CITY OF LAFAYETTE

WET WEATHER PROGRAM

Storm Water
Technical Advisory Committee

April 9, 2009

Meeting Agenda

- Welcome and Introductions
- Purpose of Committee
- Storm Water Program Overview
- Proposed Storm Water User Fee

Welcome and Introductions

Purpose of SWTAC

- Provide vital feedback for Storm Water Master Planning
- Bring a broad perspective to the Storm Water Program
- Give input on implementation of green and sustainable infrastructure
- Offer community perspective on the proposed storm water user fee rate and assessment structure
- Support community education and outreach initiatives

Questions? Comments

Lafayette Storm Water Program

Wabash River

Purpose of Storm Water Program

- Improve storm water quality in waterways
  - Achieve cleaner, healthier streams and rivers in Lafayette
  - Efforts also beneficial to downstream communities
- Comply with state and federal requirements

Municipal Separate Storm Water System (MS4)

- Phase I MS4 Permits:
  - 1990: Municipalities with population of 100,000 or more regulated by Indiana Department of Environmental Management (IDEM)
  - City of Indianapolis was only municipality in Indiana to meet designation requirements
  - Indianapolis issued a National Pollutant Discharge Elimination System (NPDES) Permit

Municipal Separate Storm Water System (MS4)

- Phase II MS4 Permits:
  - 1999: IDEM writes new general NPDES Permit
  - Individual statewide permit issued to Indiana Department of Transportation
  - Rule 13 provides permit coverage for most MS4 communities
  - Lafayette covered under the general permit

MS4 Permit

- Part A, Notice of Intent: November 2003
- Part B, Baseline Characterization: May 2004
- Part C, Implementation of Six Minimum Controls: March 2005
- Permit Renewal: October 2008

Rule 13 Guidance

"The purpose of this rule is to establish requirements for storm water discharges from municipal separate storm sewer system (MS4) conveyances so that public health, existing water uses, and aquatic biota are protected."

-IDEM Office of Water Quality

Rule 13 Requirements

- Storm Water Quality Management Plan (Six Minimum Control Measures)
  - Public Education and Outreach
  - Public Involvement/Participation
  - Illicit Discharge Detection/Elimination
  - Construction Site Runoff Control
  - Post-construction Runoff Control
  - Good Housekeeping: Pollution prevention for MS4 operations and facilities

Additional Program Activities

Operations and Maintenance

- Regular inspections
- Catch basin areas cleaned
- Cleaning and inspection of mechanical BMPs
- Manhole frames raised
- New sewer installed
- Storm sewer repaired
- Sanitary manholes installed
- Sewer jet cleaned
- Manholes vac. cleaned
- Sewer televising
- Sewer root cut
- Street sweeping

In 2009, the cost for these services was estimated in excess of $400,000.

Additional Program Activities

Storm Water Capital Program

Valley Street Drainage Improvements

- Goal: Reduce flooding, reduce raw sewage overflows in combined sewer area
- Natural and Manmade Solutions
  - Rain gardens along South and 9th streets
  - Detention basin north of Congress Street
  - Sewer separation along Valley Street to reduce combined sewer overflows

Rain Gardens

Additional Program Activities

Storm Water Capital Program

City Rain Garden Construction

- Benefits of Rain Gardens
  - Reduce standing water in streets and yards
  - Beautify neighborhoods
- Project Sites
  - Kossuth and 15th streets
  - Prange Drive
  - Earl Avenue (four blocks)

Additional Program Activities

Storm Water Capital Program

Armstrong Park Regional Detention Basin

- Goal: Improve water quality in local waterways

Additional Program Activities

Storm Water Capital Program

Armstrong Park Regional Detention Basin

- Storm water quality retrofit project
- Project will improve water quality in detention basin, Durkees Run and Wabash River
- Combination of enhanced detention and infiltration practices
  - Native plantings and rain gardens upstream of park
  - Pollutants such as oil, trash and other contaminants will be removed

Additional Program Activities

Storm Water Capital Program

Elliott Ditch Stream Bank Restoration

- Goal: Prevent further damage to and restore the stream bank near Bridge 49 in southeastern Lafayette with erosion control system

