

The City of Park Ridge Citywide Sewer Study

Presented by:
Christopher B. Burke Engineering Ltd.



July 18, 2011

Park Ridge Sewer System

Dry Weather
Flow

Combined
Sewers

Relief
Sewers

Interconnection

September
2008

Sewer System Modeling

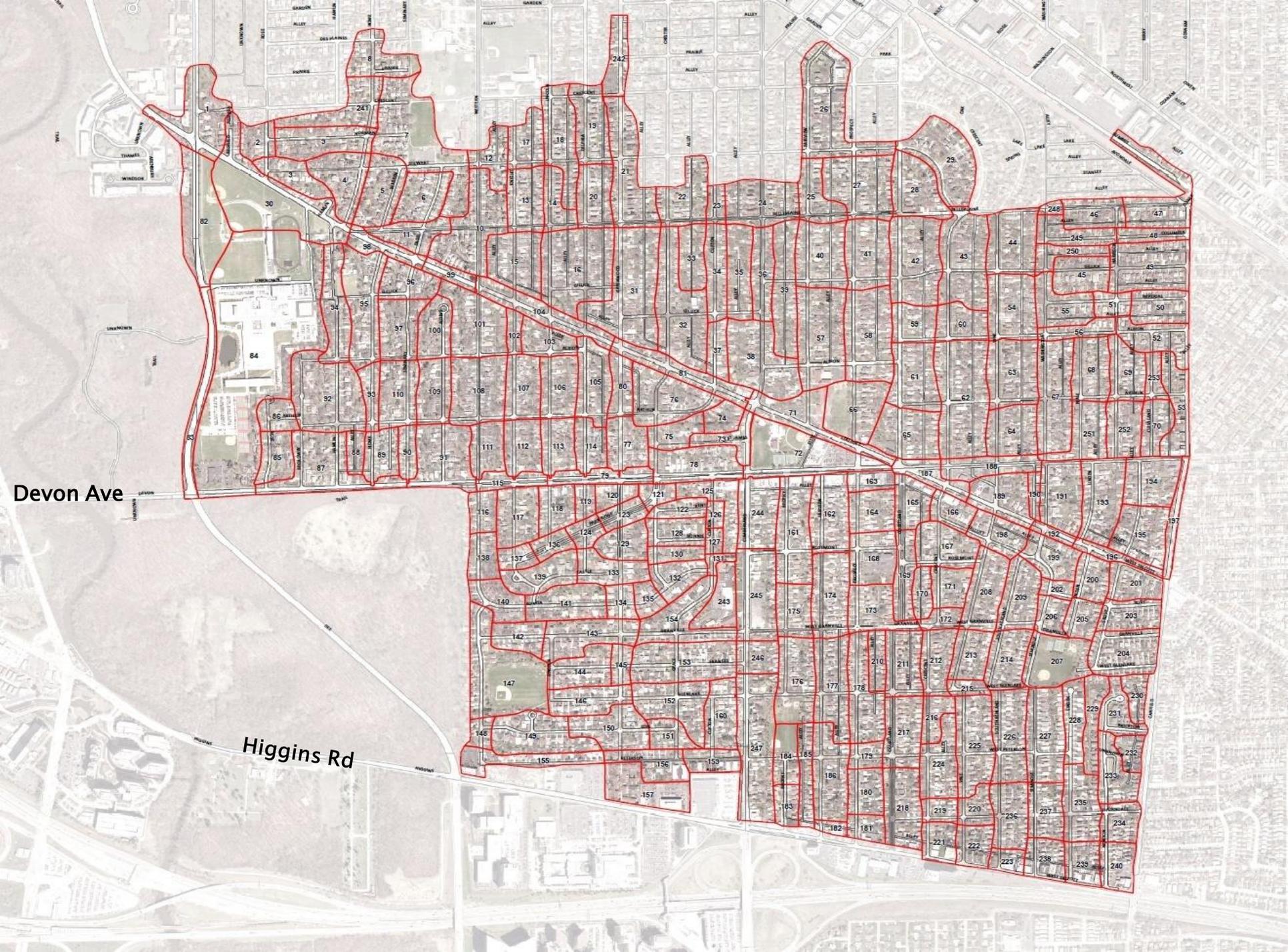
Data Collection

- City's Geographic Information System (GIS)
- Plan Archives
- Field Survey
- Assumptions

