Overview of the Kinnickinnic River Flood Management and Stream Rehabilitation Project

"Kinnickinnic River Property Acquisition Deconstruction Process"

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David Fowler, CFM
Senior Project Manager, MMSD

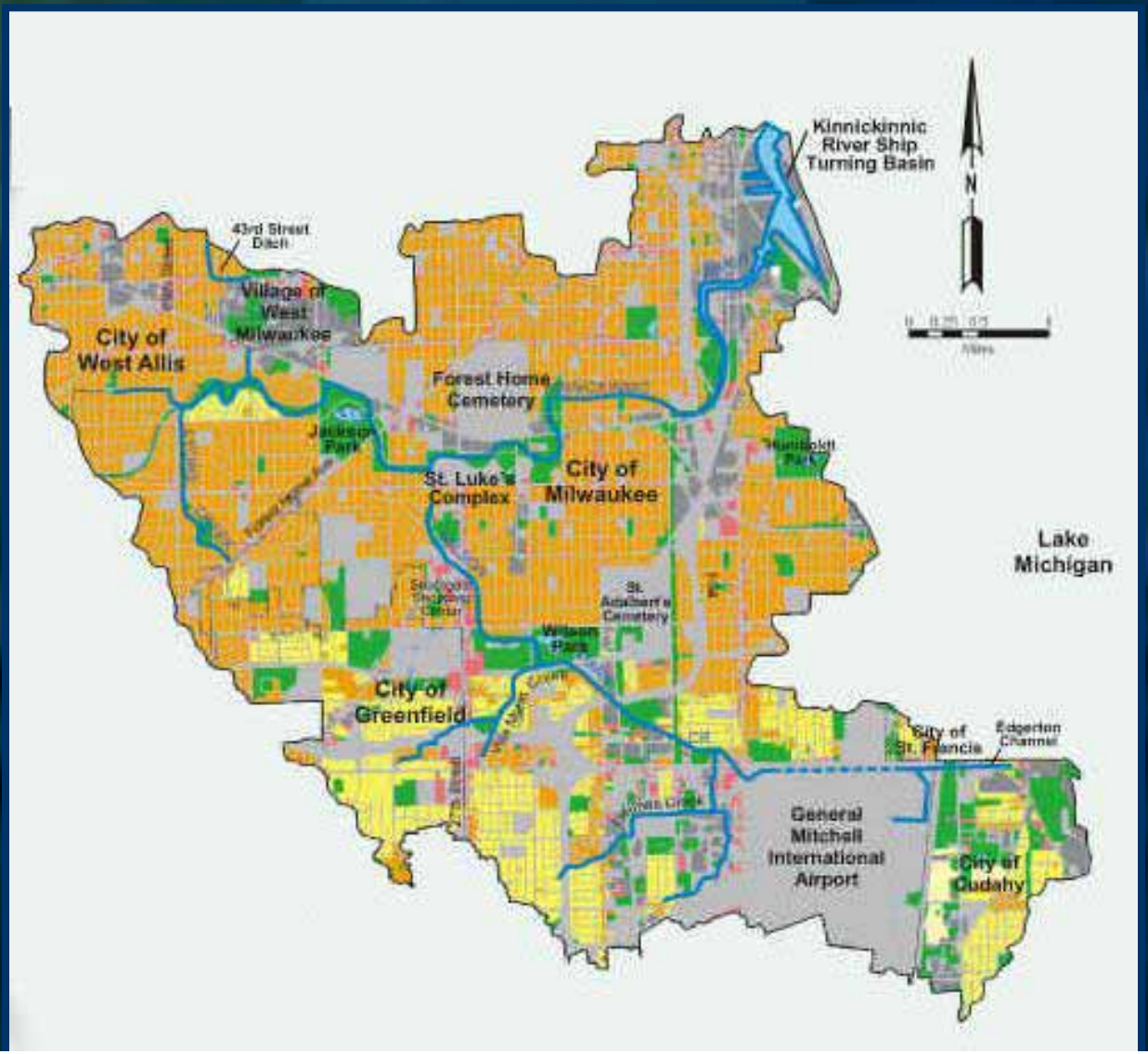
MMSD
Preserving The Environment • Improving Water Quality

