

Des Plaines River Flooding and the Levee 50 Flood Control Project

Mayor Anthony W. Arredia



Overview



The Overland Flooding Problem



Army Corps of Engineers Studies

- Upper Des Plaines River - Phase I
- Upper Des Plaines River - Phase II



Levee 50

- Three Project Parts
- Miner Street Construction Impacts





The Overland Flooding Problem

- Major flooding along Des Plaines River 15 times in the past 60 years.
- 1986-7 floods:
\$100 million in damage to over 10,000 structures
- Average annual flood damage:
~\$25 million (along DP River in Lake/Cook Counties)
- As more of watershed becomes developed, potential for flooding increases



1986 Flooding



Looking North Toward Busse Hwy/Miner Street Businesses



Looking west at 1723 Busse Highway (Former River Chevy Dealership)

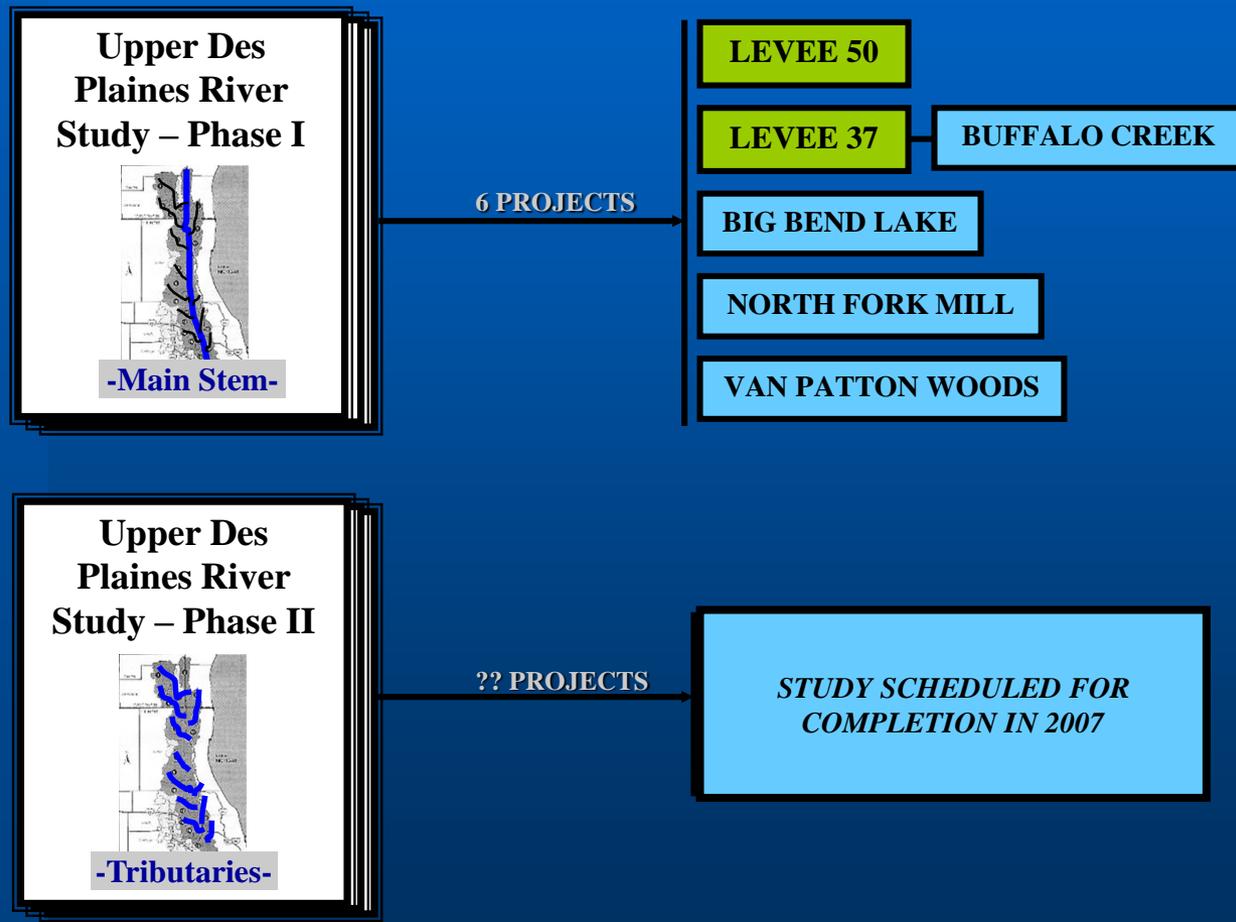
1986 Flooding



Looking Northeast Toward I-294/Dempster Interchange



Army Corps of Engineers Studies





Army Corps Phase I Study (Main Stem)



Phase I Study

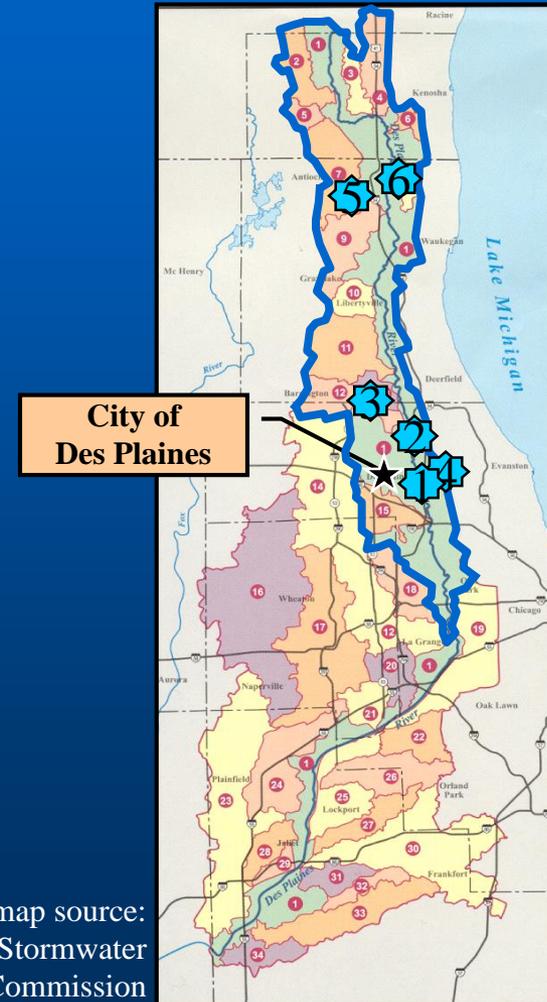
- **Initiated in wake of 1986 flooding, completed in 1999**
- **Conducted by Army Corps of Engineers**
- **Focus on main stem of Des Plaines River**
- **Currently six projects, ~ \$50 million**
- **Estimated 25 percent reduction in flood damage**





Phase I Study Projects

1. **Levee 50**
2. **Levee 37**
3. **Buffalo Creek**
4. **Big Bend Lake**
5. **North Fork Mill**
6. **Van Patton Woods**





Phase I Estimated Schedule

Project	Construction Start	Construction Completion
Levee 50	Sep 2002	Jun 2008
Levee 37	Nov 2006	Apr 2009
Buffalo Creek	Oct 2007	Sept 2009
Big Bend Lake	May 2008	Apr 2010
North Fork Mill	May 2009	Apr 2010
Van Patton Woods	May 2010	Apr 2011



Army Corps Phase II Study (Tributaries)



