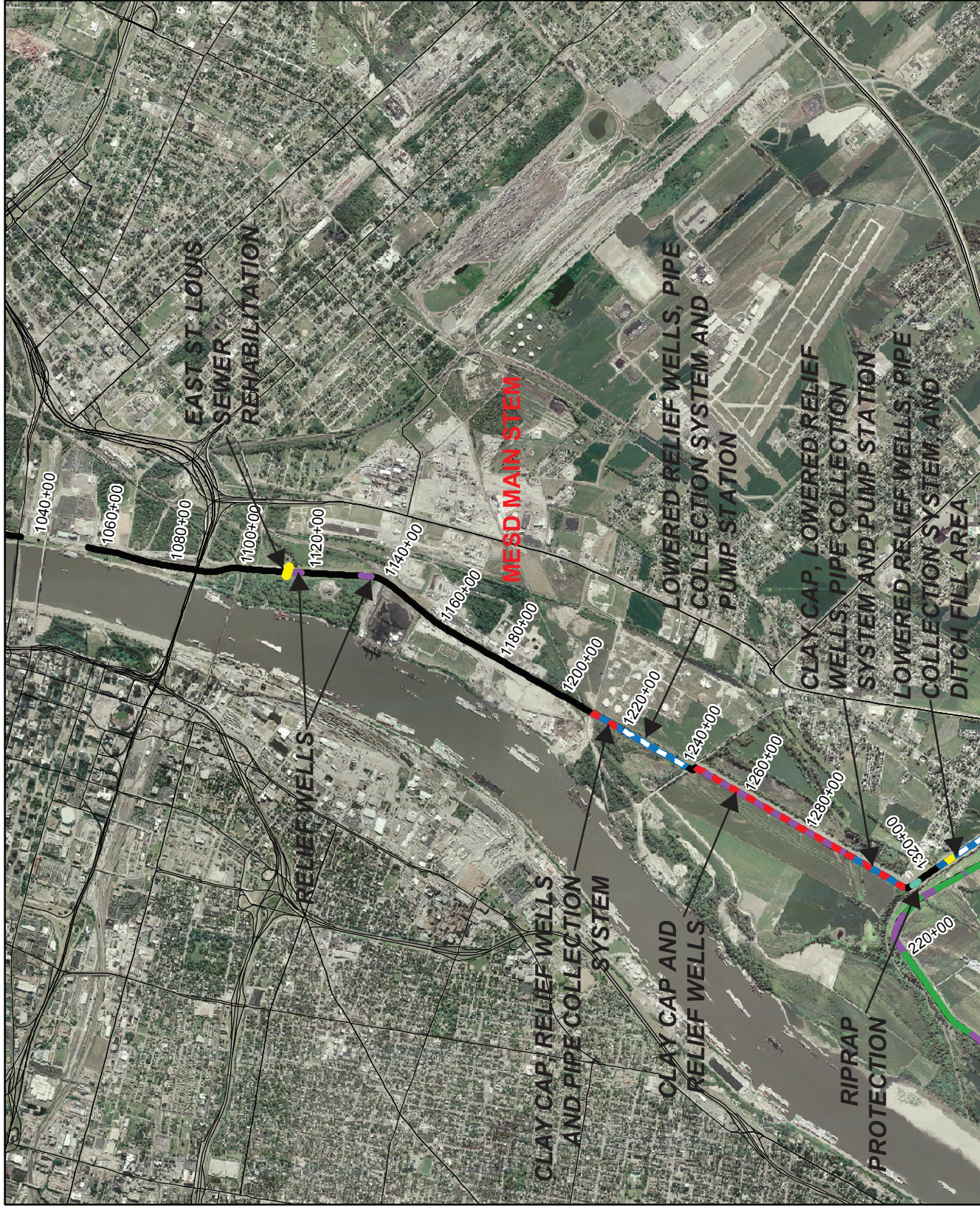
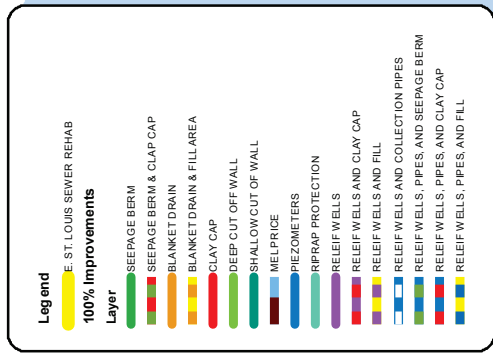
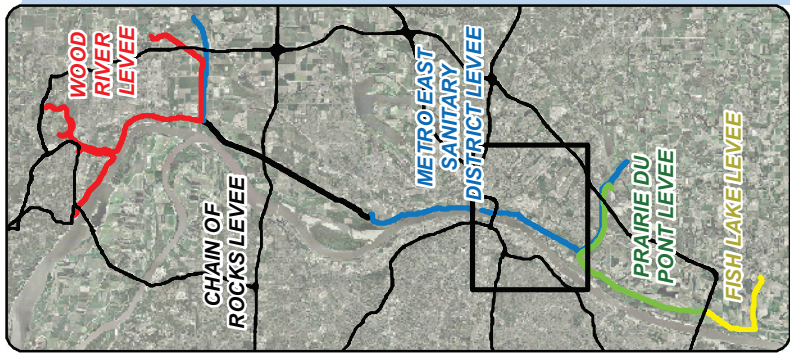


