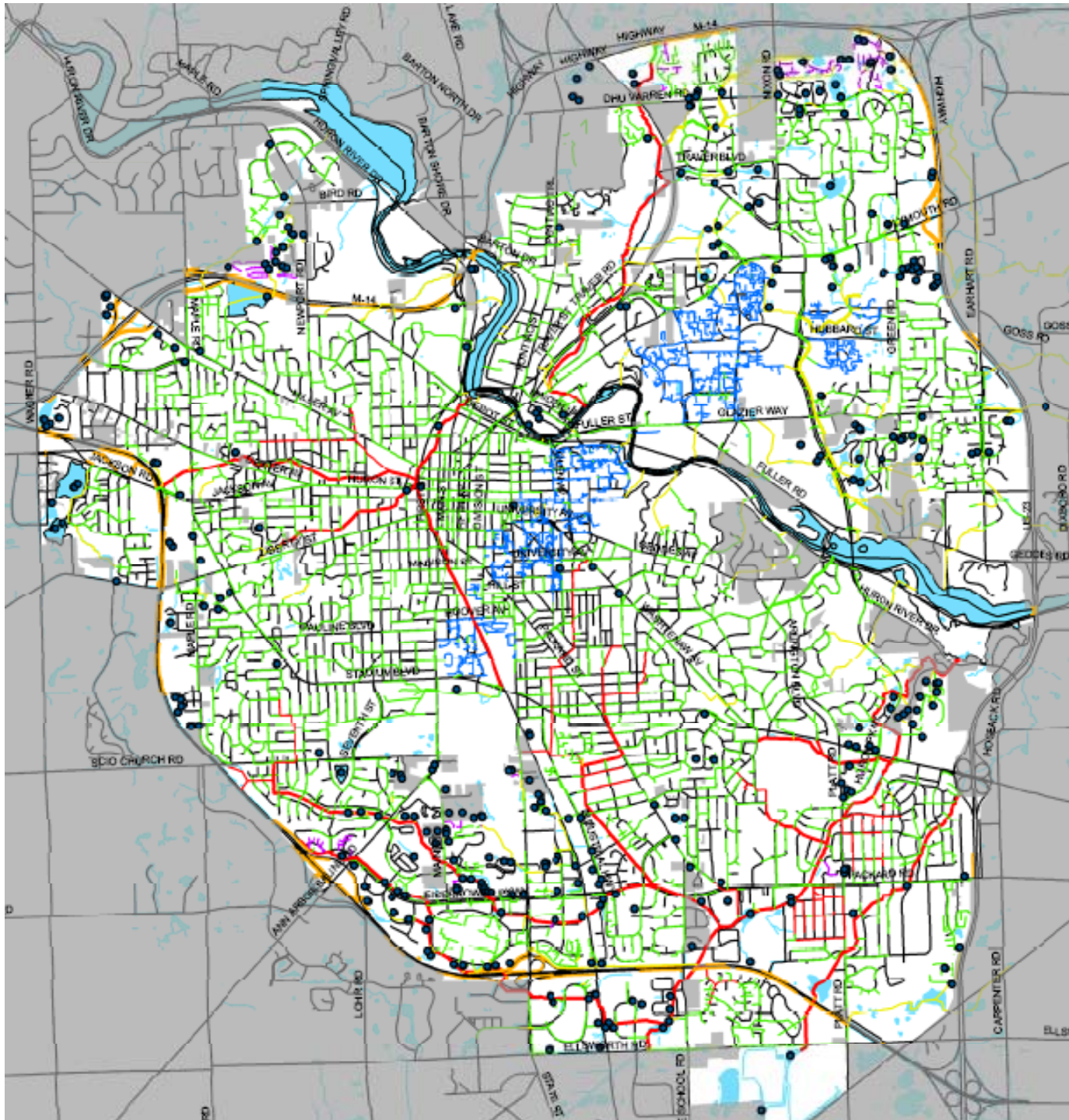




Re-tooling Ann Arbor's Storm Water Utility to Address Changing Legal Precedents

Molly Wade, City of Ann Arbor, MI
Jerry Hancock, City of Ann Arbor, MI
John Aldrich, CDM

Stormwater Utility
Workshop
March 26, 2010



CDM



Legend

- Rivers, Lakes & Ponds
- Street
- Outside of City of Ann Arbor
- City of Ann Arbor

Storm Network

Ownership

- City
- U of M
- County Drains
- State/Interstate Highways
- Water of the State
- Private





Ann Arbor's Storm Water Utility



- x Formed in early 1980's
- x Historically simple rate structure
- x \$3.7 million revenue
- x Expanding service needs
 - x Asset management
 - x Capital improvements
 - x NPDES permitting
- x Evolving legal requirements
- x Improved technologies for defining imperviousness