Kinnickinnic River Project
Milwaukee Wisconsin

Objectives:
Reduce Flood Risk
Improve Public Safety
Stream Channel Rehabilitation

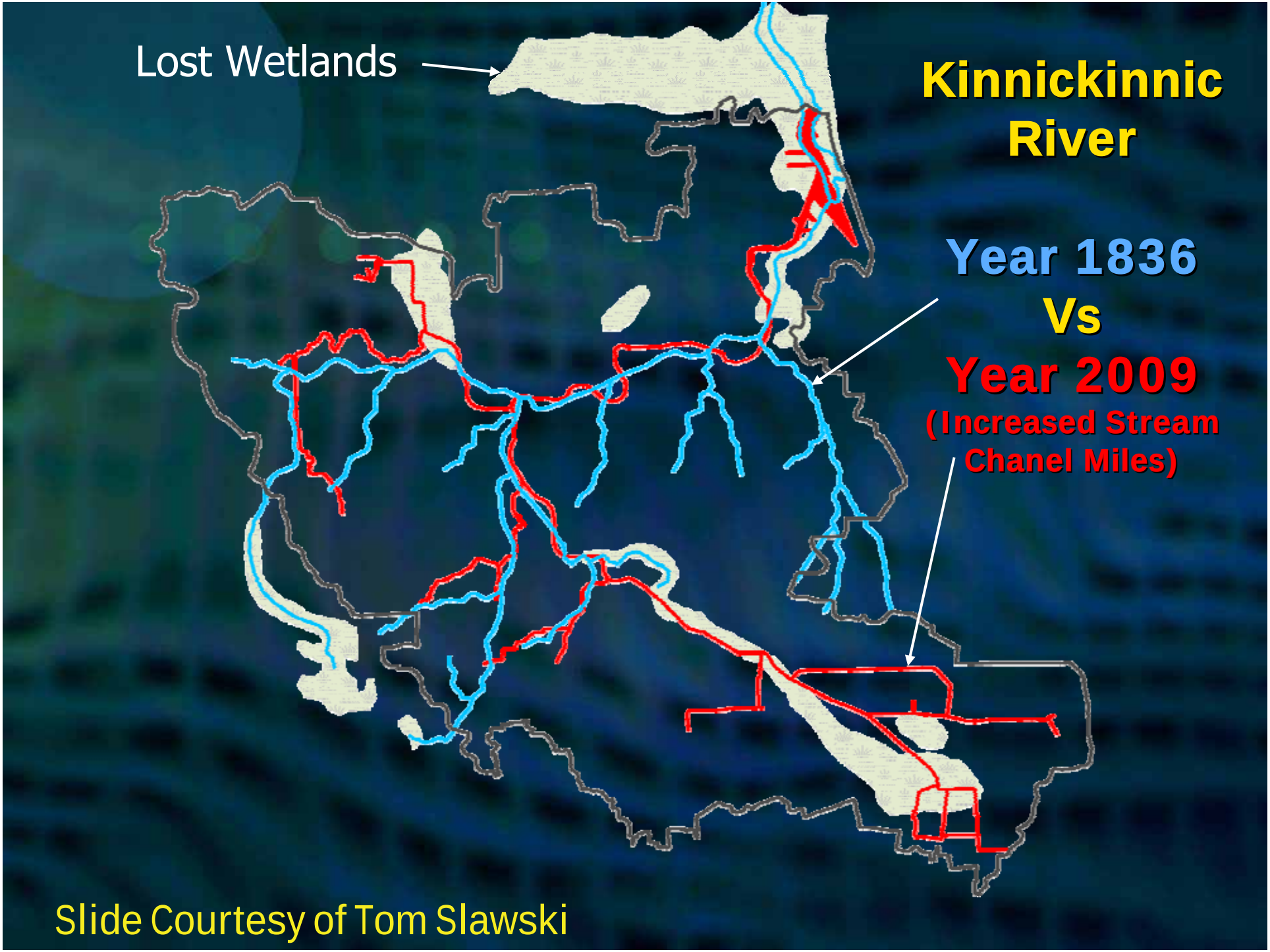
Kinnickinnic River Watershed

Was voted one of the top ten worst rivers in North America in 2007



Historical Background

- History of flooding most recent 1986, 1997, 1998, and 2008
- At least five drowning or near drowning incidents most recent 1994, 2000 and 2008 (6^{th} Street -16^{th} Street)
- 1990 SEWRPC Planning report include KK River
- District Phase I and II Watercourse Management Plans completed 2000 and 2005
- Updated flood flows indicate 330 properties at risk of flooding
- KK River revised to focus on flood risk reduction