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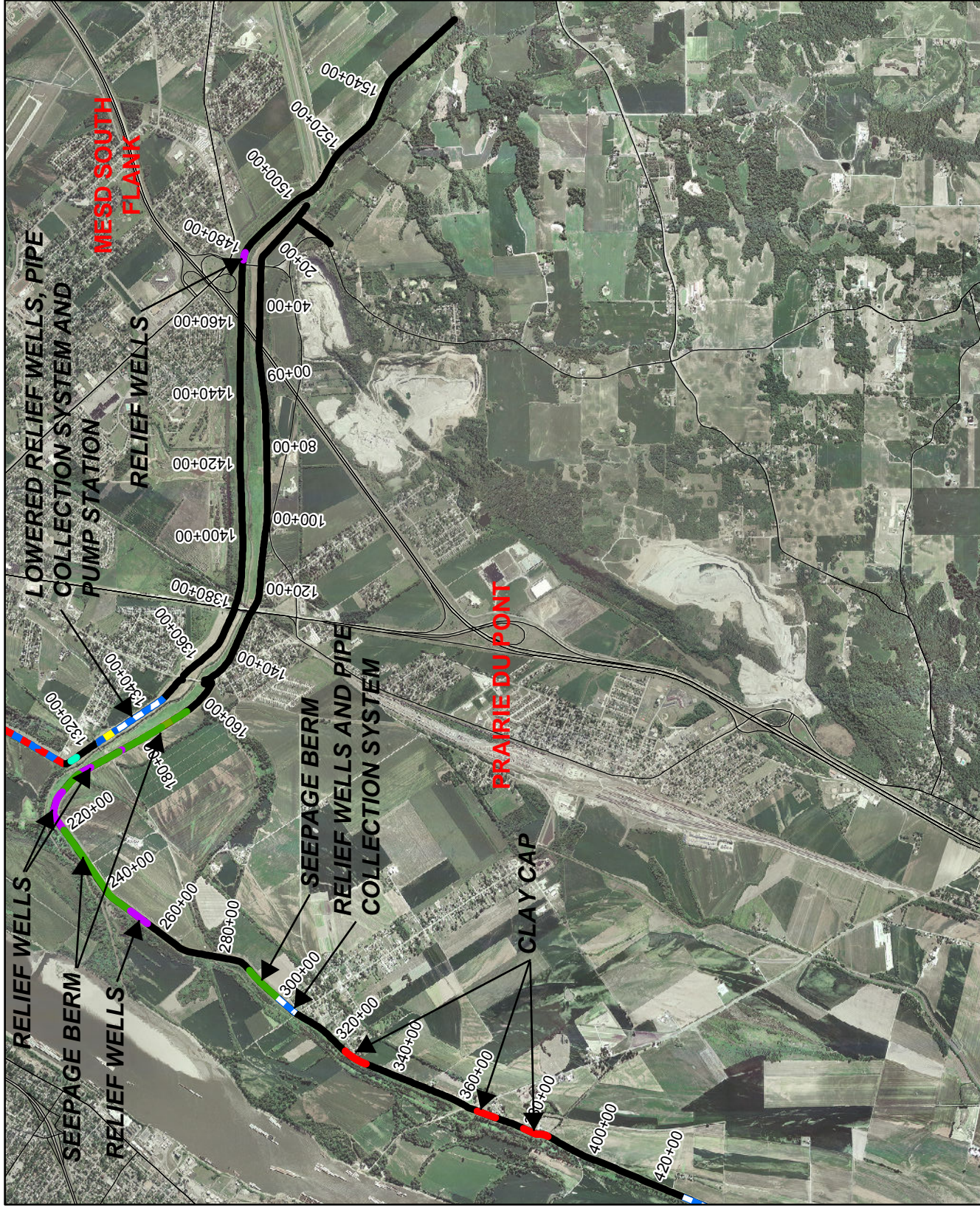
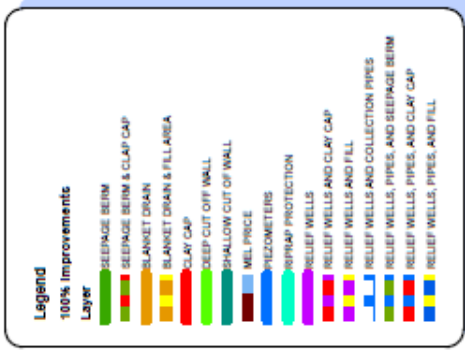
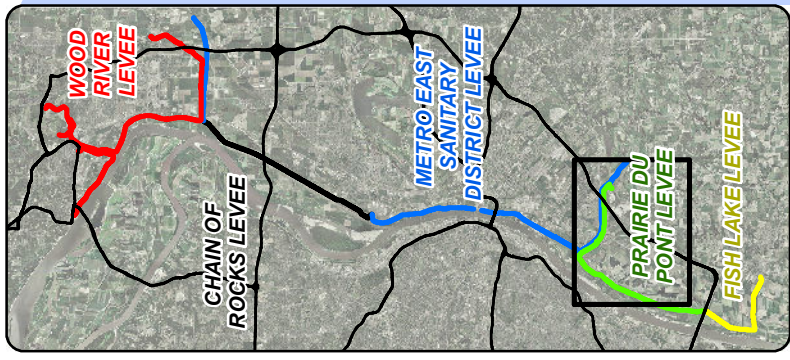
100% Improvements

Layer	Improvement Type
Green	SEEPAGE BEHM & CLAY CAP
Yellow	SEEPAGE BEHM
Orange	BLANKET DRAIN
Red	BLANKET DRAIN & FILL AREA
Light Blue	CLAY CAP
Dark Blue	DEEP CUT OFF WALL
Light Green	SHALLOW CUT OFF WALL
Dark Green	WEL PRICE
Light Purple	PIEZOMETERS
Light Cyan	SEWAP PROTECTION
Light Magenta	RELIEF WELLS
Light Yellow	RELIEF WELLS AND CLAY CAP
Light Blue	RELIEF WELLS AND FILL
Light Green	RELIEF WELLS AND COLLECTION PIPES
Light Yellow	RELIEF WELLS, PIPES, AND SEEPAGE BEHM
Light Cyan	RELIEF WELLS, PIPES, AND CLAY CAP
Light Magenta	RELIEF WELLS, PIPES, AND FILL



