

# PRAIRIE DU PONT LEVEE REHABILITATION INITIATIVE

*A  
PRO-ACTIVE  
APPROACH BY  
THE PRAIRIE  
DU PONT LEVEE  
DISTRICT*



# PRAIRIE DU PONT LEVEE REHABILITATION INITIATIVE

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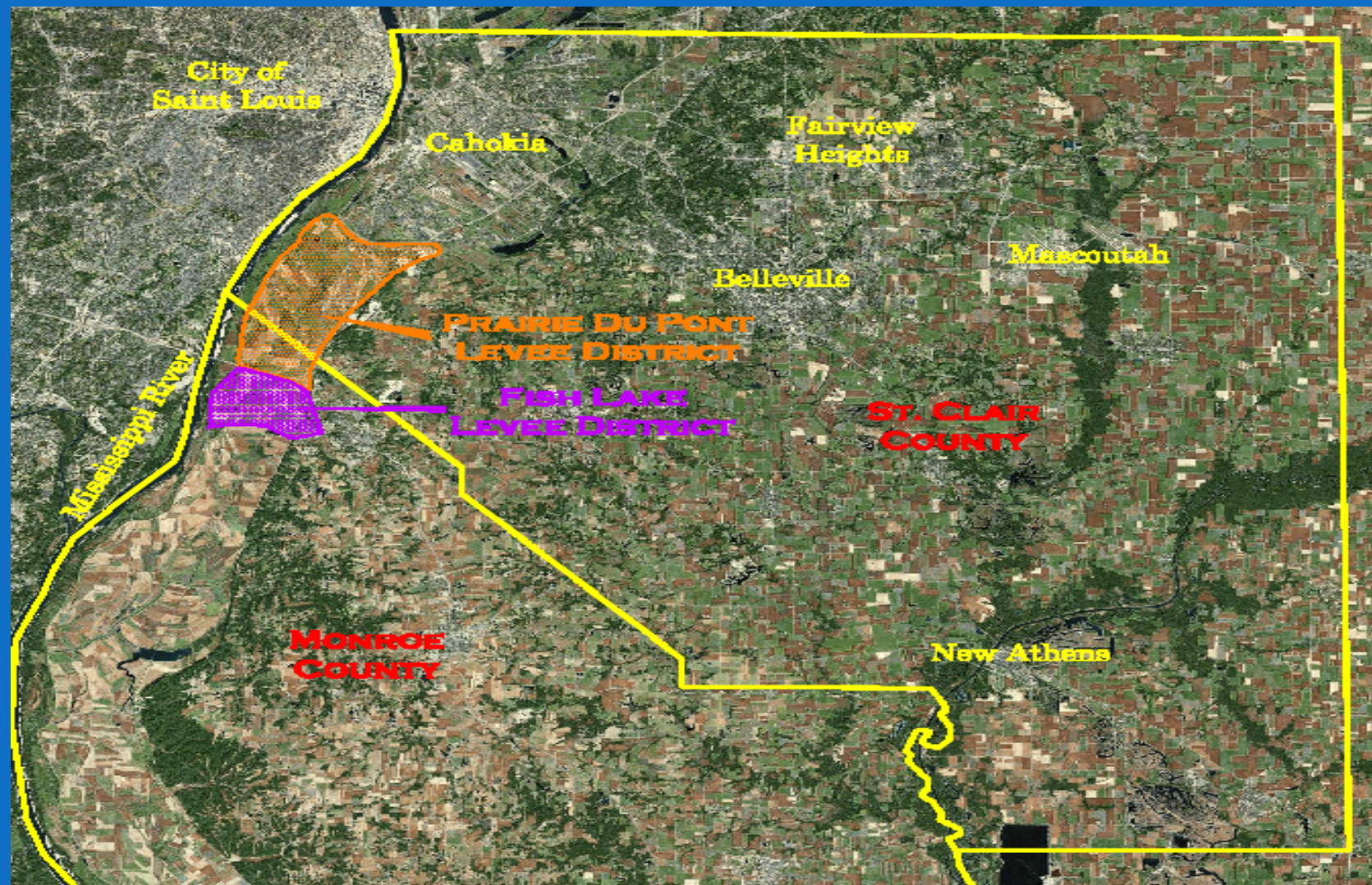
# LOCATION MAP

