Royal Oak
City Commission Work Session

Stormwater Utility Update

September 16, 2019

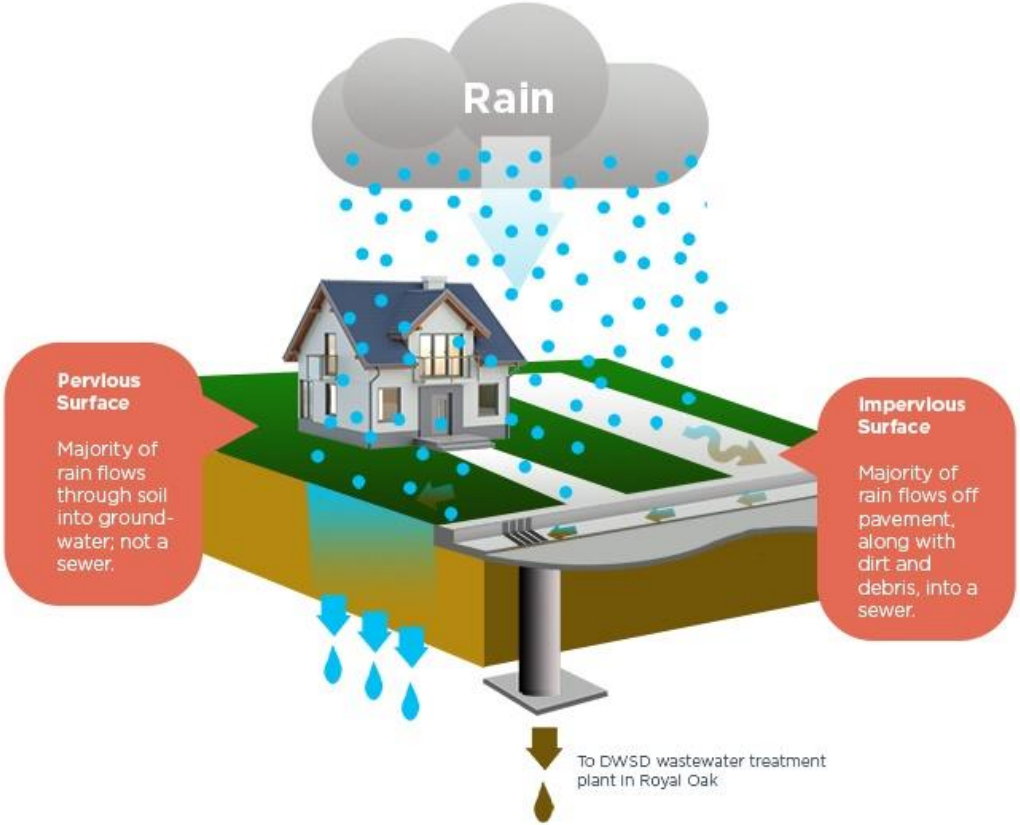
Why are we here?

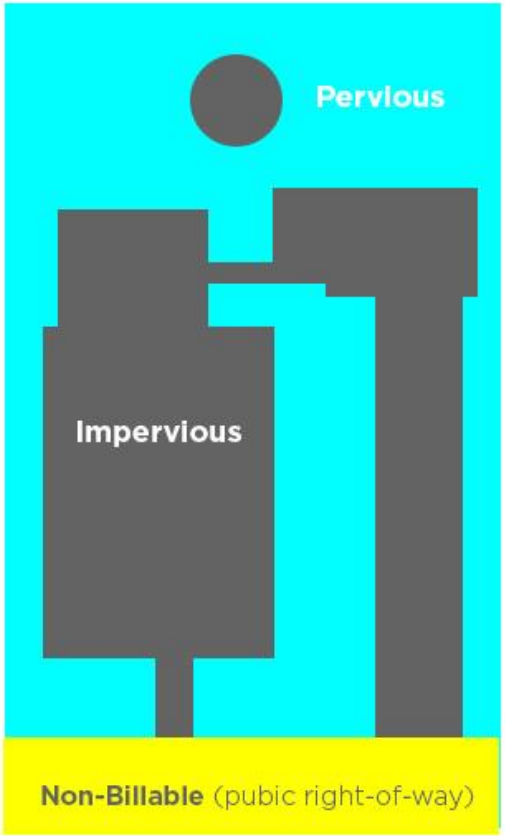
- Lawsuit: Schroeder vs Royal Oak (2014)
  - Class action lawsuit challenging two components of the City's water and sewer rates: Kuhn Facility Debt Charge and Stormwater Charges
  - 2017 Settlement resulted in changes to billing methodology

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?