Phase II Study

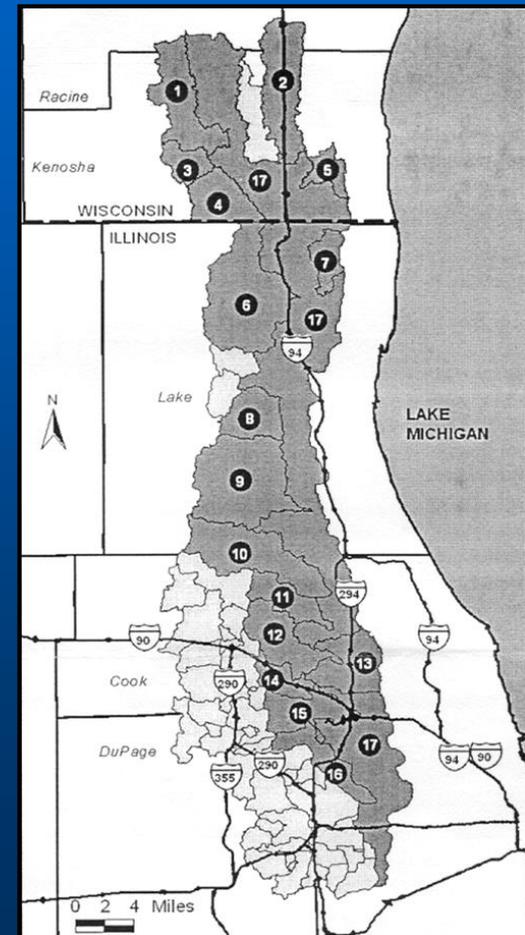
- 4-5 year, \$10.8 million study
- Builds upon Phase I program with focus on tributaries
- Ecosystem restoration and recreation emphasis
- Estimated completion 2007





Phase II Study Sub-Watersheds

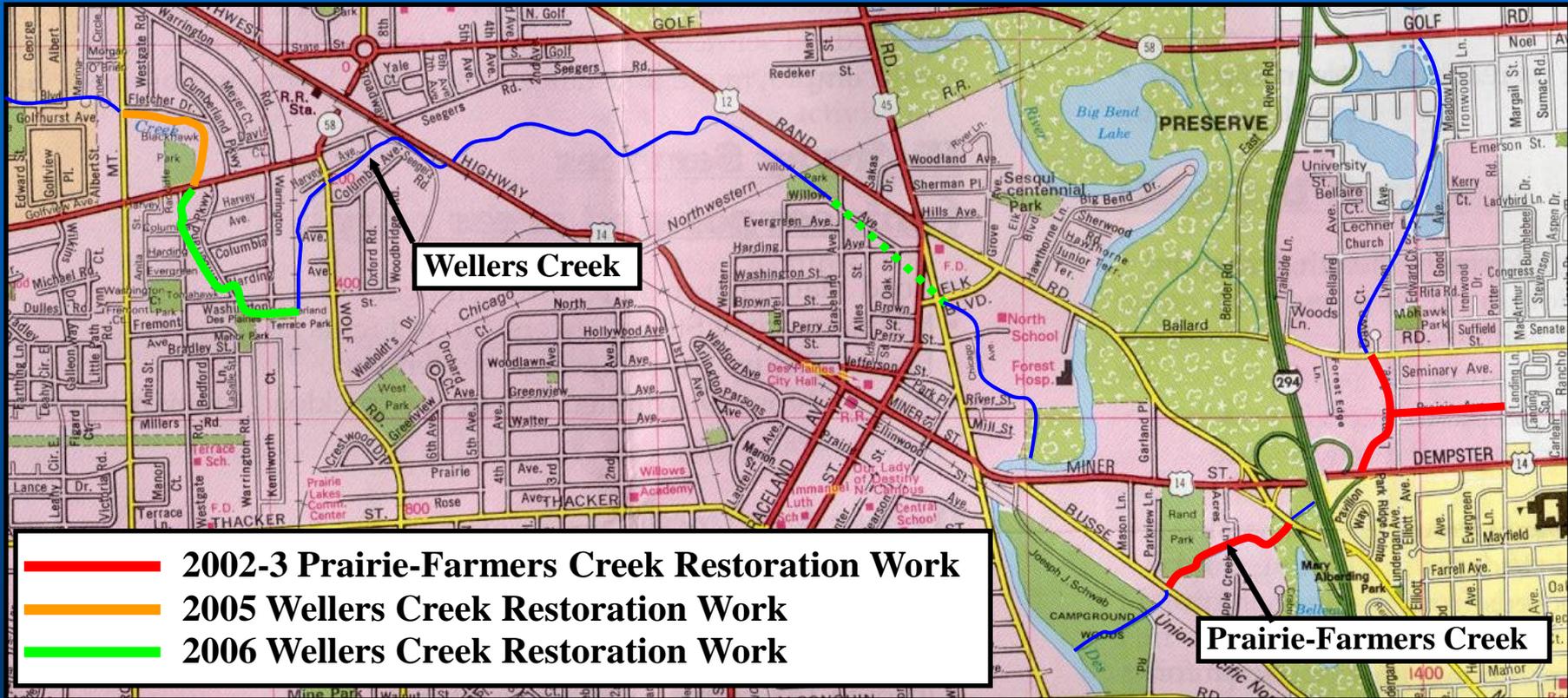
- | | |
|---------------------------|---------------------------|
| 1. Brighton Creek | 10. Buffalo Creek |
| 2. Kilbourn Ditch | 11. McDonald Creek |
| 3. Salem Branch | 12. Weller Creek |
| 4. Dutch Branch Canal | 13. Farmers/Prairie Creek |
| 5. Jerome Creek | 14. Higgins Creek |
| 6. Mill Creek | 15. Willow Creek |
| 7. Newport Drainage Ditch | 16. Silver Creek |
| 8. Bull Creek | 17. Mainstem Des Plaines |
| 9. Indian Creek | |



