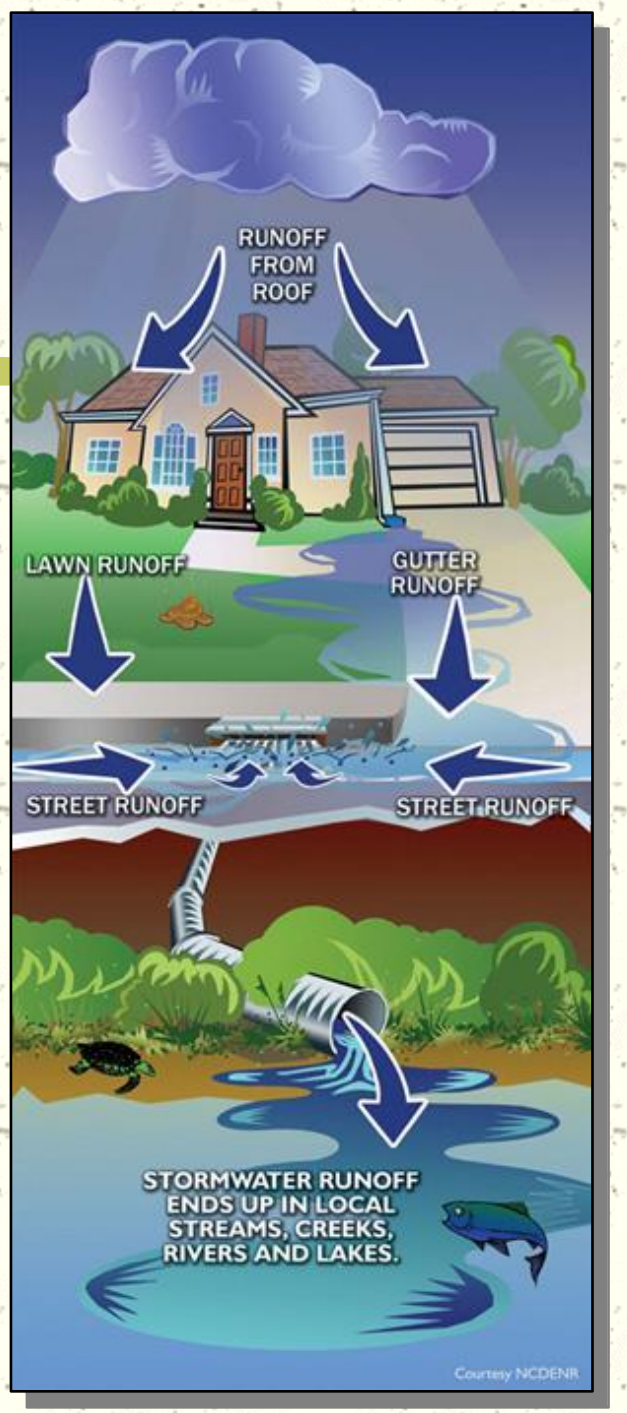

The City of
Sapulpa
STORMWATER

What is Stormwater?

- Direct result of rainfall
- Recharges groundwater by infiltration
- Produces "runoff" (excess rainfall after infiltration)
- May be concentrated
  - Storm sewers
  - Creek channels
- May be scattered
  - Sheet flow



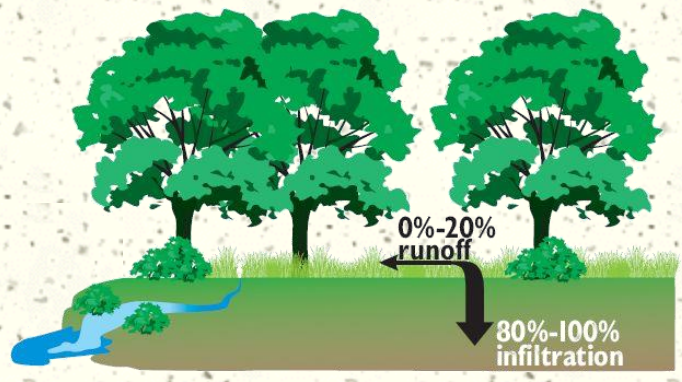
Every drop of water that falls on our roof today is someone's drinking water tomorrow!

