

Recommended Stormwater Program & Service Charge Common Council Meeting

December 3, 2012



Discussion Items

- Program Purpose
- Identified program needs
- Equivalent Residential Unit (ERU) and proposed billing structure
- Proposed Service Charge rate and billing examples
- Proposed Capital Projects
- Proposed Schedule for implementation



Purpose of Proposed Program

- Purpose
 - Improve quality of service
 - Improve water quality in waterways
 - Comply with state and federal requirements
(Municipal Separate Storm Sewer (MS4) Permit)
- Program Components
 - Proposed stormwater capital improvement projects
 - Ongoing infrastructure operations and maintenance and regulatory compliance



Identified Program Needs

- Approximately \$14 million capital project needs (proposed 20-year program)
- Annual city-wide project costs of \$150,000
- Ongoing operations costs of approximately \$375,000 annually



Equivalent Residential Unit

- **ERU**: Average impervious area on a residential property and equals 3,200 square feet
- Based on sample residential parcel measurements
- ERU establishes a base billing unit



Proposed Monthly Billing Structure

- Monthly assessment based on Impervious Surface Area (ISA)
- Residential property billed one ERU
- Non-residential property billed per total measured ISA

Example: Total measured ISA/3,200 = #ERUs

#ERUs * Rate = Bill amount



- Residential property impervious surface area

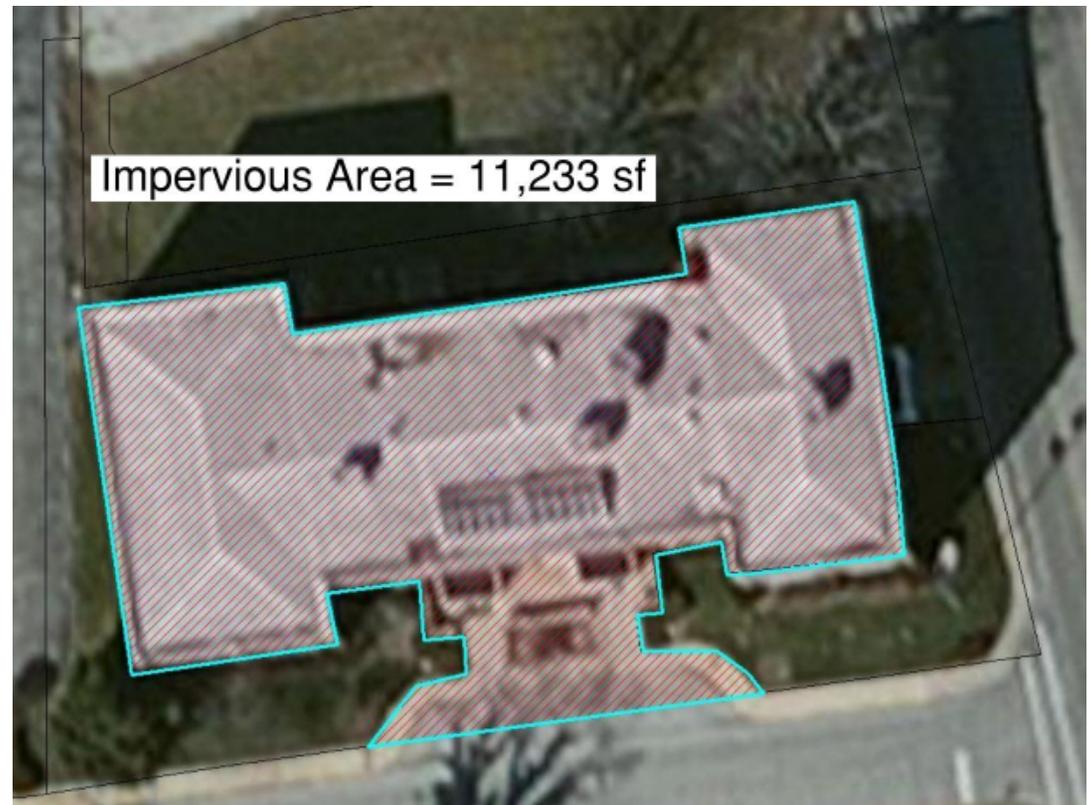
1 ERU = \$8.00/month



- Non-Residential property impervious surface area

$$11,233 / 3,200 = 4$$

$$4 \text{ ERUs} \times \$8.00 = \$32/\text{month}$$



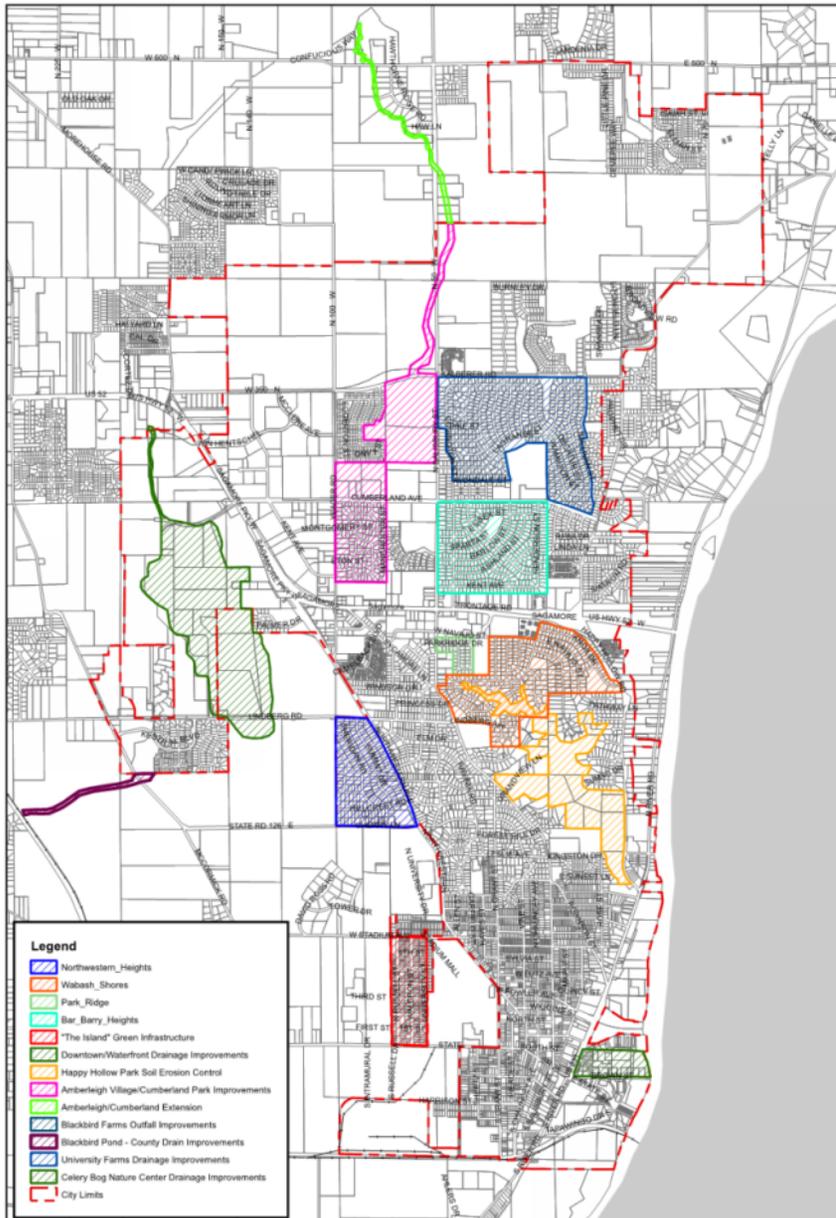
- **Bigger Picture**

- Approximately 29,400,000 sq ft of non – residential ISA exists in the system today
- Non-Residential ISA equates to approximately 9,200 ERUs
- Residential parcels include approximately 4,700 ERUs
- Estimated total ERUs in the system 13,900 ERUs



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Legend

-  Northwestern_Heights
-  Wabash_Shores
-  Park_Ridge
-  Bar_Barry_Heights
-  "The Island" Green Infrastructure
-  Downtown/Waterfront Drainage Improvements
-  Happy Hollow Park Soil Erosion Control
-  Amberleigh Village/Cumberland Park Improvements
-  Amberleigh/Cumberland Extension
-  Blackbird Farms Outfall Improvements
-  Blackbird Pond - County Drain Improvements
-  University Farms Drainage Improvements
-  Celery Bog Nature Center Drainage Improvements
-  City Limits