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

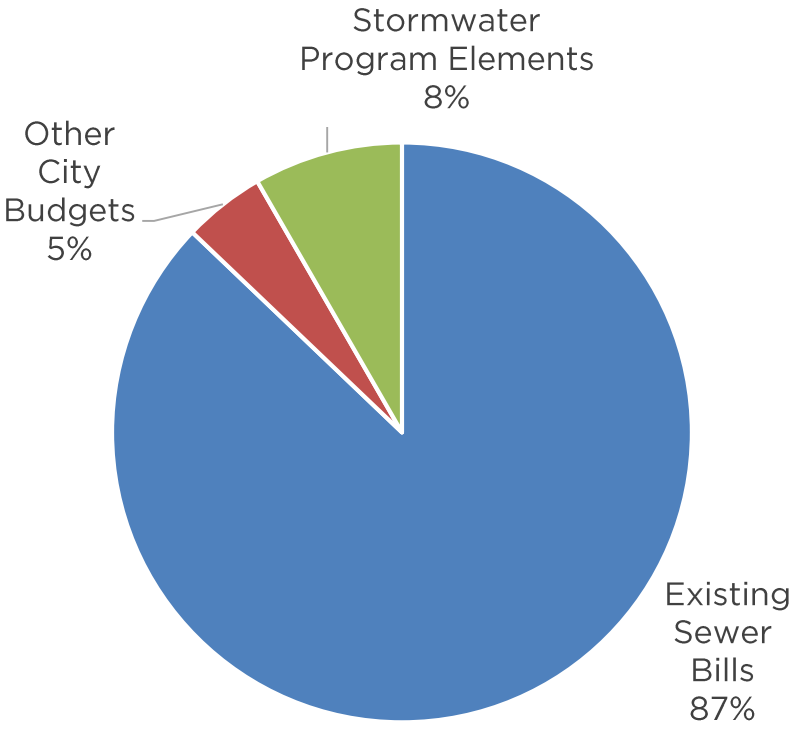
- General health, safety and welfare of public
- Enabling legislation pending (House Bill 4691)
- Draft stormwater utility ordinance

Image Source: City of Royal Oak

Cost Projections

Current Funding Source	Budgetary Item	Annual Cost
Existing Sewer Bills	OCWRC Disposal Charges	$8,405,210
	Sewer Rehabilitation and Repair	$1,375,000
	Sewer Maintenance (staff, vehicles, etc)	$1,260,460
	Capital Sewer Projects	$350,000
Other City Budgets	Drainage Component of Road Projects	$415,000
	Street Sweeping	$180,000
Stormwater Program Elements	Capital Green Infrastructure Projects	$250,000
	Green Infrastructure Maintenance	$16,000
	Administration Costs (~1.5 new FTE)	$150,000
	Public Outreach and Education	$30,000
	Database Maintenance	$20,000
	Reduction from Credits (5%)	$621,590
	Total	$ 13,073,260