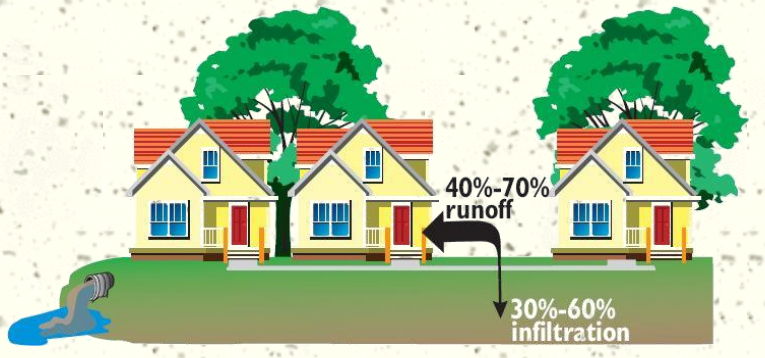
Why are we concerned about Stormwater?

- Water Quality – Clean Water Act (amendments 1972)
  - In Oklahoma mandated as the Phase II Stormwater Program by the Environmental Protection Agency. Monitor by Oklahoma Department of Environmental Quality
- Increased Flooding

Cuyahoga River

How Does Urbanization Affect Stormwater Runoff?





Affect on Water Quality

- Increased Pollutant Loading
  - Sediment
  - Oil, grease, lubricants
  - Pesticides and nutrients from lawns
  - Microorganisms & nutrients from pet waste & failing septic systems
  - Road salts
  - Heavy metals from roof shingles, etc.
  - Thermal pollution from dark impervious surfaces

What is the Phase II Stormwater Program?

- In 1999, the EPA adopted "Phase II" stormwater regulations that require smaller cities, mostly having "Urbanized Area", to obtain a Phase II stormwater permit. The regulations also address construction activities disturbing one acre of land or greater.

- The Phase II Stormwater Permit requires Cities to develop and implement programs to protect water quality as well as reduce and eliminate causes of pollution in local streams.

How Does The Phase II Program Protect Water Quality?

- Six Minimum Control Measures
  - Public Education and Outreach
  - Public Involvement and Participation
    - Volunteer Stream Monitoring
    - Community cleanup events
  - Illicit Discharge Detection and Elimination
    - Stormwater sampling
    - Inspections of industries
    - Enforcement activities
  - Construction Site Runoff Control
    - Inspection of Construction Sites
  - Post-Construction Stormwater Management for New and Re-development
  - Pollution Prevention/Good Housekeeping for Municipal Operations
    - Training City employees in stormwater management practices.
    - Improving City operations to comply with Phase II rules (e.g. vehicle and equipment washing practices).

Best Management Practices (BMPs)

TABLE 1: BEST MANAGEMENT PRACTICES AND ASSOCIATED MINIMUM CONTROL MEASURES
Phase II Applicant's Notice of Intent for OKR04 Coverage – Revised October 2006

City / County:	Sapulpa and Creek Co.