Project Mission

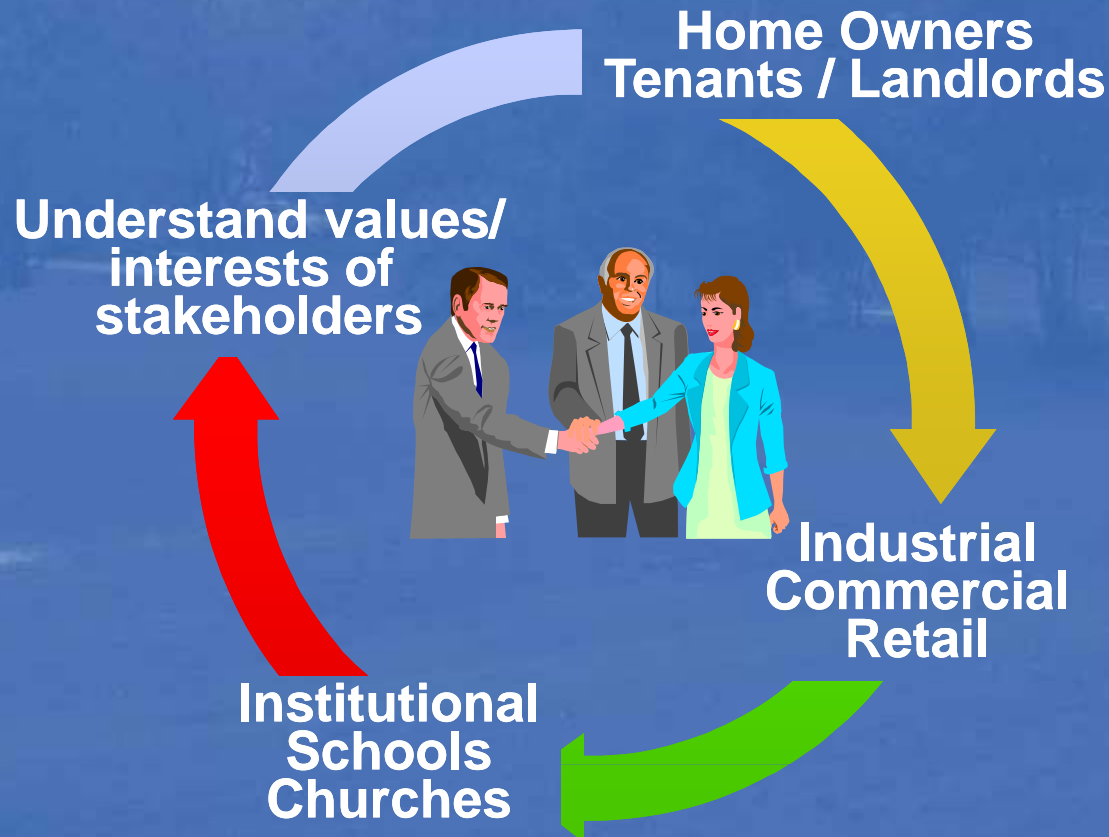
Improve the existing stormwater utility to address emerging City stormwater needs while meeting rate design requirements:

- ✘ The fees must serve a regulatory purpose (rather than a revenue-raising purpose)
- ✘ The fees must be proportionate to the necessary cost of service
- ✘ Property owners must be able to refuse or limit their use of the service.





Stormwater Citizen Advisory Task Force Members Represent Community Interest





Level of Service Principles Developed by Storm Water Citizens Advisory Task Force



- x Protect public health, safety, and welfare
- x Protect ecological health
- x Conduct comprehensive planning to determine priorities
- x Encourage shared responsibility
- x Offer incentives to guide desired behaviors
- x Educate stormwater system users
- x Provide an understandable, equitable rate structure



Elements of an Effective Storm Water Management Program



**Goals
Level of Service**

**Administrative Services
Public Engagement
Regulation and Enforcement
Operations and Maintenance
System Planning
Capital Improvements
Organization and Finance**

**Results:
-Flood Control
-Erosion Control
-WQ Enhancement**



Level of Service Options Encompass the Full Range of the Public Expectations

Level of Service	System Planning	Capital Improvements	Operations and Maintenance	Enforcement, Public Engagement, & Finance
A	Comprehensive Planning	Total Renewal (20-year CIP)	Fully Preventive / 100% Routine	Proactive
B	Priority Planning	Partial Renewal (50-year CIP)	Inspection-based	Inspection-based
C	Reactionary Planning	Current CIP (100-year CIP)	Only complaint-based response	Only complaint-based response
D	No Planning	Emergency Repairs (No CIP)	Less than full response	Less than full response