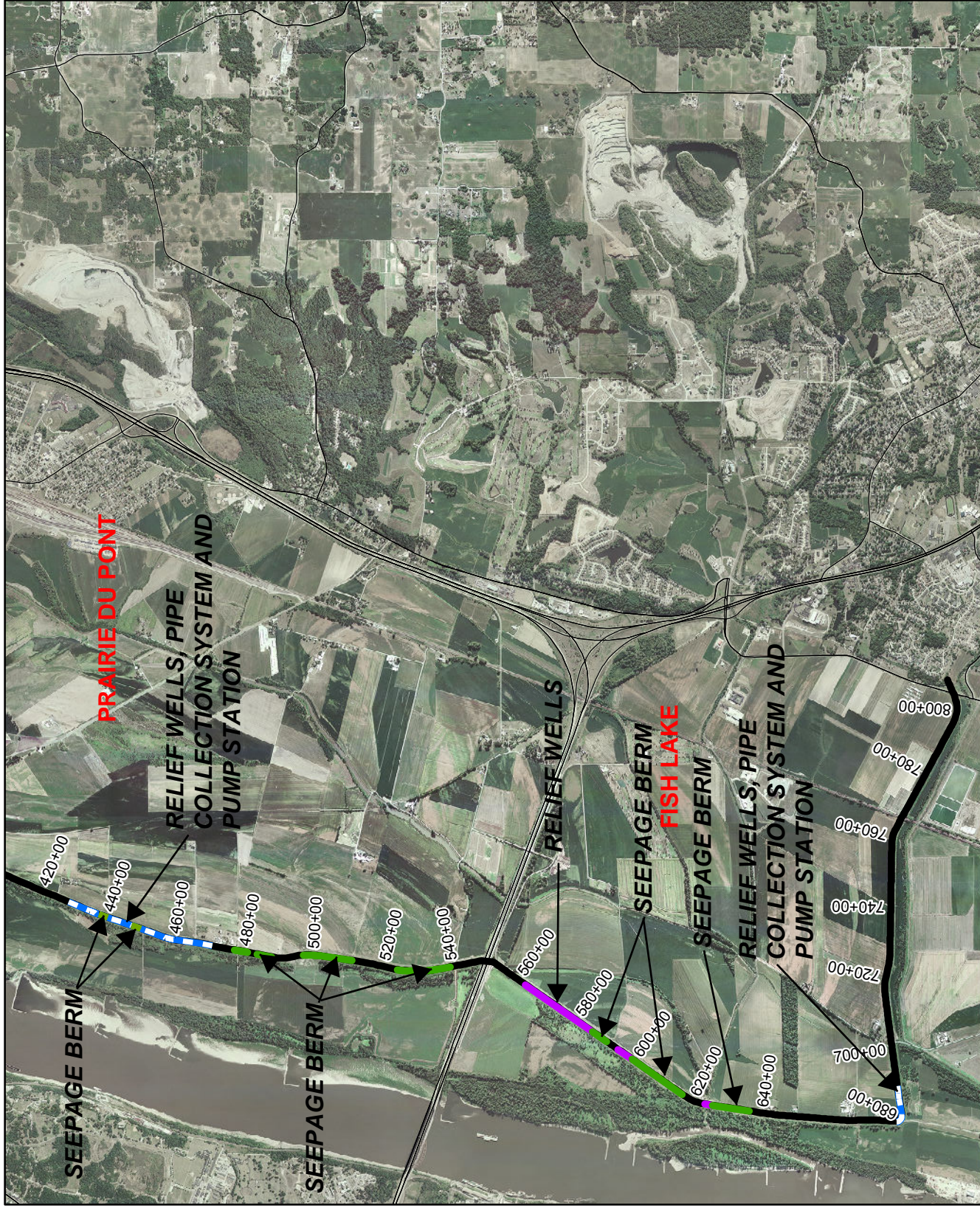
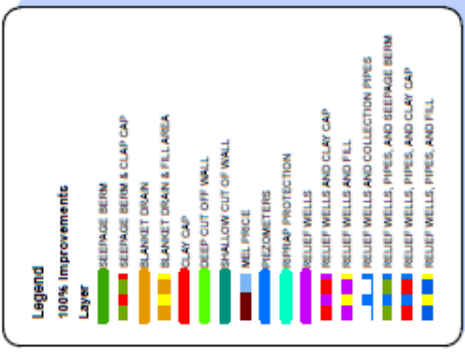
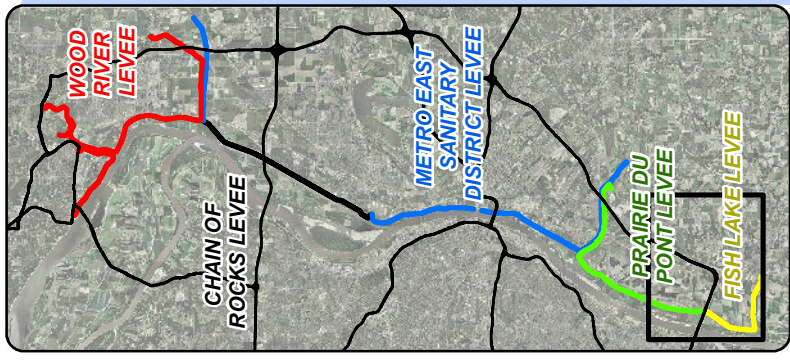


FEMA CERTIFICATION DESIGN - 100% SOLUTIONS
METRO EAST SANITARY DISTRICT (MESD) LEVEE



FEMA CERTIFICATION DESIGN - 100% SOLUTIONS

METRO EAST SANITARY DISTRICT (MESD) & PRAIRIE DU PONT LEVEES



FEMA CERTIFICATION DESIGN - 100% SOLUTIONS
PRAIRIE DU PONT & FISH LAKE LEVEES

Appendix II

Southwestern Illinois Flood Prevention District Council

**Resolution Expressing the Official Intent To
Restore the Federally Authorized Level of Mississippi
Flood River Protection in the Metro-East**

Southwestern Illinois Flood Prevention District Council

RESOLUTION Expressing the Official Intent To Restore the Federally Authorized Level of Mississippi Flood River Protection in the Metro-East

WHEREAS, the Southwestern Illinois Flood Prevention District Council has made great progress towards meeting its goal of fully protecting the Metro-East from a 100-year flood by the end of 2015; and,

WHEREAS, the threat from the Federal Emergency Management Agency to classify the area as prone to flooding will be averted, along with the terrible economic consequences of the action; and

WHEREAS, the Council has demonstrated that the most expeditious and cost-effective approach to improve flood protection over the last several years is to use local funds to undertake critical flood protection projects; and

WHEREAS, the Council cannot continue to delay needed improvements to flood protection because of the lengthy, unpredictable, and costly design and construction process conducted by the U.S. Army Corps of Engineers; and

WHEREAS, the Corps of Engineers is unwilling to comply with local workforce policies; and

WHEREAS, dramatic progress can be made when the pace and cost of construction is determined locally; and

WHEREAS, the design and construction of projects by the FPD can move ahead rapidly and at a far lower cost than by delegating this work to the Corps of Engineers; and

WHEREAS, the FPD has available funds and availability of future federal funding is unknown; and

WHEREAS, the design and construction of projects built by the FPD using local funds may be considered for future Work In-Kind Credit by the Corps of Engineers as allowed by the use of Memoranda of Understanding, the inclusion in Integral Determination Reports, and the amendment of Project Partnership Agreements; and

WHEREAS, economic growth can be expected if the authorized level of protection is being pursued; and

WHEREAS, now is the time to initiate the restoration of the federally authorized level of flood protection in the Metro-East providing the region with a higher level of flood protection, while simultaneously completing the 100-year level projects; and

WHEREAS, the long-term goal of the FPD is to fully restore the federally authorized level of flood protection (Mississippi River elevation of 54 feet on the St. Louis gauge -- also known as the 500-Year flood).

NOW, THEREFORE, It Is Hereby Resolved by the Board of Directors of the Southwestern Illinois Flood Prevention District Council that it is the intent to restore the federally authorized 500-year level of Mississippi River flood protection through the following actions:

1. *Design.* Immediately begin the design of the most critical and cost-effective projects to restore the federally authorized level of flood protection; and

2. *Funding Strategy.* Take immediate steps to implement a funding strategy with the FPD being totally responsible for the design and the construction of flood protection (authorized level) projects. This includes using current surplus funds and judicious borrowing to maximize the available funding for capital expenditures on flood protection through the year 2020 (\$94,500,000 is currently estimated to be available), building the most cost effective and highest priority projects throughout the Counties of Madison, Monroe, and St. Clair, Illinois; and


3. *Workforce Policies.* Comply with all current FPD workforce policies to ensure fair wages and working conditions for project workers, encourage the use of local workers, and avoid any work stoppages that could delay projection completion; and

4. *Levee Districts Participation.* Seek the financial participation of each Levee District to generate additional funds to supplement FPD funding and enable additional construction; and

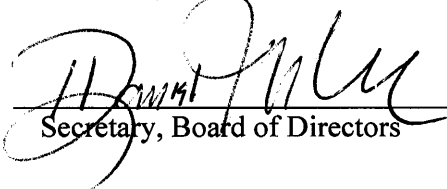
5. *Corps of Engineers Participation.* Notify the Corps of Engineers of the FPD's strategy and request that the Corps expedite projects that are 100% federally funded, such as the emergency design deficiency correction at the Melvin Price Locks and Dam, a project-that was identified as an emergency need six years ago, but still lacks a federally sanctioned permanent design solution and any funding for construction..