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 - City Limits



Proposed Schedule for Implementation

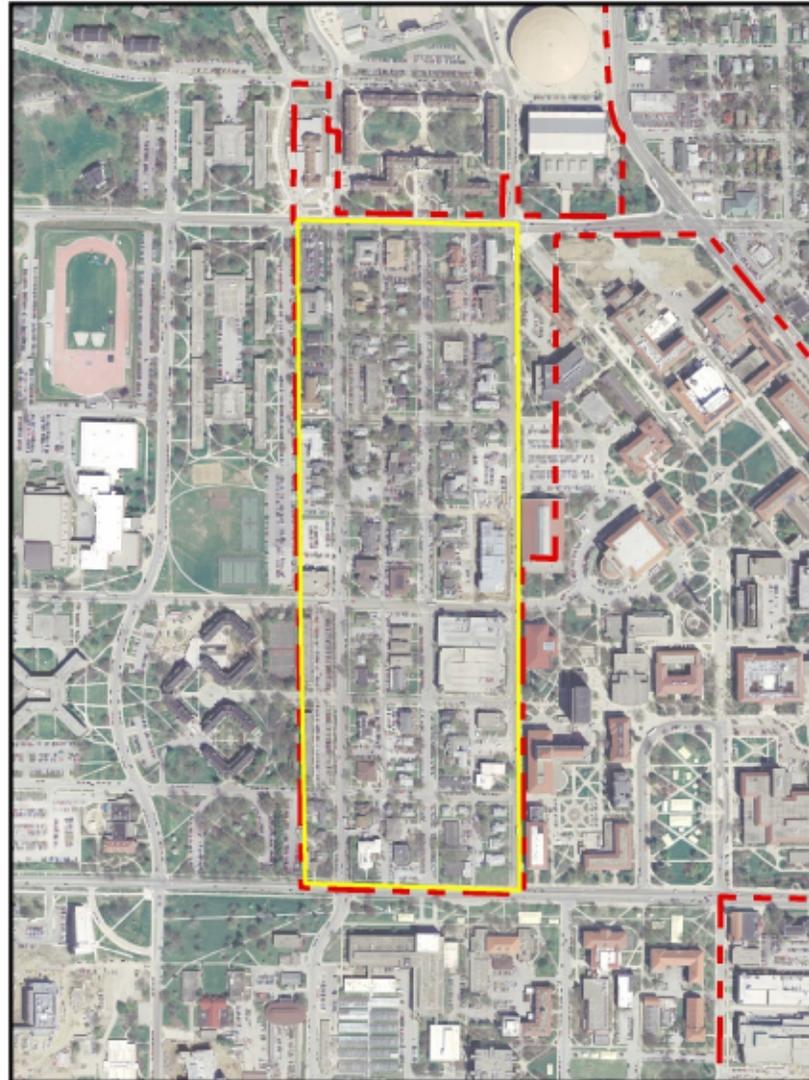
- Ordinance currently prepared with proposed rate and billing language
- Outreach for top rate payers being prepared
- Public open house event being planned and scheduled
- Propose to implement new rate January 2014



Questions?



“The Island” Green Infrastructure



“The Island” Green Infrastructure

- **Project:** Rain garden and streetscape installations
- **Est. Cost:** \$2,400,000
- **Benefits**
 - Improved water quality
 - Enhanced aesthetics with through streetscaping with native plantings
 - Additional storm inlets and curb cuts
 - Trash and silt capture



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Downtown/Waterfront Drainage Improvements