Cost Projections

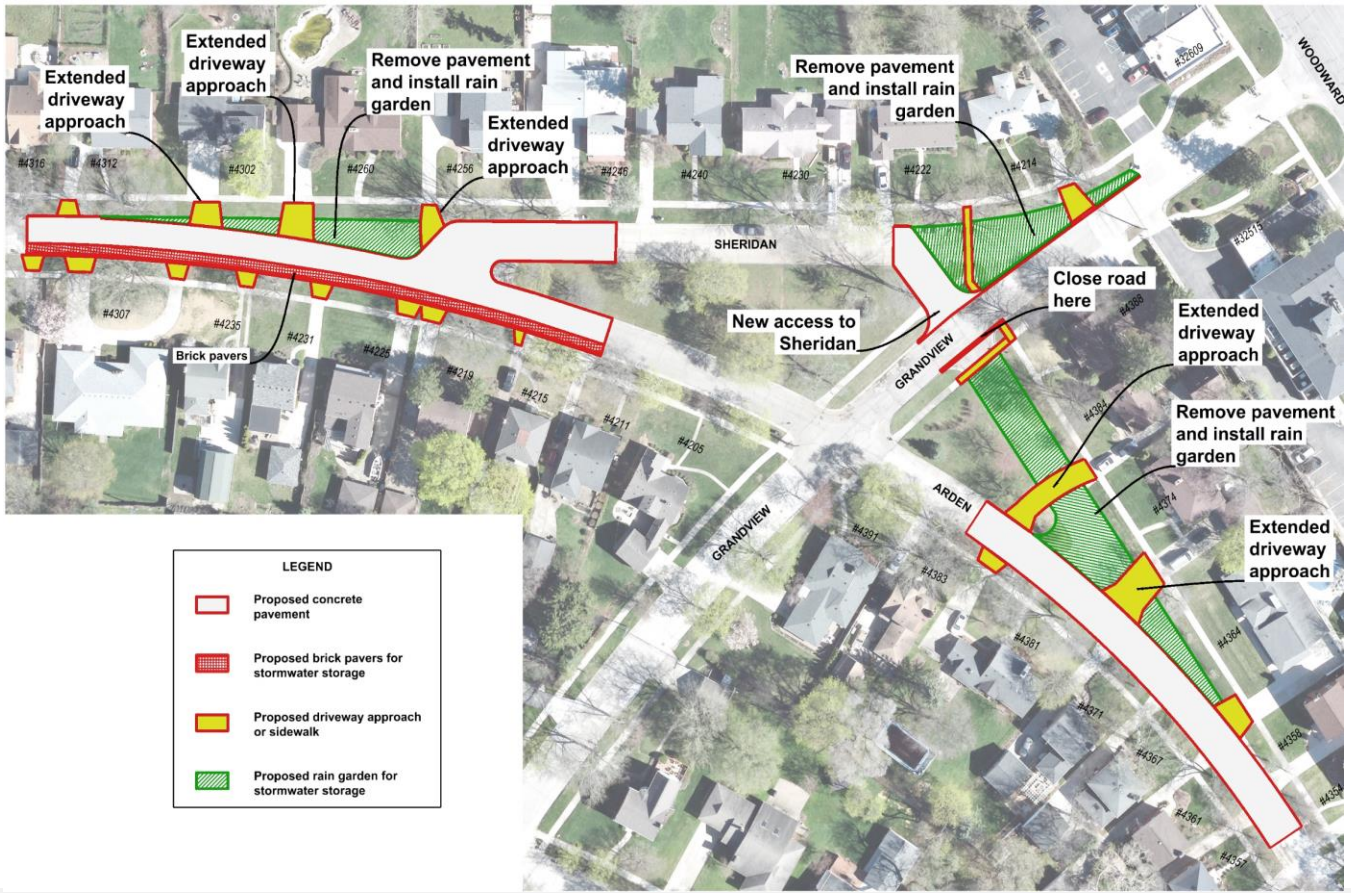


- Total - $ 13,073,260
- Existing Sewer Bills
  - $11,390,670
  - ~2/3 of current sewer budget
- Other City Budgets
  - $595,000
- Stormwater Program Elements
  - $1,087,590
- GWK Debt Remains on Property Taxes

Future GI Project

Preliminary Design Concept

Sheridan / Grandview / Arden Neighborhood



Non-Residential Bills

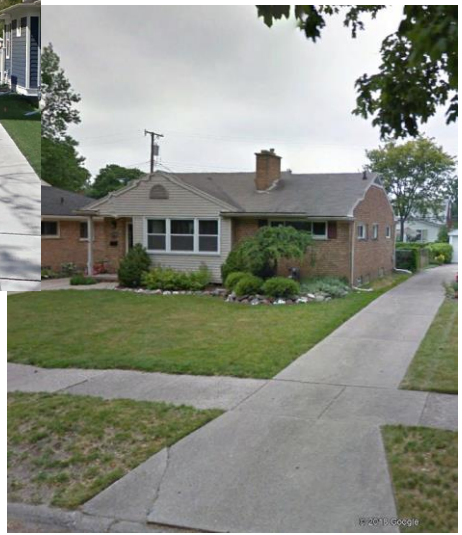
- Many commercial, industrial, and institutional properties will see increases
- “New-To-World” accounts added

Example of Top Impervious Users

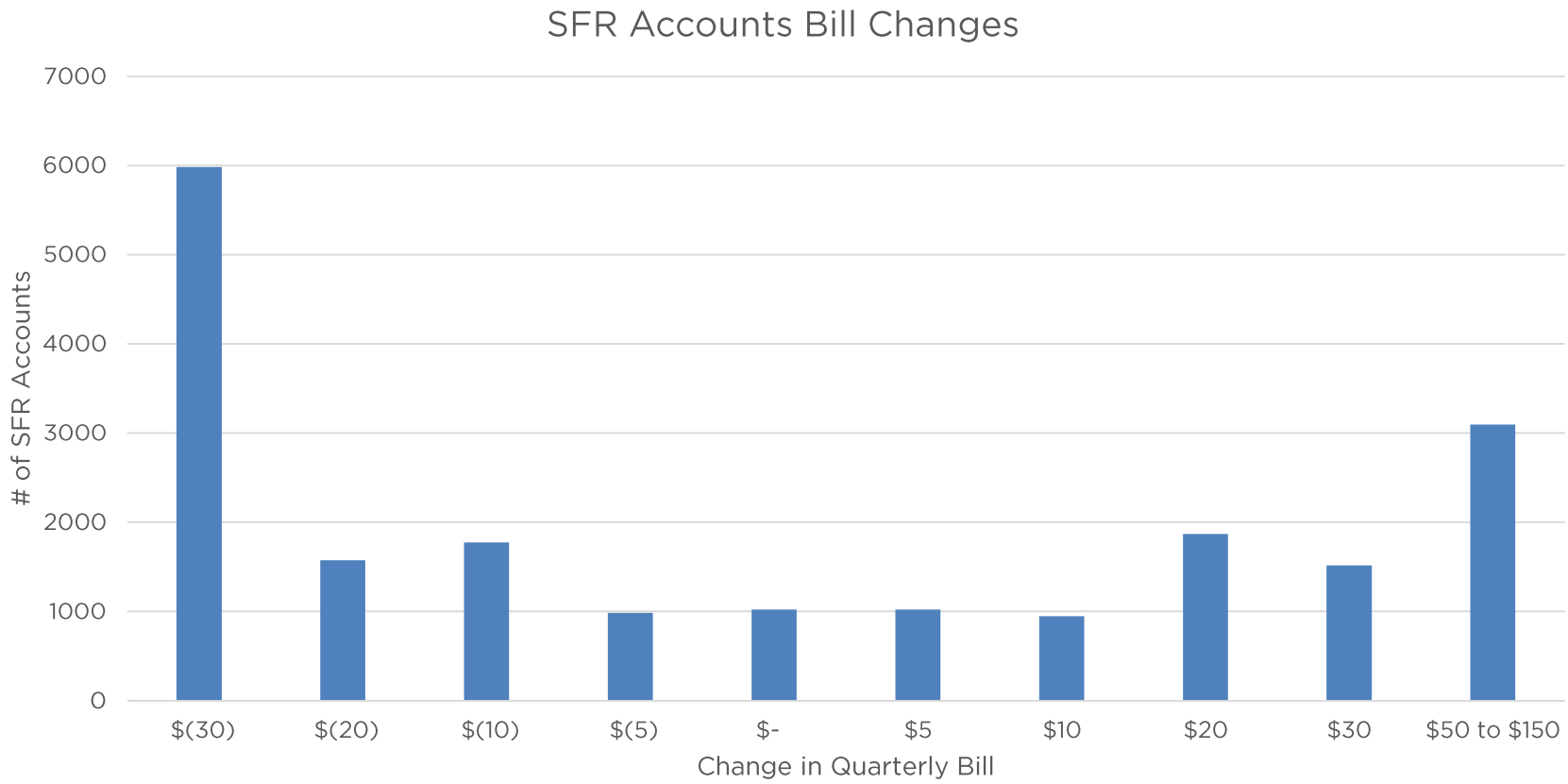
- Beaumont Hospital
- Detroit Zoo
- AAM Metal Forming
- Consumers Energy
- Kroger
- Meijer
- Flex-N-Gate
- Royal Oak High School
- Red Run Golf Course
- Conventry Condos