**PRAIRIE DU  
PONT LEVEE  
DISTRICT IS  
LOCATED IN ST.  
CLAIR AND  
MONROE  
COUNTIES IN  
ILLINOIS**



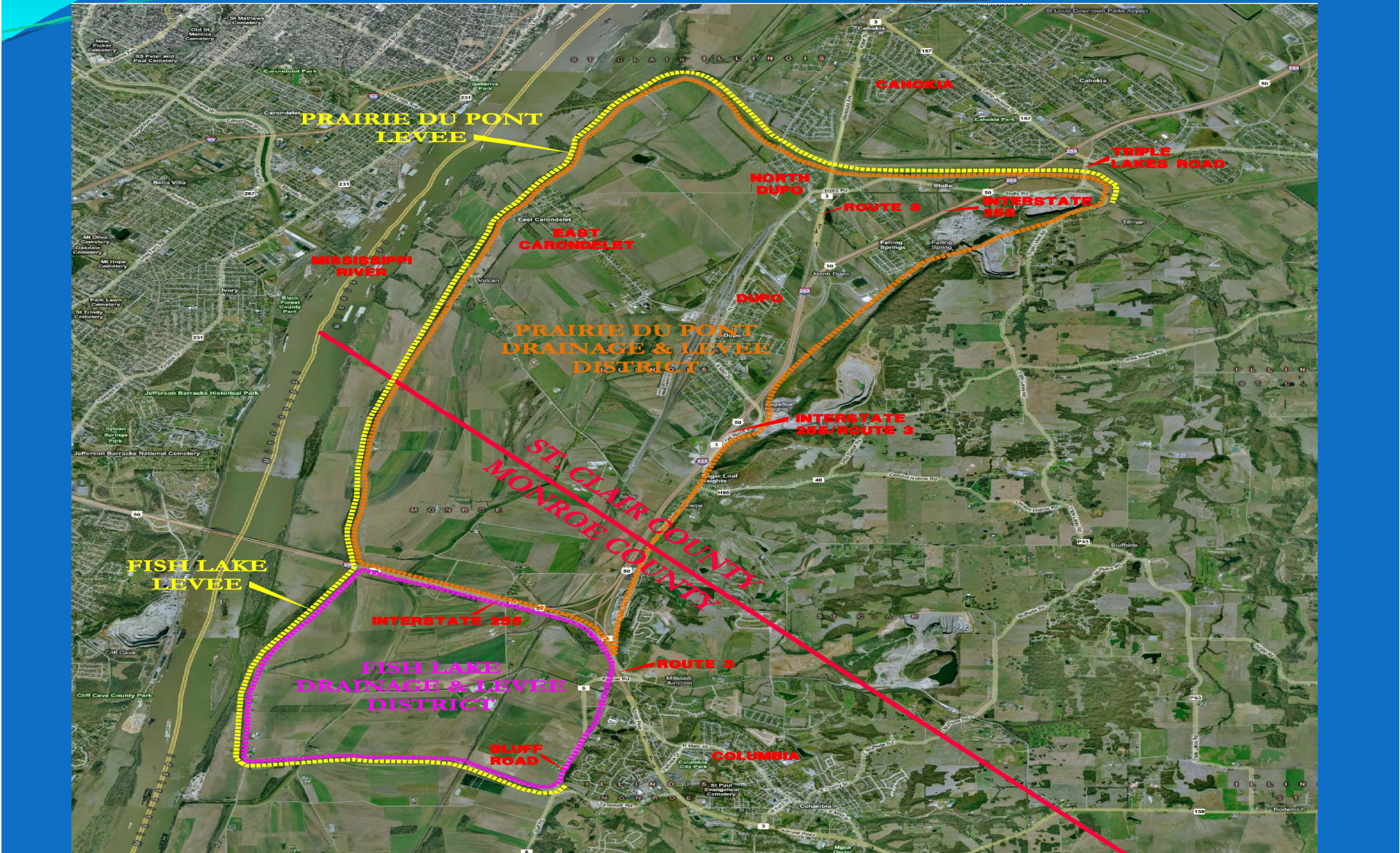


# LEVEE DISTRICT LOCATION





# DISTRICT OVERVIEW





# LEVEE BASICS

## REACHES

**15.3 TOTAL MILES OF LEVEE**

**9 MILES OF RIVERFRONT LEVEE**

**2000 to 3200 FT. FROM RIVER**

**6.3 MILES OF FLANK LEVEE**

**4.1 MILES NORTH (PRAIRIE DU PONT CANAL)**

**2.2 MILES SOUTH (COLUMBIA CREEK)**



# LEVEE BASICS

## TYPICAL RIVERFRONT SECTIONS

### PRAIRIE DU PONT DISTRICT

10.4 MILES

18 FT HEIGHT

20 TOP WIDTH

40 RIVER SIDE BERM

3:1 SIDE SLOPES

### FISH LAKE DISTRICT

4.9 MILES

27 FT HEIGHT

20 TOP WIDTH

40 FT RIVER SIDE BERM; 50 FT LANDSIDE BERM

3:1 SIDESLOPES