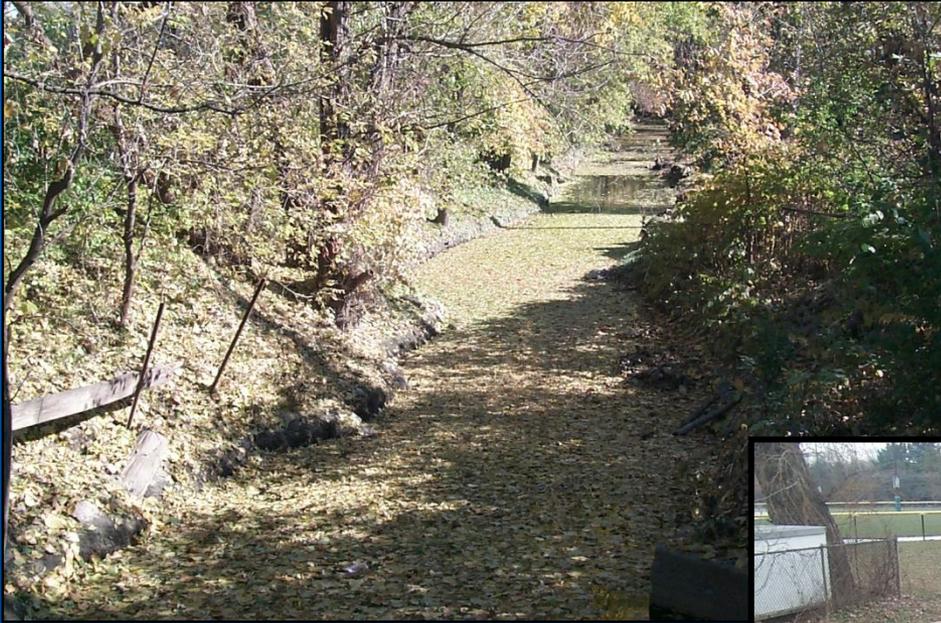


Some Tributary Projects Already Completed

Streambank Restoration



Prairie-Farmers Creek Streambank Restoration



Looking East from Busse Hwy



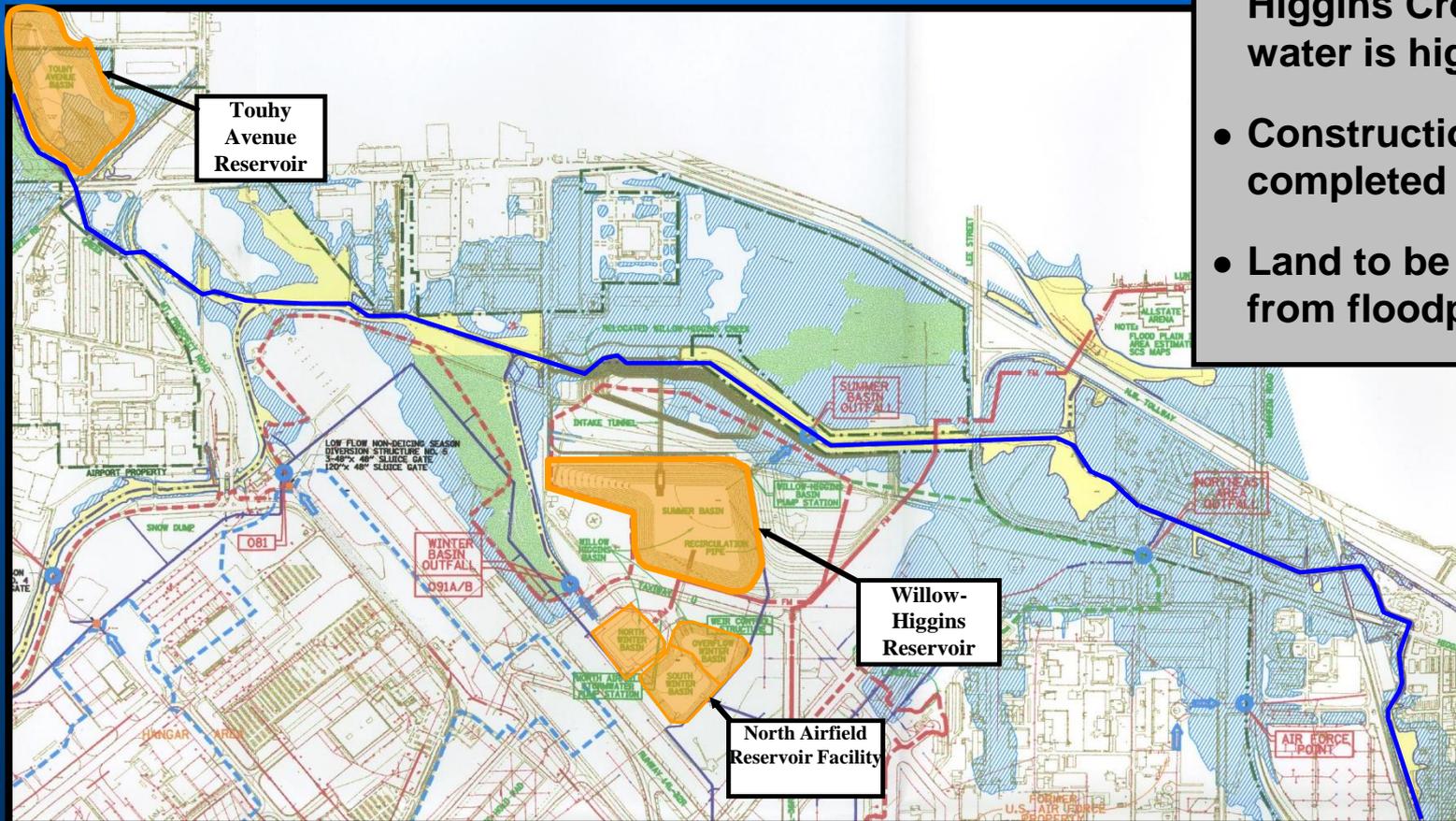
Wellers Creek Streambank Restoration



Looking North from Golf Road



O'Hare Airport Drainage Projects



- Reservoirs divert water from Willow-Higgins Creek when water is high
- Construction completed 2004/2005
- Land to be removed from floodplain



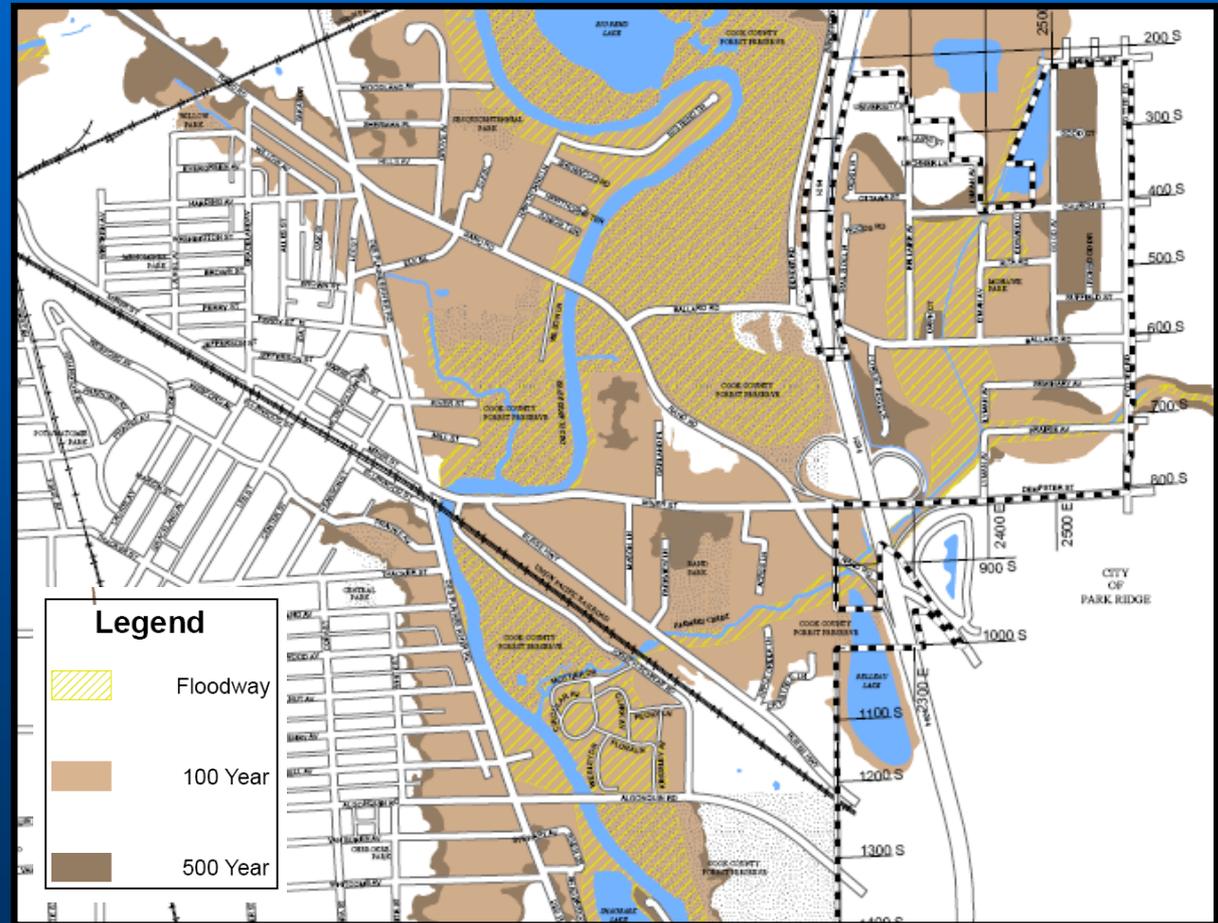
Levee 50 Project

100-Year Floodplain Defined



FEMA Flood Insurance Rate Map (FIRM)

