

SW Illinois Flood Prevention Project – *Progress Report*

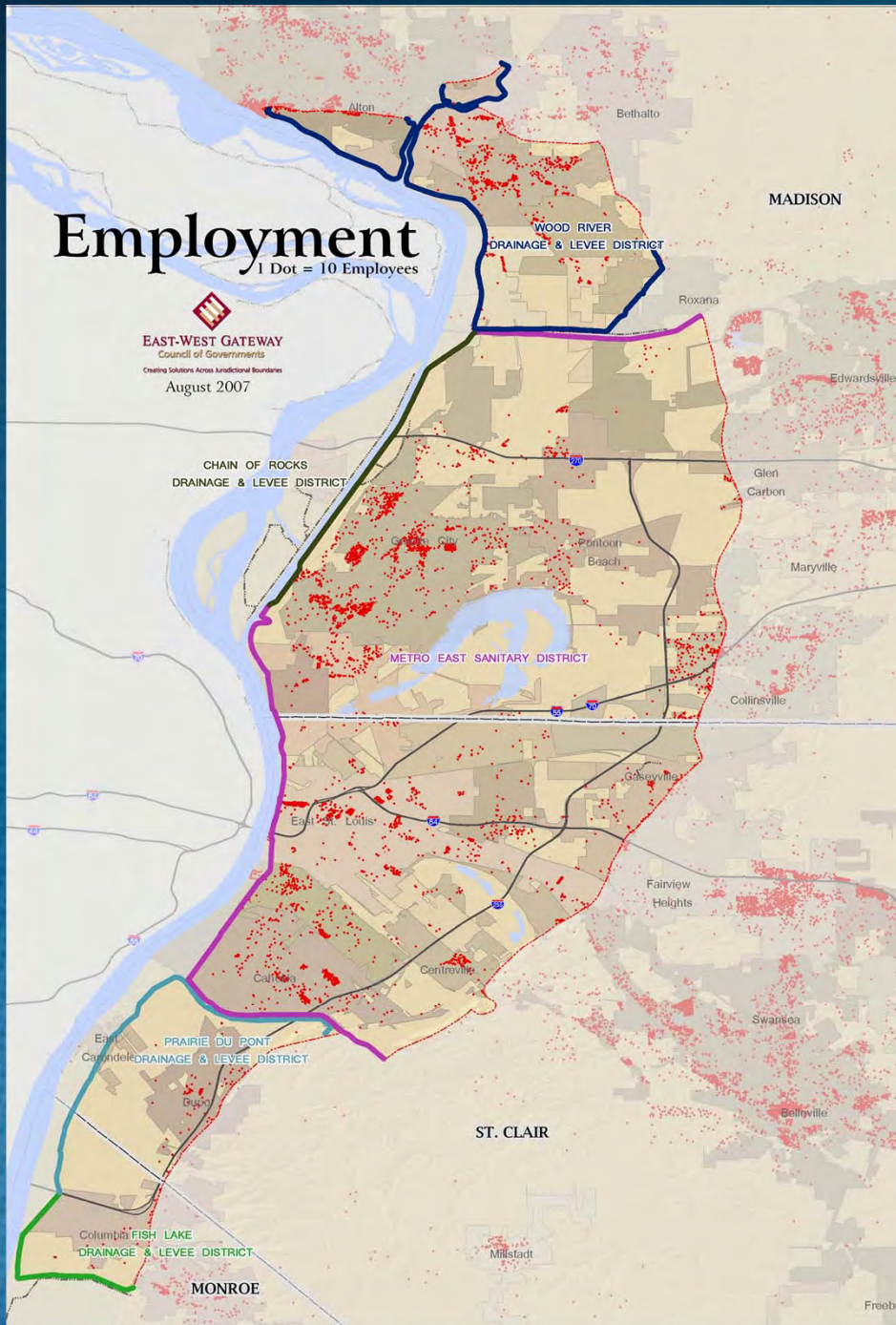
May 6, 2011

Leadership Council Southwestern Illinois



SW Illinois Levee Systems

- Designed and built in 1940's and improved in '50s by Corps of Engineers as 500-year levees
- Owned and maintained by Levee Districts
 - *Wood River Drainage and Levee District*
 - *Metro-East Sanitary District*
 - *Prairie DuPont Drainage and Levee District*
 - *Fish Lake Drainage and Levee District*
- Owned and maintained by Corps
 - *Chain of Rocks Levee*



- Industrial core of the St. Louis region
- 55,000+ jobs
 - Conoco – Phillips
 - U.S. Steel
 - Solutia
 - Afton Chemical

The Problem

- Corps of Engineers identified *Design Deficiencies* that may compromise the “authorized level of protection” (52 + 2 feet on St. Louis gauge – approx. 500-year)
 - Understanding of risk has improved
 - Better design methods
 - Increased design factor of safety post-Katrina
- FEMA decides to de-accredit the levee system
- “Fear, uncertainty, and doubt” about flood protection erodes the economic security of Metro-East

Key Terms

- Local levee owners (or the Corps) must certify that levee systems will meet federal standards for protecting from a flood with a probability of 1% likelihood of occurring in one year (100-year flood).
- FEMA accredits levee systems that have been certified to meet federal standards.

Progress...

- FEMA announces deaccreditation – August 2007
- Haine introduces legislation to impose tax and create Flood Prevention Districts – November 2007
- Illinois Flood Prevention District Act signed into law – May 2008

Progress...