# PROTECTION PROVIDED BY LEVEE

- INTERSTATE 255
- VILLAGE OF DUPO (POP 4000)
- VILLAGE OF EAST CARONDELET (POP 300)
- 10,000 ACRES OF PRIME FARMLAND
- CRITICAL RAILROAD CORRIDOR
- MASSIVE STORAGE WAREHOUSE AND SHIPPING RELATED BUSINESSES

*CENSUS SHOWS 10% GROWTH FROM 1990 To 2000*



# LEVEE HISTORY

- PRIOR TO 1936 LOCAL CONTROL & EXPERIENCE DICTATED LEVEE PROTECTION HEIGHT
- FLOOD CONTROL ACT OF 1936 = 45.5 ST. LOUIS GAGE; FLOODS OF '43 & '44 CAUSED REVISIONS
- 1944 TO 1954 LEVEE RAISED TO 47 GAGE
- FISH LAKE LEVEE BUILT IN 1956 & 1957
- 1958 TO 1959 LEVEE RAISED TO ~52 GAGE

# PRAIRIE DU PONT LEVEE REHABILITATION INITIATIVE

- LEVEE DEFICIENCIES
- FIXING THE LEVEES
- BENEFITS OF WORK





# LEVEE DEFICIENCIES

HOW DID WE GET HERE?