Sewer System Modeling

Model Components

- Sewers
- Overland Flow
- Storage Areas
- Subbasins



Devon Ave

Higgins Rd

Sewer System Modeling

Model Creation

- Three Watersheds
 - Devon
 - Sibley
 - North Area

North Area Watershed

Dempster St

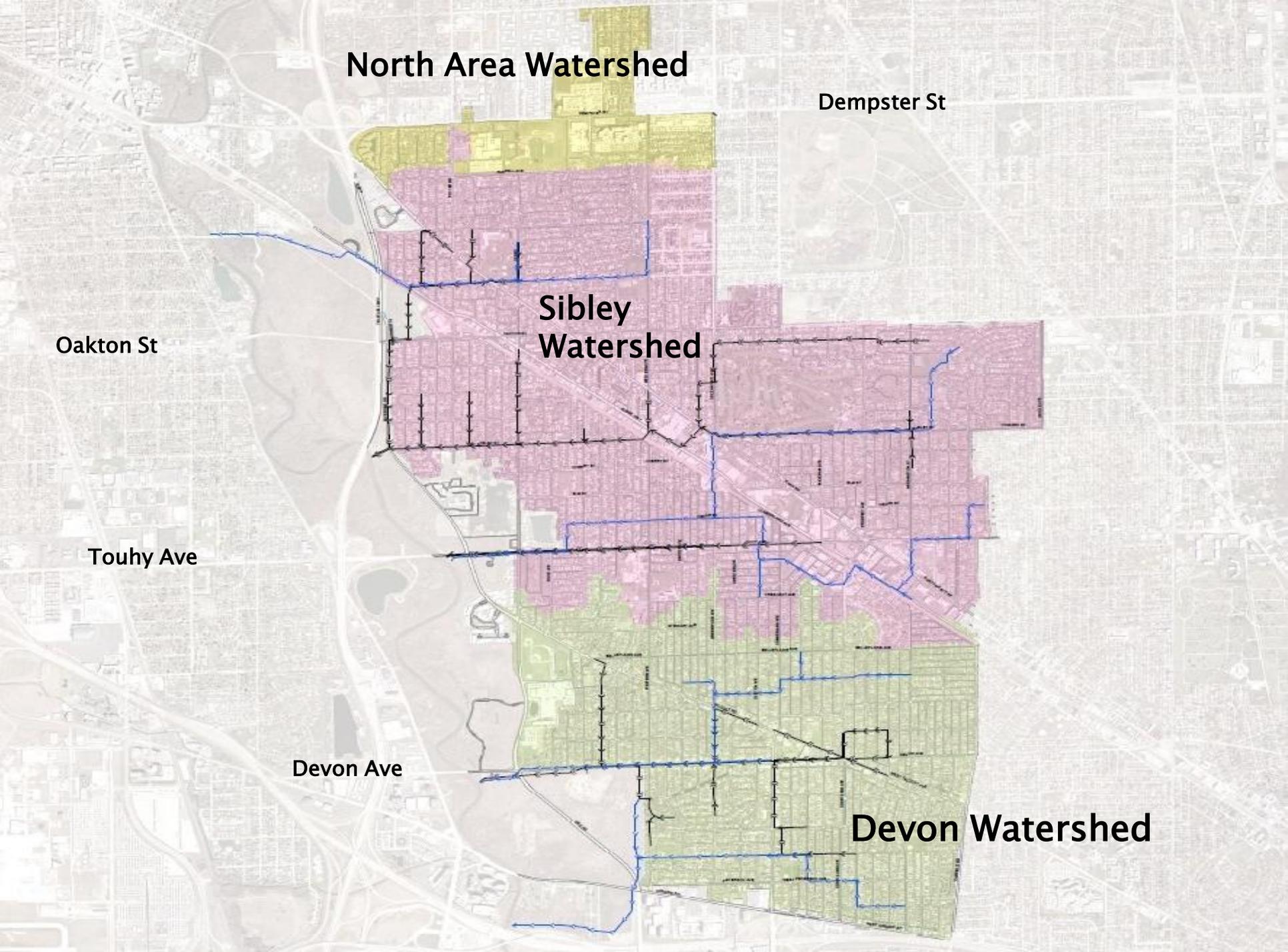
Oakton St

Sibley Watershed

Touhy Ave

Devon Ave

Devon Watershed



Sewer System Modeling

Model Creation

- GIS Integration
- Overland Flow
- Storage Areas
- Subbasins
- Design Storms
- September 2008 Storm

Sewer System Modeling

Design Storms

- 1 Hour Duration

1-Year

- 1.18 Inches

2-Year

- 1.43 Inches

5-Year

- 1.79 Inches

10-Year

- 2.10 Inches

100-Year

- 3.56 Inches

September 2008

- 8.3 Inches in 43 Hours

Sewer System Modeling

“Capacity”

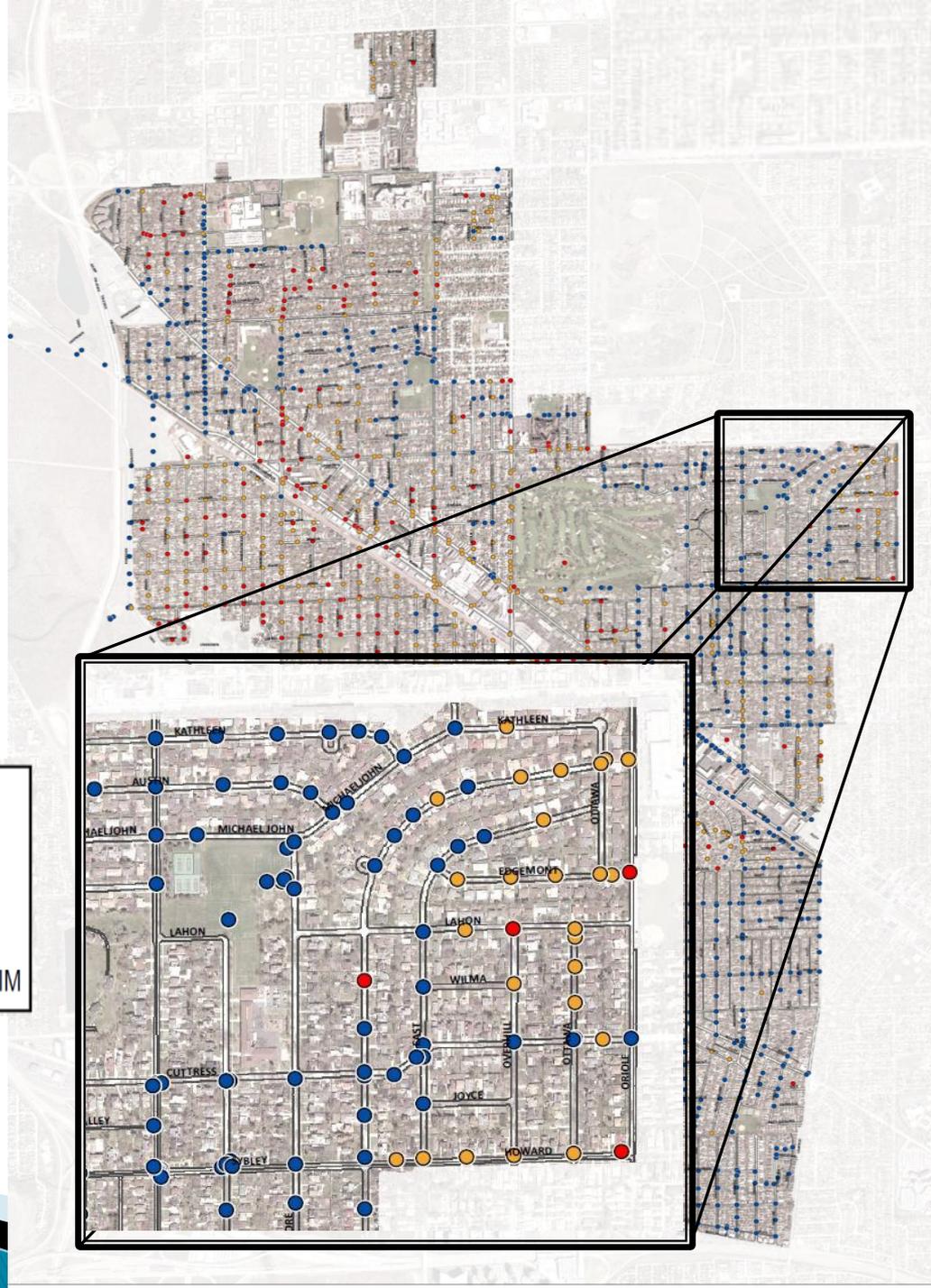
- Full Flow
- Pressure Flow/
Surcharging
- Ponding / Overland