If any section, paragraph or provision of this Resolution shall be held to be invalid or unenforceable for any reason, the invalidity or unenforceability of such section, paragraph or provision shall not affect any of the remaining provisions of this Resolution.

This resolution was approved February 18, 2015.



President, Board of Directors



Secretary, Board of Directors

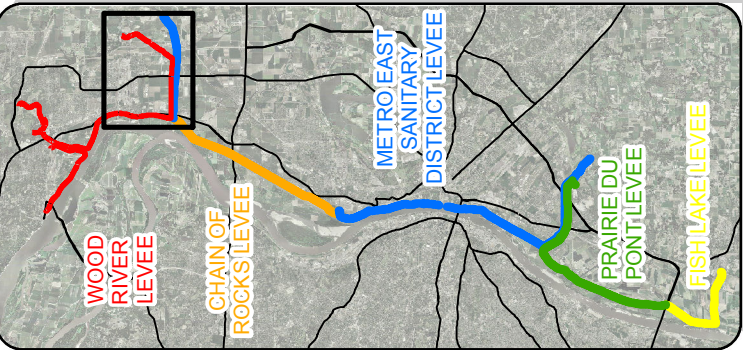
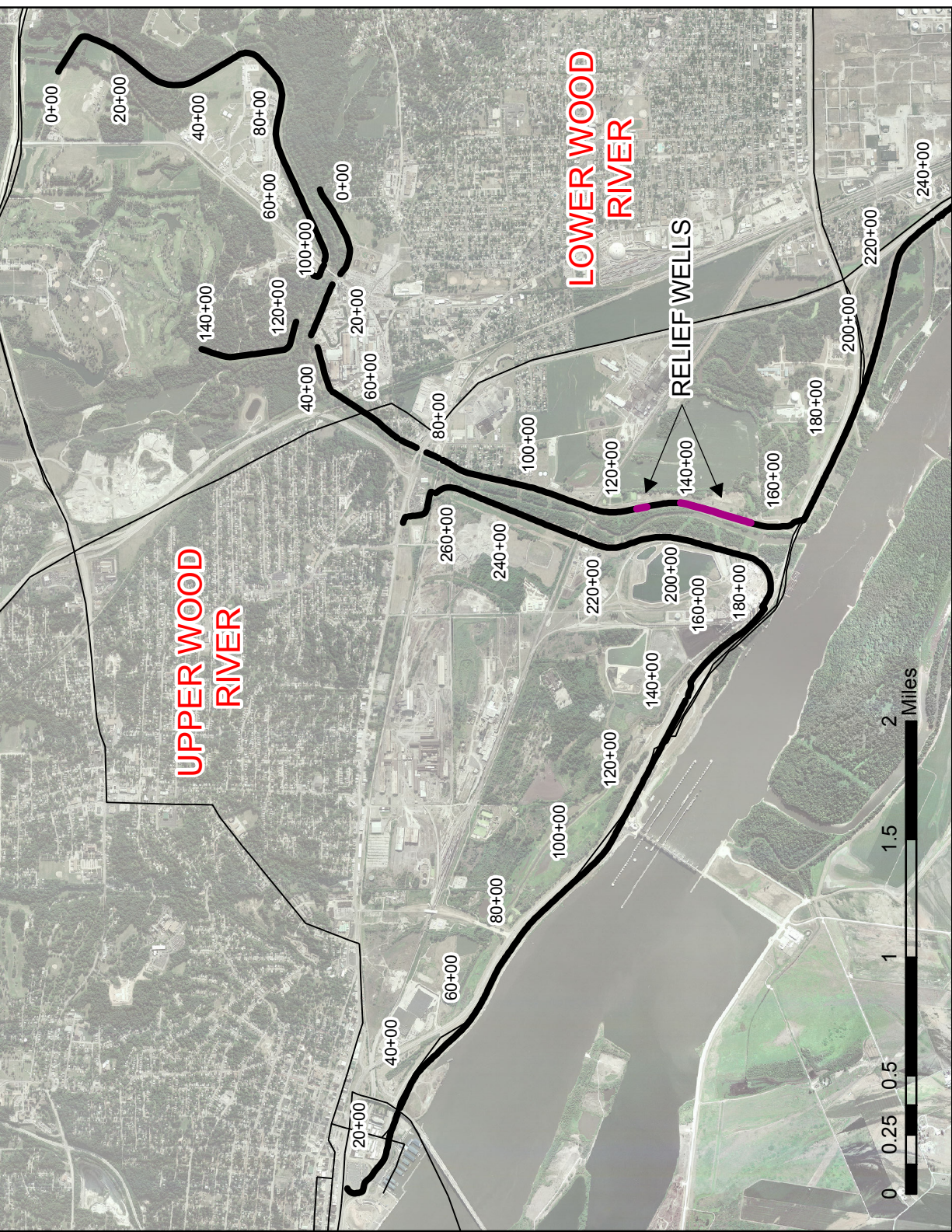
Appendix III