Additional Program Activities

Storm Water Capital Program

Elliott Ditch Stream Bank Restoration

- Northeast bank: Removal of debris that may be blocking flow
- Bank stabilization: Rip rap and native vegetation
- Storm water outlet pipe adjustment
- Stream alignment modification
- Removal of two sandbars
- Installation of high-water bypass channel downstream of bridge

Additional Program Activities

Storm Water Capital Program

South 30th Street Drainage Improvements

- Goal: Improve drainage and water quality in Elliott Ditch and Wabash River
- Expand sewer system along South 30th Street
  - Reduce street and yard flooding
- Detention ponds and Best Management Practices
  - Store excess storm water due to wet weather
  - Filter silt, oil, diesel products and pollutants in storm water that result from heavy industry

Storm Water Capital Program

Multi-year Plan

Proposed Project	Total Estimated Cost
Valley Street Drainage Improvements	$3,800,000
Elliot Ditch Stream Bank Restoration	$575,000
Southside Drainage Project– 30th Street Project	$3,900,000
Rain Gardens - Six total at 15th & Kossuth, Prange Drive & Earl Avenue	$216,500
Outfall Repairs	$100,000
Storm Water Regional Basin Retrofits (Armstrong Park)	$650,000
	$9,241,500

Storm Water Projects in the CSO Area

- Project defined in Long Term Control Plan
- Milestones
  - Sept. 28, 2007: State Judicial Agreement
  - LTCP Development
    - Nov. 16, 2007: Sensitive Areas
    - July 30, 2008: Alternative Analysis Revision
    - May 29, 2009: Use Attainability Analysis
    - February 24, 2009: Submittal of Final LTCP Revision
  - Upon LTCP acceptance: Storm sewer separation projects will be integrated into storm water capital improvement plan

Questions? Comments?

Proposed Storm Water User Fee

Rate Structure Development

Proposed Storm Water User Fee

- Dedicated revenue source needed to…
  - Meet requirements of NPDES Permit
  - Maintain storm water system
  - Complete drainage improvements
  - Fund additional program expenses

Proposed User Fee Structure

- User fee categories
  - Residential: Assessed as a flat rate
  - Non-residential (agricultural, business, commercial, industrial): Calculated based on maximum allowable impervious surface

Unified Zoning Ordinance

- Lafayette zoned according to countywide ordinance (Unified Zoning Ordinance, (1997))
- Table 4-2-1: Summary of Standard Area, Width, Coverage, and Height Requirements
  - Determines maximum building coverage allowable
  - Basis for impervious surface area in proposed rate structure

4-2-1 SUMMARY OF STANDARD AREA, WIDTH, COVERAGE, AND HEIGHT REQUIREMENTS: (Amend 41)

ZONE	MINIMUM *LOT AREA*[1] (sq.ft)		MINIMUM *LOT WIDTH*[1] (ft.)	MAXIMUM LOT COVERAGE BY ALL BUILDINGS (pct.)	MINI-MUM VEGE-TATIVE COVER (pct.)	(Amend 10) MAXIMUM BLDG. HEIGHT (ft.)
	PER *USE*	PER D.U.[2]				
R1	10000	----	75[12]	30	40	35[9]
R1A	7500	----	60	30	40	35[9]
R1B	6000	----	50	35	35	35[9]
R1U	4000	----	40	40	30	35[9]
R1Z	5000	----	48[3]	40	30	35
R2	SF :7500	TF: 3750	60	30	30	35[9]
R2U	SF: 4000	TF: 3000	SF: 40 TF: 60	35	30	35[9]
R3	SF: 6000 MF: none	TF: 3000 2000[4]	60 70	40	30	35[9]
R3U	SF: 4000 MF: none	TF: 3000 2000[4]	SF: 40 TF: 60 70	40	30	35[9]

See next pages for abbreviations and footnotes.