RESULTING IMPACTS

IMPACT MITIGATION

ULTIMATE GOAL



# LEVEE DEFICIENCIES

## HOW DID WE GET HERE ?

Congressionally mandated  
FEMA MAP MODs Program

FEMA requested COE  
involvement

COE noted UNDER SEEPAGE problems



*NOTE: 25% of current maps have levees !*

# LEVEE DEFICIENCIES

## RESULTING IMPACTS

De-accreditation & Floodplain Mapping

Flood Insurance Rates

Development Criteria





# LEVEE DEFICIENCIES

## IMPACT MITIGATION

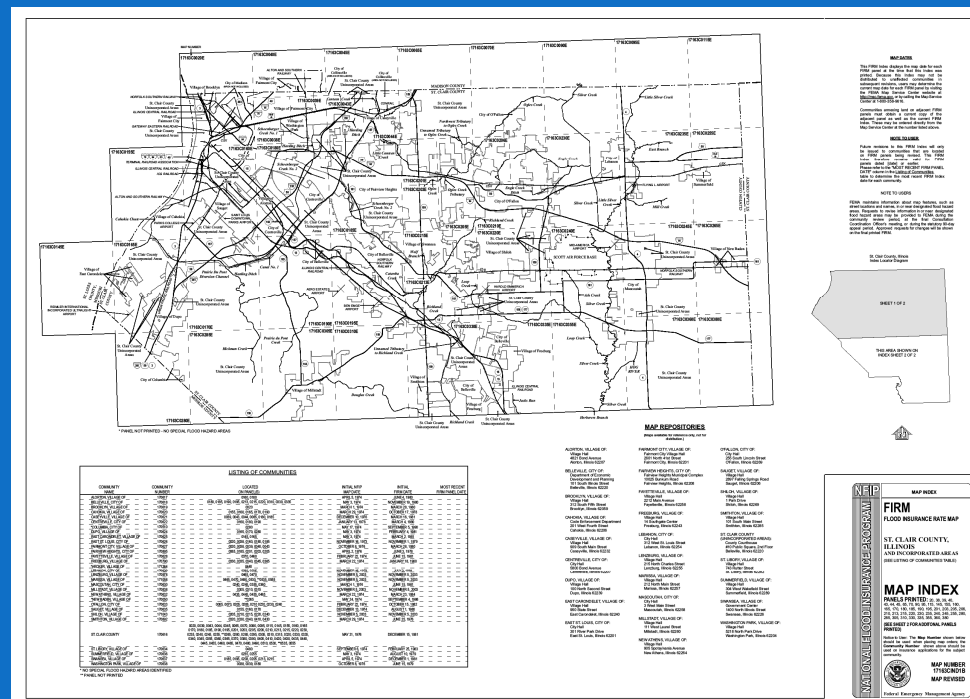
The AR Zone Designation

Provisionally Accredited  
Levees

Legislation



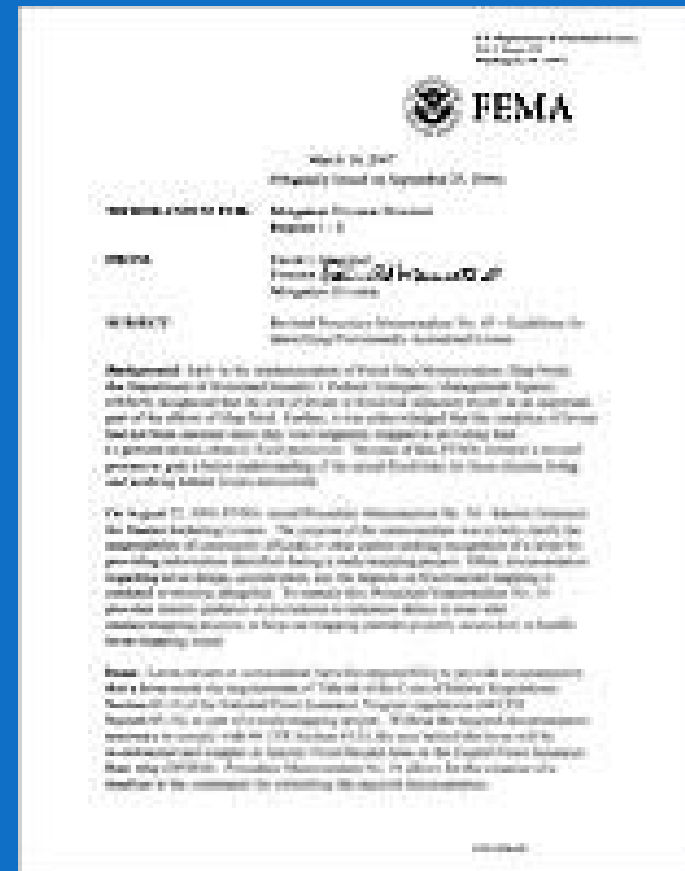
# The AR Zone Designation



# LEVEE DEFICIENCIES

## IMPACT MITIGATION

# Provisionally Accredited Levees





# LEVEE DEFICIENCIES

## IMPACT MITIGATION

### Legislation

Public Law **110-329** , the Consolidated Security, Disaster Assistance and Continuing Appropriations Act of 2009

“delay the flood risk mapping process for the Metro East Illinois counties...”

# LEVEE DEFICIENCIES

## ULTIMATE GOAL

### FEMA Accreditation and Mapping Process

Protection

Insurance

Development

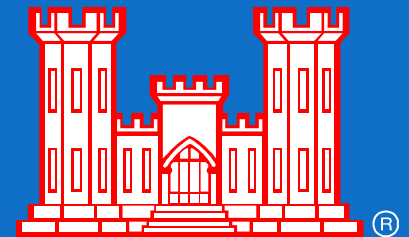


# LEVEE DEFICIENCIES

MAJOR PROBLEM:

COE STATES IT WILL REQUIRE

**10 YEARS TO REPAIR AND  
CERTIFY**







# **FIXING THE LEVEES CHALLENGES FOR THE DISTRICT**

**ENGINEERING**

**DISTRICT**

**FINANCIAL**

**POLITICAL**





# FIXING THE LEVEES - CHALLENGES FOR THE DISTRICT

# ENGINEERING

01/19/2009

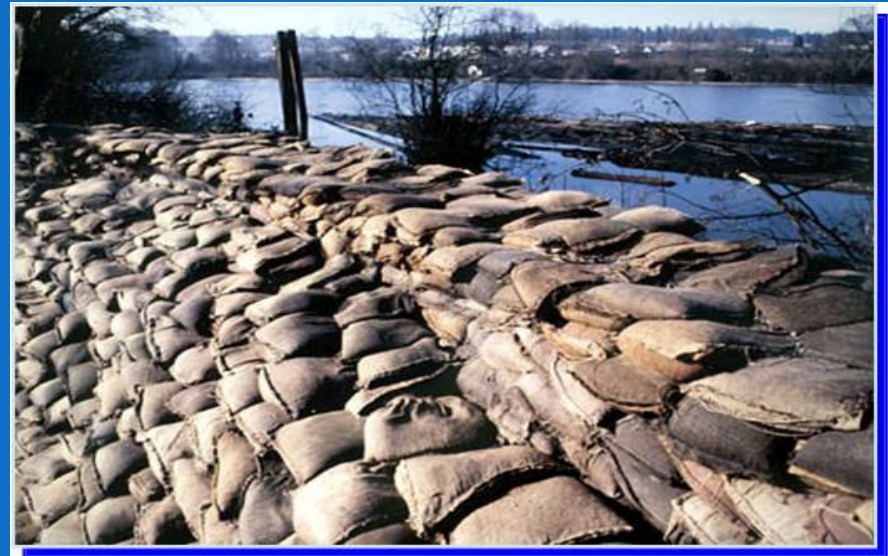


# FIXING THE LEVEES ENGINEERING

## FEMA ACCREDITATION REQUIREMENTS i.e. 100-YEAR PROTECTION

FEMA 44CFR65.10 = “ Identification and Mapping of  
Special Hazard Areas”

End Result is  
FEMA 44CFR65.2  
“CERTIFICATION”





# FIXING THE LEVEE ENGINEERING

## CERTIFICATION ALTERNATIVES

**Private Sector - 44CFR65.10**

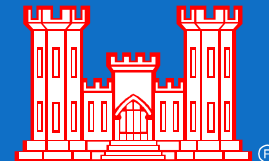
Registered Engineering Items b) 1) – 7)

Levee District Items c) & d)



**Corps of Engineers**

Item e) ...”In Lieu of.”



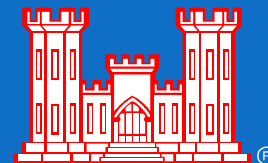
# FIXING THE LEVEE ENGINEERING

## CERTIFICATION ALTERNATIVE “DILEMMA”

Private Sector  
COMPLETION 2012



Corps of Engineers  
ORIGINAL COMPLETION 2018  
REVISED COMPLETION 2014



# FIXING THE LEVEE ENGINEERING

## FUNDED BY DISTRICT

- Base Mapping for Design
- Freeboard Analysis
- Subsurface Exploration and Lab Work
- Internal Drainage
- Comprehensive Inspections
- Phase I Environmental Studies