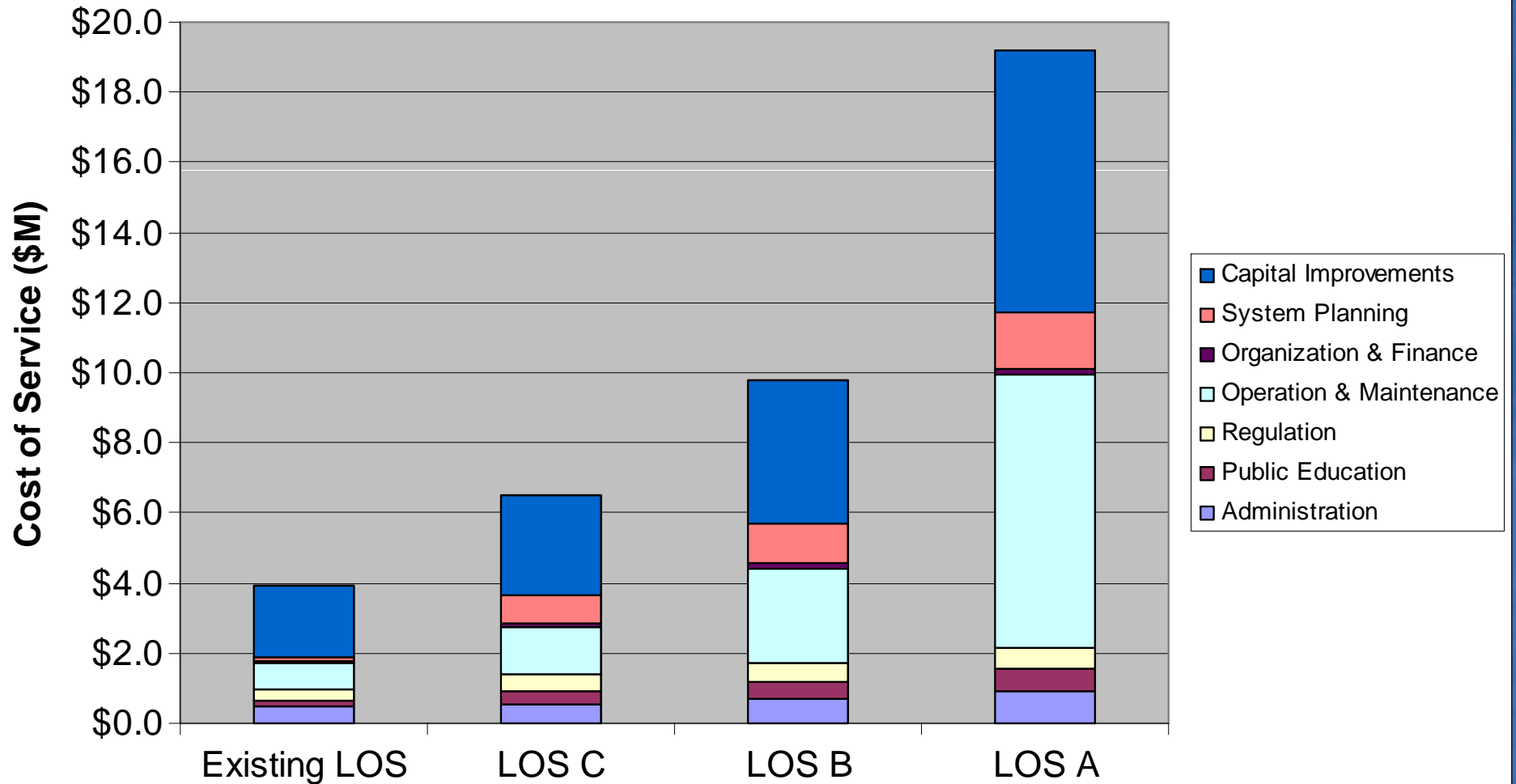


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Estimated Allocation of Revenue under LOS Options





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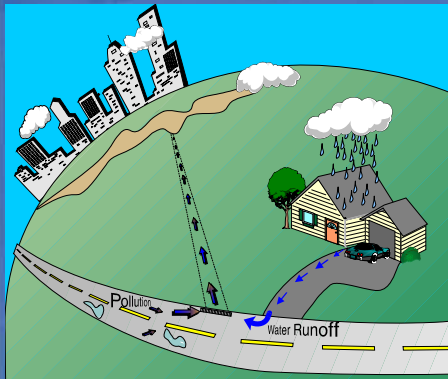
Rate Study Fundamentals

- x Revenue Requirement Projections
 - x *How Much Money is Needed?*
- x Cost of Service Analysis
 - x *From Whom Should the Money be Collected?*
- x Design of Recommended Rates
 - x *How Should Stormwater Services be Priced?*





Rate Model Options



- x Impervious Area Measurements
 - x Non-SF Residential Properties
 - x All Properties
- x Level-of-Service / Geography Base
- x Runoff Coefficient / Intensity of Development Factor
- x Tiered Flat Fee
- x Flat Fee
 - x All properties
 - x All SF residential properties

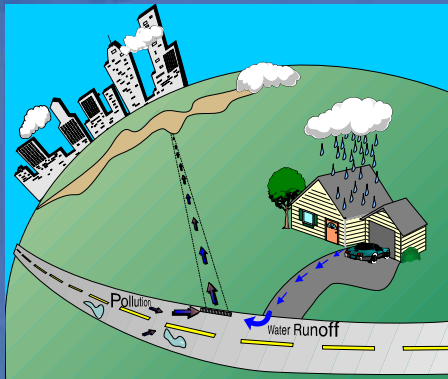




Impervious area used as the basis for an equitable rate model and cash flow analysis.