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



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

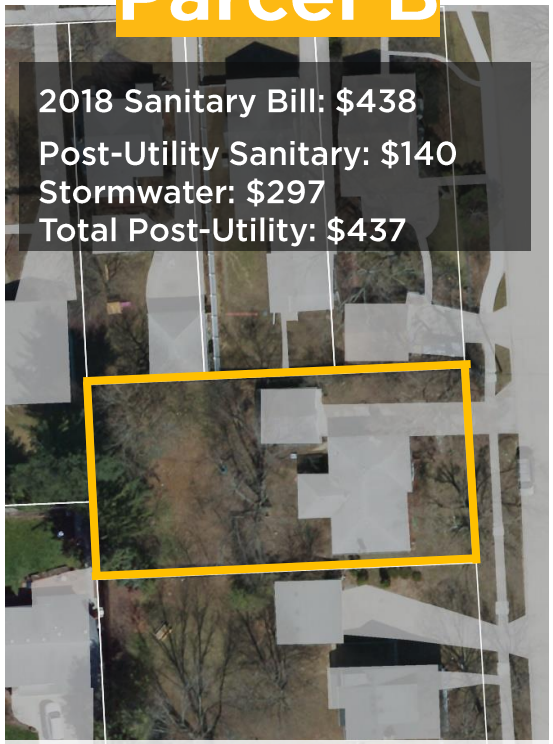
Parcel A

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

Parcel A

2018 Sanitary Bill: $749

Post-Utility Sanitary: $240
Stormwater: $602
Total Post-Utility: $841

Parcel Size: 0.15 acres
Impervious Area: 5450 sq. ft.
Total 2018 Water Usage: 84

Parcel B

2018 Sanitary Bill: $747

Post-Utility Sanitary: $239
Stormwater: $134
Total Post-Utility: $373

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

Parcel C

2018 Sanitary Bill: $743

Post-Utility Sanitary: $238
Stormwater: $334
Total Post-Utility: $571

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

Permeable Pavement

Image Source: DWSD

Subsurface Detention Storage

Residential Credit Program

- Disconnected Downspouts from Impervious Area
  - 10% credit
- Rain Gardens
  - 10% credit