Sewer System Modeling

Results

- Surcharge Depths
- Overland Flow Paths
- Capacity Atlas

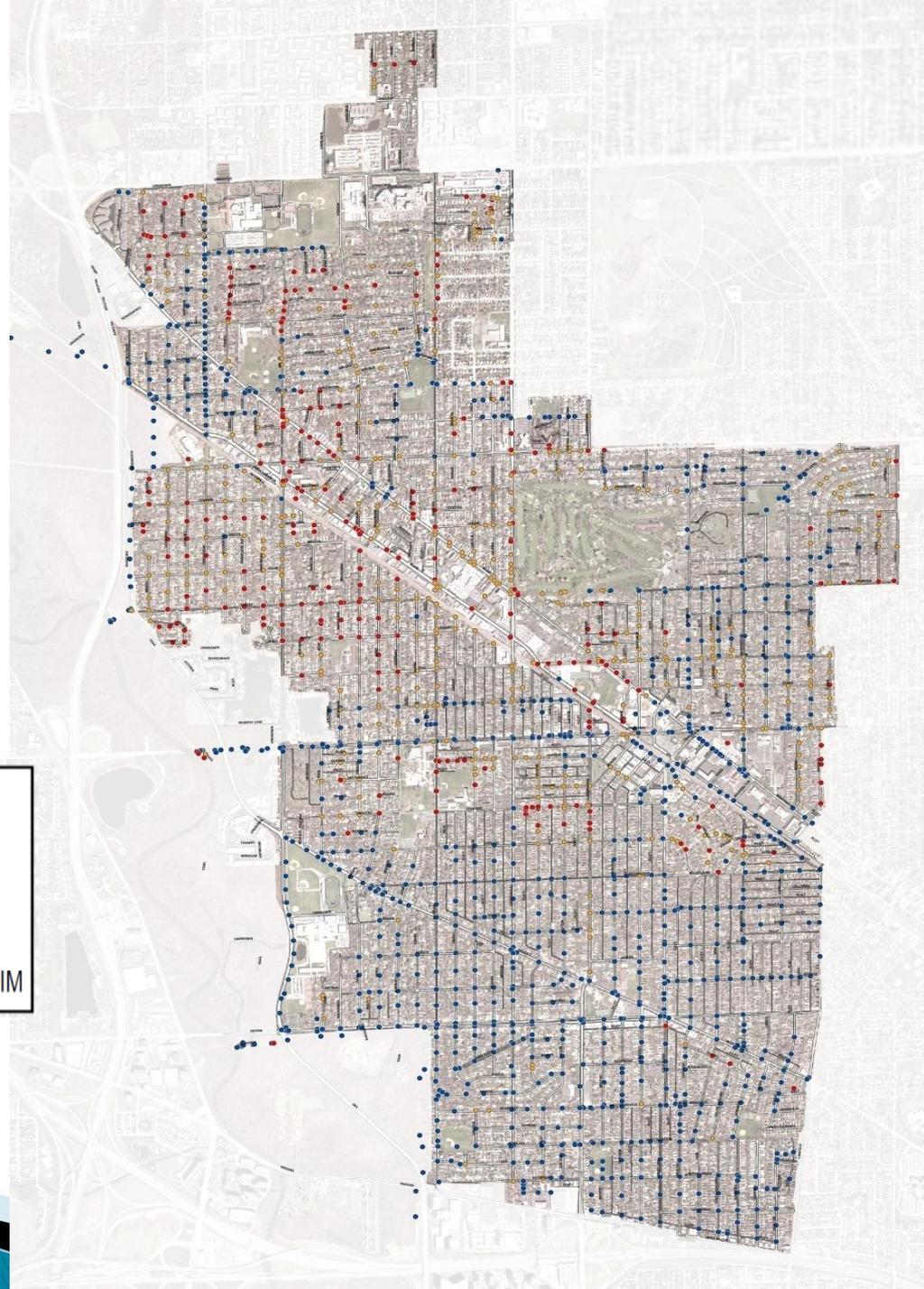
1-Year Surcharge Depths



Legend

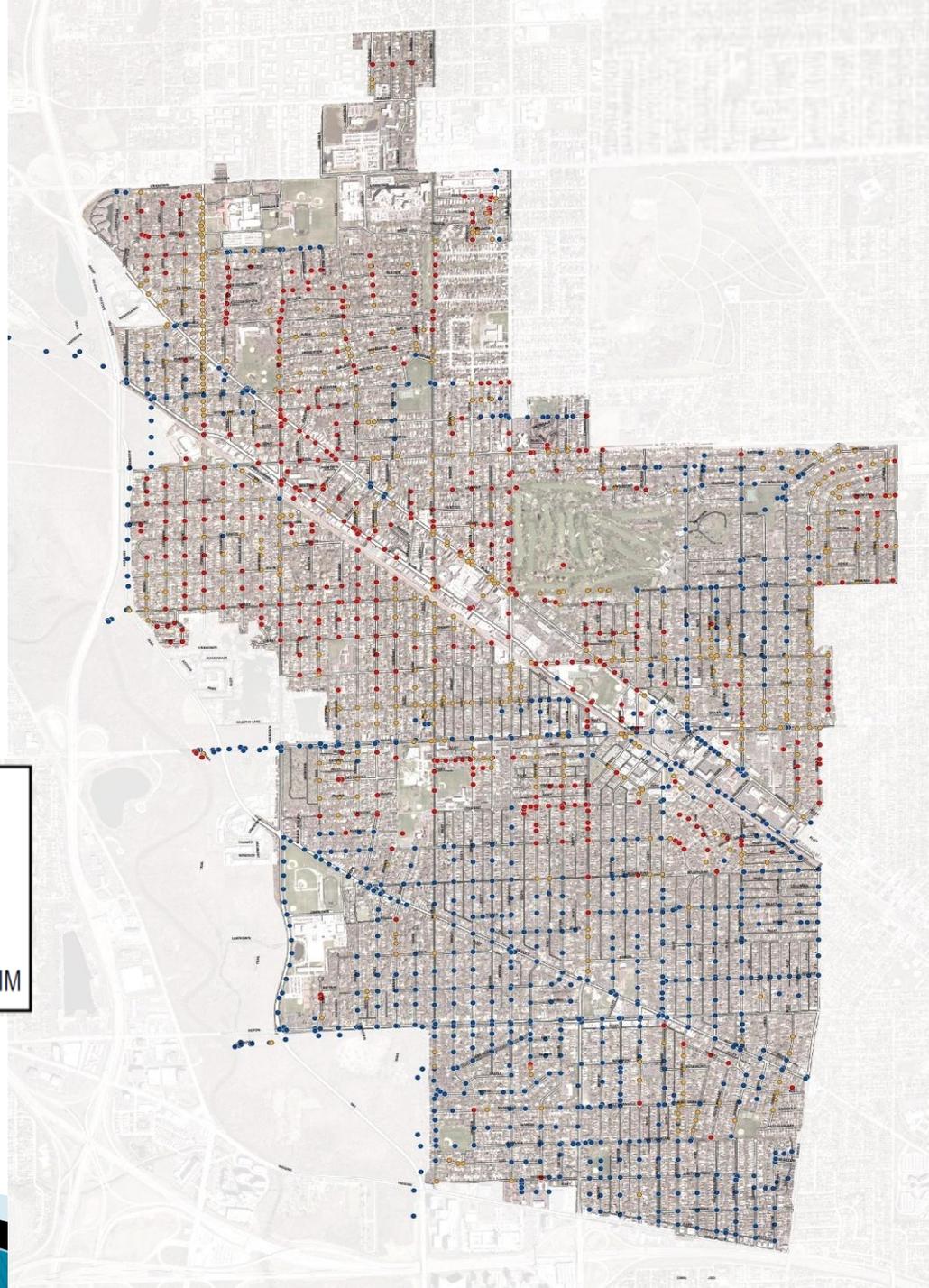
- HGL ABOVE MH RIM
- HGL 0' TO 3' BELOW MH RIM
- HGL MORE THAN 3' BELOW MH RIM

2-Year Surcharge Depths



Legend	
●	HGL ABOVE MH RIM
●	HGL 0' TO 3' BELOW MH RIM
●	HGL MORE THAN 3' BELOW MH RIM

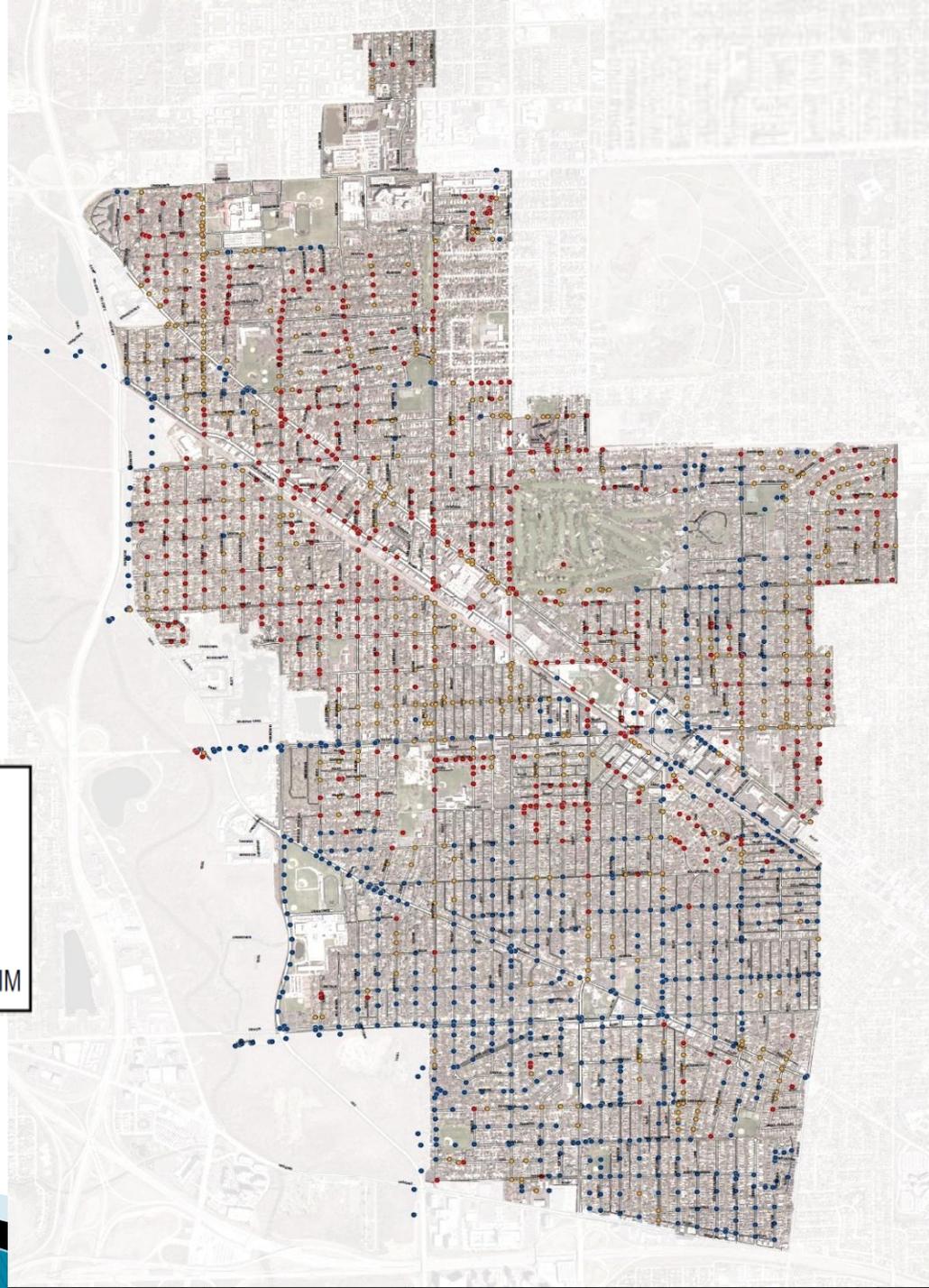