Proposed 500-Year Authorized Level Levee System Improvements

Wood River Levee System

Metro East Sanitary District (MESD) Levee System

Prairie Du Pont/Fish Lake Levee System



Legend

Layer

- █ RELIEF WELLS
- █ RELIEF WELLS AND PUMP STATIONS
- █ SEEPAGE BERM
- █ SEEPAGE BERM AND FILL
- █ LEVEE CENTERLINE

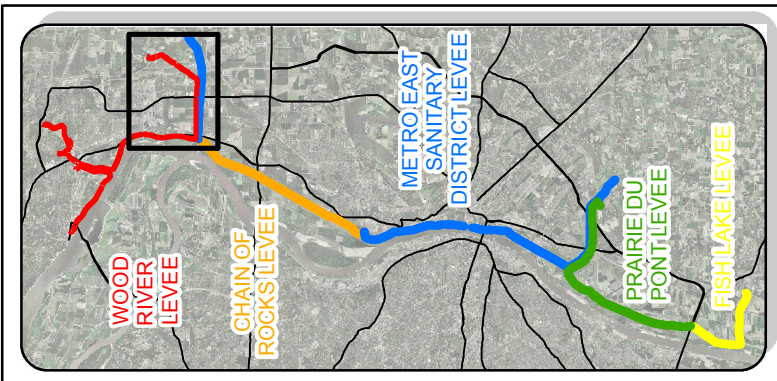
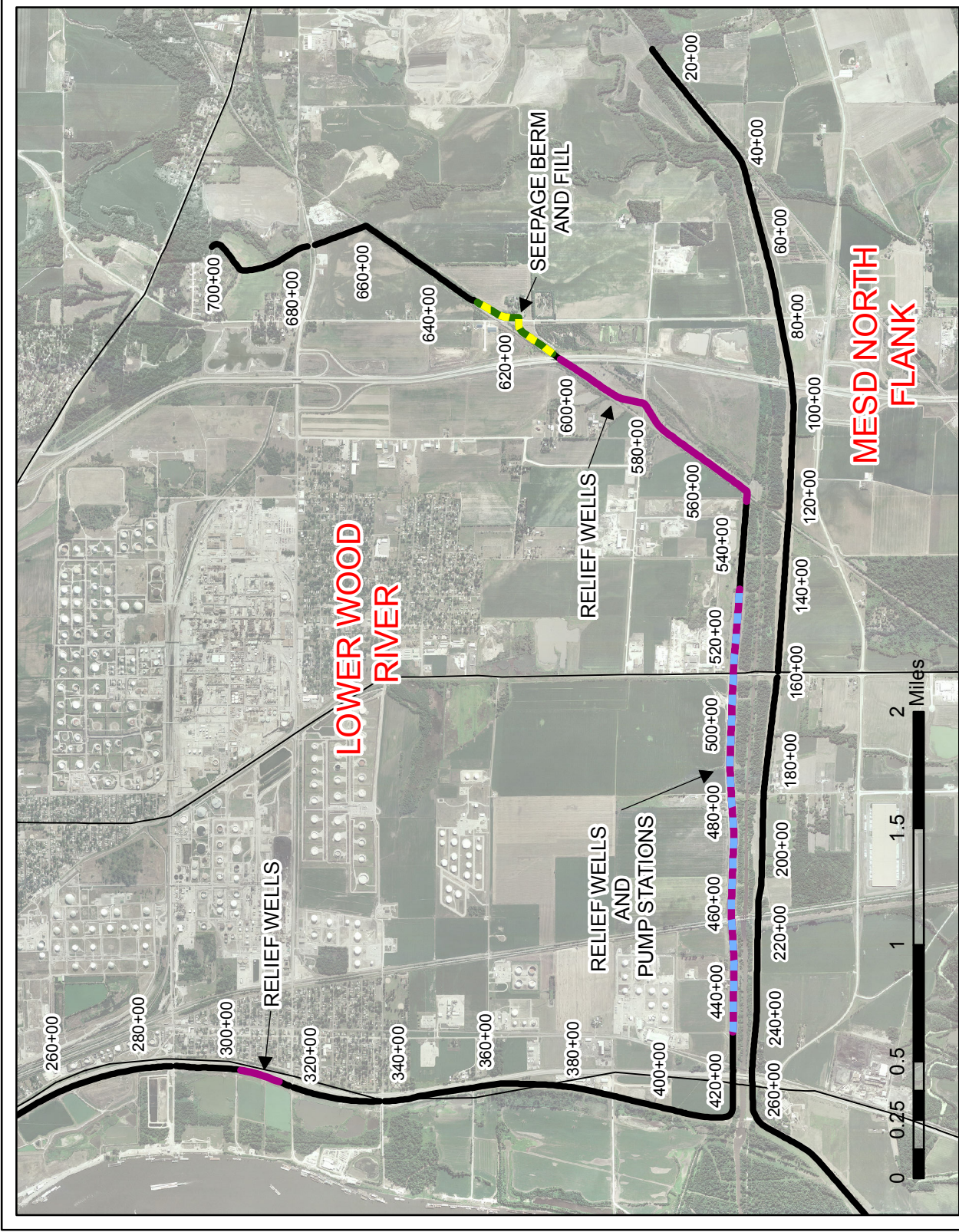


AUTHORIZED LEVEL DESIGN

WOOD RIVER LEVEE



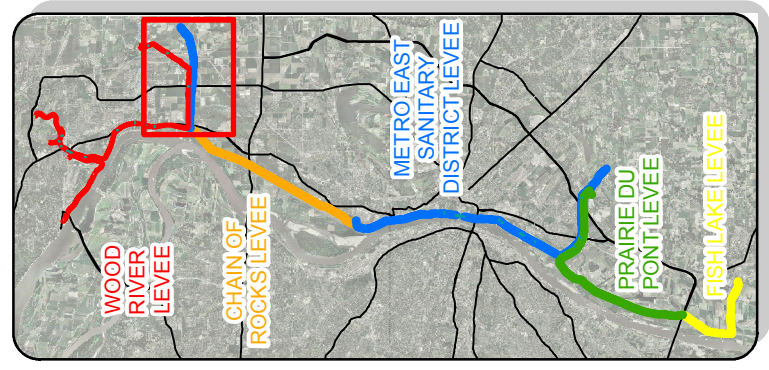
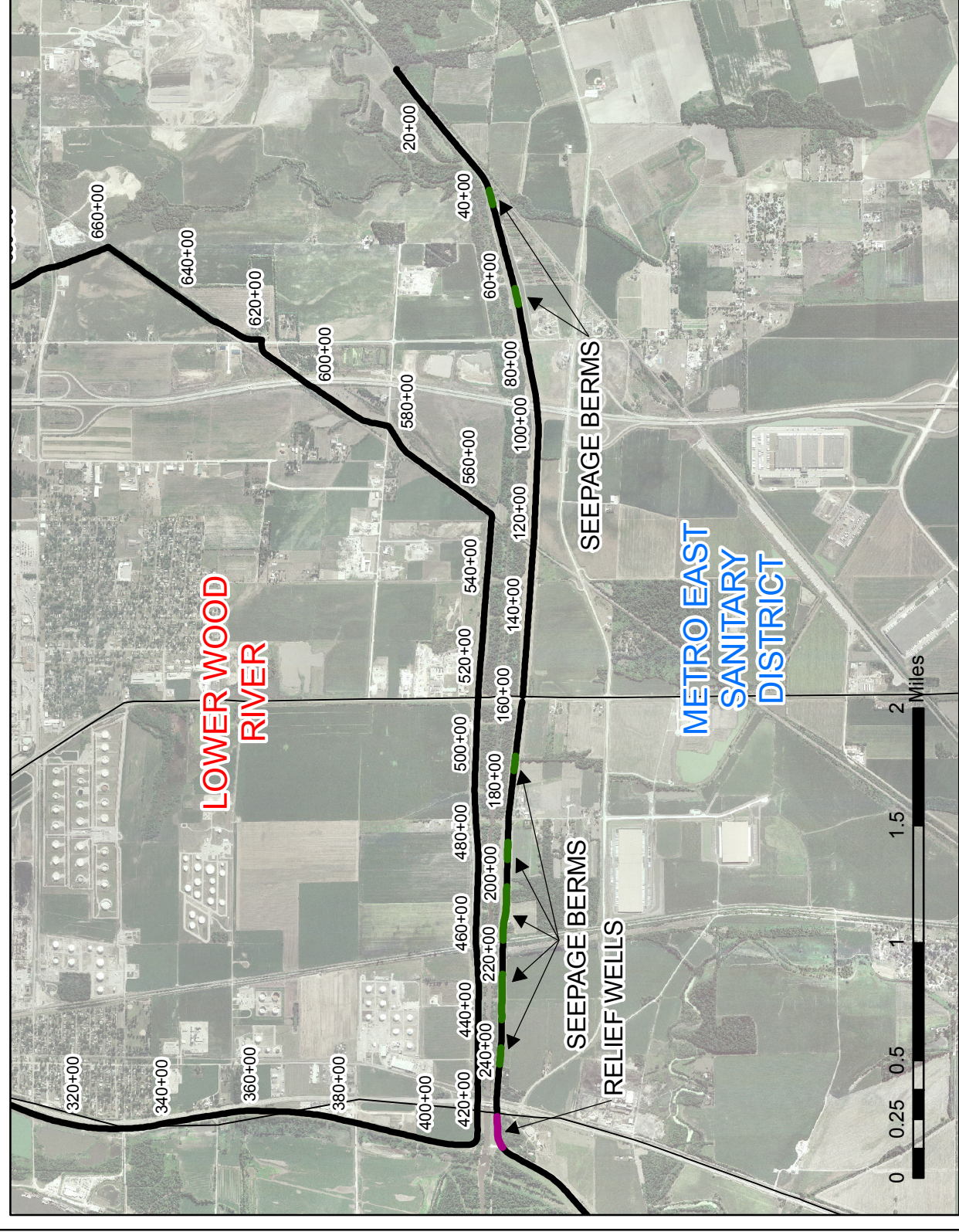
AUTHORIZED LEVEL DESIGN WOOD RIVER LEVEE