Lost Wetlands
Kinnickinnic River
Year 1836
Vs
Year 2009
(Increased Stream Chanel Miles)
Slide Courtesy of Tom Slawski

KK River Historic Channel Before Concrete Channel (channelization already evident)

KK River Flooding March 1960 (12th Street)

KK River @ 6th Street After Concrete

Concrete Channel Encouraged Development in the Floodplain


Kinnickinnic River
9th Place and Cleveland
June 7, 2008 (50 Year Flood)

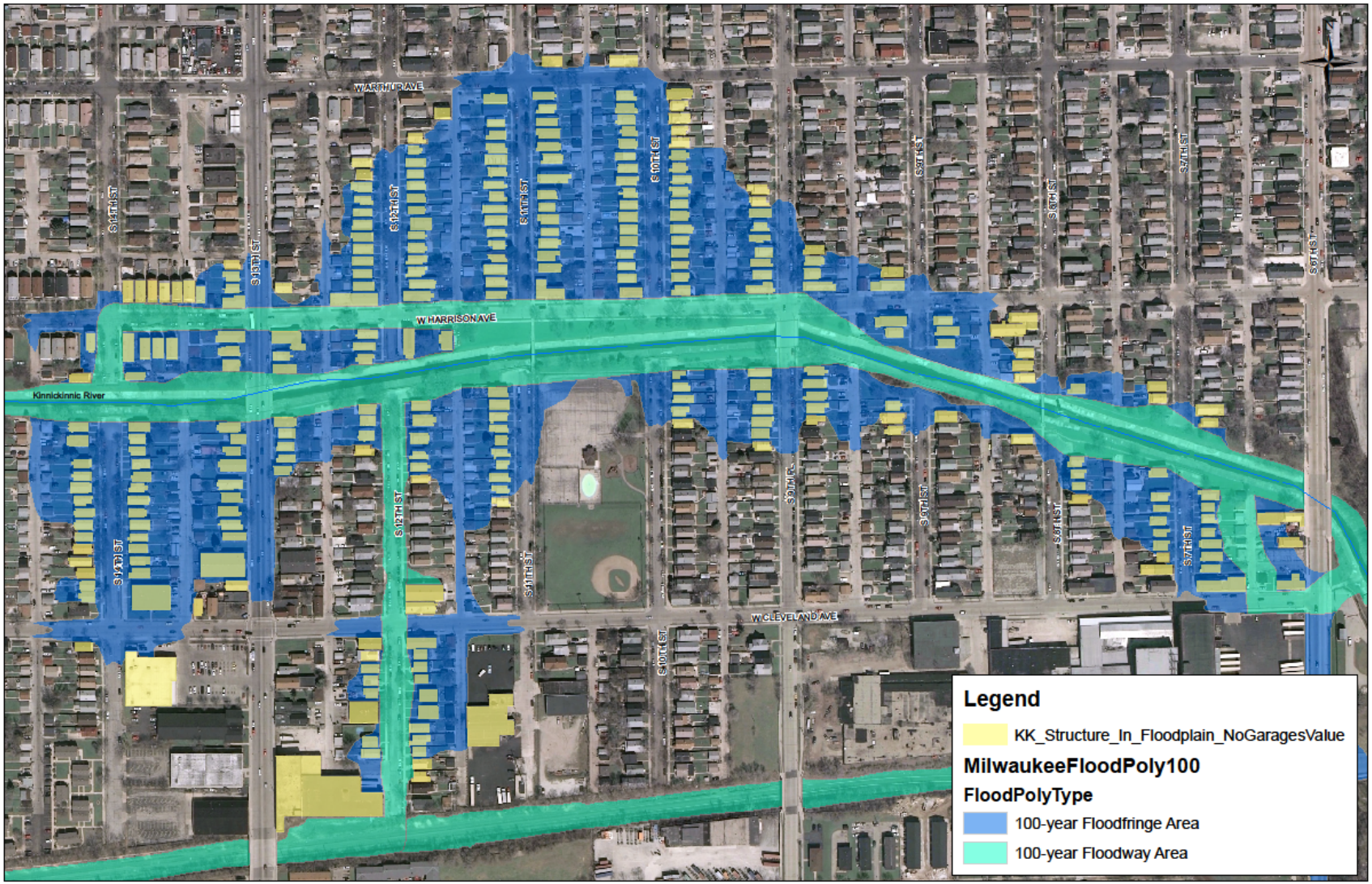
Current Project Background

- KK Watercourse Plan updated in October 2009
- Reduce flood risk for ~328 properties
- Improves public safety