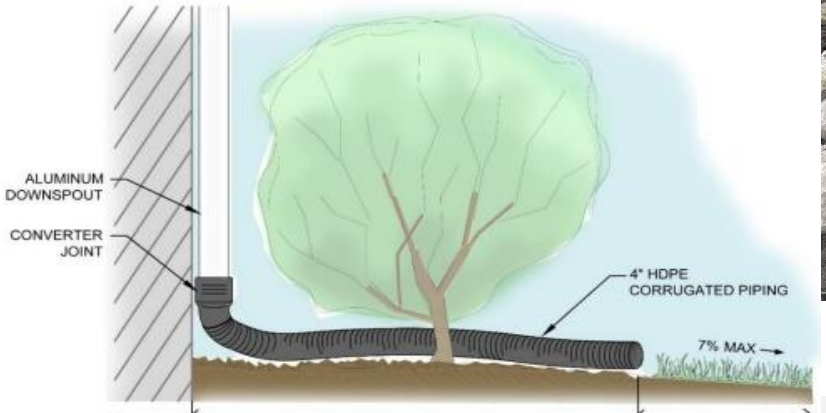


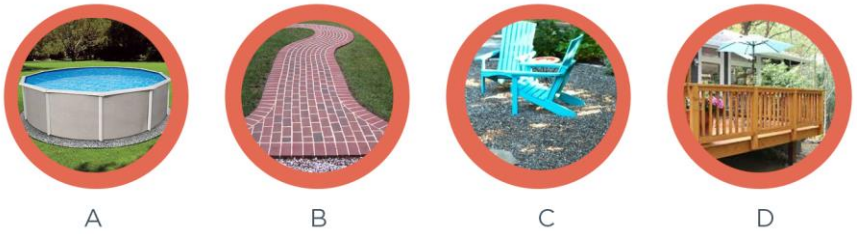
Image source: NCDEQ Stormwater BMP Manual

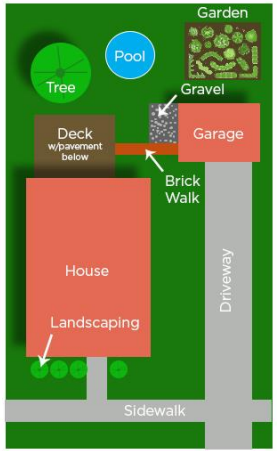
Non-Residential Credit Program

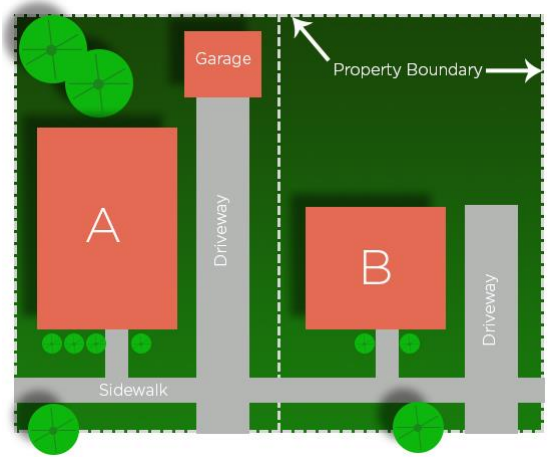
- Volume reduction
  - Removal from system
  - 30% max credit
- Peak flow control
  - Reduce the rate runoff leaves a site
  - Still treated at GLWA
  - 20% max credit
- 50% Maximum Combined Credit

Outreach Strategy

- Insight Magazine
- Social Media- Facebook, Nextdoor
- Webpage
- Bill inserts
- WROK Television station