BEST MANAGEMENT PRACTICES	PUB. ED.	PUB. PAR.	IL. DSCH.	CNST.	POST CNST.	GOOD HSKP.	PERSON RESPONSIBLE FOR BMP IF DIFFERENT THAN DESIGNATEE
Education Materials							
Water quality impacts from urban stormwater	X	X	X				
Household chemical disposal options	X	X	X				
Proper on-site sewage disposal system maintenance	X	X	X				
Chemical storage and disposal at businesses	X	X	X				
Construction / erosion control BMPs				X	X		
Post-construction / erosion control BMPs					X		
City good house-keeping options						X	
How to become involved in stormwater program	X	X	X				
Recycling and re-use benefits	X	X	X				
Chemical storage and disposal at city facilities						X	
Training Topics for City Staff							
Storage and disposal of chemicals at city facilities			X			X	
Water quality impacts and regulations	X					X	
Data quality and data management			X				
How to conduct inspections effectively			X	X	X	X	
Stormwater and city activities						X	
MS4 Mapping							
Develop MS4 map with outfalls and streams			X				
Collect map data and set priority areas			X				

The City of Sapulpa has designated Brooke Lawrence, Environmental Administrator, and Creek County has designated Brooke Lawrence, Environmental Administrator as the primary staff persons responsible for making supervisory decisions over implementing all Phase II stormwater BMPs and activities. In the event the primary official is not available, alternates are hereby designated:
(for Sapulpa) Doug Moore, Planning Director
(for Creek County) Brooke Irving Frank, Community Planner

Our Stormwater Utility

- Fund the Phase II Stormwater Program mandated by the Environmental Protection Agency.
- Insures that there will be long term funding to pay for construction, maintenance and repair of storm water facilities.

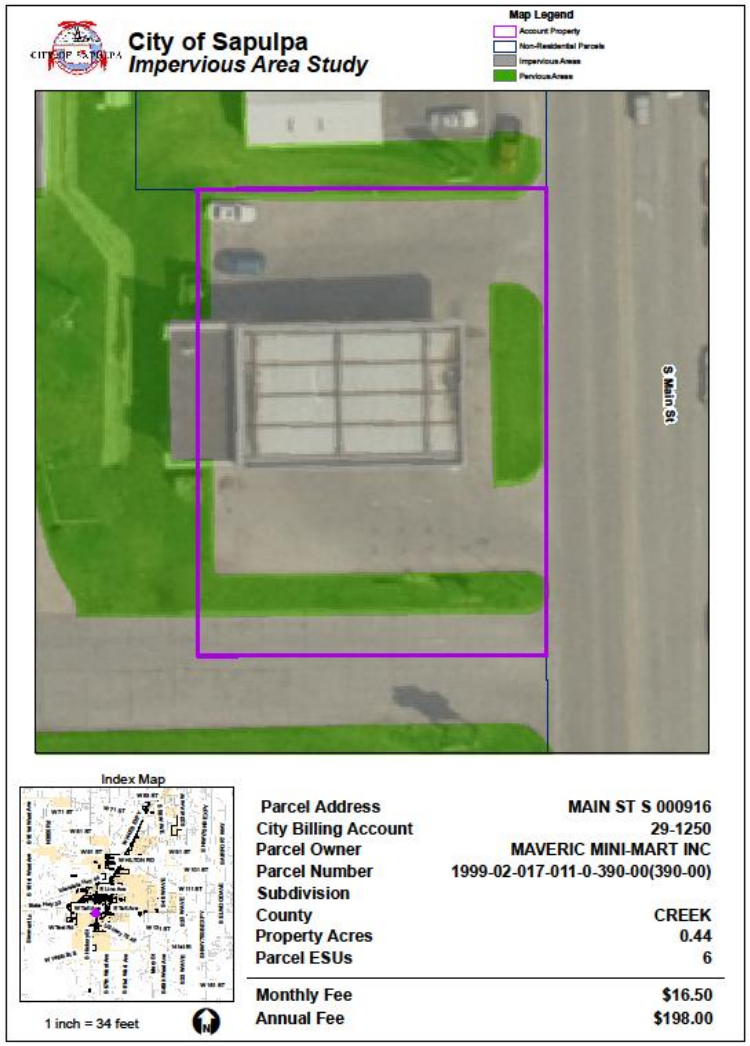
Development of Comprehensive Stormwater Master Drainage Plan