Proposed Rate Model

- x Impervious Area Measurements
 - x **Non-SF Residential Properties**
 - x All Properties
- x Level-of-Service / Geography Base
- x Runoff Coefficient / Intensity of Development Factor
- x **Tiered Flat Fee**
- x Flat Fee
 - x All properties
 - x All SF residential properties





Ann Arbor's Proposed Rate Model with Existing Revenue Requirements

x Proposed "Revenue-Neutral" Fees:

- x **Rates for ALL Residential and Non-Residential Properties**
 - \$5.92 / quarter / customer PLUS
 - \$251.44 / quarter / impervious acre
- x Non-stormwater: \$0.27 / quarter / 1000 gal.
- x Reductions for on-time payment
- x Credits recognize on-site stormwater management

x Advantages:

- x Cost recovery proportionate to runoff volume
- x Four residential tiers increase equity and distribution
- x Credit system recognizes stormwater management
- x Allows customers to control use of stormwater service
- x Automates impervious area updates

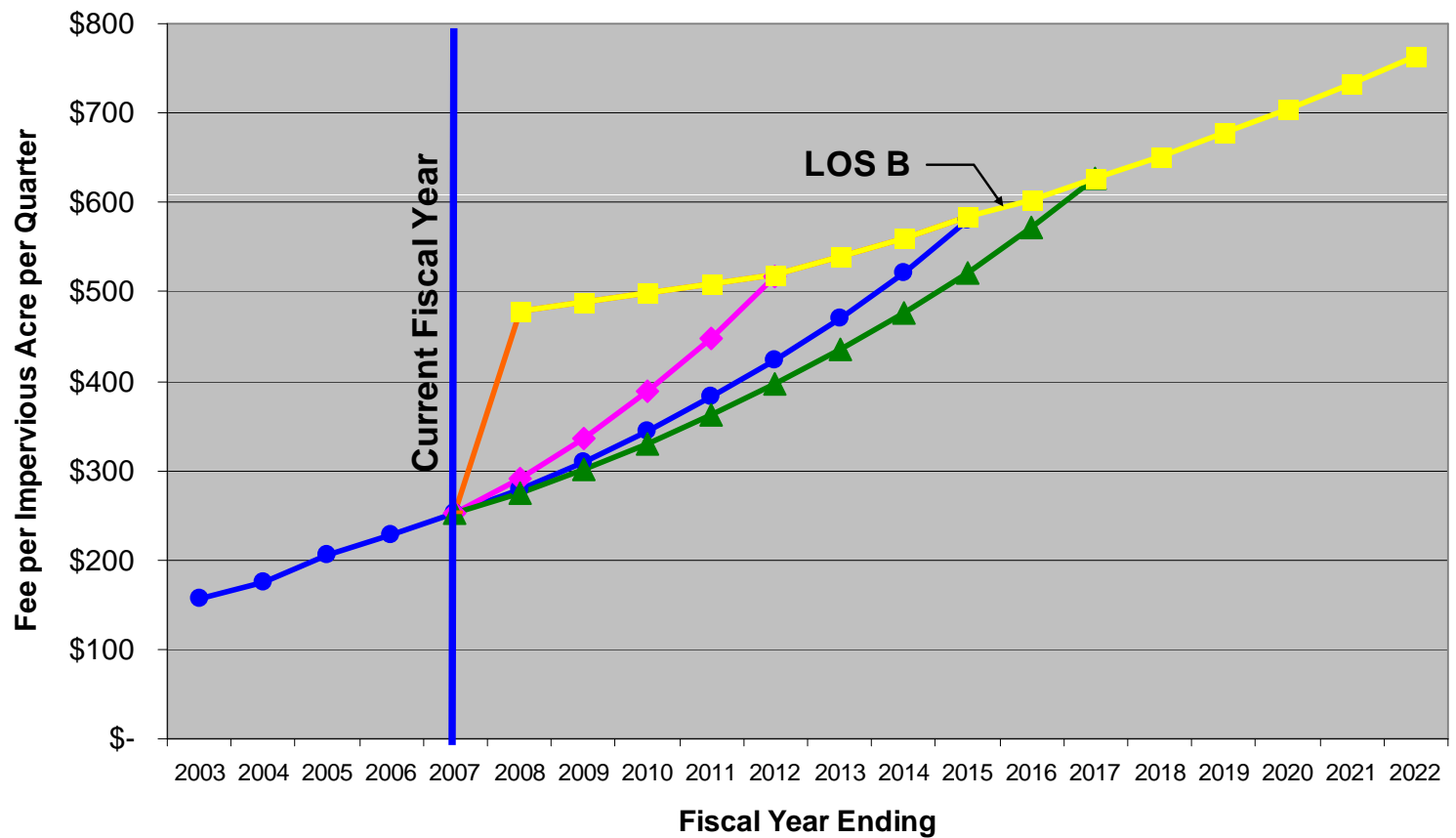
x Disadvantages:

- x More complex than existing system
- x Additional costs for future updates





Comparison of Rate Increases to Reach LOS B



- Continue Historic 11% Rate Increase to LOS B
- ▲ Achieve LOS B by 2017
- ◆ Achieve LOS B by 2012
- Maintain LOS B @ 4% for Interest and Inflation
- Achieve LOS B Immediately



Implementation Plan For Stormwater Rates

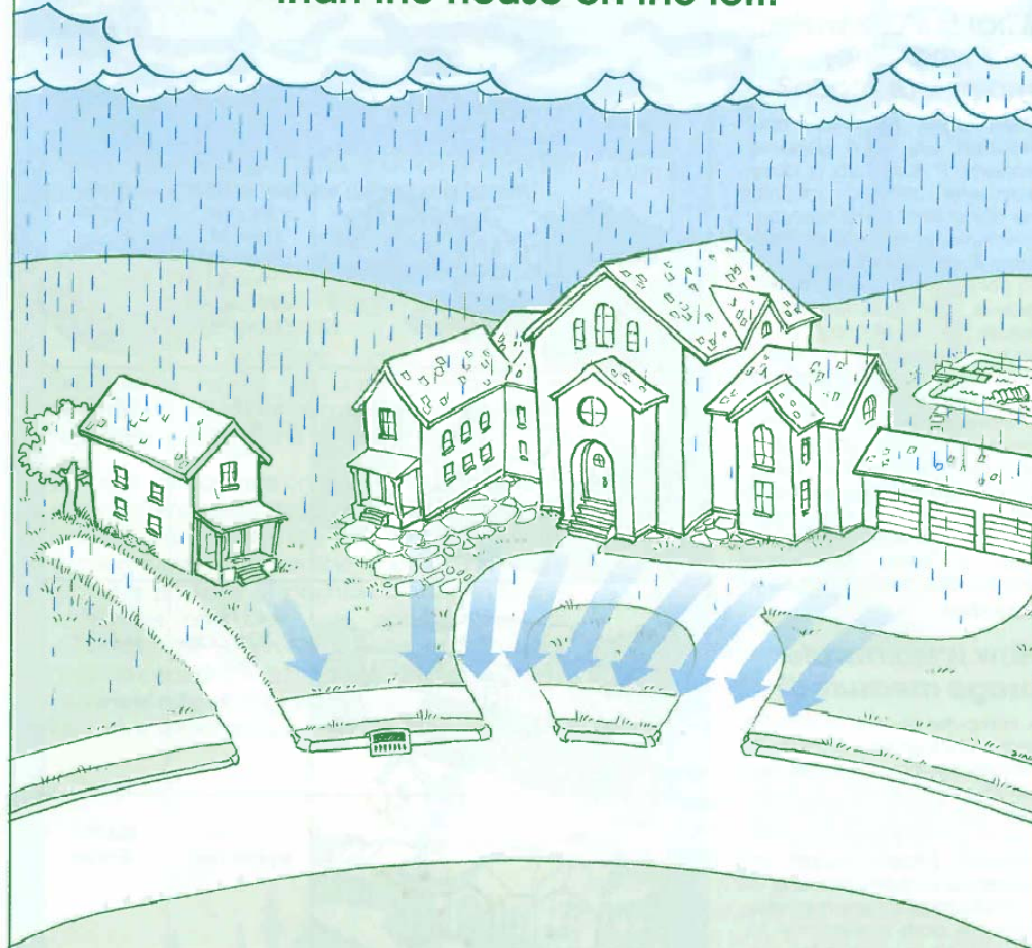


- x Stormwater Citizen Advisory Task Force
- x On-line access to parcel-specific imperviousness
- x Internet-based credit applications
- x Media Communications (press, TV, radio, web)
- x Outreach through RiverSafe Home program, presentations
- x WaterMatters and WasteWatcher articles



CDM
TFG

During a rainstorm, the house on the right sends eight times more rainwater into the storm system than the house on the left.



Yet both Ann Arbor property owners used to pay the same stormwater charge: \$22.75/quarter.

That's about to change.



Rate Design Requirements for Stormwater Service Fees



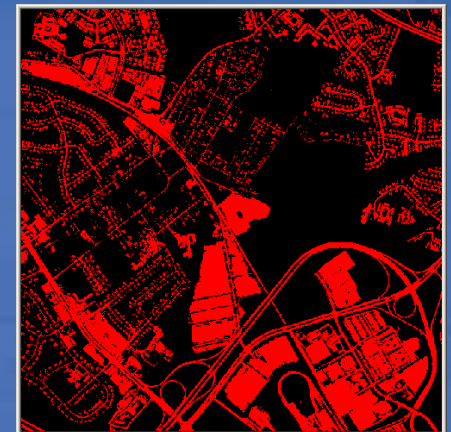
- × Are regulatory activities the primary purpose of the funds (protect public health, safety, welfare, meet regulatory obligations)?
 - × **All envisioned services are regulatory**
- × Are the services provided proportional to the fees charged?
 - × **Address through cost allocation**
 - × **Address through rate structure options**
- × Can customers control their use of the system and fees charged?
 - × **Link to runoff generation**
 - × **Address through credit and adjustment provisions**