5-Year Surcharge Depths



Legend

- HGL ABOVE MH RIM
- HGL 0' TO 3' BELOW MH RIM
- HGL MORE THAN 3' BELOW MH RIM

10-Year Surcharge Depths



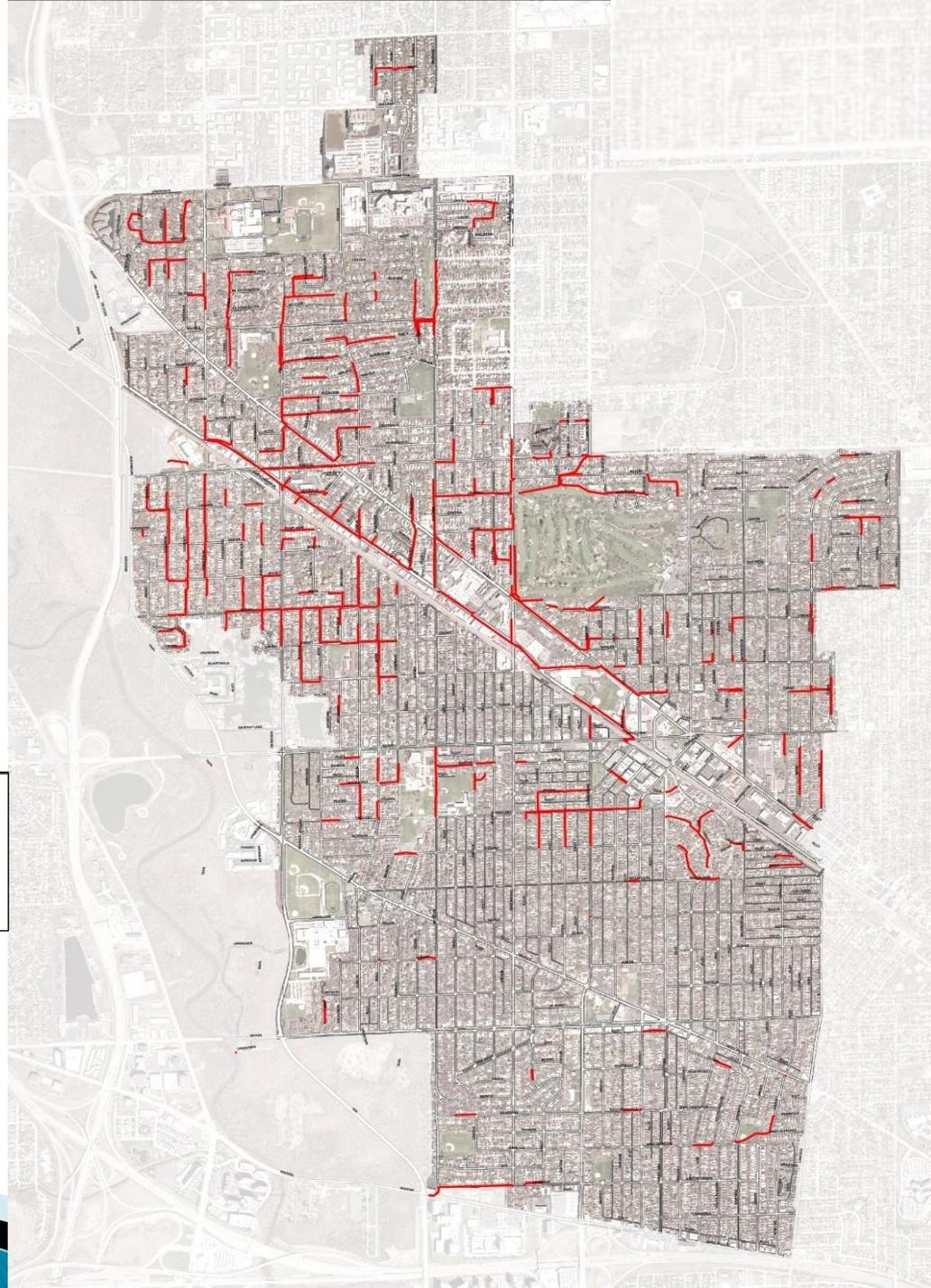
Legend

- HGL ABOVE MH RIM
- HGL 0' TO 3' BELOW MH RIM
- HGL MORE THAN 3' BELOW MH RIM

10-Year Overland Flow Locations

Legend

 Overland Flow Location



Proposed Improvements

Identify
Project Areas

Reduce or
Eliminate
Street Ponding