- County FPDs are appointed – June 2008
- Tax approved by county boards - July-Sept 2008
- Tax collections start – January 2009
- Corps concludes project to be finished in 2044 – May 2009
- Intergovernmental Agreement signed June 2009
- First meeting of FPD Council – June 2009
- FPD staff hired – July 2009
- Authorize challenge of FIRMS – August 2009

Progress...

- Select financial advisor – September 2009
- Adopt project strategy – September 2009
- Begin levee inspection – December 2009
- Select consultants for design competition – December 2009
- Issue RFP for design competition – February 2010
- Select design consultants – June 2010
- Begin design process - 2010

Progress...

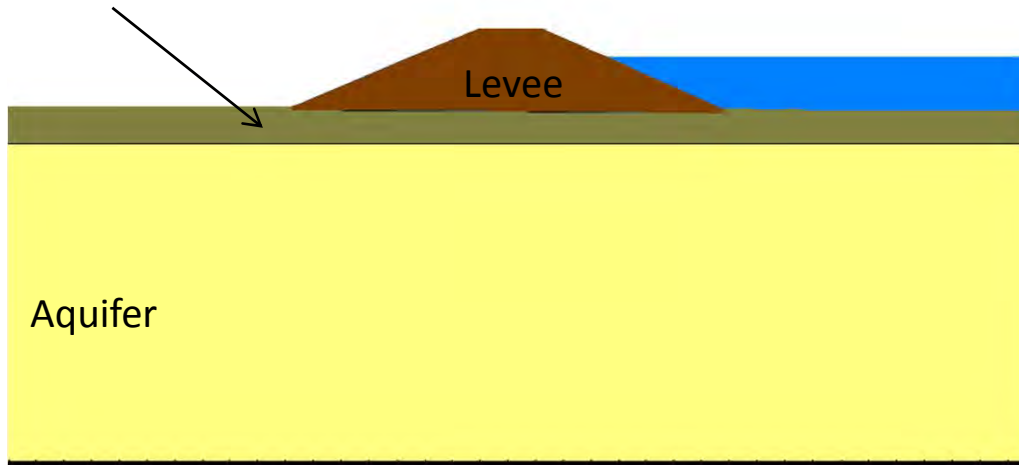
- File suit against FEMA – November 2010
- Issue \$94 million in bonds – November 2010
- Progress set of construction drawings – March 2011
- 30% design drawings – May 2011
- *Project implementation plan – June 2011*
- *60% design drawings – December 2011*
- *Construction begins – 1st Qtr. 2012 ?*

Our goal...

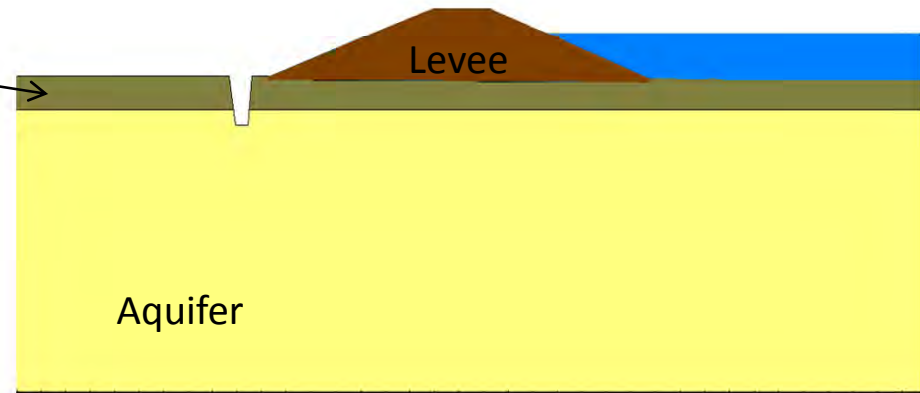
- Achieve certification of the levee systems in three counties at a cost of about \$150 million in five years (2015) or less
- Limit economic hardship during the time that flood protection is being improved