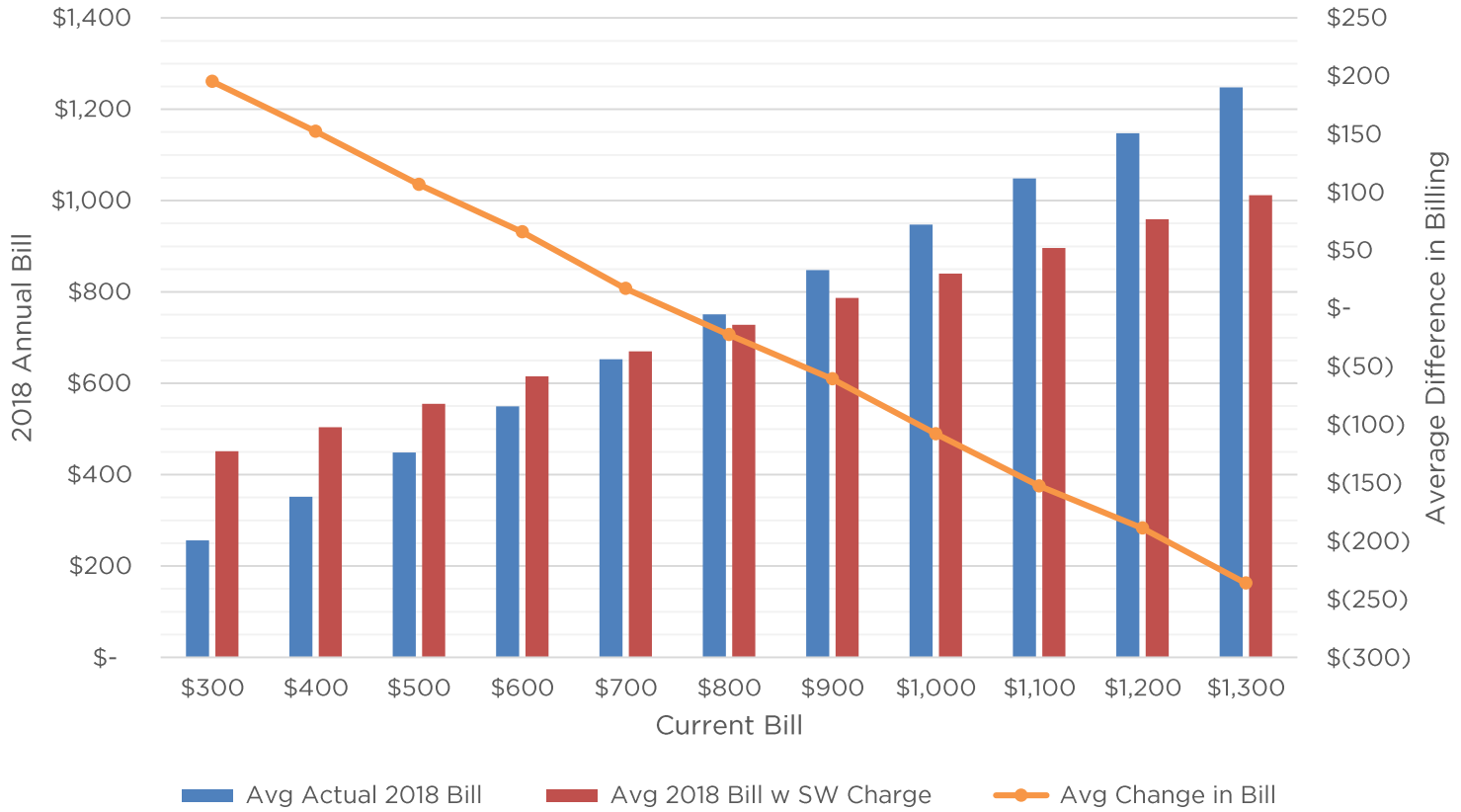


Schedule and Next Steps

- 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



SUPPLEMENTAL INFO

Metrics

Impacts Quantified

Utility Flow Split

Cost Projections

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Debt Service

Image Source: WRC Website

- 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

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

Water and Sewer Fund

- Sewer Televising
- Root Control
- Sewer Repair and Rehabilitation
- Maintenance (Staff, Vehicles, etc)

SW Components in Other City Budgets

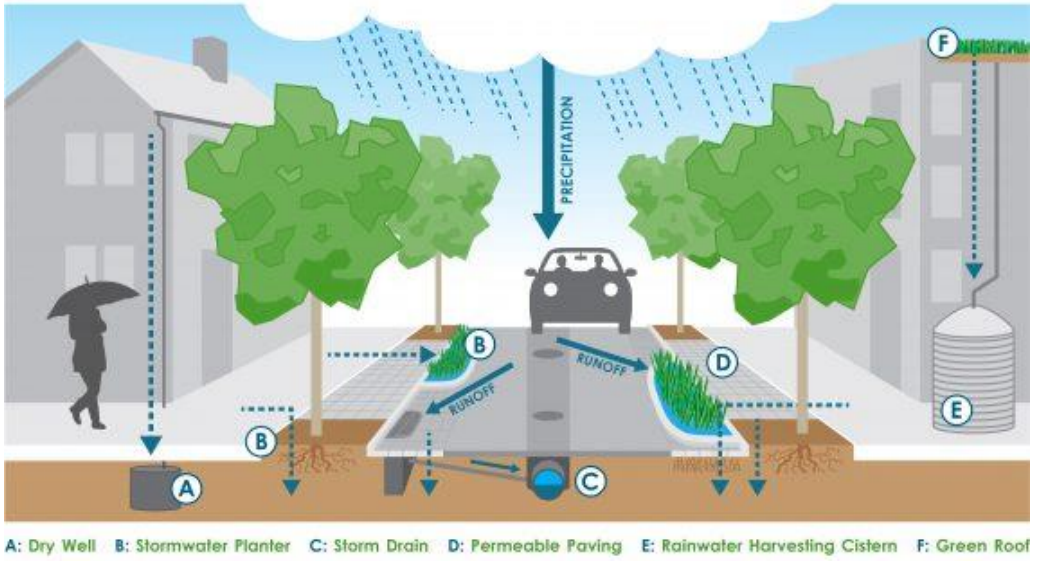
- SW Component of Road Improvements
- Street Sweeping

Catch Basins

Catch Basin Restrictor

Stormwater Program Elements

- Green Infrastructure projects
- Green Infrastructure maintenance
- Public Outreach and Education
- Utility Management