Increase Level
of Protection

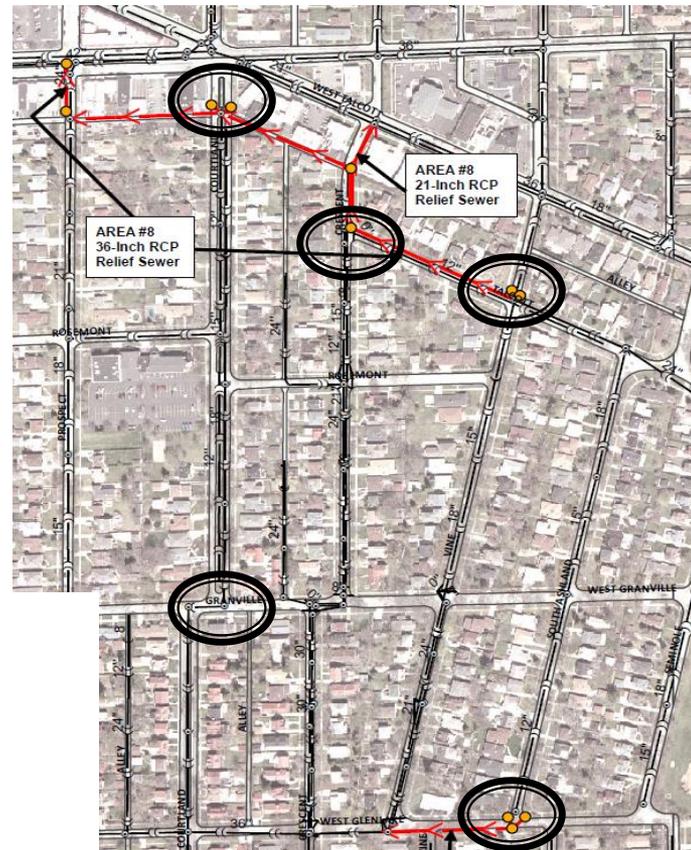
Gillick Street and Cumberland Avenue



South of Talcott, Prospect, Courtland, and Crescent

Legend

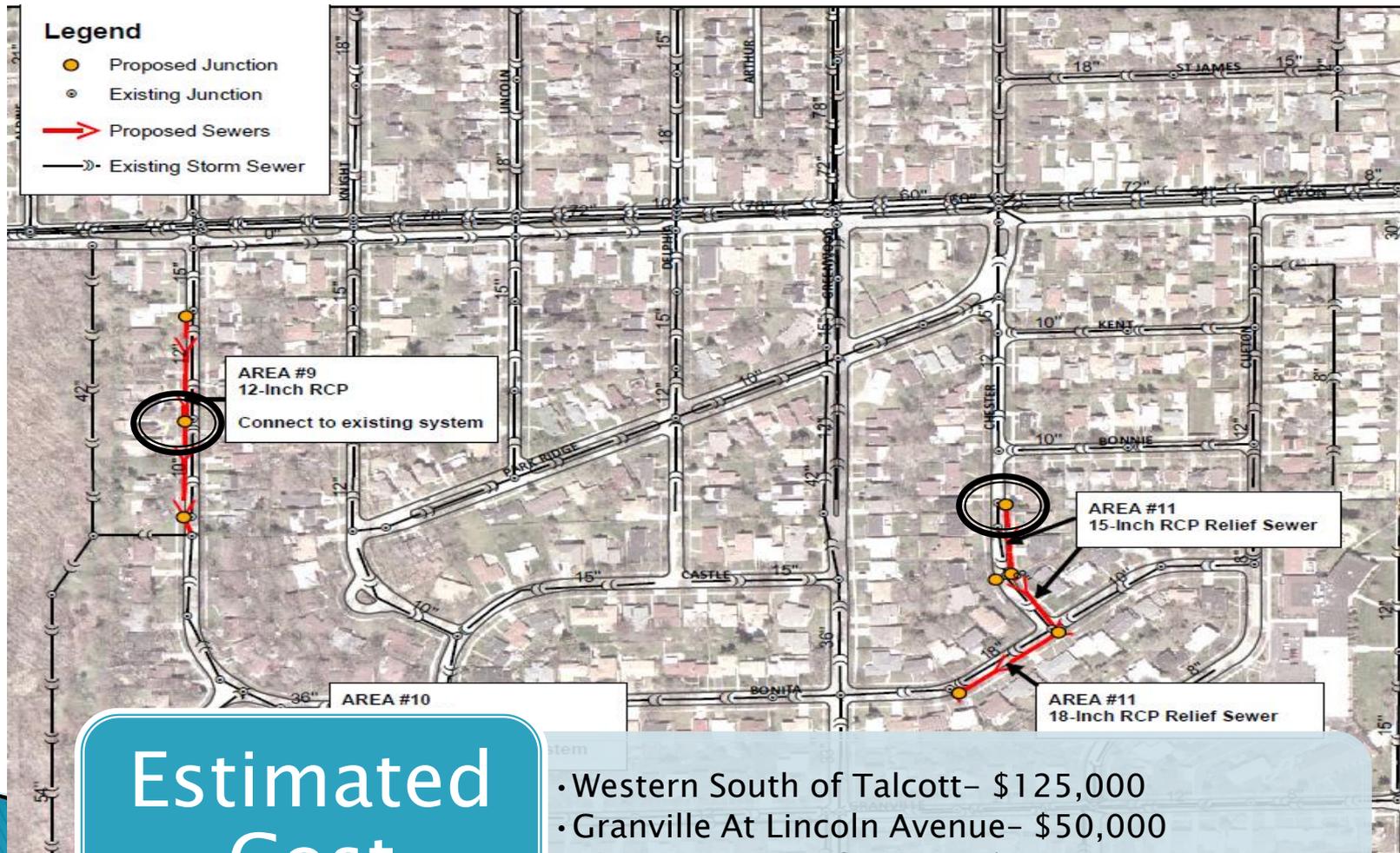
- Proposed Junction
- ⊙ Existing Junction
- ➔ Proposed Sewers
- Existing Storm Sewer



Estimated
Cost

• \$530,000

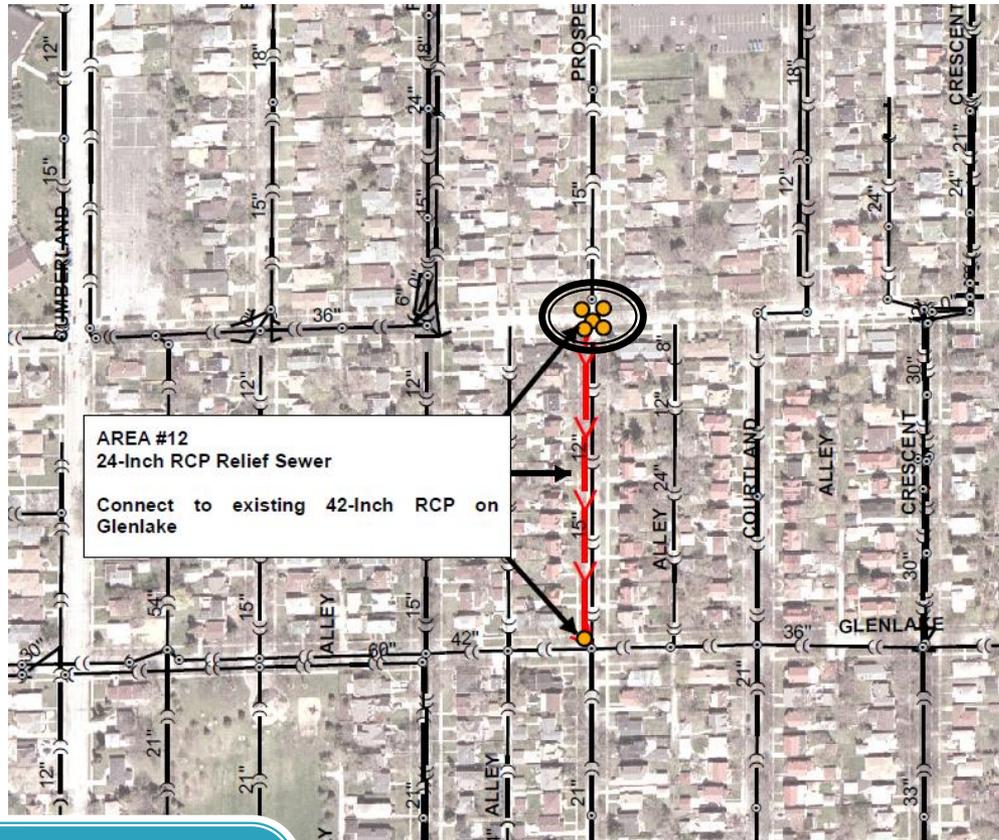
Western Avenue, Granville at Lincoln Avenue and Chester