- 100-Yr Storm versus 100-Yr Flood
- The area of land that would be inundated by a flood having a 1% chance of occurring in any given year
- Official delineation is performed by FEMA through their Flood Insurance Rate Maps (FIRM)



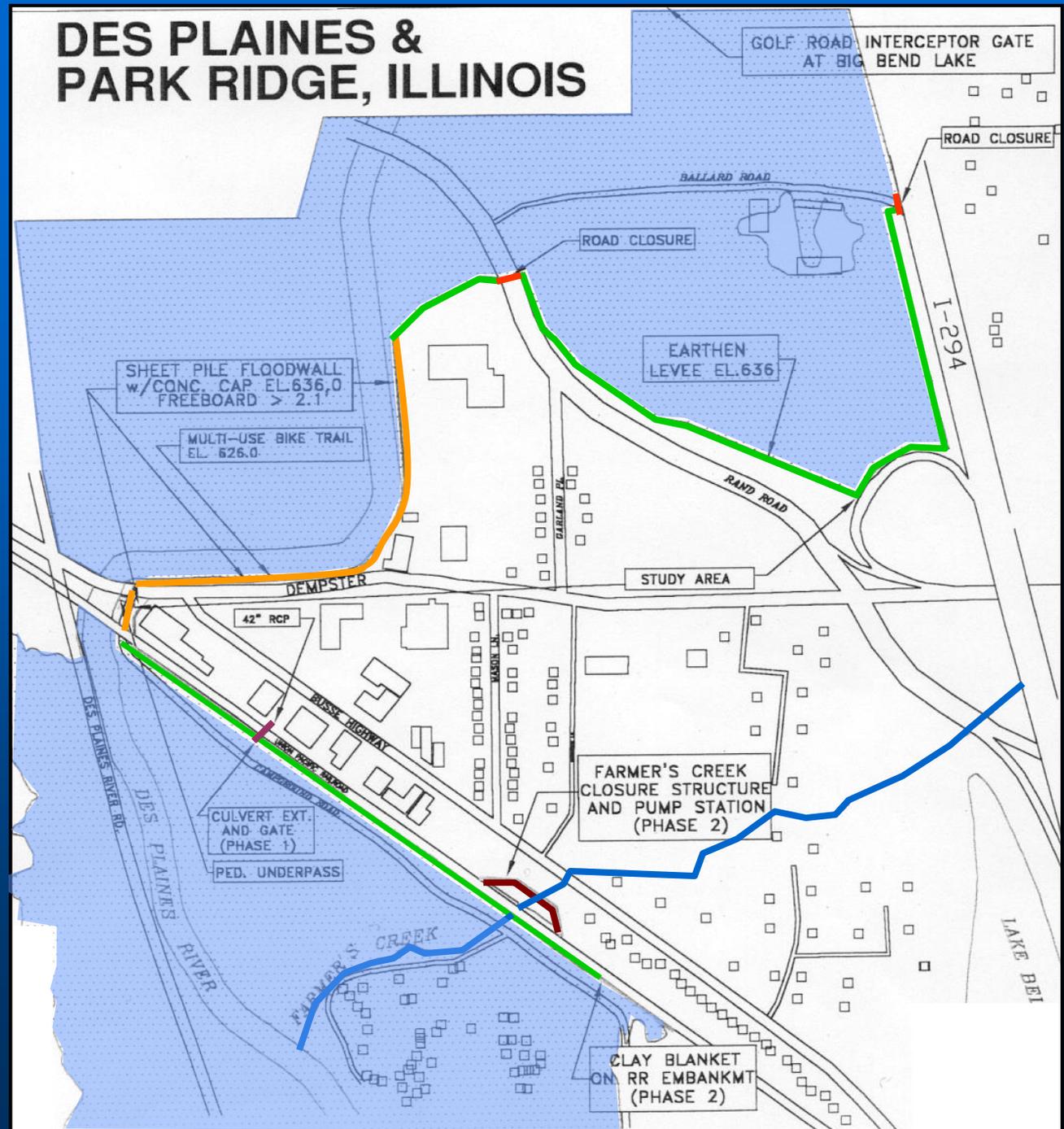


Levee 50 Project

- **Formal Name:**
“Rand Park Flood Control and Multi-Use Trail Project”
- **IL Dept of Natural Resources Project**
(Des Plaines/Park Ridge local sponsors)
- **Provides 100-year flood protection from Des Plaines River for 181 properties**
- **Flood walls, levees, pump station, roadway closure structures**
- **Trail will close existing gap in 33-mile Des Plaines River Trail**
- **Construction divided into three parts**