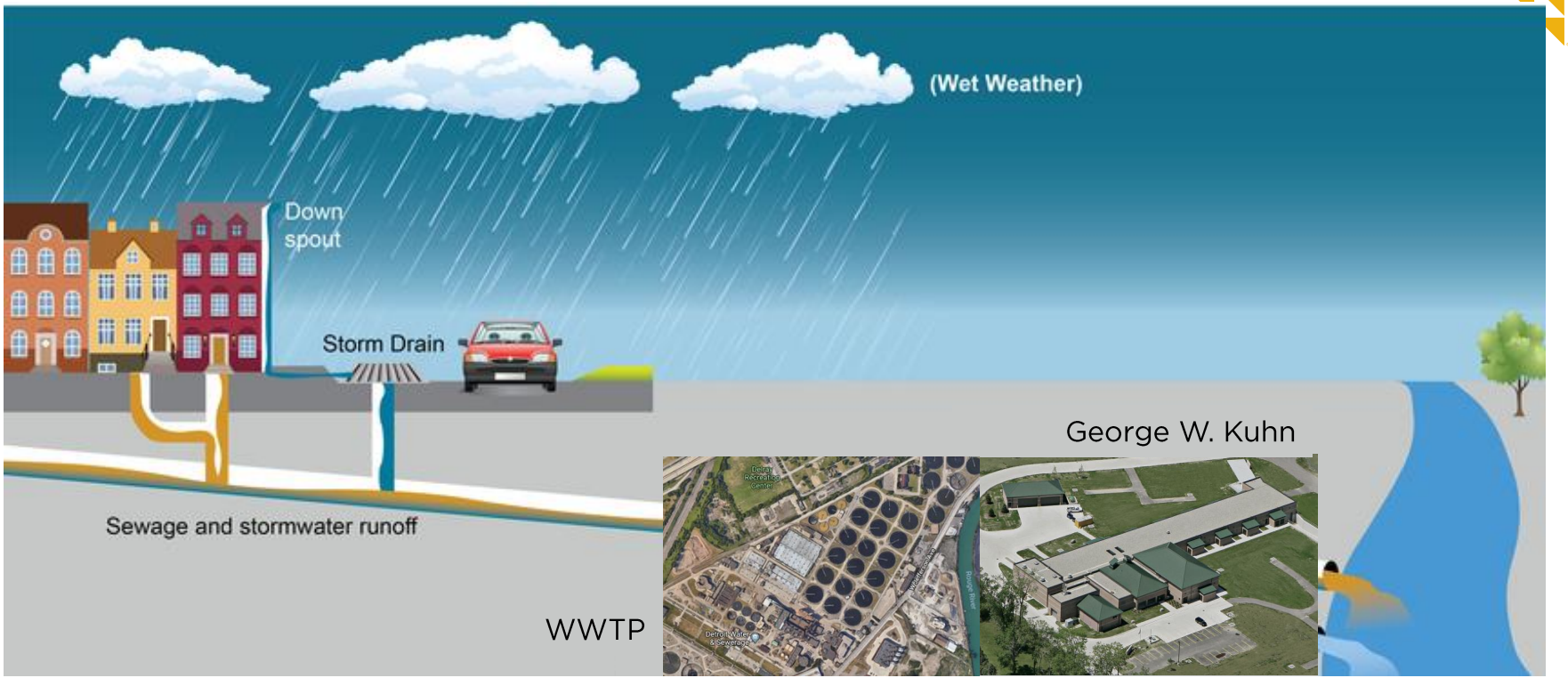


Non-Residential Credit Program

Stormwater Management Type	Volume Credit	Peak Flow Credit
Disconnected Impervious Area	✓	
Bioretention	✓	✓
Detention		✓
Permeable Pavement	✓	✓
Green Roof	✓	
Water Harvesting*	✓	✓