Estimated Cost

- Western South of Talcott- \$125,000
- Granville At Lincoln Avenue- \$50,000
- Chester, South of Devon- \$150,000

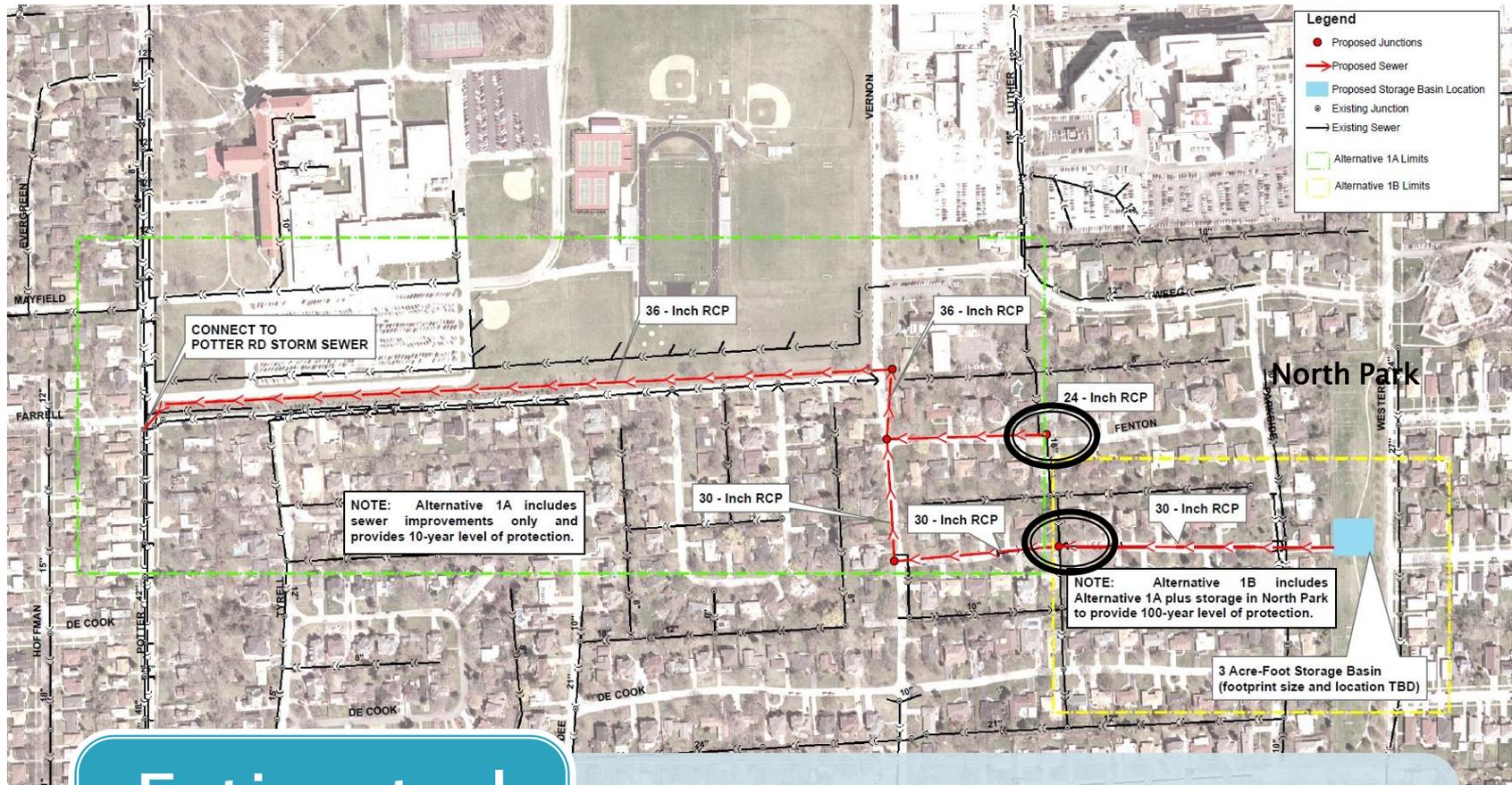
Prospect Avenue



Estimated
Cost

• \$225,000

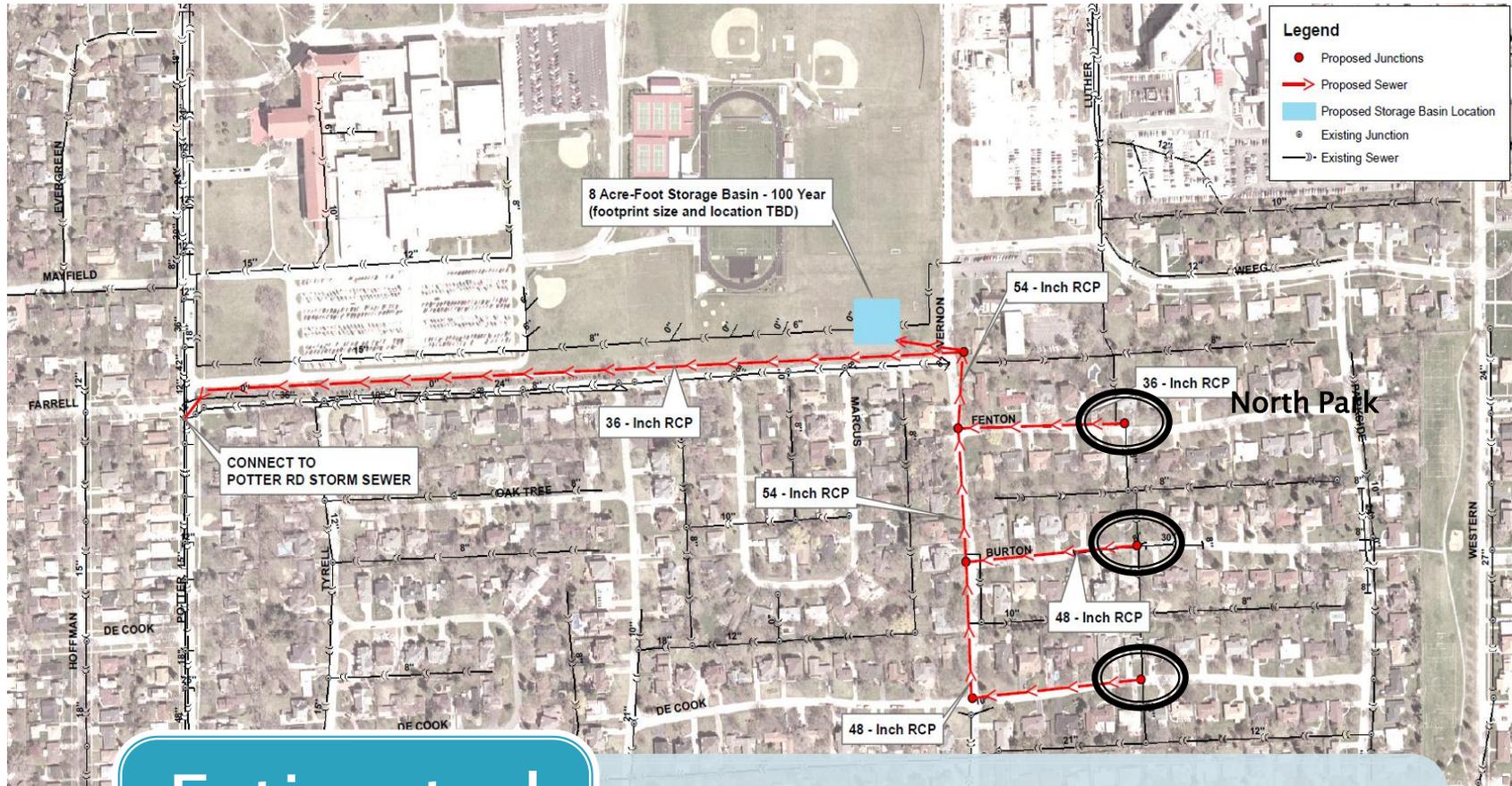
North Park



Estimated Cost

- 10-Year Level of Protection – \$970,000
- 100-Year Level of Protection (North Park)– \$2.1M