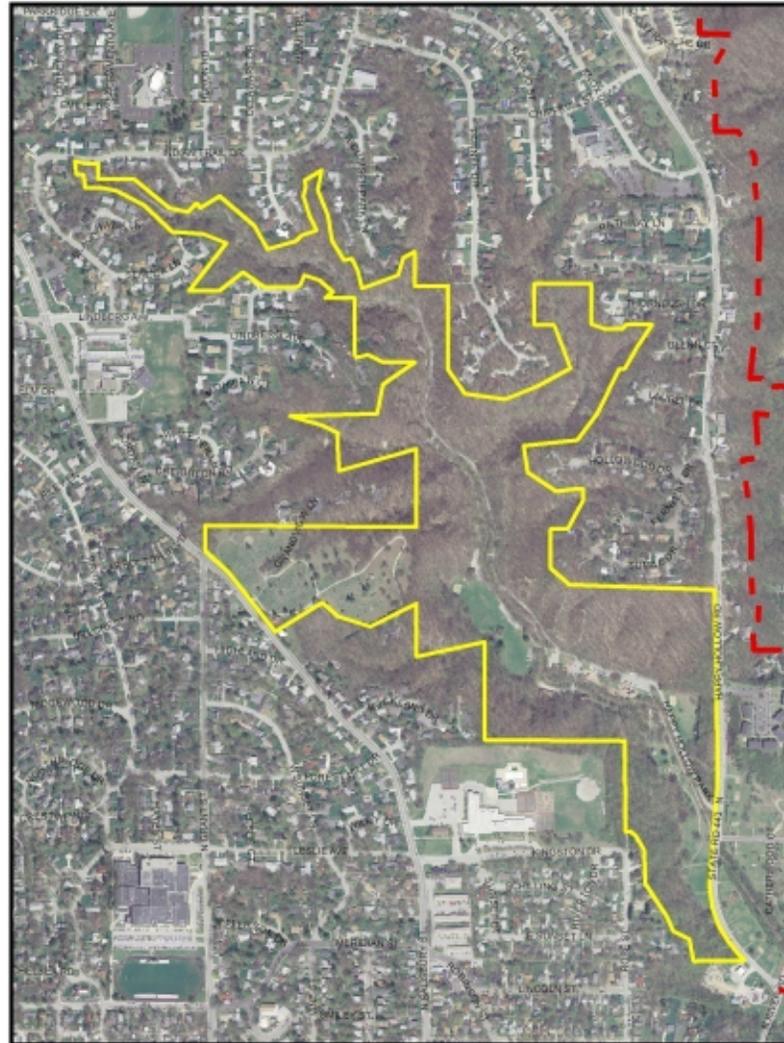


Downtown/Waterfront Drainage Improvements

- **Project:** Drainage improvements
- **Est. Cost:** \$500,000
- **Benefits**
 - Reduced stormwater runoff through green infrastructure implementation – treatment wetlands and rain gardens
 - Improved drainage capacity in vicinity for future development with addition of storm sewer and water quality units