Levee 50 Project Map



Base map source:
Illinois Dept. of Natural
Resources

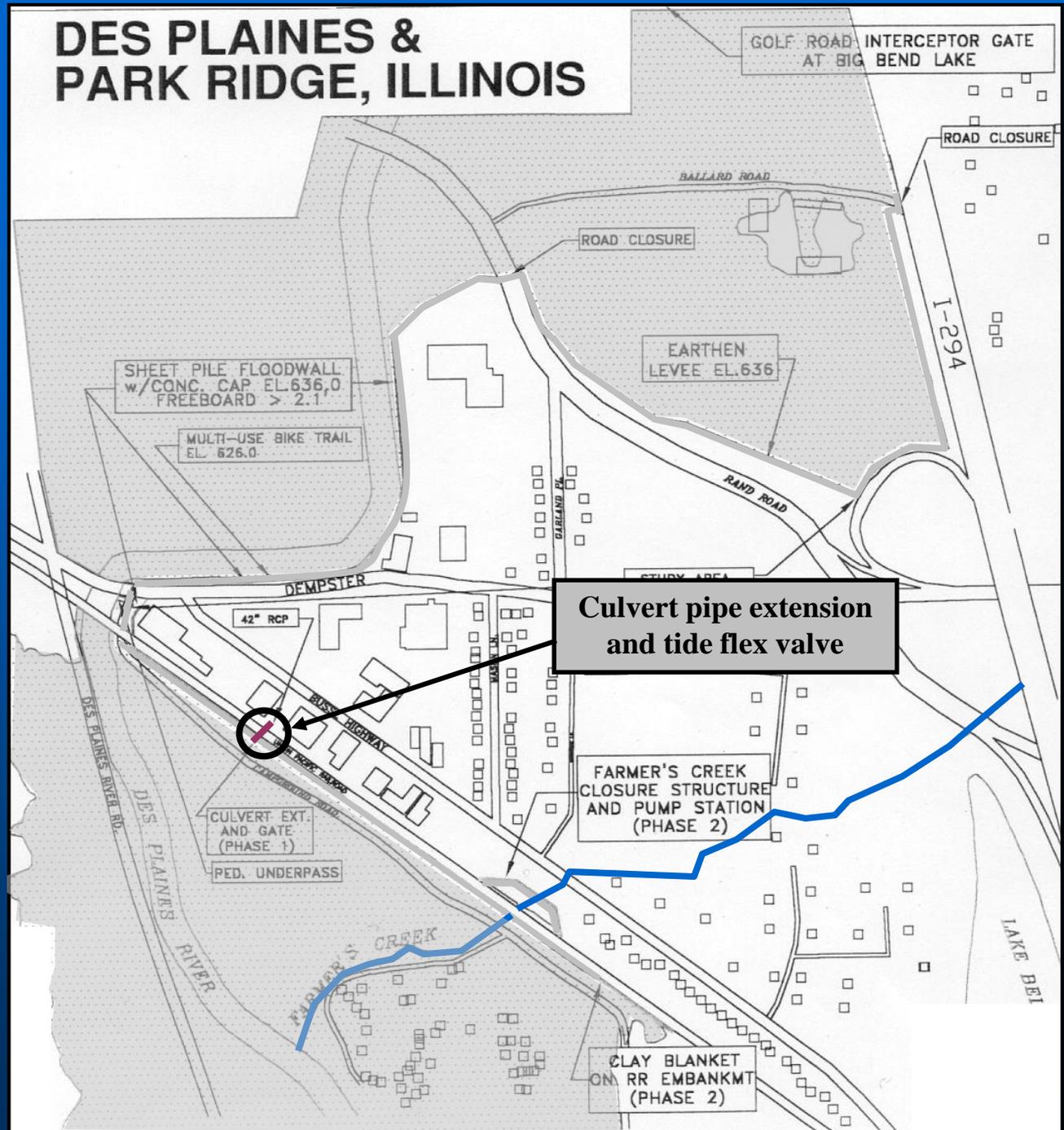


Levee 50 Project Parts

Part	Components	Estimated Construction Completion
1	<ul style="list-style-type: none">● Culvert pipe extension● Tide flex valve	Complete
2	<ul style="list-style-type: none">● Pump Station● Embankment south of Dempster	Complete
3	<ul style="list-style-type: none">● Wall/Berm north of Dempster● Bicycle Trail	June 2008