## FUNDED BY COE

- Under seepage Analysis
- Limited Reevaluation Report

MISSISSIPPI RIVER

SHEET 12 SHEET 11 SHEET 10 SHEET 9 SHEET 8 SHEET 7 SHEET 6

SHEET 13 SHEET 14

PRAIRIE DU PONT LEVEE INITIATIVE

MONROE COUNTY ST. CLAIR COUNTY

FISH LAKE LEVEE DISTRICT

COLUMBIA

ROUTE 1

ROUTE 2

ROUTE 3

ROUTE 4

ROUTE 5

ROUTE 6

ROUTE 7

ROUTE 8

ROUTE 9

ROUTE 10

ROUTE 11

ROUTE 12

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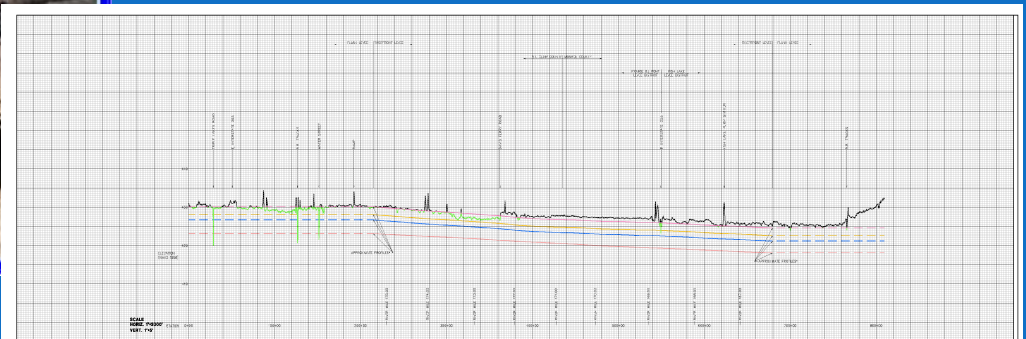
ROUTE 353

ROUTE 354

ROUTE 355</



# FREEBOARD ANALYSIS

[illegible]

DISTINGUISH TOP OF LEVEE \_\_\_\_\_  
 100-YR FLOOD PROFILES \_\_\_\_\_  
 500-YR FLOOD PROFILES \_\_\_\_\_  
 1000-YR FLOOD PROFILES \_\_\_\_\_  
 100-YR FLOOD PROFILES \_\_\_\_\_  
 500-YR FLOOD PROFILES \_\_\_\_\_  
 1000-YR FLOOD PROFILES \_\_\_\_\_

\*FLOOD PROFILES IN FLANK LEVEE AREAS BASED ON CURRENTLY EFFECTIVE FEMA PROFILE SLOPE. FINAL FLOOD PROFILES FOR FLANK LEVEE AREAS WILL BE BASED ON RESULTS OF ONGOING HYDROLOGIC AND HYDRAULIC ANALYSES.

PRAIRIE DU PONT AND FISH LAKE LEVEES  
TOP OF LEVEE & FLOOD PROFILES COMPARISON



# SUBSURFACE EXPLORATION AND LAB WORK





# INTERNAL DRAINAGE



# INSPECTIONS





# PHASE I ENVIRONMENTAL





# FIXING THE LEVEE ENGINEERING

## HOELSCHER SCHEDULE 100-YEAR CERTIFICATION

### TASK

Preliminary Design  
Design/Bids Documents  
Construction  
Certification Package

### COMPLETION

7/1/09  
12/31/09  
12/31/11  
12/31/12\*\*

**\*\* MAPS WILL BE FINALIZED IN EARLY 2012**





# FIXING THE LEVEES – CHALLENGES FOR THE DISTRICT

## FINANCIAL

01/12/2009



# FIXING THE LEVEE

## FINANCIAL PRELIMINARY WORK

### PRELIMINARY DESIGN WORK

ST. CLAIR COUNTY  
\$1.25 MILLION

PRAIRIE DU PONT LEVEE  
DISTRICT  
\$750,000

### COE REQUISITE FEASIBILITY STUDIES

\$800,000 FOR LRR

\$450,000 FEDERAL  
\$350,000 LOCAL

\$125,000

ST. CLAIR  
CO FPD

\$225,000

MONROE  
CO FPD



# **FIXING THE LEVEE**

## **FINANCIAL**

### **FINAL DESIGN & CONSTRUCTION**

**TOTAL COST OF REPAIRS – TBD**

#### **SOURCES OF FUNDING**

**WRDA FUNDING .....MAYBE!**

**65% Federal**

**35% Non-Federal**

**STIMULUS MONIES.....WHO KNOWS?**

**NEW COUNTY SALES TAX**

**DISTRICT BUDGET**

**FIXING THE LEVEES-  
CHALLENGES FOR THE  
DISTRICT**

**POLITICAL**



# FIXING THE LEVEE POLITICAL

COE

FEMA

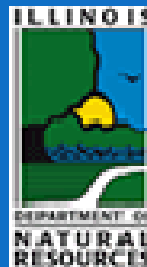
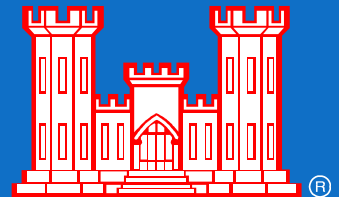
US Congressional and Senate Delegates  
County Officials