Happy Hollow Park Erosion Control

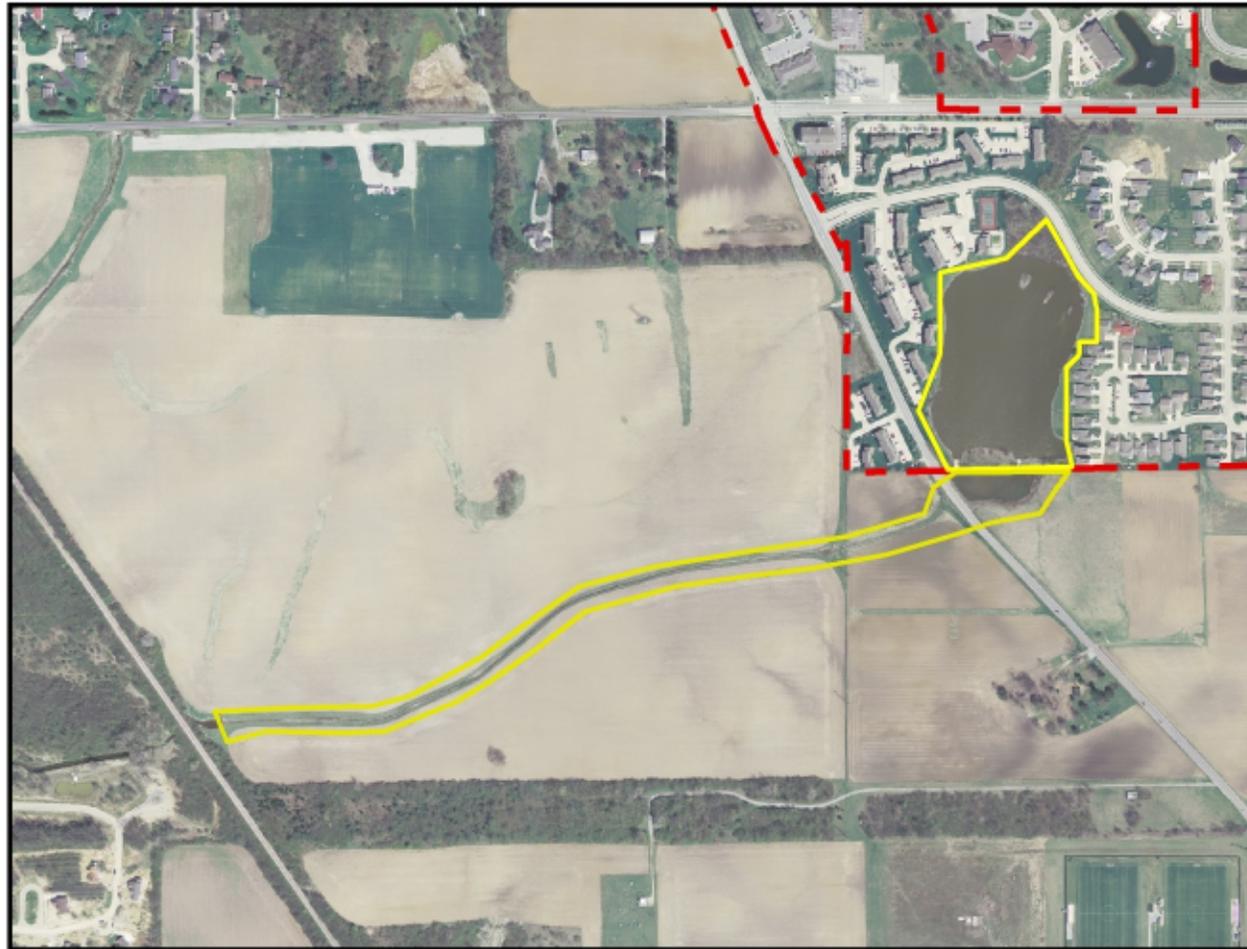


Happy Hollow Park Erosion Control

- **Project:** Slope stabilization and erosion control
- **Est. Cost:** \$4,600,000
- **Benefits**
 - Systematic approach to Happy Hollow ravine erosion control
 - Improved drainage in park and neighborhoods with new channelization and piping
 - Ongoing slope stabilization in areas most likely to fail
 - Reduced sediment laden runoff flowing into Wabash River



Blackbird Pond Stormwater Improvements



Blackbird Pond Stormwater Improvements

- **Project:** Detention basin retrofit, bank stabilization
- **Est. Cost:** \$800,000
- **Benefits**
 - Enhanced dissolved nitrogen and phosphorus pollutant removal
 - Stream bank area stabilization, wetland grading and native wetland plantings
 - Channel lining for drain stabilization west of McCormick Road



Plaza Parks/Cumberland Park Improvements

- **Project:** Water quality, drainage improvements
- **Est. Cost:** \$2,800,000
- **Benefits**
 - Improved runoff conveyance capacity of Boes Ditch
 - Stabilization of wooded drainageways through Cumberland Park
 - Reduced standing water, flooding in Plaza Parks neighborhood



University Farms Drainage Improvements



University Farms Drainage Improvements

- **Project:** Drainage improvements
- **Est. Cost:** \$1,200,000
- **Benefits**
 - Reduced occurrences of standing water in backyards and flooded basements
 - Improved drainage throughout
 - Water quality enhancements through infiltration practices