Levee 50: Part 1

DES PLAINES & PARK RIDGE, ILLINOIS



Base map source:
Illinois Dept. of Natural
Resources

Levee 50 Project: Part 1

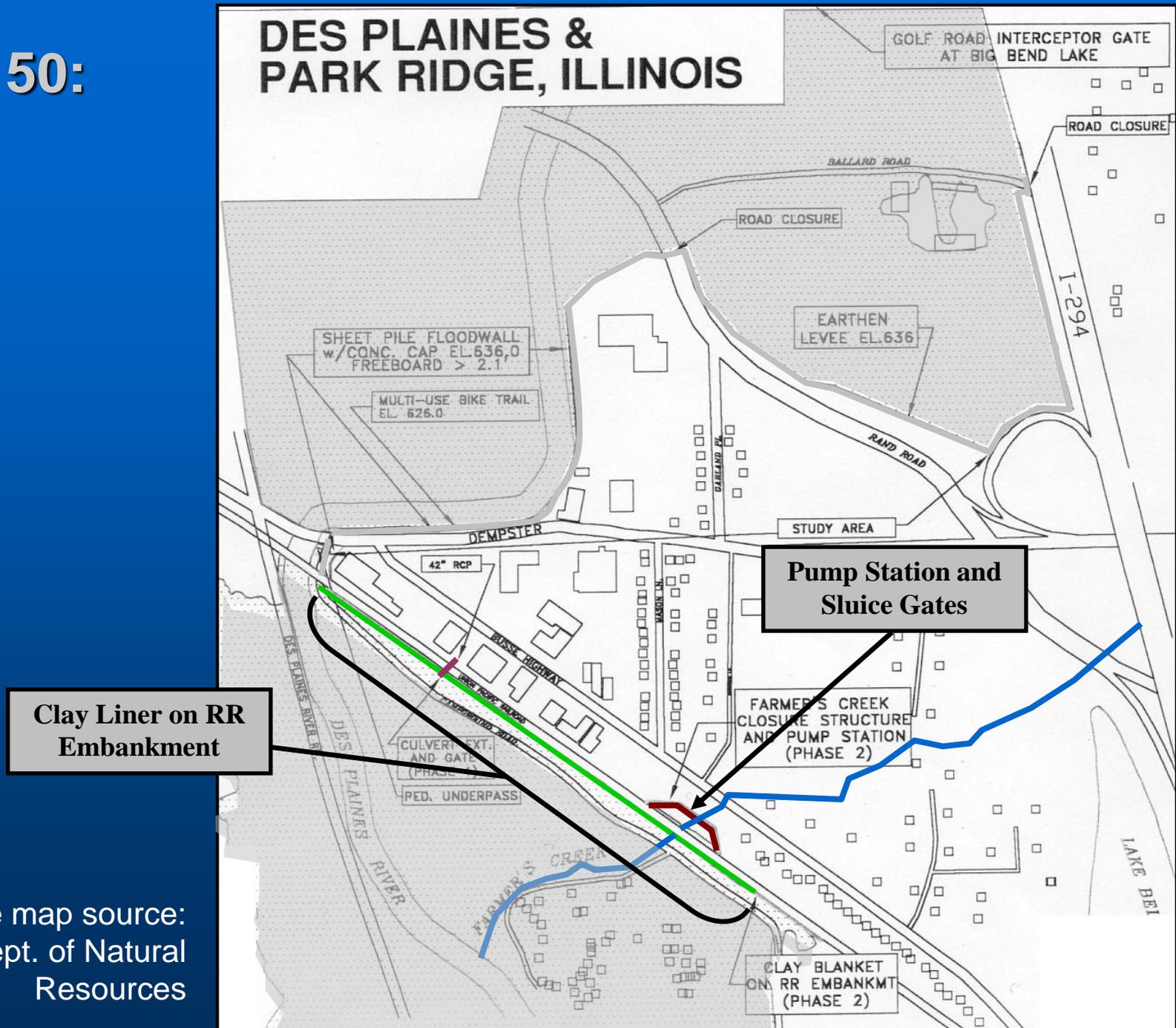


Tide Flex Valve at Railroad Embankment



Levee 50: Part 2

DES PLAINES & PARK RIDGE, ILLINOIS



Base map source:
Illinois Dept. of Natural
Resources

Levee 50 Project: Part 2

Pump Station at Prairie-Farmers Creek





Levee 50 Project: Part 3

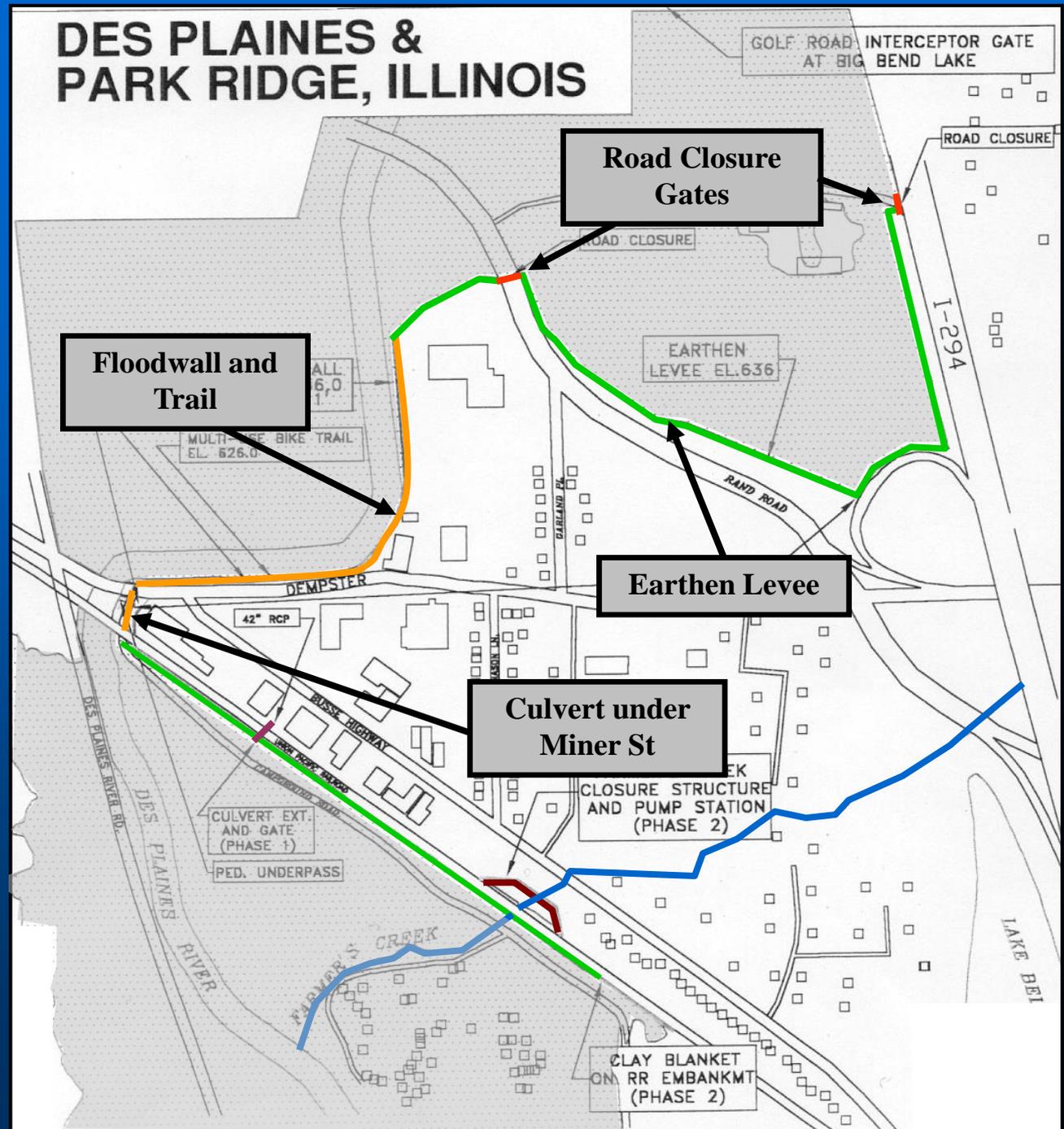


Levee 50 Project: Part 3

- **Final Part of Project**
- **Construction to begin early August 2006, expected to be completed June 2008**
- **Includes:**
 - **Reconstruction of North End of JJ Schwab Road**
 - **Floodwall: JJ Schwab to Rand Road**
 - **Earthen Levee: Rand Road to I-294 Ramp**
 - **Road Closure gates: Rand and Ballard**
 - **New Culvert under Miner Street**
 - **Multi-Use Trail along west side of Floodwall**
- **Significant Traffic Impacts at Miner Street**



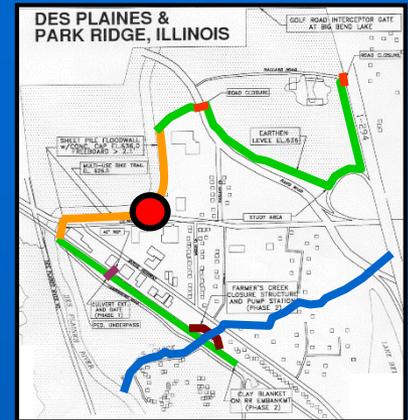
Levee 50: Part 3



Base map source:
Illinois Dept. of Natural
Resources

Levee 50 Project: Part 3

Rendering of floodwall along north side of Miner Street



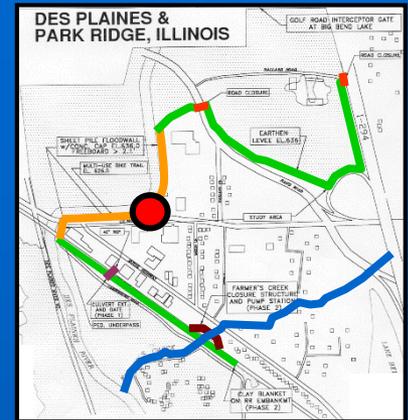
Looking west
toward Downtown



Renderings courtesy of
Illinois Department of Natural Resources

Levee 50 Project: Part 3

Rendering of floodwall and trail along north side of Miner Street



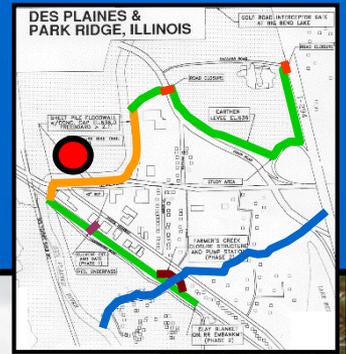
Looking west toward Downtown



Renderings courtesy of
Illinois Department of Natural Resources

Levee 50 Project: Part 3

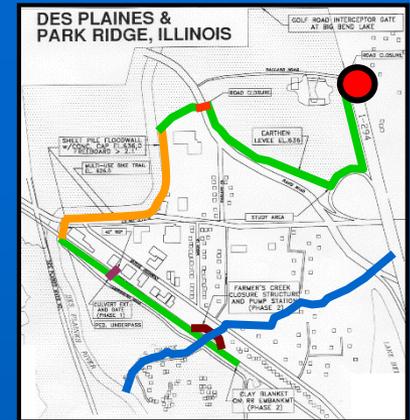
Rendering of floodwall and trail



**Looking north from River to Miner Street bridge
(Note the stair access from Miner Street and the culvert under Miner St. Bridge)**