Design Progress

Semi-pervious Blanket



Semi-pervious Blanket



Scale: None
Drawn by: MG
Date: March 16, 2011
AMEC File No. 5-6317-0001

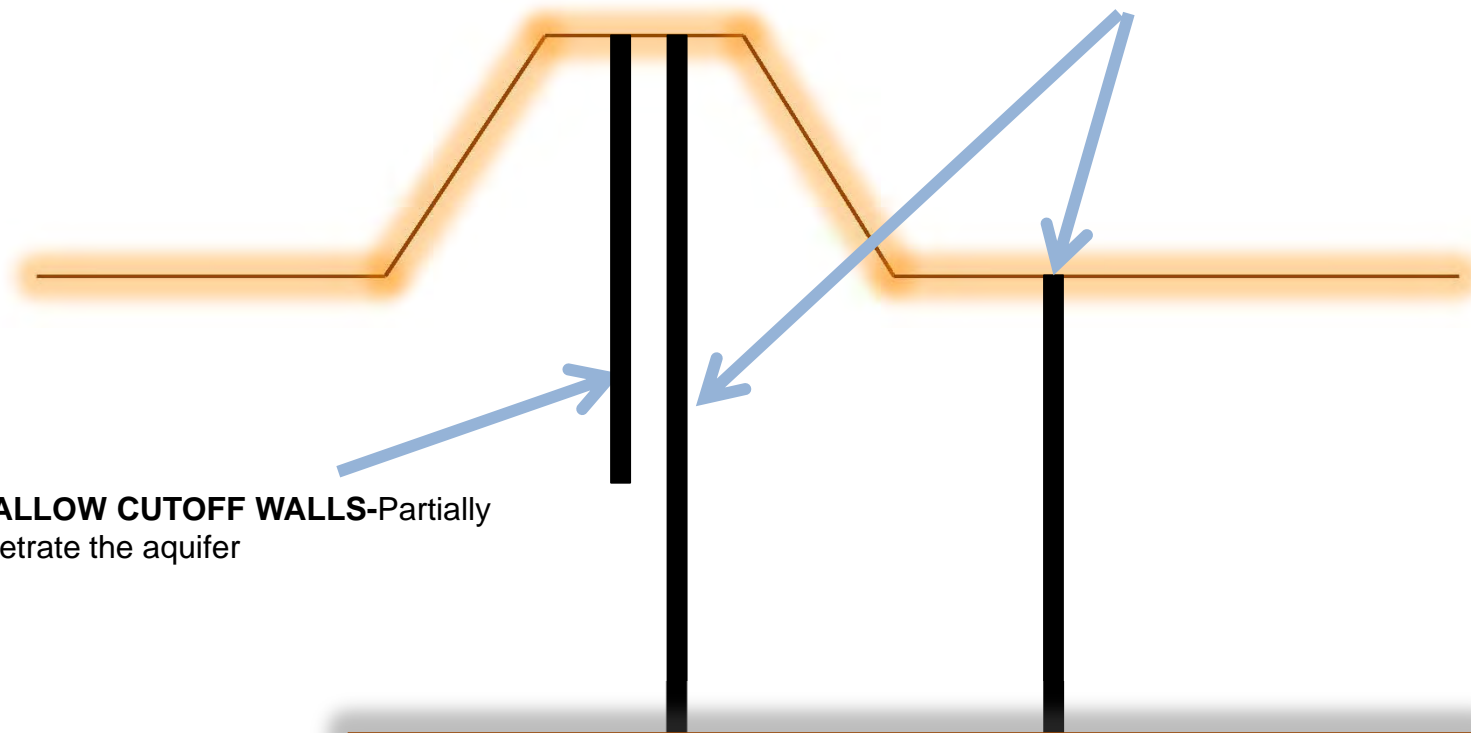
LEVEE ILLUSTRATION



CUTOFF WALLS- Narrow slots filled with slurry.

DEEP CUTOFF WALLS-
Penetrate through the aquifer to bedrock

SHALLOW CUTOFF WALLS-Partially penetrate the aquifer

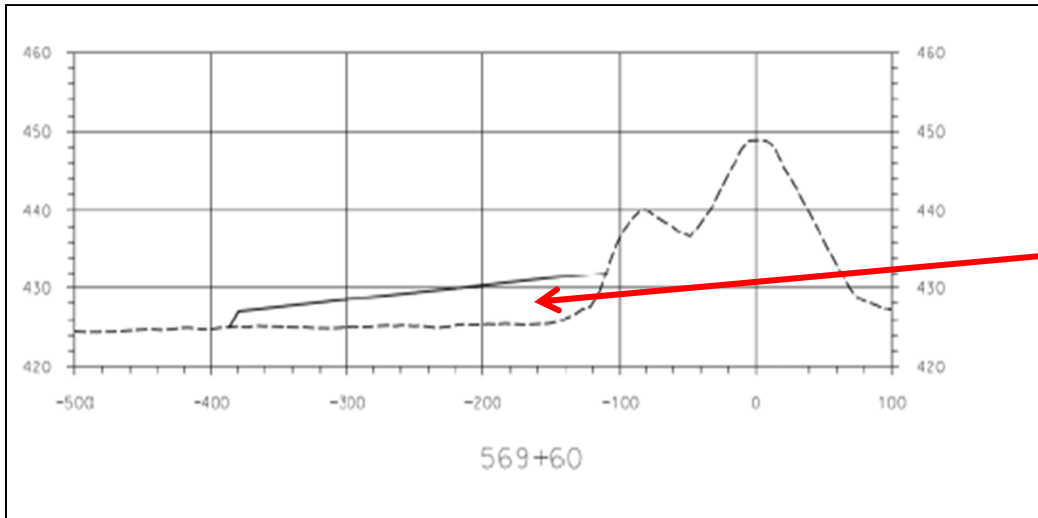


BEDROCK

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**WOOD RIVER
PLANS AND CROSS SECTIONS**



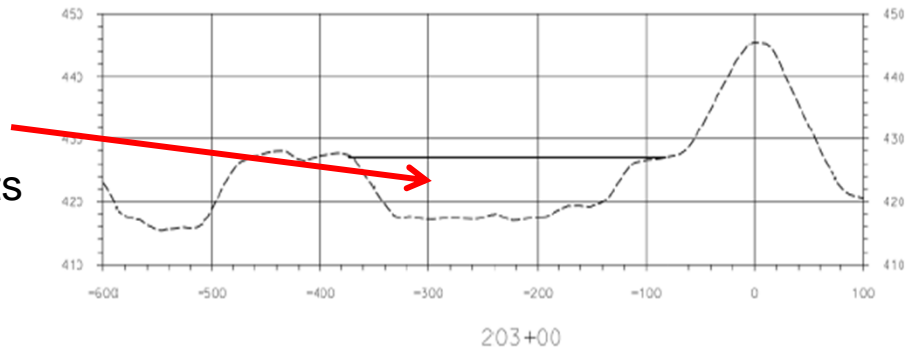


SEEPAGE BERM

Adds weight to landside surface.
 Abuts the levee.
 Slopes away from levee.