**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)

Image Source: WRC Website

- 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

GWK Drainage System

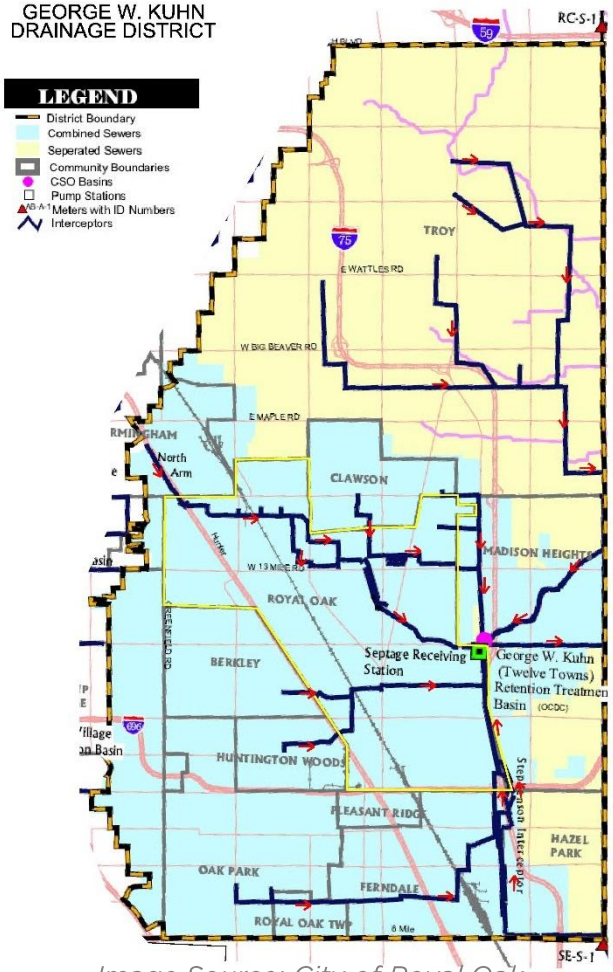


Image Source: City of Royal Oak

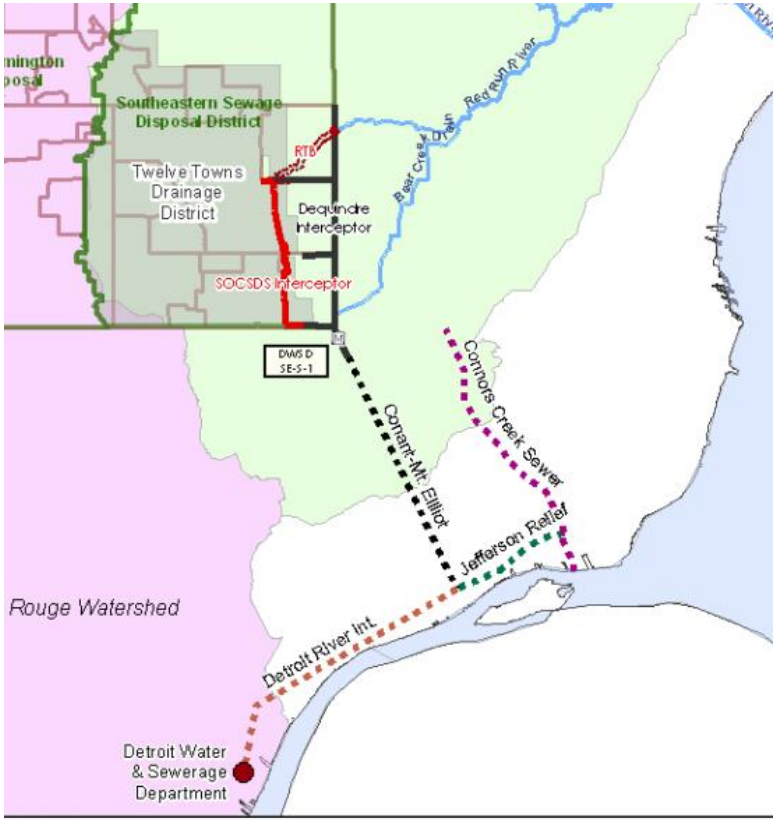


Image Source: City of Berkley 09/17/17 Presentation

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

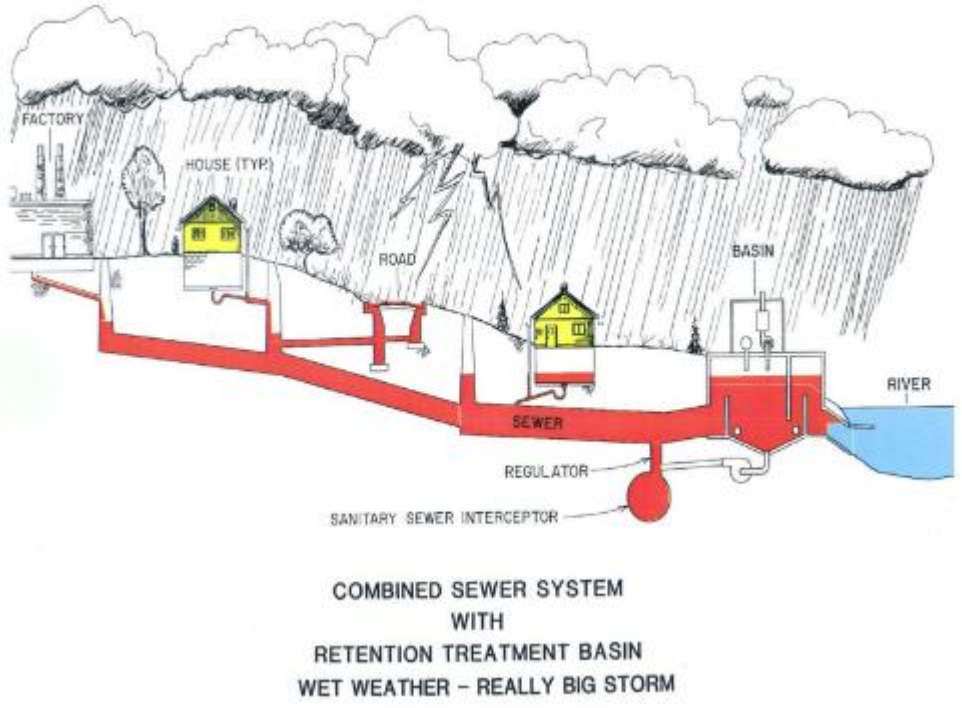


Image Source: City of Berkley Study

Cleaning Stormwater

- Ponds
- Wetlands
- Infiltration
- Filtration

Image Source: City of Royal Oak

Issues Affecting Royal Oak

- GWK Debt
- Basement Flooding
- Street Flooding
- Property Damage

Image Source: City of Royal Oak

Image Source: City of Royal Oak

What is NOT included?

Image Source: City of Royal Oak

Image Source: OHM

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