- Includes acquiring 83 structures
  - Between S. 6th and S. 16th

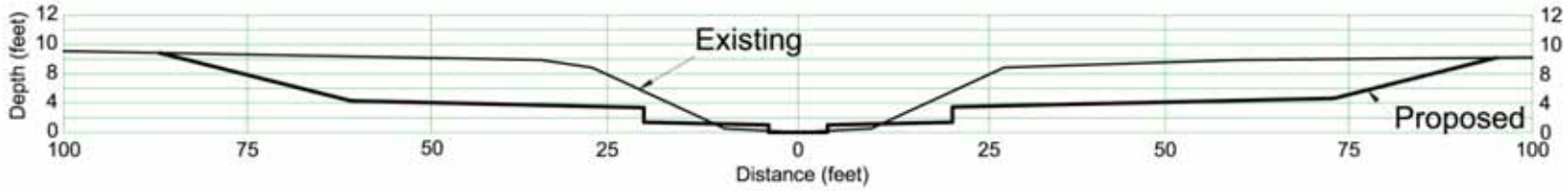
KK Flood Management Project

- Involve Stakeholders and Political Officials (need a champion)
- Project will remove 12,000 linear feet of concrete channel liner
- 85 – 100 Property (structure) Acquisitions (voluntary)
- Neighborhood Plan (to offset Property Tax Loss)
- Deconstruction (of acquired structures) Project
- Sediment transport and Geomorphology Study
- Typical Design and Construction Phase

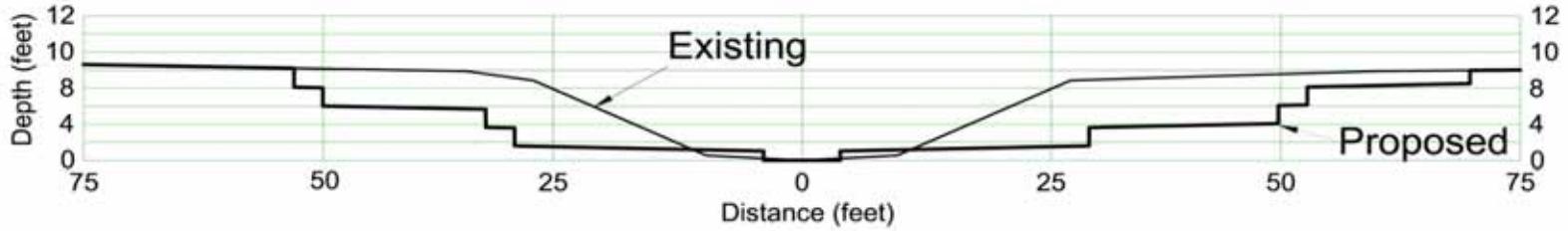
KK River 1% Probability Floodplain and Floodway