SOIL FILL IN LOW SPOTS

Raises land surface.
 Used to fill in ditches, borrow pits etc.
 May not abut the levee.



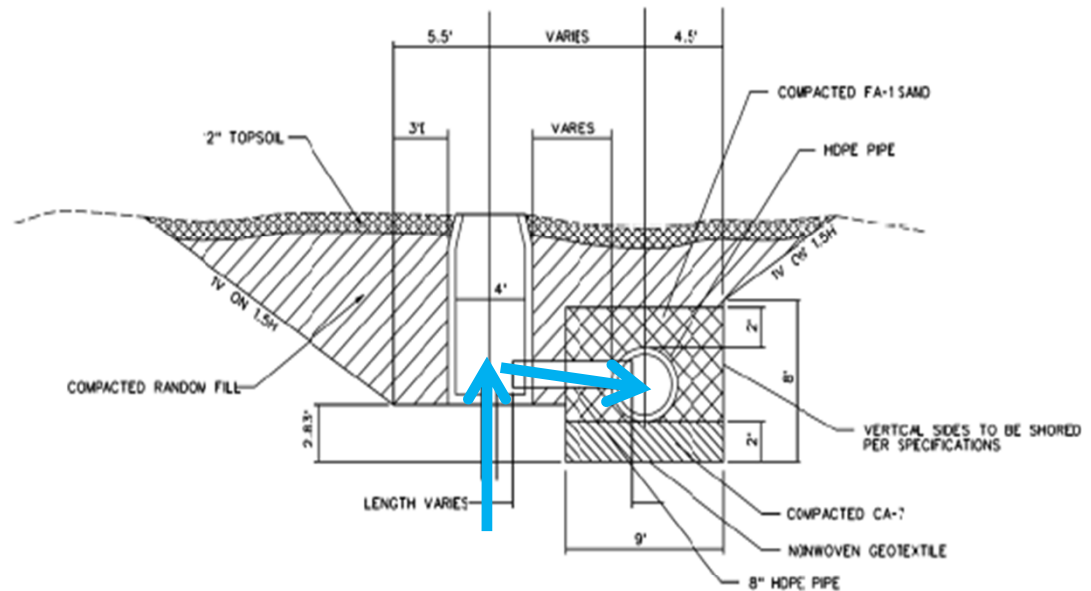
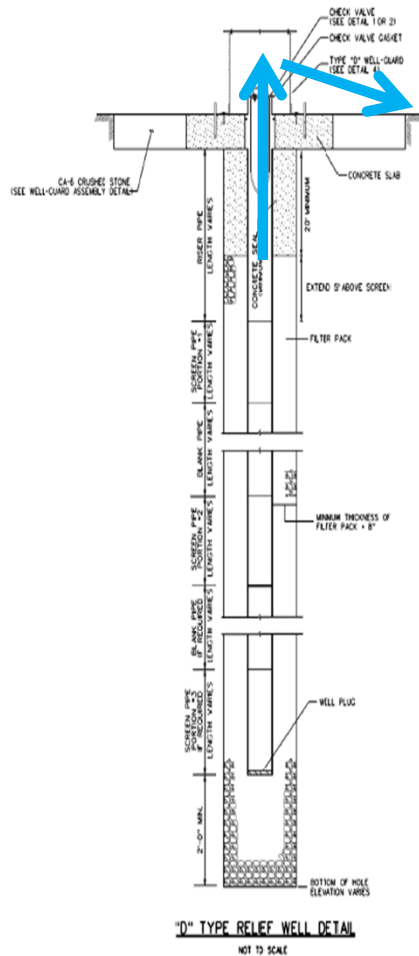
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**WOOD RIVER
 PLANS AND CROSS SECTIONS**



D-TYPE RELIEF WELLS

Water flows directly from the relief well.



LATERAL "T" CONNECTION TO MANIFOLD DETAIL

NOT TO SCALE

T-TYPE RELIEF WELLS

Water flows from the relief well to a collector pipe below ground.