Celery Bog Drainage Improvements

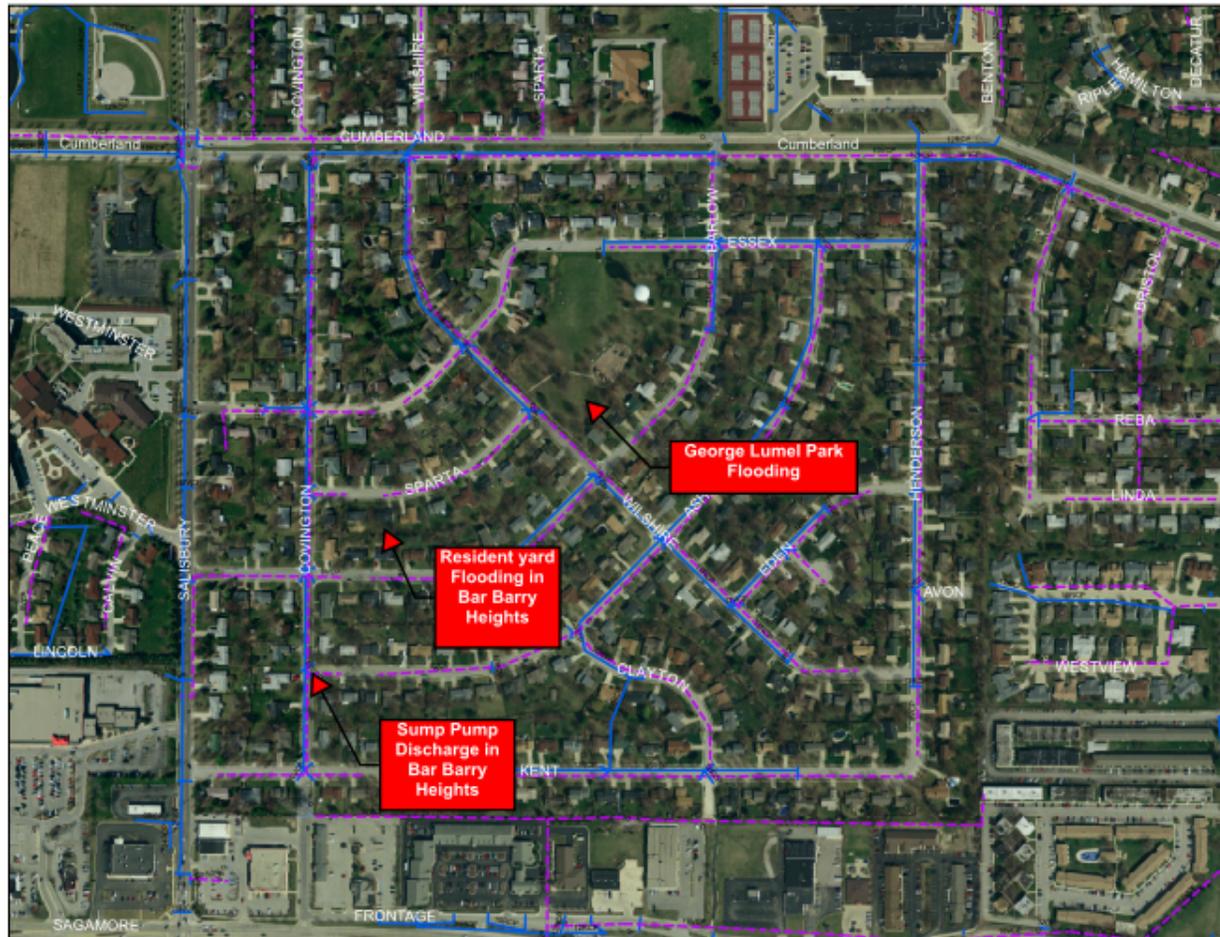
- **Project:** Drainage improvements
- **Est. Cost:** \$1,000,000
- **Benefits**
 - Water quality enhancements through vegetative filters and wetland grading
 - Improved flow control with drainage structures placed along northern edge of project area
 - Improved access for nature center recreational users



Proposed City Wide Maintenance Projects



Bar Barry Heights – Maintenance Projects



Bar Barry Heights – Resident Yard Flooding

- Drainage patterns cause floods and holds water during rain events
- Health hazard during summers
- Estimated Project Cost: \$105,000



George Lummel Park Flooding

- Property line holds water after rain events
- Health hazard
- Estimated Project Cost:
\$130,000



Bar Barry Heights – Sump Pump Discharge

- Residential sump pump discharges into road
- Hazardous driving conditions
- Public hazard
- Estimated Project Cost: \$46,000



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Park Ridge & Wabash Shores – Maintenance Projects