AUTHORIZED LEVEL DESIGN

METRO EAST SANITARY DISTRICT LEVEE

8/11/16



Legend

Layer

- █ RELIEF WELLS
- █ SEEPAGE BERM
- █ LEVEE CENTERLINE



AUTHORIZED LEVEL DESIGN

METRO EAST SANITARY DISTRICT LEVEE

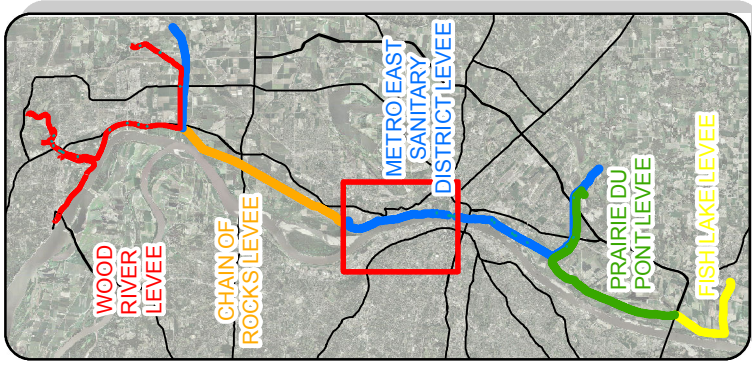
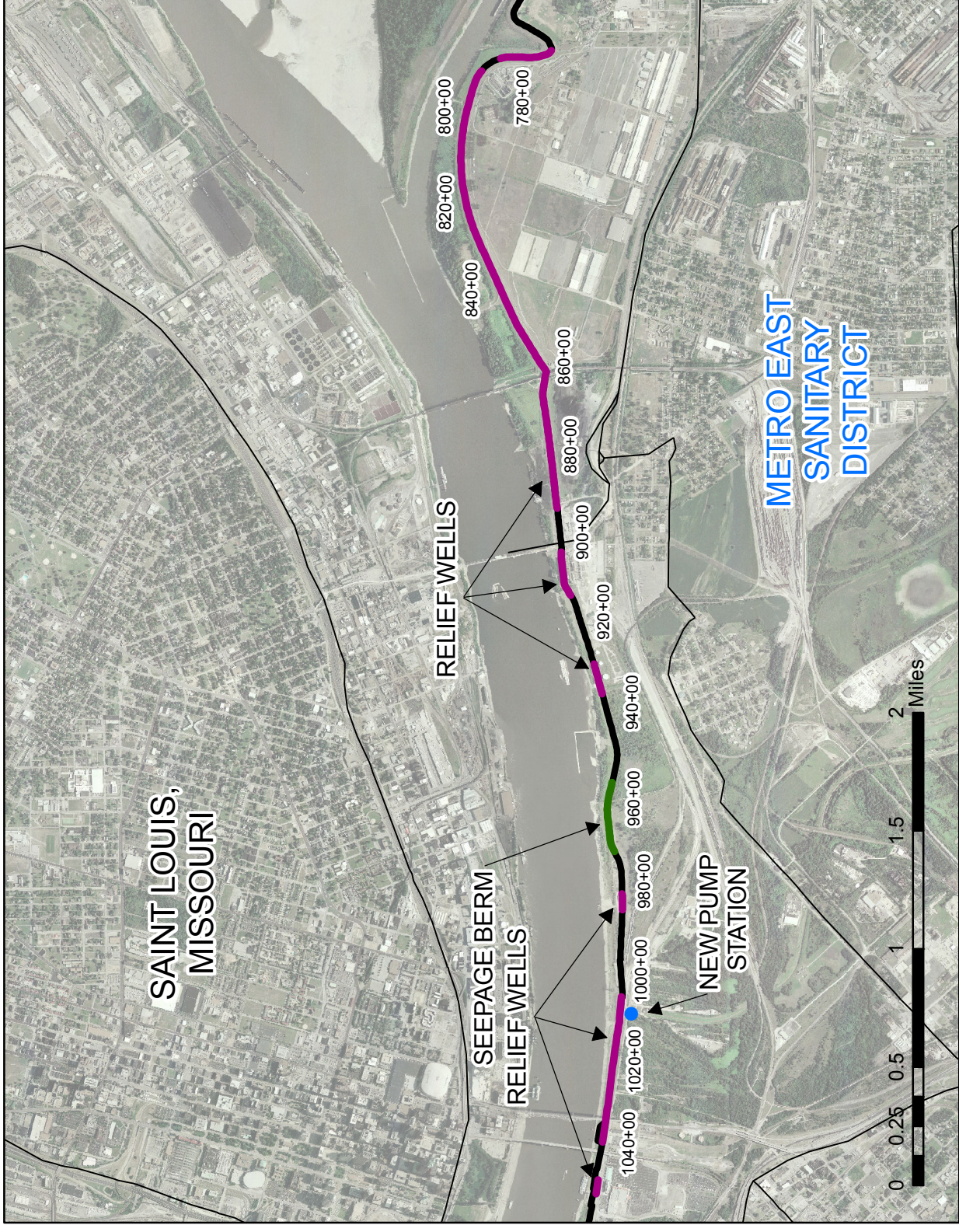
8/11/16