KK River Channel Alternatives 6th-16th Street

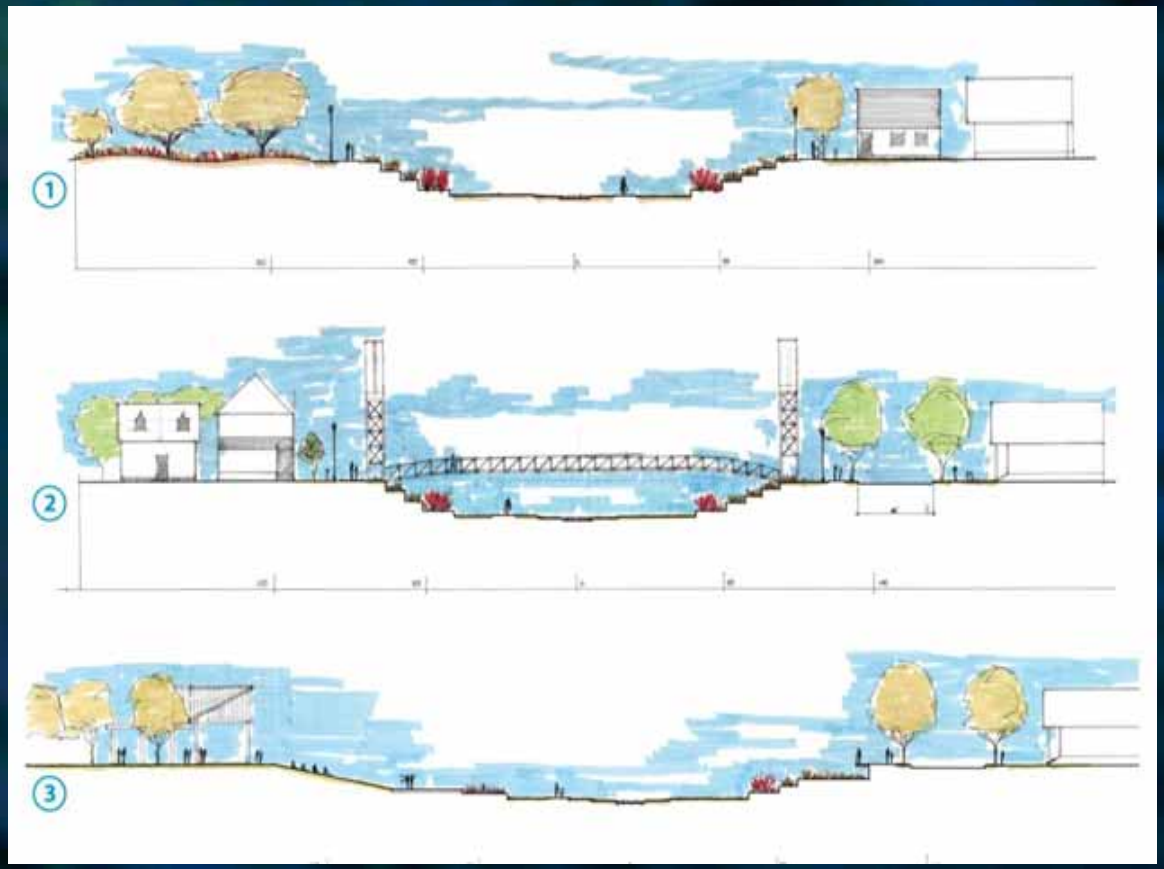


Stone Channel & Vegetated Overbanks Without Walls

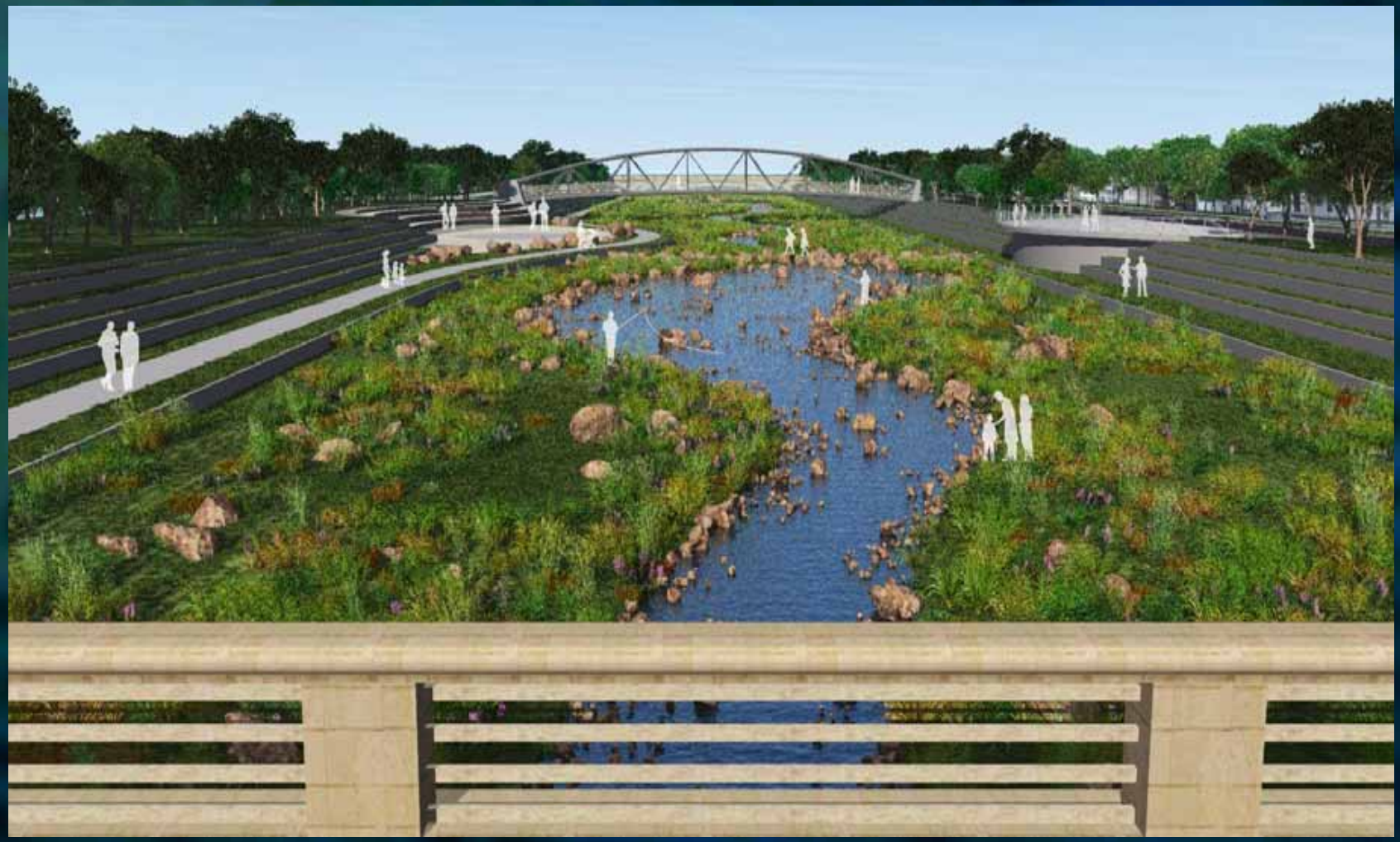


Low Flow Channel & Vegetated Overbanks With Walls

Potential Bioengineered Channel Conceptual Cross Sections

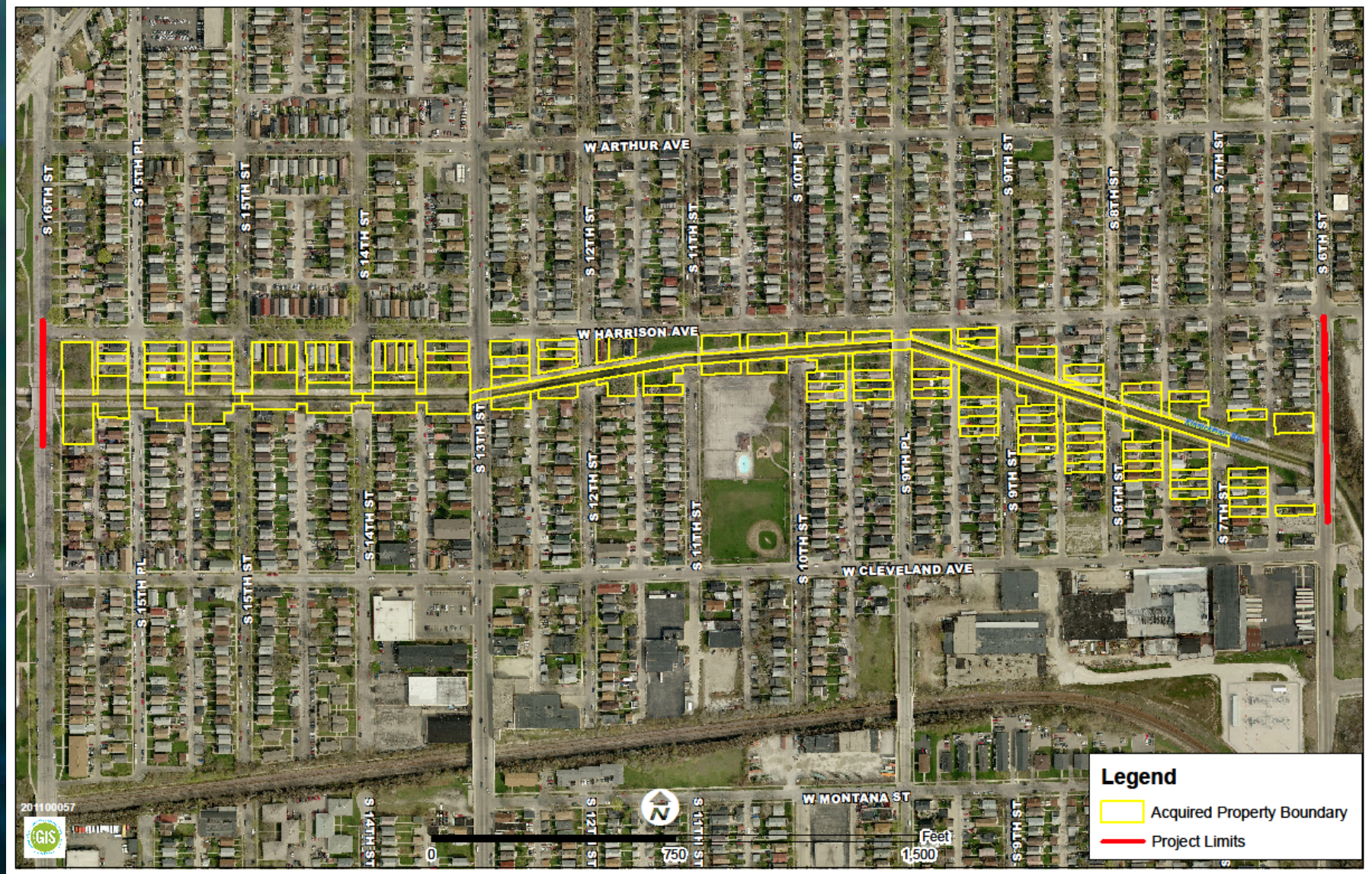


Bioengineered Channel Conceptual Drawing
9th Street to 13th Street



Actual Projects "Really Improved" Channels

KK River Property Acquisition 6th – 16th St.



Acquisition

- Public Meetings to sell acquisition
- Process to declare public necessity
- Tax loss (flooding was causing neighborhood decline)
- Appraisals done (not in floodplain)
- Met with each property owner
- Benefits (moving expenses, legal help, ect….)
- Relocation Plan (approved by state for each structure)

Deconstruction Project Objectives