East- West Gateway Council of Governments

St. Clair Co. FPD

Monroe County FPD

Missouri Communities

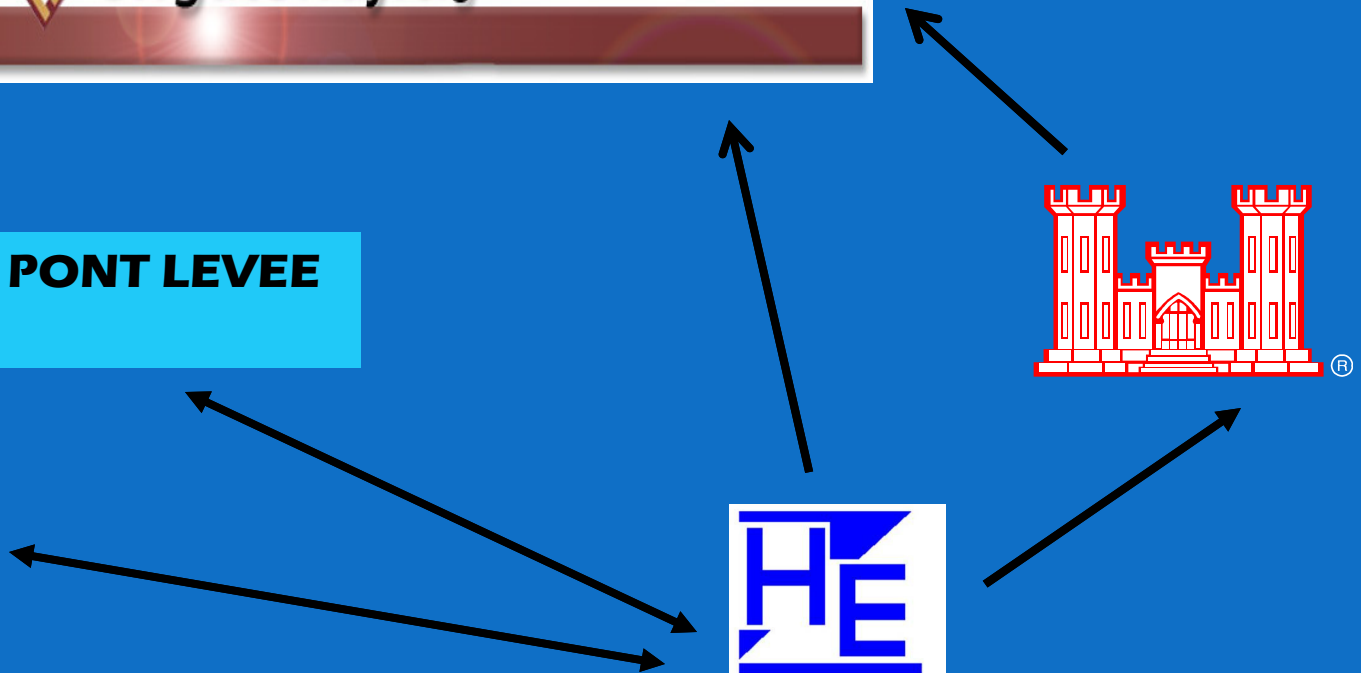
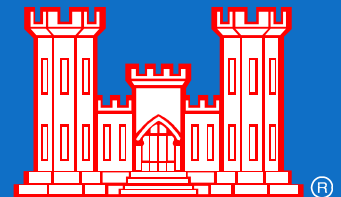
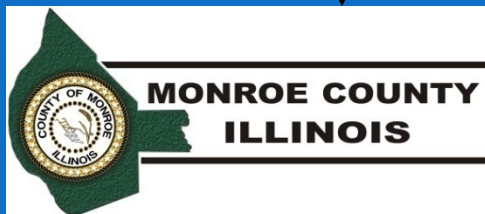




# FIXING THE LEVEE POLITICAL



**PRAIRIE DU PONT LEVEE  
DISTRICT**





# **BENEFITS OF THE WORK**

**Protection for Existing Residents &  
Infrastructure**

**Future Development**

**Insurance Advantages**

**Accurate Floodplain Mapping**

# PRAIRIE DU PONT LEVEE REHABILITATION INITIATIVE

## QUESTIONS