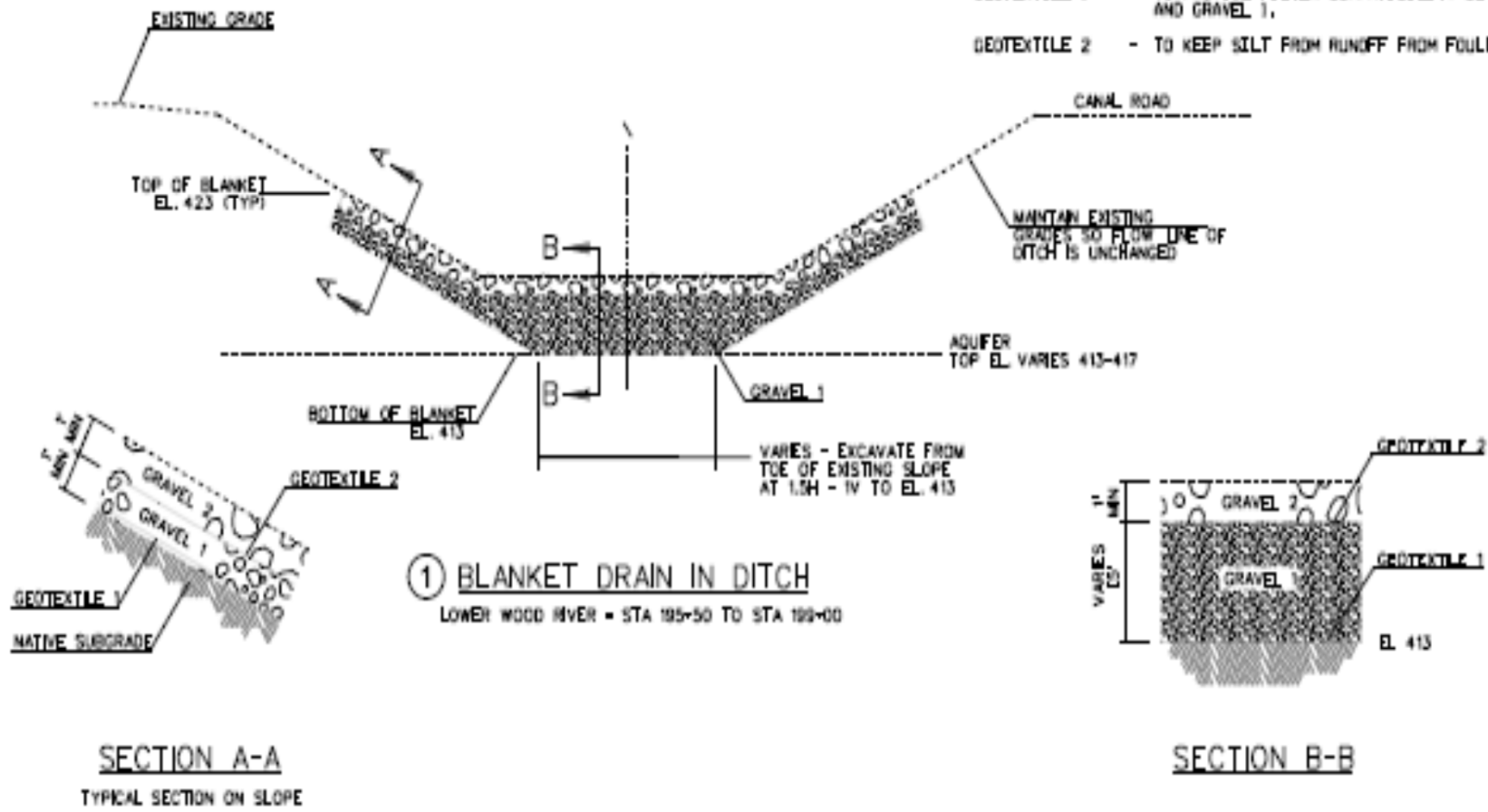
Collector connects several relief wells

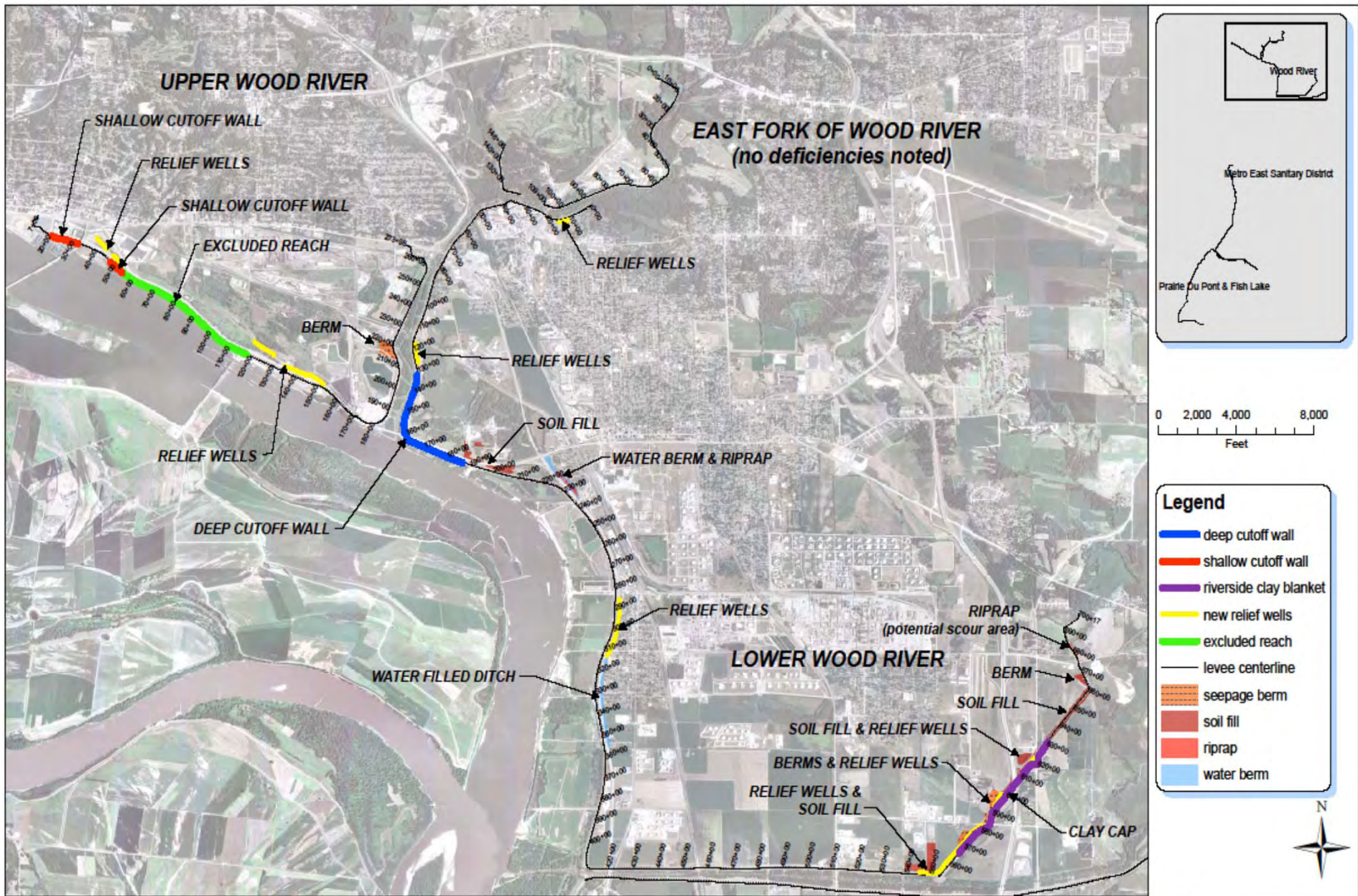
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**WOOD RIVER
 PLANS AND CROSS SECTIONS**