Automated Impervious Area Using Remote Sensing Classification

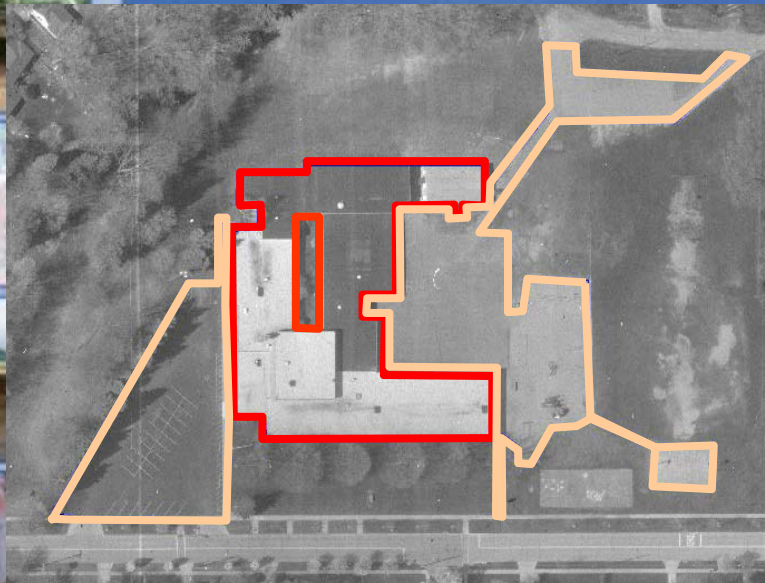


- x Use new 6-inch resolution orthoimagery to yield 2-foot resolution imperviousness map grid
 - x All pavement and other travel ways
 - x All buildings, including decks and roof overhangs
- x Use Ann Arbor GIS data as classification benchmark
- x Data Quality Assurance
 - x Manual digitization
 - x Field verification
 - x Iterative geo-statistical analysis