Levee 50 Project: Part 3

Rendering of Ballard Road closure gate under Tollway

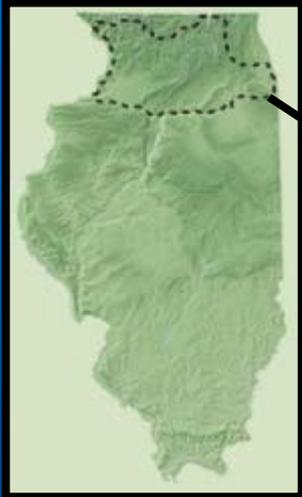


Rendering courtesy of
Illinois Department of Natural Resources

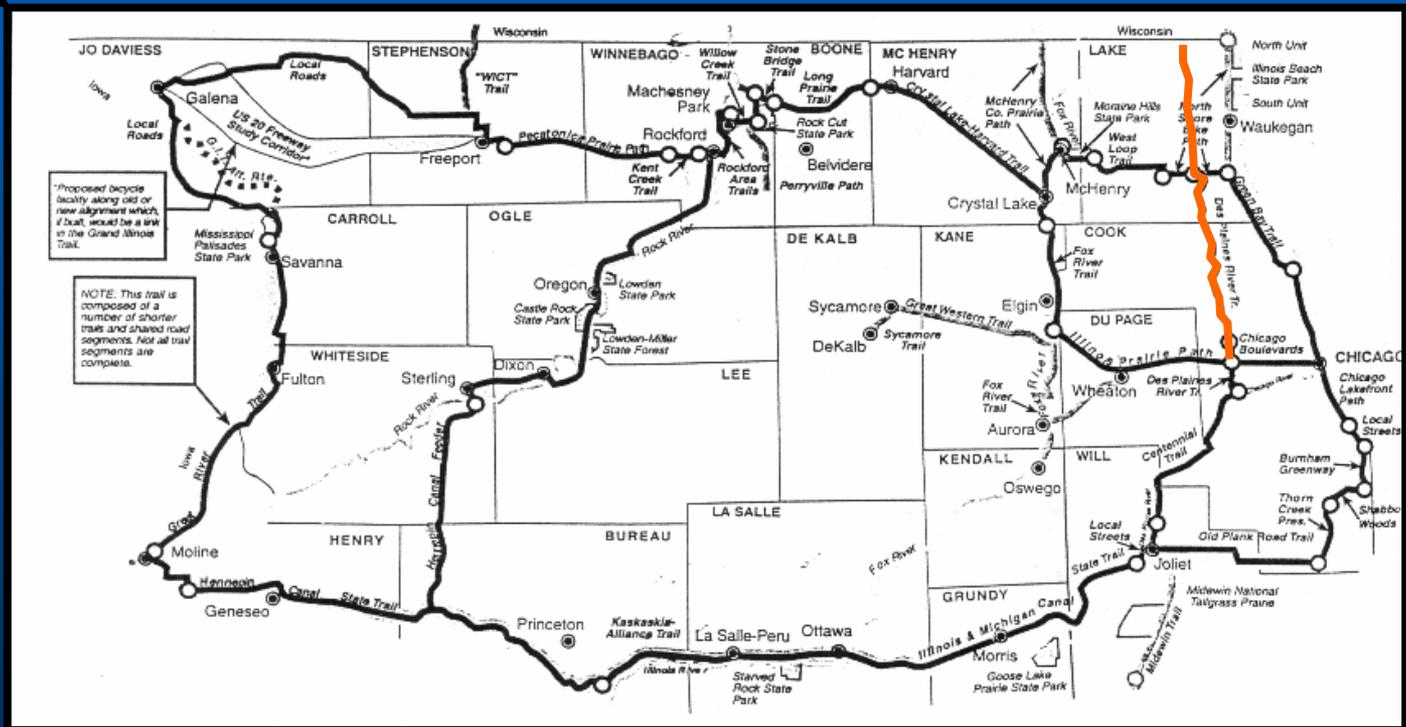
Multi-Use Trail



Closes existing gap in the Des Plaines River Trail which is part of the greater Grand Illinois Trail



GRAND ILLINOIS TRAIL



Multi-Use Trail



- Existing Des Plaines River Trail almost continuous from River Forest to Wisconsin border (~50 miles)
- New Trail will run from Algonquin to Rand/Ballard
 - Algonquin to Miner: New 4' wide paved shoulder along JJ Schwab Road
 - Miner to Rand/Ballard: 12' wide paved trail



Tree Removal Mitigation



- **Tree Removal necessary along Miner Street and Rand Road**
- **4.25 acres of forested property deeded to Forest Preserve as mitigation**
- **Property adjacent to existing Forest Preserve**