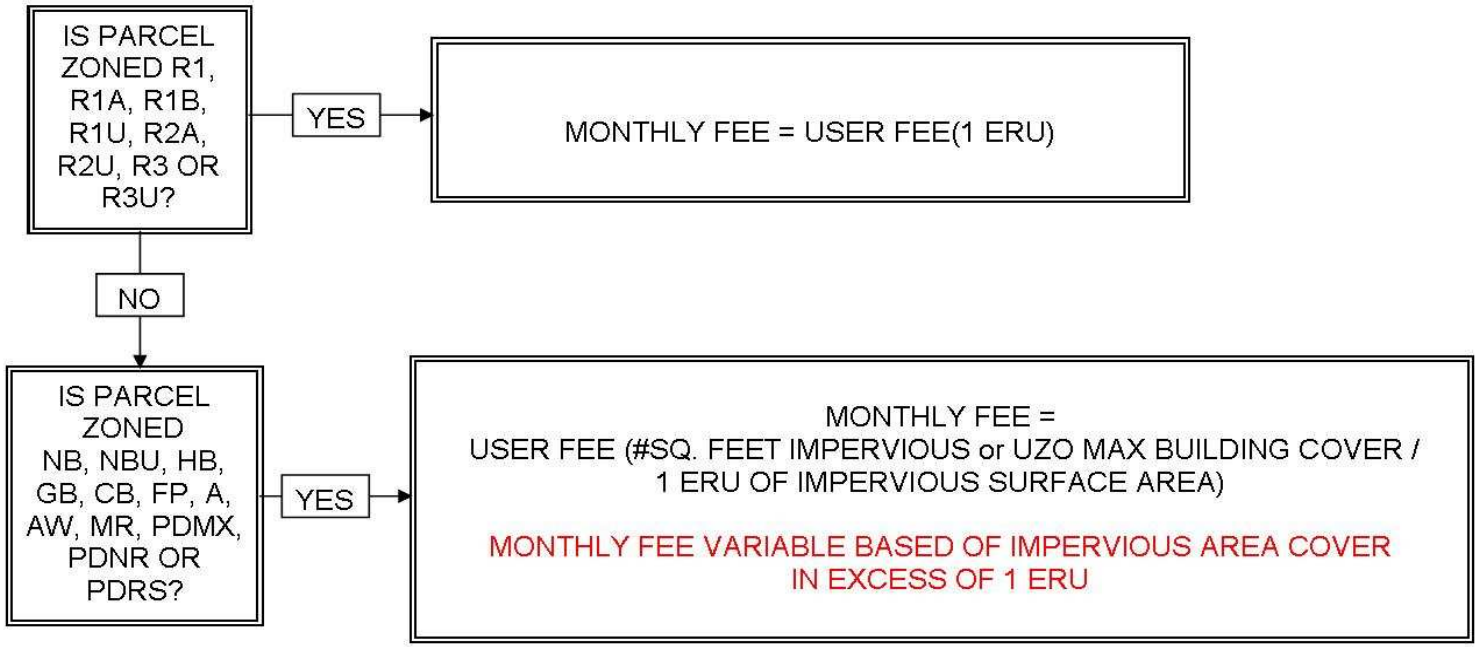
Parcel Database Analysis

- Total Parcels Identified: Approx. 31,000
  - Residential: Approx. 23,000
  - Non-residential: Approx. 8,000
- Parcel data refined to streamline billing
- Completed parcel sampling to test validity of impervious surface rationale