Commercial and Multi-Family: Property-Specific Impervious Area Measurement

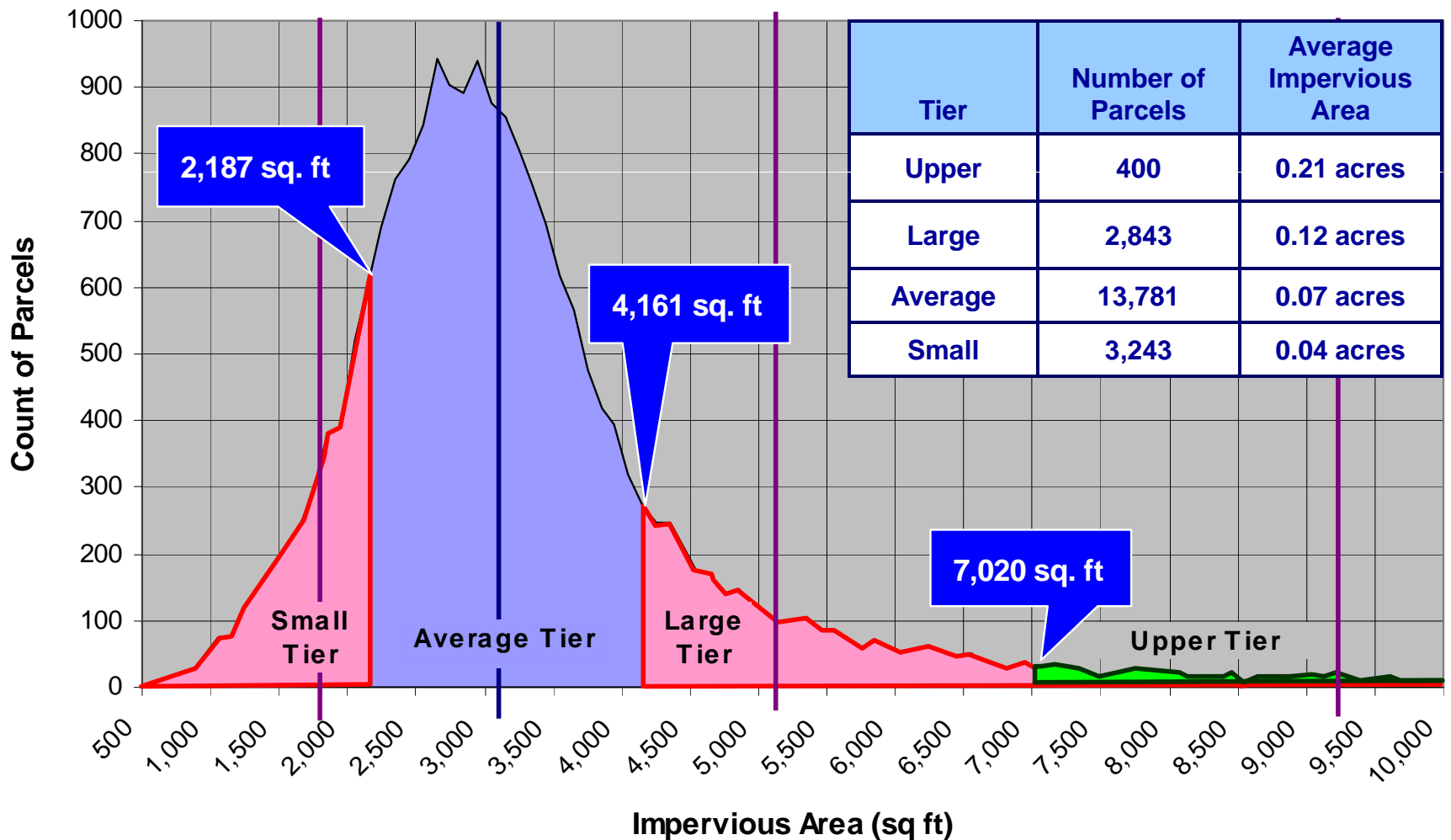


- × Runoff contribution is typically larger than single / double family residential
- × Fees per parcel are generally larger
- × Inaccuracies are amplified
- × Relatively few parcels require detailed validation



Statistical Evaluation of Residential Properties Defines Categories

Single- and Two-Family Impervious Area Distribution





Online impervious area lookup

Ann Arbor Property Information - Windows Internet Explorer
 http://www2.a2gov.org/Mypropertyinformation/address.asp?view=standard
 Ann Arbor Property Information

- government
- services
- news
- contact us
- living in
- visiting
- working in

- Home
- Property Information
- City Administration
- City Council
- Community Services
- Financial & Administrative Services
- Public Services
- Safety Services

Ann Arbor Property Information

Ann Arbor Property Information

Having trouble using this feature, check out the [Help Page](#)

The **Property Information** service will validate if an address is within the city limits of **Ann Arbor, MI**. It provides *mailing, voting, and solid waste pickup* information related to the address.

If you are looking for Tax Assessment and Permit Data, [click here](#).

If you are looking for Water Consumption data and do not reside in the city limits, [please click here](#).

Enter an Ann Arbor street address below:

- General
- Service Request
- Solar Potential
- Solid Waste
- Storm Water
- Voter
- Water
- Zoning

Full Address: 1005 BROOKS ST
 Full Zip Code: 48103
 Parcel ID Number: 09-09-20-308-053

Please click on the parcel number to view your parcel on Washtenaw County's GIS web site .

This property is within the Ann Arbor city limits !





CDM
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Address: 1005 BROOKS ST
Zip Code: 48103
Parcel ID: 09-09-20-308-053
Imper. Area: 5548.13 sq.ft.

1 & 2 Family Residential :

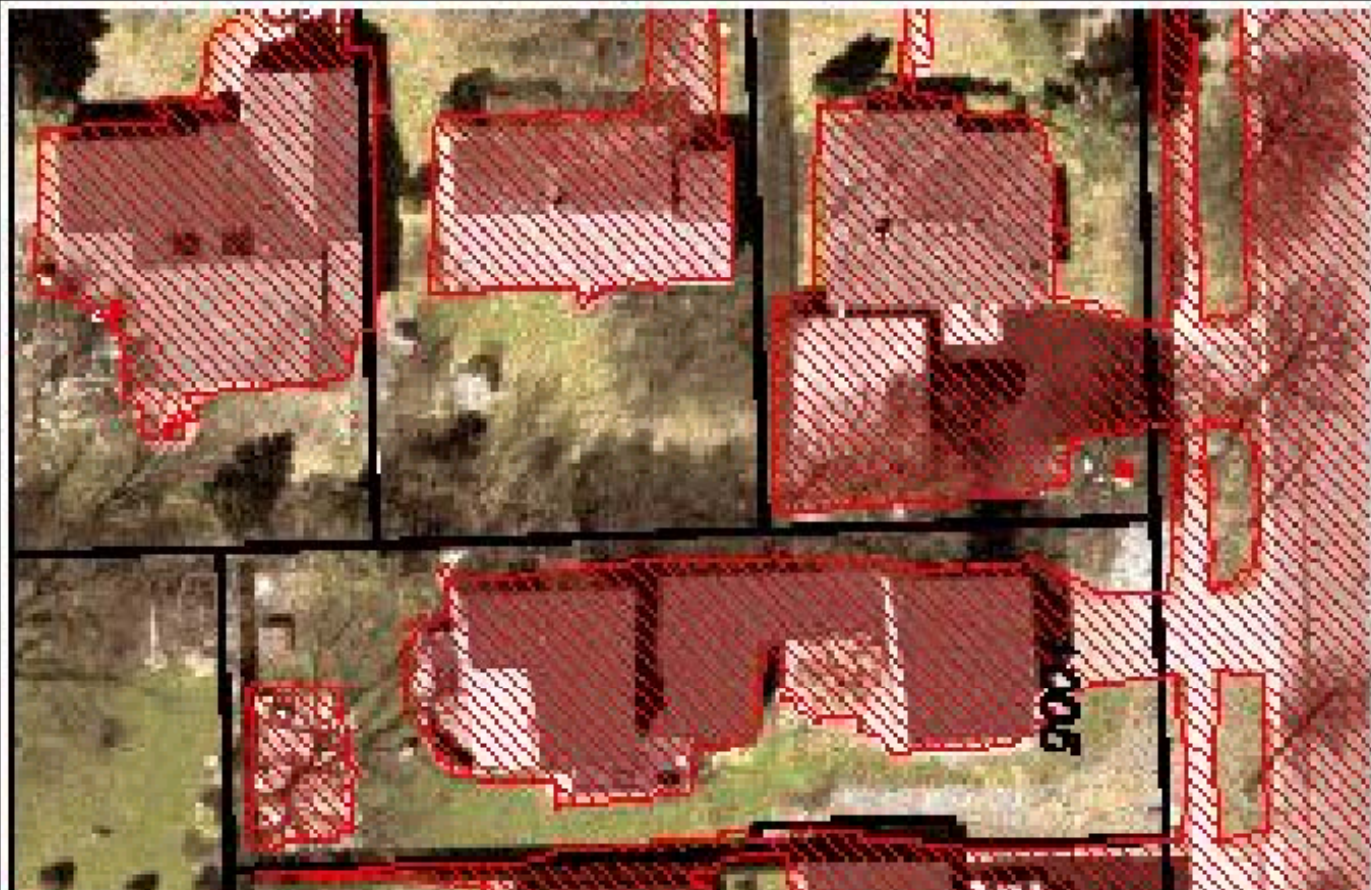
Imperv.Sq.Ft	Qtrly Fee
Upto 2,187	\$ 17.46
> 2,187 to 4,175	\$ 25.83
> 4,175 to 7,110	\$ 39.79
> 7,110	\$ 64.91