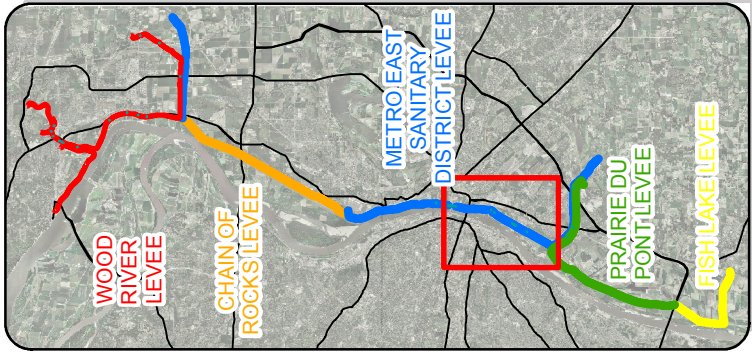
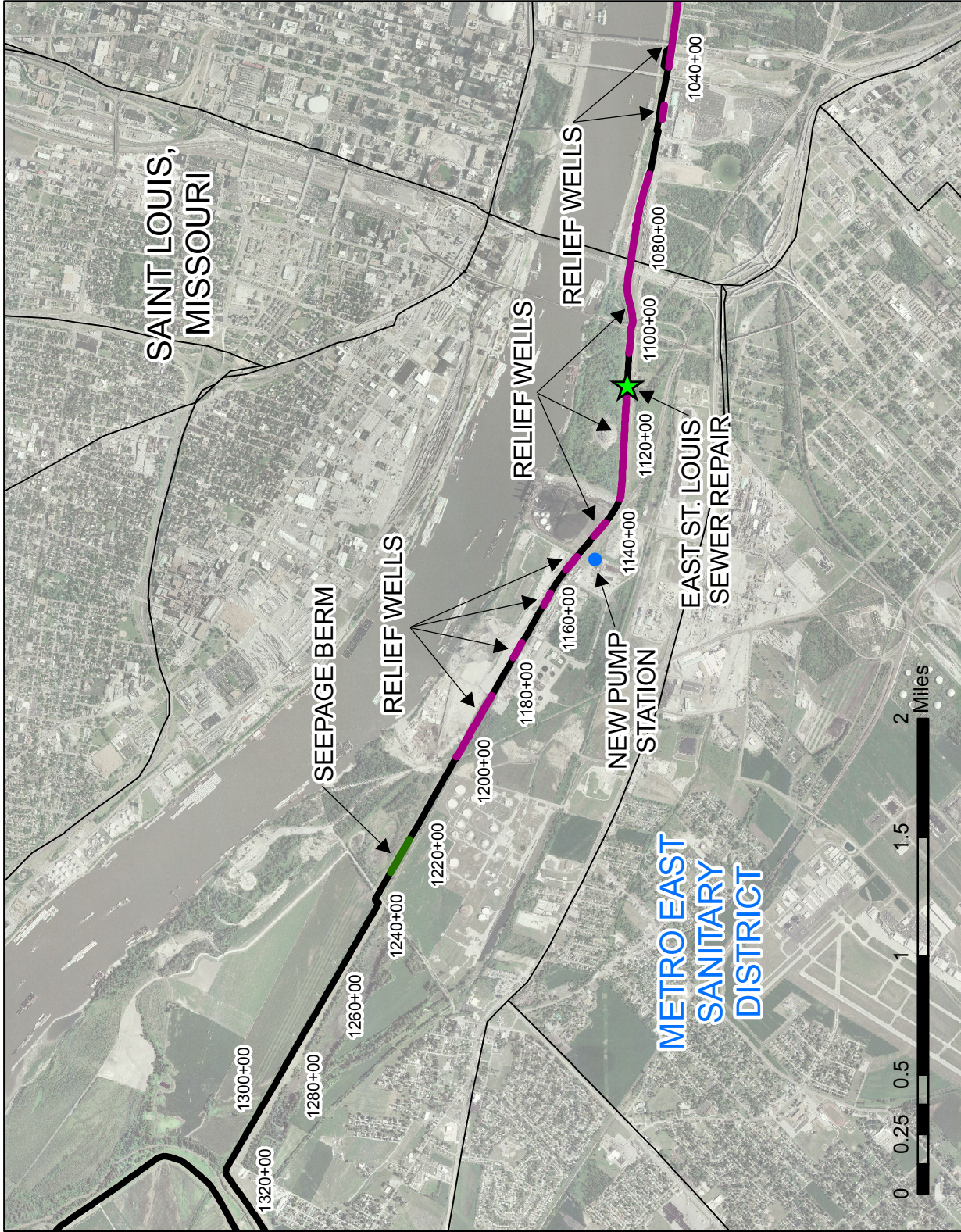


Legend

Layer

- █ RELIEF WELLS
- █ SEEPAGE BERM
- █ LEVEE CENTERLINE





AUTHORIZED LEVEL DESIGN

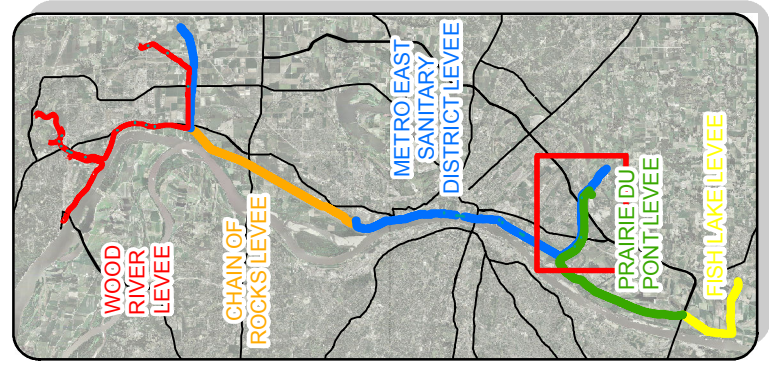
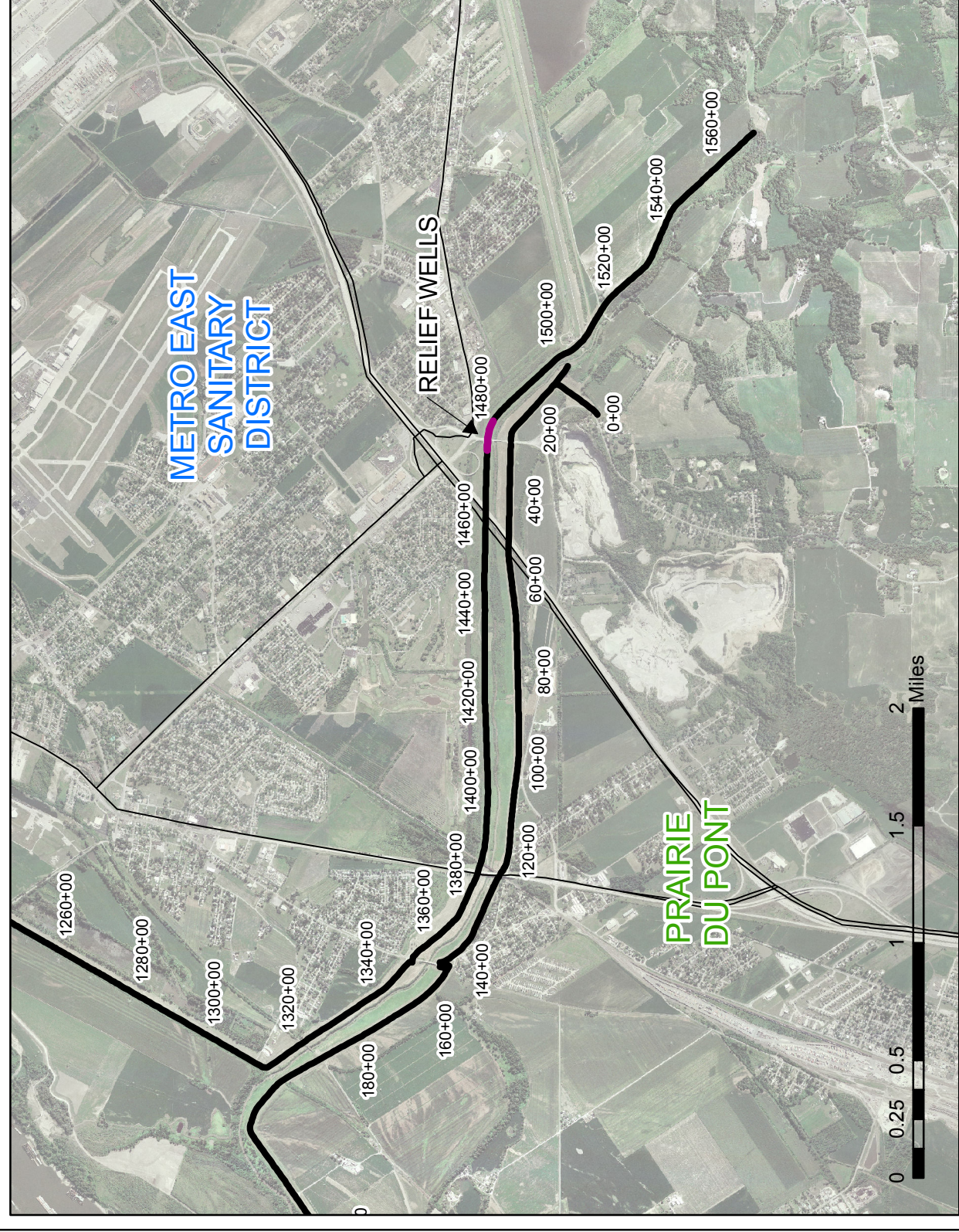
METRO EAST SANITARY DISTRICT LEVEE