- Deconstruct 84 structures
- Job training and placement opportunities for local work force
- Minimize environmental impact of salvage and deconstruction
- Develop outreach and communication strategy
- Evaluate lessons learned

Salvage and Deconstruction

- Did not choose standard demolition
- Deconstruction Project Manager
- Deconstruction Management Plan (85% by weight)
- Structure Environmental Inspection (Pre-Deconstruction
- Sustainability vs. Cost
- Increased labor costs (creates jobs)
- Timing (increases time of structure removal)

Deconstruction and Demolition

Salvage, Reuse, and Recycle

Deconstruction Process

Sections of the house are removed. Reusable wood is separated.

De-Nailing Wood

Reuse

Bricks and stone can be reused or recycled

Reusable materials go to reuse – usually local reuse store

Materials not reusable, but recyclable, are then recycled.

Not typically reusable or recyclable from deconstruction or demolition:

Deconstruction Provides Local Jobs & Training
Deconstruction crews learn skills marketable in building trades

Due to additional labor, there's an estimated $7,000 - $10,000 cost premium over demolition per house for the homes along the Kinnickinnic River.

Deconstruction: Careful disassembly of materials takes more time than demolition

Local Jobs: processing and sales of reusable and recyclable Items

Deconstruction: Affordable materials for nonprofits and low-income individuals made available

Deconstruction: Preserves natural resources

Deconstruction: Does not eliminate the need for demolition – demolition contractors work in cooperation with deconstruction contractors

Deconstruction – Maximizing Jobs, Minimizing Waste

Questions?