Stormwater Utility Update
September 16, 2019
Why are we here?

• Lawsuit: Schroeder vs Royal Oak (2014)
  – Class action lawsuit challenging two components of the City’s water and sewer rates: Kuhn Facility Debt Charge and Stormwater Charges
  – 2017 Settlement resulted in changes to billing methodology
Billing Methodology

• Both water and sewer are based on metered water use
• Combined sewers include stormwater
• Proposed method – Stormwater costs based on runoff generated from a property
What is Runoff?

Pervious Surface

- Majority of rain flows through soil into groundwater, not a sewer.

Impervious Surface

- Majority of rain flows off pavement, along with dirt and debris, into a sewer.

To DWSD wastewater treatment plant in Kejal Calk.

Pervious

Impervious

Non-Billable (public right-of-way)
Why a Stormwater Utility?

- More Equitable
- Dedicated Funds
- Green Projects
- High Costs for Combined Sewer System Treatment
- Reduce Peak Flow (Back Ups)
Basis for a Utility

• General health, safety and welfare of public
• Enabling legislation pending (House Bill 4691)
• Draft stormwater utility ordinance
# Cost Projections

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Cost Projections

- Total - $13,073,260
- Existing Sewer Bills
  - $11,390,670
  - ~2/3 of current sewer budget
- Other City Budgets
  - $595,000
- Stormwater Program Elements
  - $1,087,590
- GWK Debt Remains on Property Taxes
Future GI Project
Non-Residential Bills

• Many commercial, industrial, and institutional properties will see increases

• “New-To-World” accounts added
Example of Top Impervious Users

- Beaumont Hospital
- Detroit Zoo
- AAM Metal Forming
- Consumers Energy
- Kroger

- Meijer
- Flex-N-Gate
- Royal Oak High School
- Red Run Golf Course
- Coventry Condos
Impact - Residential Bill Changes

• 48% of residential accounts will see decreases
• 10% stay the same
• 30% increase between 5 and 30%
• 12% increase by more than 30%
Single Family Residential Quarterly Changes

SFR Accounts Bill Changes

Change in Quarterly Bill

- $(30)
- $(20)
- $(10)
- $(5)
- $-
- $5
- $10
- $20
- $30
- $50 to $150

# of SFR Accounts
Billing Scenario 1: Compare + Contrast
Parcel A
Parcel Size: 0.13 acres
Impervious Area: 2689 sq. ft.
Total 2018 Water Usage: 47

Parcel B
Parcel Size: 0.25 acres
Impervious Area: 2688 sq. ft.
Total 2018 Water Usage: 50

Parcel C
Parcel Size: 0.10 acres
Impervious Area: 2688 sq. ft.
Total 2018 Water Usage: 50
Parcel A
- 2018 Sanitary Bill: $412
- Post-Utility Sanitary: $132
- Stormwater: $297
- Total Post-Utility: $429

Parcel Size: 0.13 acres
Impervious Area: 2689 sq. ft.
Total 2018 Water Usage: 47

Parcel B
- 2018 Sanitary Bill: $438
- Post-Utility Sanitary: $140
- Stormwater: $297
- Total Post-Utility: $437

Parcel Size: 0.25 acres
Impervious Area: 2688 sq. ft.
Total 2018 Water Usage: 50

Parcel C
- 2018 Sanitary Bill: $438
- Post-Utility Sanitary: $140
- Stormwater: $297
- Total Post-Utility: $437

Parcel Size: 0.10 acres
Impervious Area: 2688 sq. ft.
Total 2018 Water Usage: 50
Billing Scenario 2: Compare + Contrast
Parcel A
Parcel Size: 0.15 acres
Impervious Area: 5450 sq. ft.
Total 2018 Water Usage: 84

Parcel B
Parcel Size: 0.15 acres
Impervious Area: 1210 sq. ft.
Total 2018 Water Usage: 84

Parcel C
Parcel Size: 0.15 acres
Impervious Area: 3022 sq. ft.
Total 2018 Water Usage: 84
Billing Scenario 3: Compare + Contrast
Parcel A
Parcel Size: 0.19 acres
Impervious Area: 1966 sq. ft.
Total 2018 Water Usage: 85

Parcel B
Parcel Size: 0.19 acres
Impervious Area: 1967 sq. ft.
Total 2018 Water Usage: 12

Parcel C
Parcel Size: 0.19 acres
Impervious Area: 1968 sq. ft.
Total 2018 Water Usage: 61
Parcel A
2018 Sanitary Bill: $761
Post-Utility Sanitary: $243
Stormwater: $217
Total Post-Utility: $460
Parcel Size: 0.19 acres
Impervious Area: 1966 sq. ft.
Total 2018 Water Usage: 85