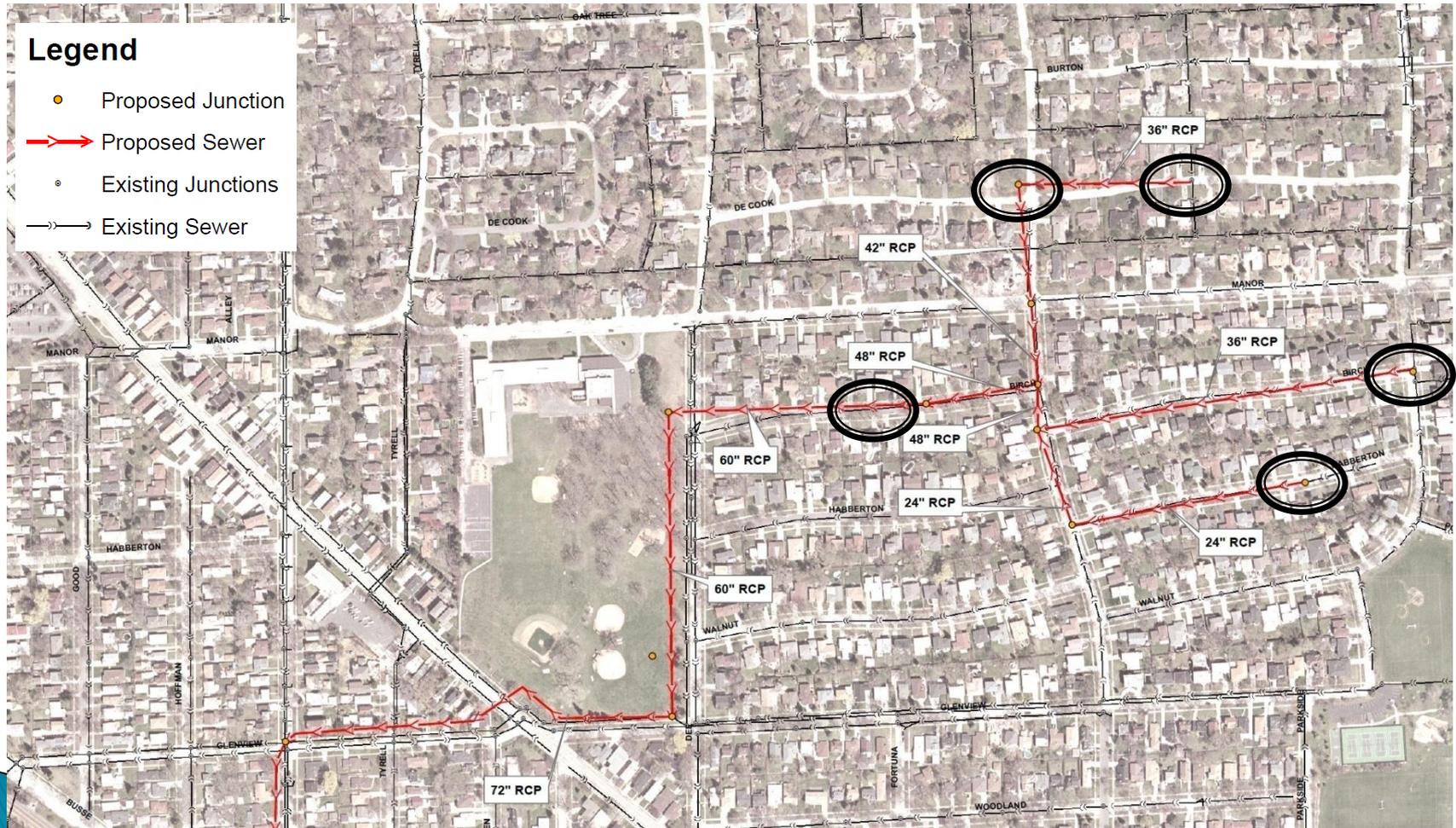
North Park



Estimated
Cost

• \$3.4M

Northwest Park, New Outfall to River



Northwest Park, New Outfall to River

Legend

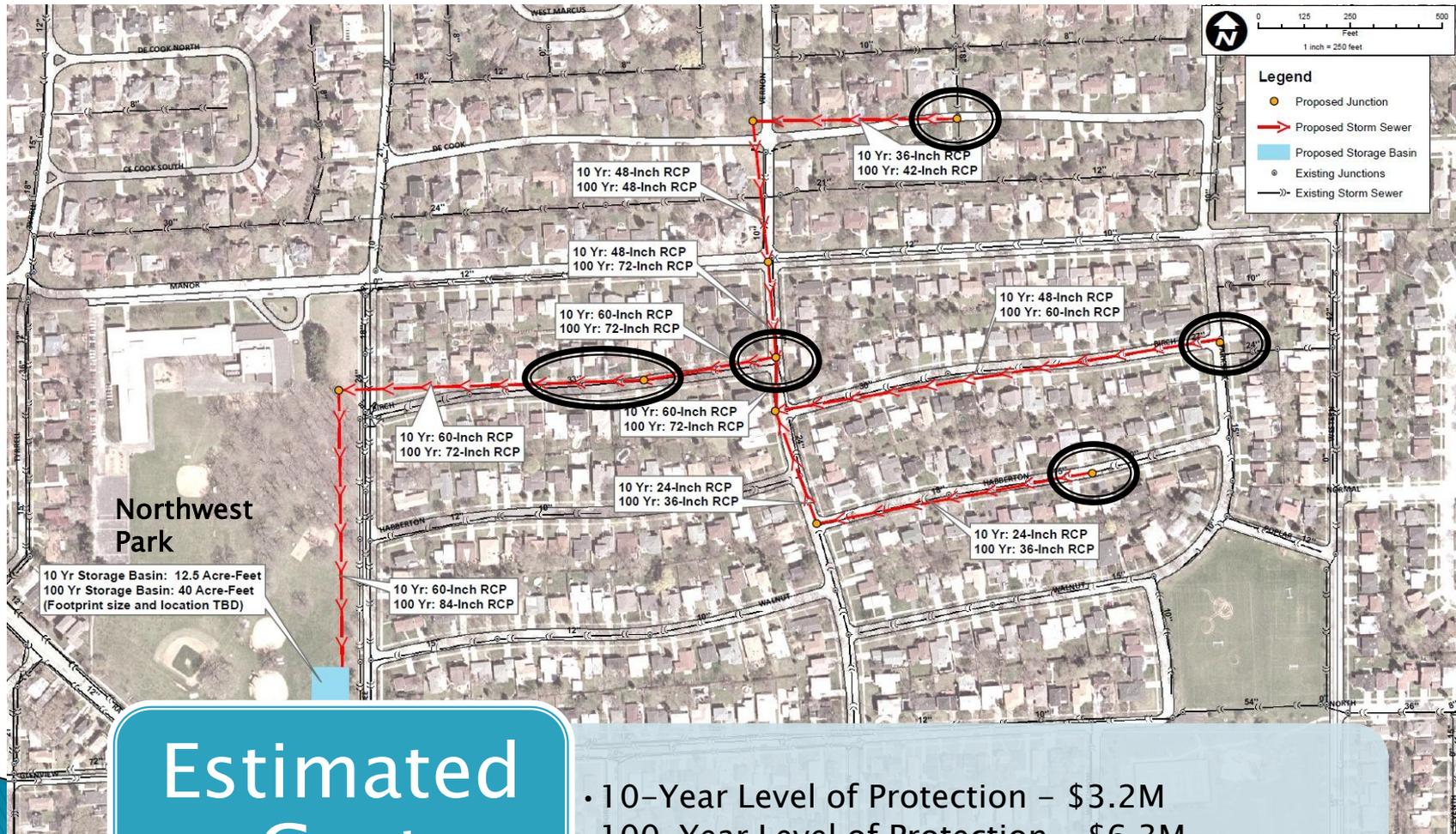
- Proposed Junction
- Proposed Sewer
- Existing Junctions
- Existing Sewer



Estimated
Cost

• \$4.8M

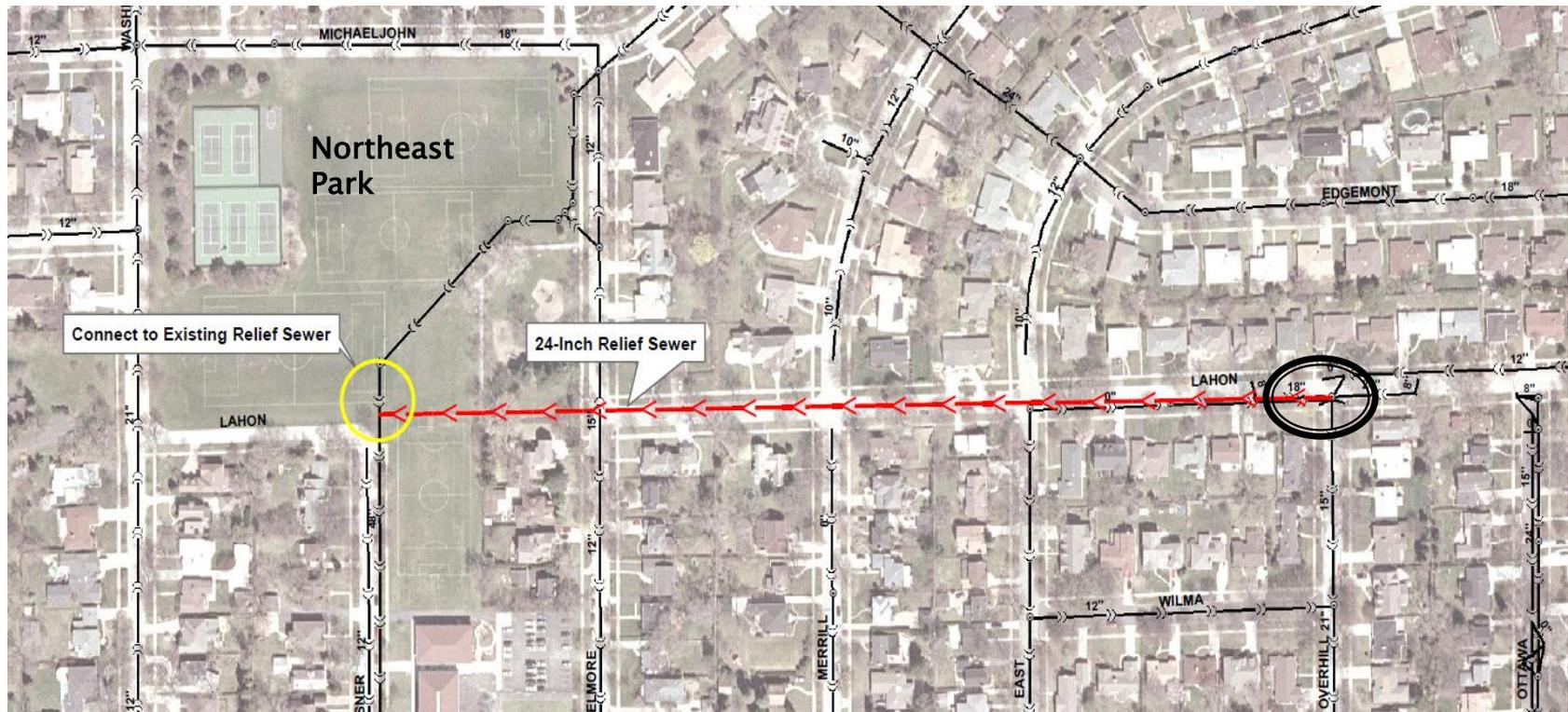
Northwest Park Storage Options



Estimated
Cost

- 10-Year Level of Protection – \$3.2M
- 100-Year Level of Protection – \$6.3M

Overhill and Lahon Avenue



Estimated
Cost

• \$400,000

Estimated Cost

Alternative	Cost
Gillick Street Relief Sewer	\$650,000
Cumberland Avenue North of Talcott	\$350,000
South of Talcott, Prospect, Courtland, and Crescent	\$530,000
Western South of Talcott	\$125,000
Granville at Lincoln Avenue	\$50,000
Chester, South of Devon	\$150,000
Prospect Avenue	\$225,000
North Park – 10–Year Level of Protection	\$970,000
North Park – 100–Year Level of Protection (Storage at North Park)	\$2.1M
North Park – 100–Year (Storage at High School)	\$3.4M
Northwest Park, New Outfall To River	\$4.8M
Northwest Park – 10–Year Storage Option	\$3.2M
Northwest Park – 100–Year Storage Option	\$6.3M
Park Ridge Country Club and Vicinity – 10–Year Protection	\$5M
Park Ridge Country Club and Vicinity – 100–Year Protection	\$5.2M
Overhill & Lahon Avenue	\$400,000

Questions?

A copy of report can be found on the City of Park Ridge website