AUTHORIZED LEVEL DESIGN

METRO EAST SANITARY DISTRICT LEVEE

8/11/16

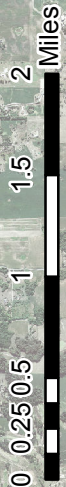
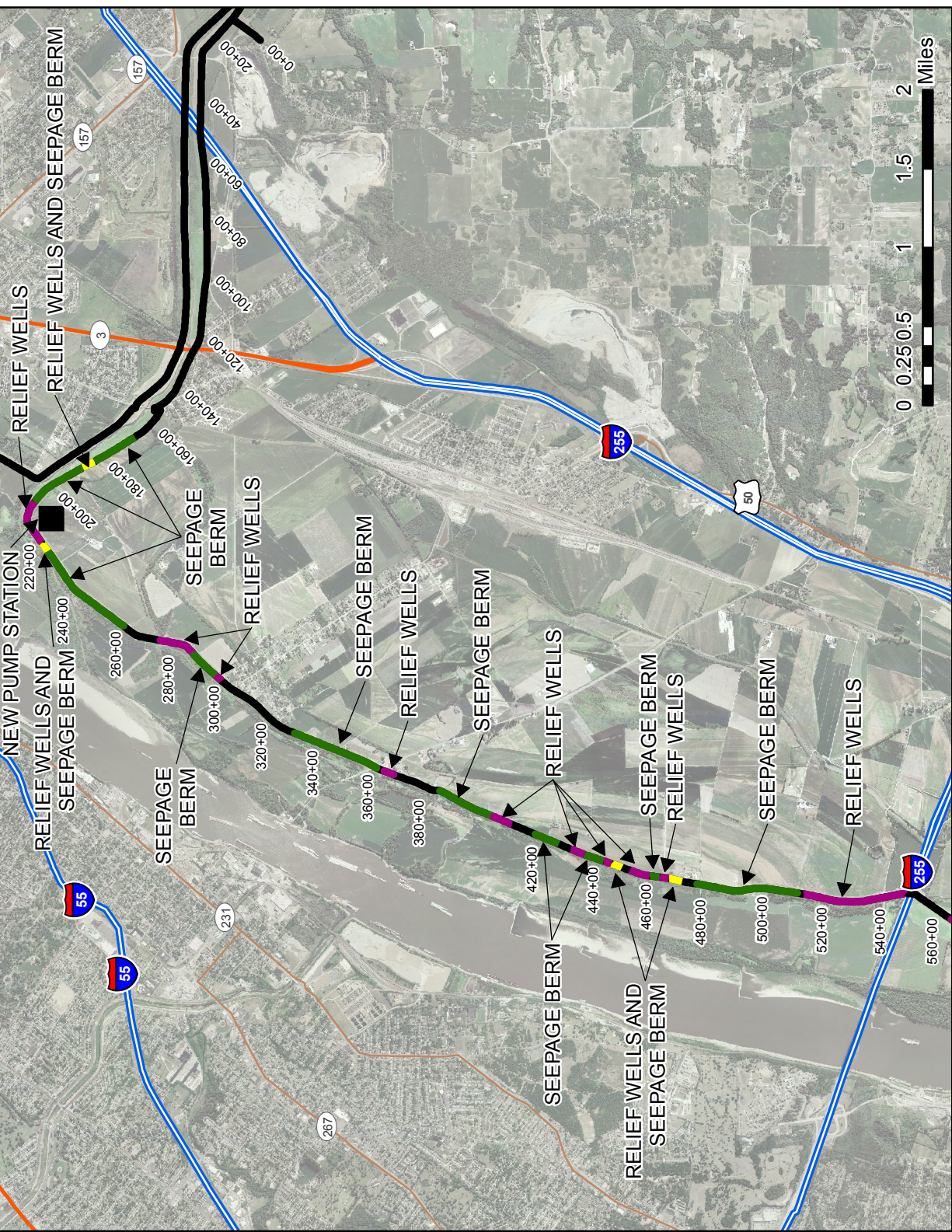


Legend

Layer

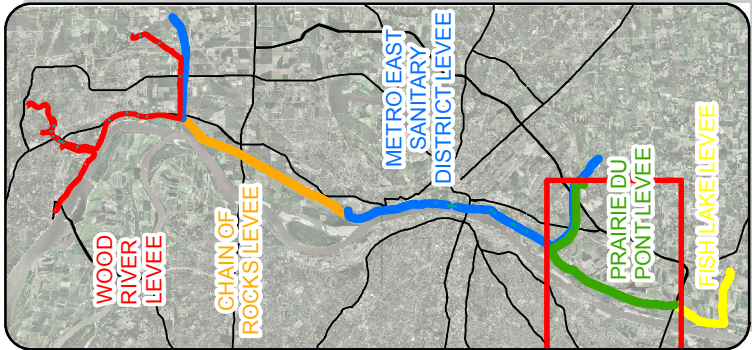
- █ RELIEF WELLS
- █ SEEPAGE BERM
- █ LEVEE CENTERLINE





Legend

Type	Color
RELIEF WELLS	Pink
RELIEF WELLS AND SEEPAGE BERMS	Yellow
SEEPAGE BERMS	Green
LEVEE CENTERLINE	Black



AUTHORIZED LEVEL DESIGN

PRAIRIE DU PONT (PDP) LEVEE



AUTHORIZED LEVEL DESIGN FISH LAKE (FL) LEVEE