Miner Street – Trees on S. side of River to be removed for flood wall



Rand Road – Trees to be cut back ~50' for earthen berm

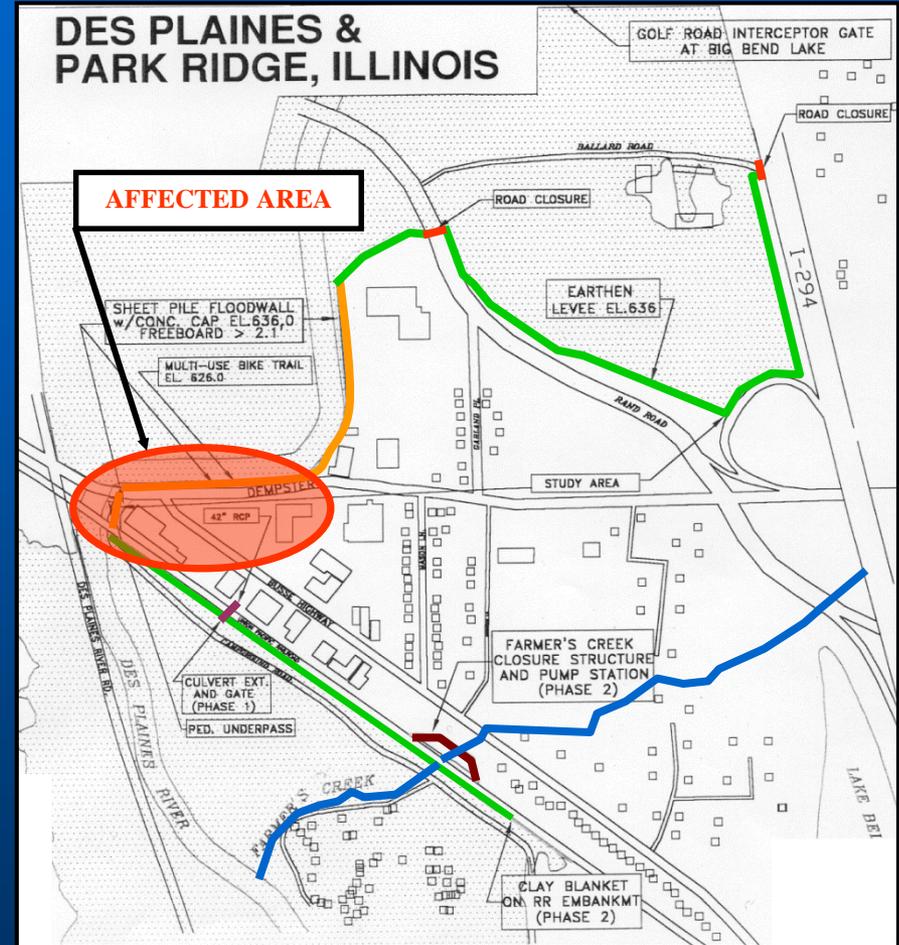


4.25-acres of forested land to the north, deeded to Forest Preserve

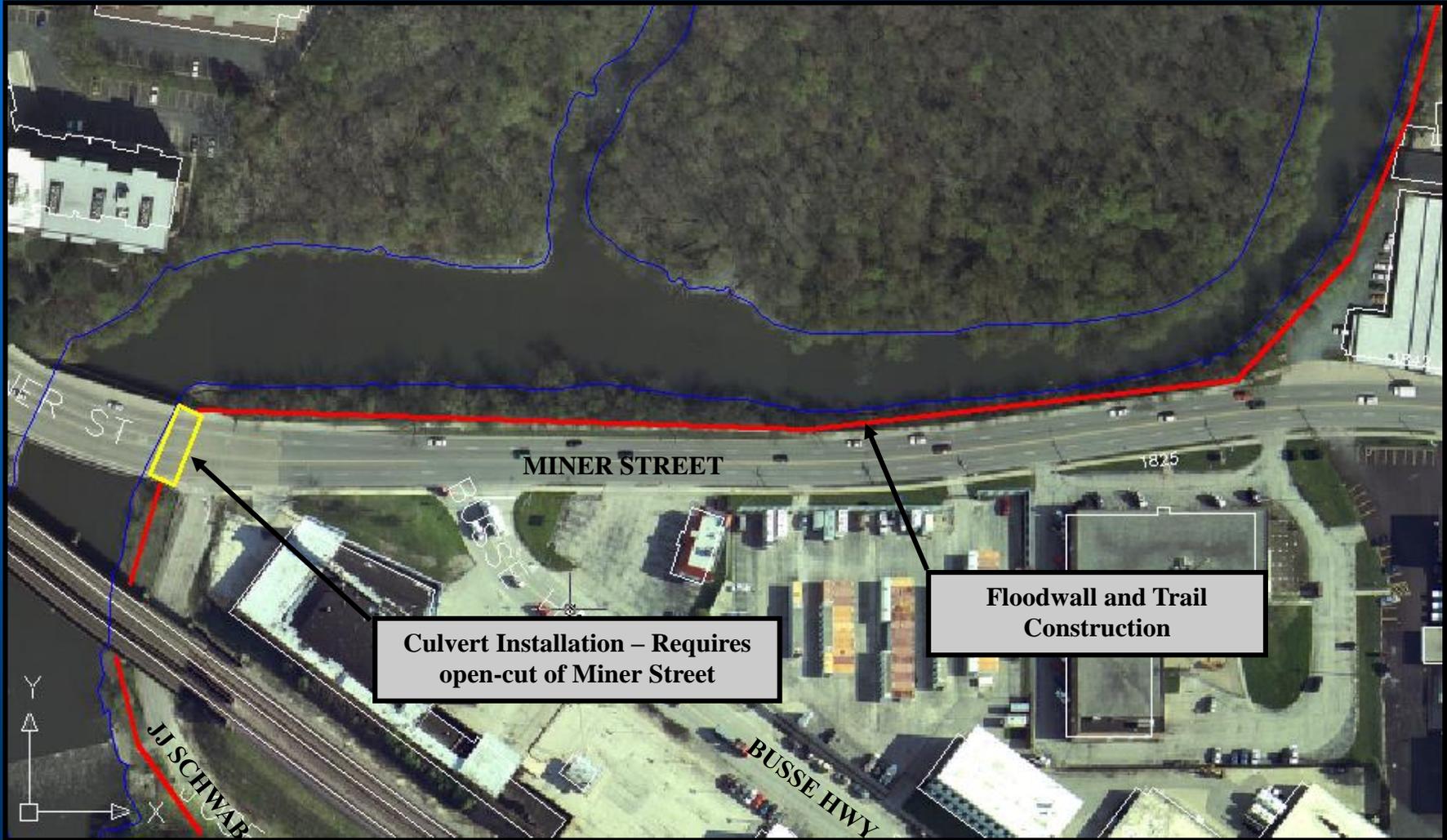
Miner Street Traffic Impacts



- **Culvert installation under Miner Street and Floodwall construction along Miner Street**
- **Est. August 2006 – August 2007**
- **Reduced to one lane in each direction**
- **Seek Alternate Routes**



Miner Street Traffic Impacts



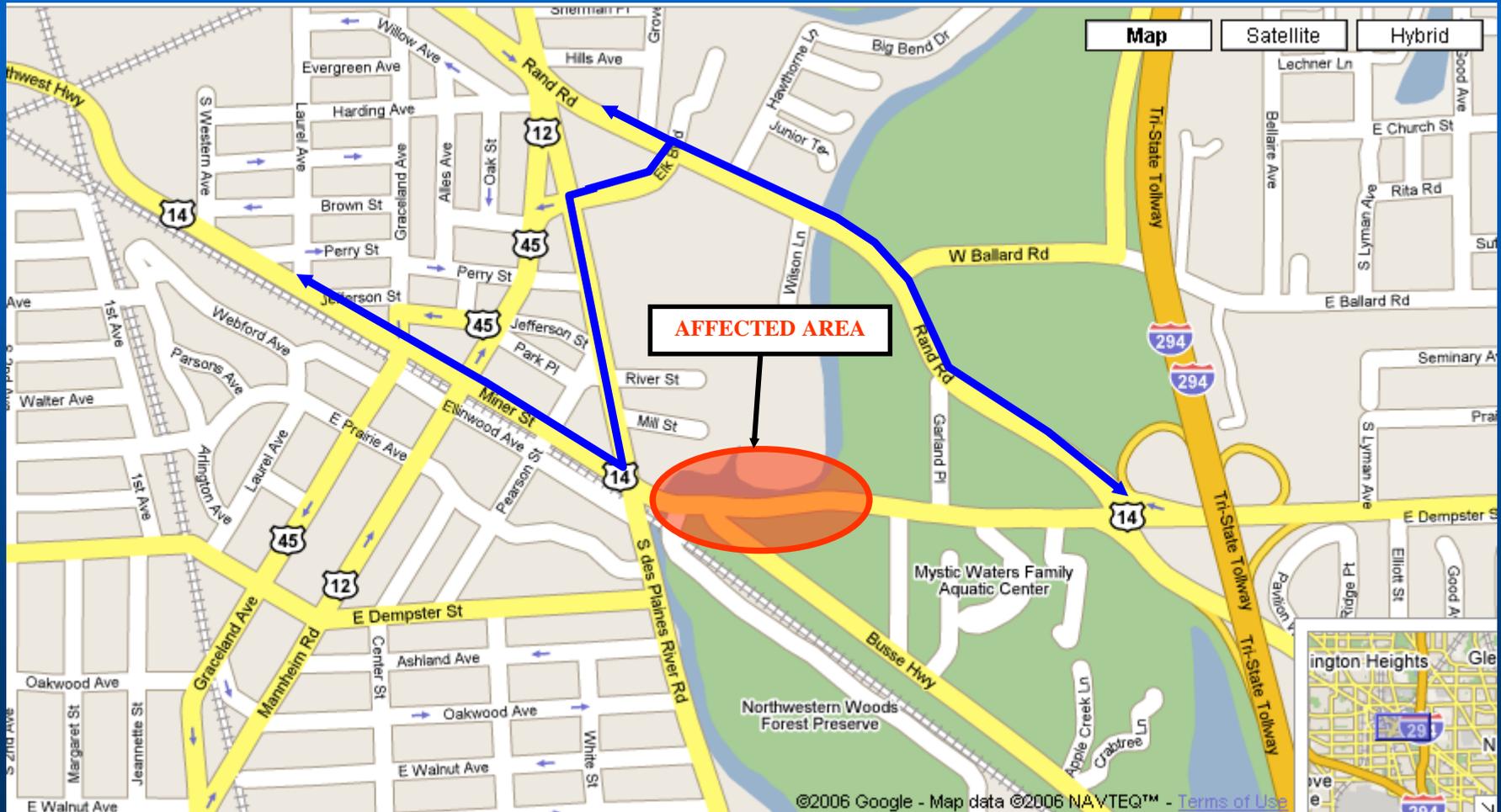
Culvert Installation – Requires open-cut of Miner Street

Floodwall and Trail Construction

Miner Street Traffic Impacts



Potential Alternate Route: Rand Road





Levee 50 Project Estimated Completion: June 2008



For More Information...

Army Corps Project Websites

PHASE I STUDY - http://www.lrc.usace.army.mil/projects/current/des_plaines/main.htm

PHASE II STUDY - http://www.lrc.usace.army.mil/projects/current/des_plaines_2/main.htm

City of Des Plaines Website

<http://www.desplaines.org/Services/Engineering/Levee50FloodControlProject.htm>

City of Des Plaines Engineering Department

Phone: 847-391-5390

Email: Engineering@desplaines.org