All other :\$ 279.10/Imperv.acre/Qtr. + \$6.30

If you have reason to believe that the impervious area has been incorrectly identified, please take the following steps:

- Print the document
- With a contrasting pen or highlighter, identify and label the areas that have been incorrectly identified as impervious. These are the areas that have red stripes.
- Scan the document and email to: storm@a2gov.org OR
- Mail the document to:
City of Ann Arbor – Stormwater
Box 8647
Ann Arbor, MI 48107-8647

[Print this page](#) | [Close this window](#)





Updating Impervious Area Imagery



- x Present goal is to update every two to three years
- x New construction during interim:
 - x Residential: Classify as Tier 2
 - x Commercial: Required to provide impervious area during planning process
- x Share costs with other City units
- x Share costs with U of M



Adjustment Provisions Recognize Customer Actions



x Adjustments:

- x Impervious area interpretations
- x Non-contributing areas
 - Direct discharge to Huron River
 - Discharges directly outside City limits
- x Retention of all stormwater
 - About twice 100-year event volume plus freeboard



Proposed Quarterly Credits for Single and Two-Family Residential Properties



	Quarterly Fee in 2008
Fee for Residential - Avg. Impervious	28.46
Proposed Maximum Credits	
o Rain Barrels (1 to 5)	\$1.79
o Rain Garden	\$2.80
o RiverSafe Home	\$1.24
o Chapter 63 Detention Basin	\$7.16
Fee With Maximum Credit	\$15.47
10 % Deduction for On-Time Payment	\$1.55
Minimum Charge	\$13.92
Maximum Percent Reduction	51%



Proposed Quarterly Credits for Average Commercial and non-Single and 2-Family Residential Properties



	Fee per Impervious Acre in 2008
Impervious Area – Average Property	0.75 acre
Quarterly Fee	\$239.11
Proposed Maximum Credits	
o Community Partners for Clean Streams	\$1.09
o Chapter 63 Detention Basin	\$68.68
o Water Quality BMP	\$14.21
Quarterly Fee With Maximum Credit	\$155.13
10 % Deduction for On-Time Payment	\$15.51
Minimum Charge	\$139.62
Maximum Percent Reduction	42%



Right-of-Way Credit Provisions

x Credits for Public Rights of Way

- x Streets generate stormwater
- x Streets receive stormwater services
- x Streets perform conveyance, storage, WQ, and education functions for the stormwater system
- x Stormwater utility liable for cost of easements in streets.
- x Credits available exceed stormwater costs for Streets





Rate System Maintenance

- x Rates have gone up 12.7% since July 1, 2007.
- x City Staff involved shifted.
- x New orthoimagery acquired in the spring of 2009.
- x New impervious surface layer generated by consultant. QA/QC by City Staff underway.
- x Expect to implement updated impervious surface layer in July 2010.





Questions and Answers

Molly Wade

Water Quality Manager

Jerry Hancock, CFM

Stormwater and Floodplain Programs Coordinator

City of Ann Arbor

Public Services - Systems Planning Unit