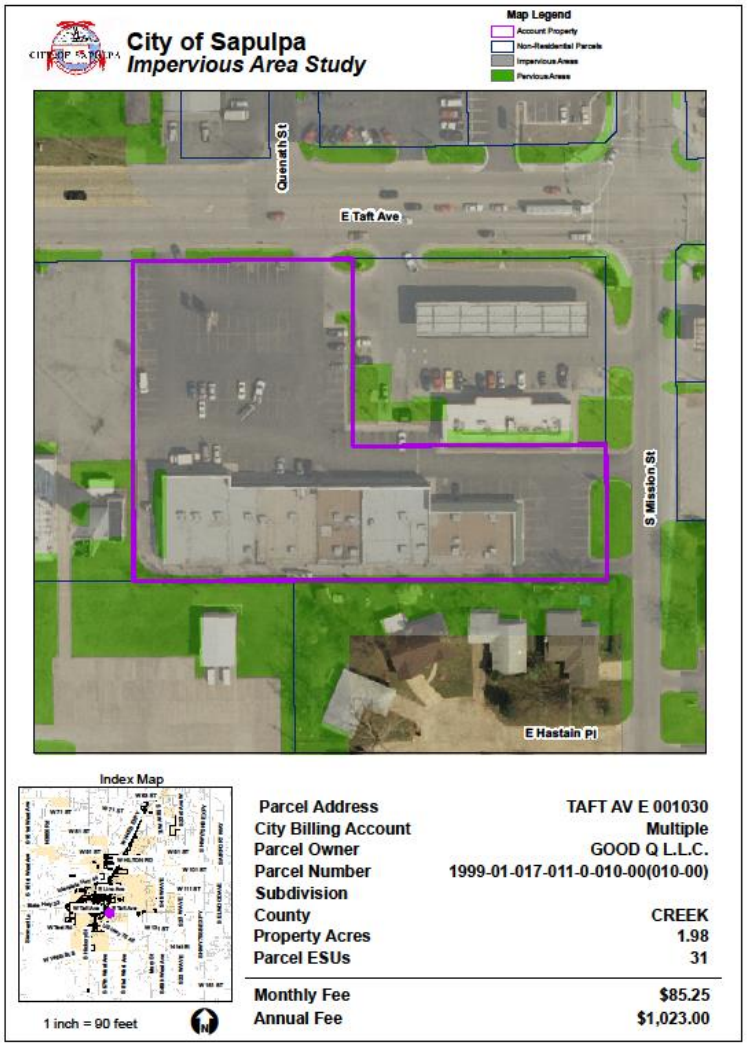
- Impervious Surface Study
- Development of Geographical Information Systems GIS Mapping and Data Base
- Master Drainage Plan
  - Design Criteria

How is the Stormwater Utility Fee Determined?

- An Equivalent Service Unit (ESU) is based on average impervious area in a residential lot.
  - 1 ESU = 2,650 square feet
- All residences are considered 1 ESU at $4.15.
- All non-residential properties pay a fee per ESU of measured impervious area, with a minimum of 8 ESU's or $22.00 at $2.75/ESU
- All non-residential property fees are derived by taking the entire property's impervious area and dividing it by 2,650 sq ft (1 ESU). This value is then calculated by $3.51 to get the total fee

Impervious Surfaces





How will a Stormwater Utility Benefit Residents?

- The fee will fund many services, including:
  - Stormwater Management Plan
  - Geographic Information System (GIS) mapping
  - Drainage system maintenance, repair and improvement
  - May be used to assist as matching funds for Flood Mitigation Grant projects

How will a Stormwater Utility Benefit Residents?

- The fee will fund many services, including:
  - Improved water quality and pollution prevention through inspection, monitoring, surveillance and enforcement activities.
  - Illicit discharge detection and elimination.
  - Street sweeping and cleaning.
  - Public Education and Participation.
  - Stream restoration and other environmentally beneficial programs.