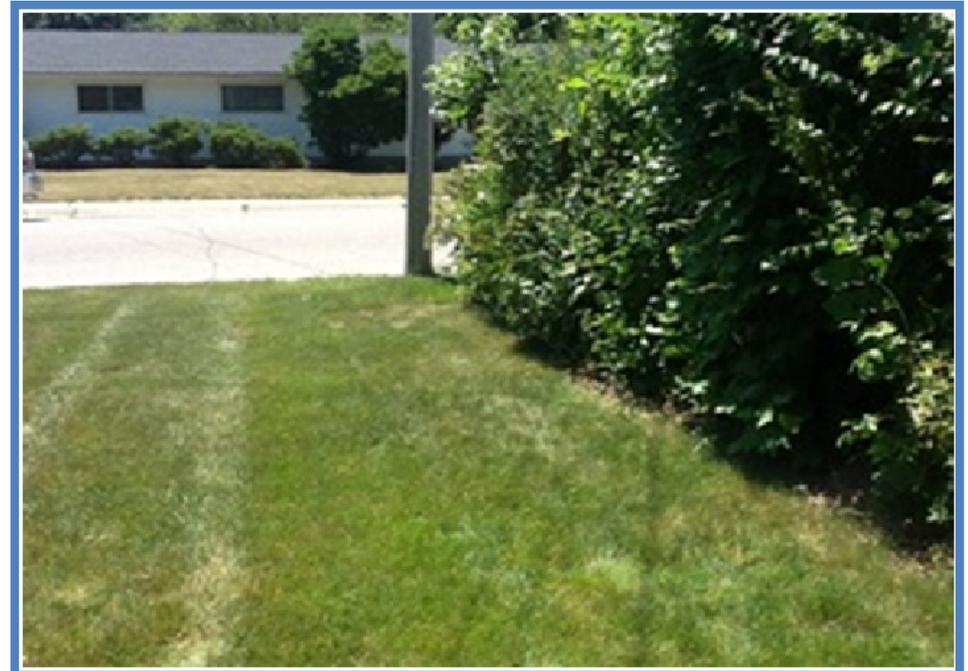
Indian Trail Drive Street Flooding

- Clogged inlet causes street flooding
- Routine maintenance required
- Estimated Project Cost: \$19,500



Wabash Shores Resident Yard Flooding

- Poor drainage patterns
- Yard floods and holds water during rain events
- Church construction contributes to runoff towards surrounding residents
- Health hazards



- Estimated Project Cost: \$91,500



Nighthawk and Navajo Intersection Flooding

- Low point at northwest corner of intersection
- Holds water during rain events
- Estimated Project Cost: \$20,500