CITY OF LAFAYETTE

FLOWCHART FOR 2009 BILLING YEAR STORMWATER UTILITY FEE CALCULATION FLOWCHART

USER FEE ASSESSED TO ALL PARCELS
EQUIVALENT RESIDENTIAL UNIT IS BASIS FOR FEE



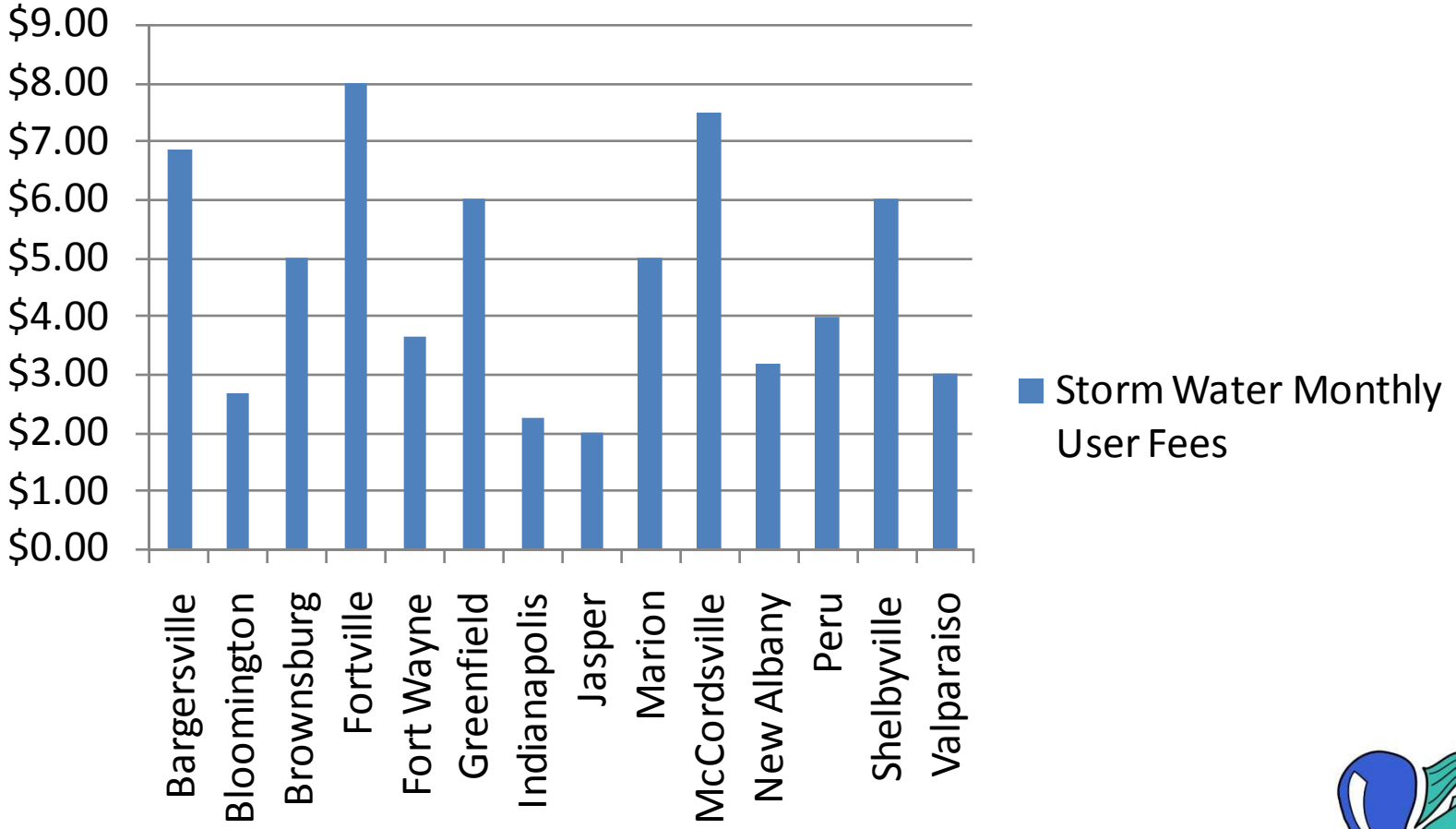
LAST REVISED: 4-06-2009

DLZ

Residential User Fee

- Includes all properties zoned starting R
- Impervious surface factored into fee
- 1 Equivalent Residential Unit (ERU) = TBD
- 1 ERU assigned to each residential parcel

Residential Storm Water Monthly User Fees*



 *The structure of user fees in these communities varies.

Non-residential User Fee

- Includes properties zoned
  - Agriculture
  - Business
  - Commercial
  - Industrial
- Fee Considerations
  - Equivalent Residential Units
  - Amount of impervious surface area

Revenue Projections

Monthly Fee for Non-residential Parcels:

- Function of parcel area, UZO maximum building coverage, and Equivalent Residential Unit
- ERU is applied as multiplier to determine monthly fee
- Accounts for larger volumes of storm water runoff
- Use of UZO coverage areas is temporary until funds are available for non-residential impervious surface measurements

Revenue Projections

Sample Calculation (non-residential parcel):

$$\frac{\text{PARCEL AREA } \mathbf{X} \text{ UZO MAXIMUM BLDG.}}{\text{Equivalent Residential Unit (ERU)}} \mathbf{X} \text{ USER FEE}$$

$$\frac{\text{65,000 SF } \mathbf{X} \text{ 50\% (Neighborhood Business [NB])}}{\text{1 ERU (Square Feet)}} \mathbf{X} \text{ USER FEE}$$

Next Steps

- Analysis of rate structure and revenue by financial consultant (in progress)
- Final rate assessment
- Analysis of billing process
- Key stakeholder outreach

Questions? Comments