Parcel B
2018 Sanitary Bill: $105
Post-Utility Sanitary: $34
Stormwater: $217
Total Post-Utility: $251
Parcel Size: 0.19 acres
Impervious Area: 1967 sq. ft.
Total 2018 Water Usage: 12

Parcel C
2018 Sanitary Bill: $535
Post-Utility Sanitary: $171
Stormwater: $217
Total Post-Utility: $388
Parcel Size: 0.19 acres
Impervious Area: 1968 sq. ft.
Total 2018 Water Usage: 61
Credit Program

• Opportunity for property owners to reduce stormwater charge for managing stormwater onsite
• Fixed system operating costs limit credits
• “Non-user” credit
Residential Credit Program

- Disconnected Downspouts from Impervious Area
  - 10% credit
- Rain Gardens
  - 10% credit
Non-Residential Credit Program

• Volume reduction
  – Removal from system
  – 30% max credit
• Peak flow control
  – Reduce the rate runoff leaves a site
  – Still treated at GLWA
  – 20% max credit
• 50% Maximum Combined Credit
Outreach Strategy

- Insight Magazine
- Social Media: Facebook, Nextdoor
- Webpage
- Bill inserts
- WROK Television station
Schedule and Next Steps

- Monthly Progress Meetings
- Public Engagement
- Trial Bills
- Ordinance Adoption
  - November/December
- First Customer Bills
  - January 1, 2020
- Managing Department - Engineering
- Questions?
Thank You
Single Family Residence 2018 Comparison

Current Bill vs. 2018 Annual Bill

- Avg Actual 2018 Bill
- Avg 2018 Bill w SW Charge
- Avg Change in Bill

2018 Annual Bill vs. Average Difference in Billing

$300, $400, $500, $600, $700, $800, $900, $1,000, $1,100, $1,200, $1,300

$- , $200, $400, $600, $800, $1,000, $1,200, $1,400

$- , $250, $500, $750, $1,000, $1,250, $1,500

OHM Advisors
SUPPLEMENTAL INFO

Metrics
Impacts Quantified
Utility Flow Split
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Debt Service

- George W. Kuhn Retention Treatment Basin (GWK RTB)
- Currently included in property taxes
- Continue as tax (legal obligation)
Why do we need funding?
Stormwater Revenue Needs

• Largest Component: Oakland County Disposal Charges
  – $8.5 Million

• City currently developing final budget for the next fiscal year
Water and Sewer Fund

- Sewer Televising
- Root Control
- Sewer Repair and Rehabilitation
- Maintenance (Staff, Vehicles, etc)
SW Components in Other City Budgets

• SW Component of Road Improvements
• Street Sweeping
Stormwater Program Elements

- Green Infrastructure projects
- Green Infrastructure maintenance
- Public Outreach and Education
- Utility Management
## Non-Residential Credit Program

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<th>Stormwater Management Type</th>
<th>Volume Credit</th>
<th>Peak Flow Credit</th>
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<td>Disconnected Impervious Area</td>
<td>✓</td>
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<tr>
<td>Bioretention</td>
<td>✓</td>
<td>✓</td>
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<tr>
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<td>✓</td>
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<td>Permeable Pavement</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td>Green Roof</td>
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<td>Water Harvesting*</td>
<td>✓</td>
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*Determined on a case by case basis.

Other innovative solutions with technical documentation to demonstrate efficiency of stormwater management will be considered.
Combined Collection System
George W. Kuhn Retention Treatment Basin (GWK RTB)

- Serves 14 Communities and includes a drainage area of 24,500 acres upstream of the Red Run Drain
- Excess flow that exceeds outlet capacity to the Detroit Wastewater Treatment Plant is directed here where it is stored, screened, and disinfected before being discharged to the Red Run Drain

Image Source: WRC Website
GWK Drainage System

Image Source: City of Berkley 09/17/17 Presentation

Image Source: City of Royal Oak
GWK RTB

- Royal Oak 30% of system
- GWK used 23 to 40 times a year
- GWK discharges to Red Run Drain roughly 8 times a year

Image Source: City of Berkley Study
Cleaning Stormwater

- Ponds
- Wetlands
- Infiltration
- Filtration

Image Source: City of Royal Oak
Issues Affecting Royal Oak

- GWK Debt
- Basement Flooding
- Street Flooding
- Property Damage
What is NOT included?

- Rehabilitation and repair of aging pipes
- Sewer cleaning and inspections
- Replacement of undersized sewer
- Capital Green Infrastructure Projects
- Green Infrastructure Maintenance