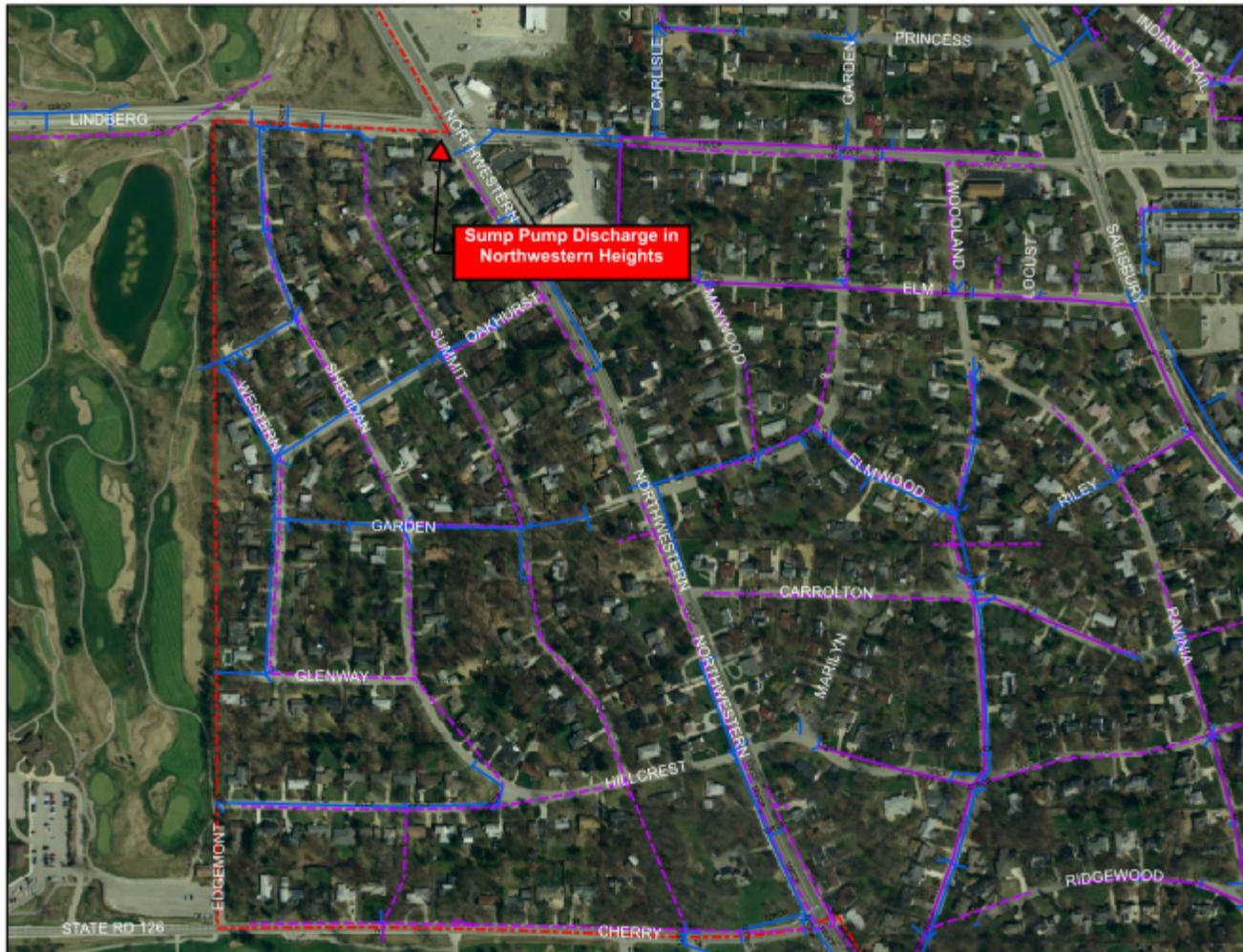


Salisbury Street – Two Projects

- Failing infrastructure
- Floods during rain events
- Curb and gutter failure
- Breaking pavement
- Lacks proper inlet spacing
- Estimated Project Cost: \$51,000*



Northwestern Heights – Maintenance Projects



Northwestern Heights Sump Pump Discharge

- Sump pump discharges into intersection
- Hazardous driving conditions
- Intersection handles 37,000 vehicles per day
- Estimated Project Cost: \$65,000

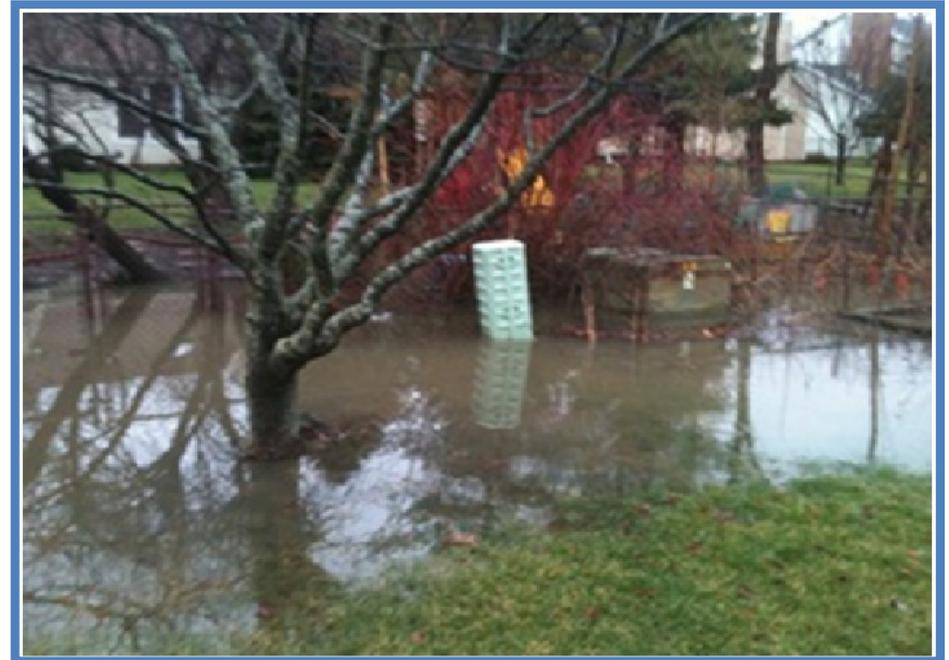


University Farms – Maintenance Projects



University Farms – Benton Street Residential Flooding

- Fences and plantings within drainage easement
- Yards flood and hold water during rain events
- Water reaches electrical box during larger storm events



- Estimated Project Cost: \$85,000



University Farms – Sullivan Street Residential Flooding

- Poor drainage
- Yards flood and hold water during rain events
- Water reaches electrical box during larger storm events
- Estimated Project Cost: \$25,000



University Farms – Noble Court Residential Flooding

- Poor drainage
- Standing water
- Ground elevation raised with new construction
- Estimated Project Cost: \$31,000