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- GRAVEL 1 - COARSE AGGREGATE D - NO. 4 TO BE SIZED FILTER COMPATIBLE WITH SAND
- GRAVEL 2 - COARSE AGGREGATE FOR EROSION CONTROL D - 2 IN.
- GEOTEXTILE 1 - TO PROVIDE FILTER COMPATIBILITY BETWEEN NATIVE MATERIAL AND GRAVEL 1.
- GEOTEXTILE 2 - TO KEEP SILT FROM RUNOFF FROM FOULING GRAVEL NO. 1



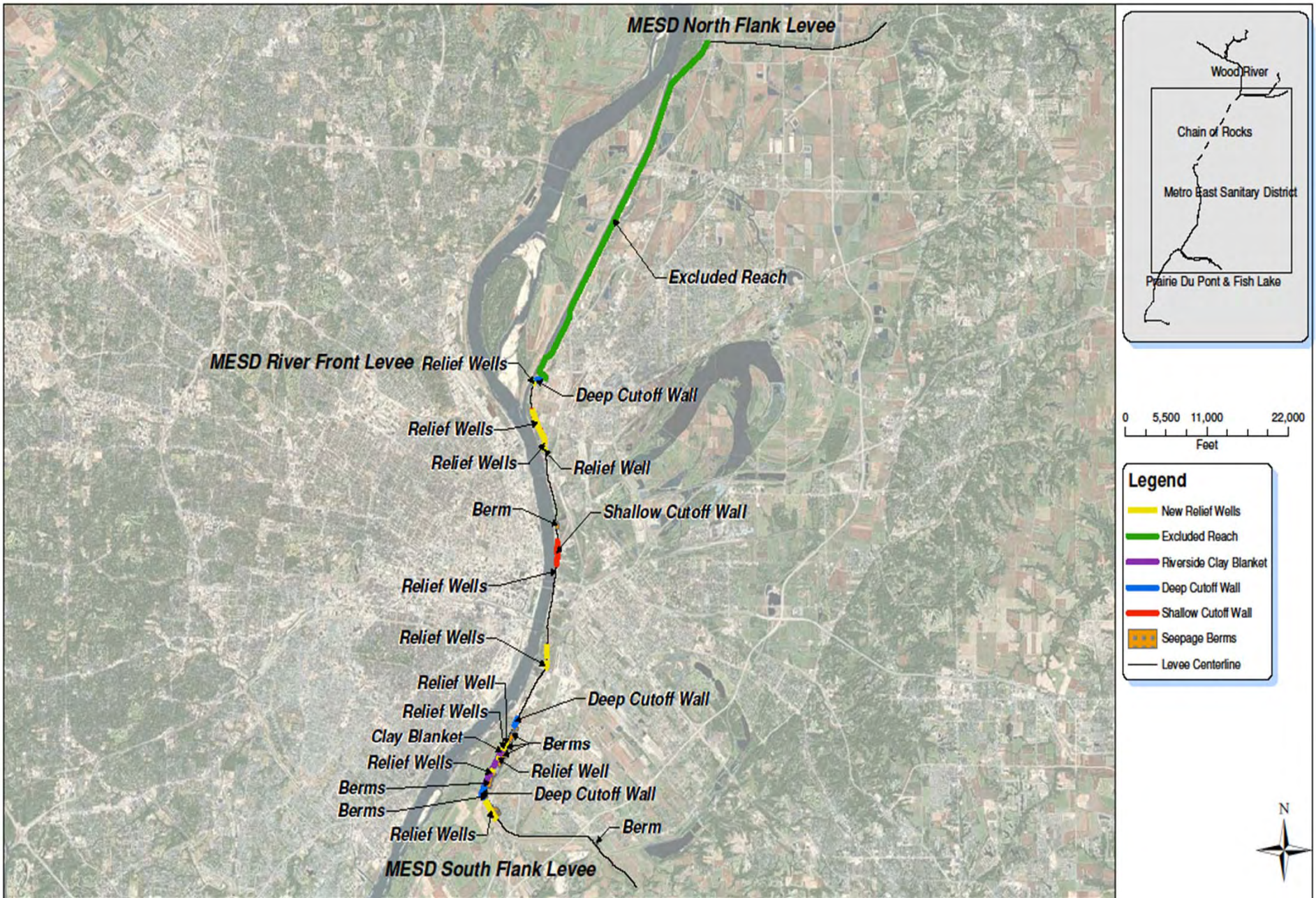


SOUTHWESTERN ILLINOIS FLOOD PREVENTION DISTRICT COUNCIL
SOUTHWESTERN ILLINOIS FLOOD PREVENTION INITIATIVE

FEMA CERTIFICATION - PROGRESS SOLUTIONS
WOOD RIVER DRAINAGE & LEVEE DISTRICT

DRAWN BY: MDP
MARCH 17, 2011
WR-1

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3800 EZELL RD, SUITE 100
NASHVILLE, TN 37211



SOUTHWESTERN ILLINOIS FLOOD PREVENTION DISTRICT COUNCIL

SOUTHWESTERN ILLINOIS FLOOD PREVENTION INITIATIVE

FEMA CERTIFICATION - PROGRESS SOLUTIONS

METRO EAST SANITARY DISTRICT DRAINAGE & LEVEE DISTRICT

DRAWN BY: DJC

MARCH 10, 2011

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MESD River Front Levee Relief Wells

Deep Cutoff Wall

Relief Wells

Relief Wells

Relief Well

Berm

Shallow Cutoff Wall

Relief Wells

Relief Wells

Relief Well

Deep Cutoff Wall

Relief Wells

Berms

Clay Blanket

Relief Wells

Relief Well

Berms

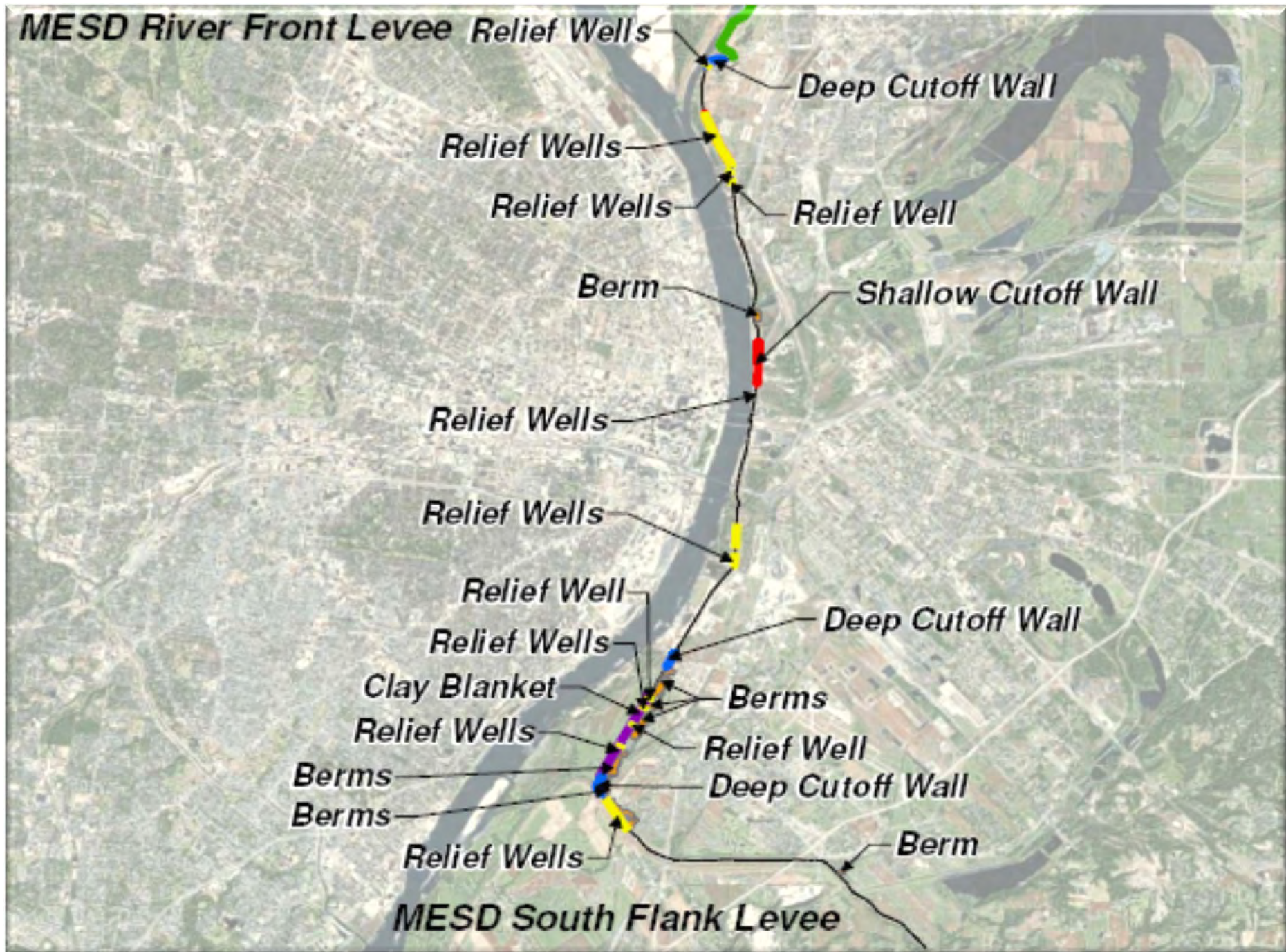
Deep Cutoff Wall

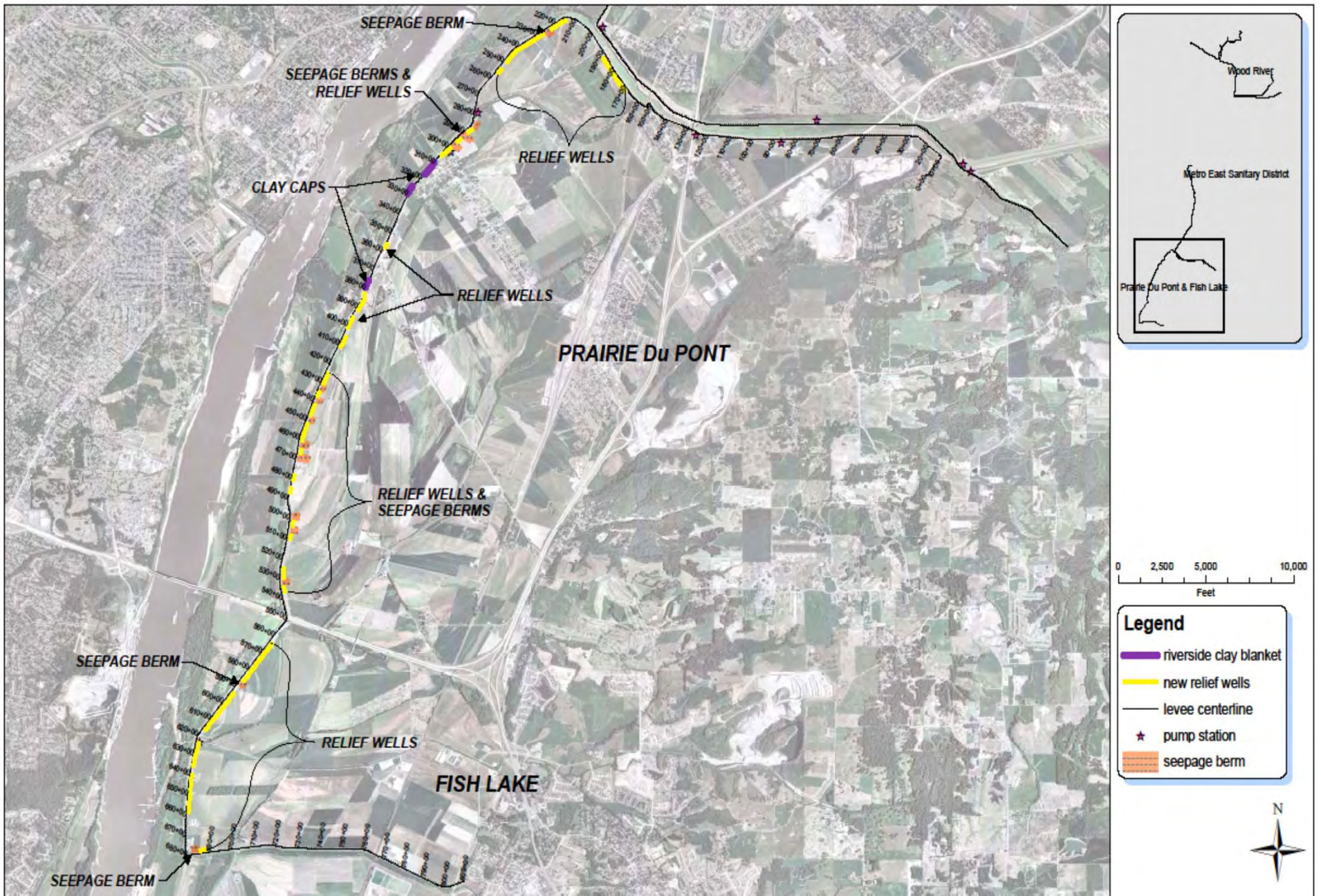
Berms

Relief Wells

Berm

MESD South Flank Levee





SOUTHWESTERN ILLINOIS FLOOD PREVENTION DISTRICT COUNCIL
SOUTHWESTERN ILLINOIS FLOOD PREVENTION INITIATIVE

FEMA CERTIFICATION - PROGRESS SOLUTIONS
PRAIRIE Du PONT & FISH LAKE DRAINAGE AND LEVEE DISTRICTS

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 MARCH 10, 2011
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 NASHVILLE, TN 37211

Uncertainties

- Permitting
- Certification of levees owned or improved by the Corps
- Weather
- Financial markets
- Costs

Need more information?

www.floodpreventiondistrict.org

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Questions/
Comments/
Suggestions?