Storm Water/Drainage Utility: Public Hearing Background

City of Richardson, Texas
City Council Work Session
November 28, 2011
Introduction

• Tonight has been posted for a **public hearing** as the City Council considers the adoption of a Storm Water Drainage Utility and related Rate structure for properties in Richardson.

• This hearing follows considerable review since 2008 on the development of a drainage utility for Richardson, involving periodic work sessions, news articles, web information, and notices.

• This utility system approach responds to ongoing maintenance and improvement obligations of the City’s 12 drainage basins and imposed requirements of the U.S.-E.P.A. on cities.

• Preparation of this Drainage Utility has been developed with direction from Texas Local Government Code 552 – Texas Municipal Drainage Utility System Act.

• Supplemental engineering services has been provided by Freese & Nichols Engineers – a recognized consulting service in this field.
Storm Water/Drainage System

- A mixed open and closed system of collection ways to transmit storm water to creeks / rivers / lakes / gulf/ocean.

- Not the wastewater sewer system.
Terms and Features

- Inlet
- Gabion
- Outfall Structure
- Watershed/Basin
- Box Culvert
Richardson’s Drainage Infrastructure

12 Drainage Basins
8500 Storm Drain Inlets
295 Miles of Storm Drain Line
1041 Storm Drain Outfalls
44.5 Miles of Creeks
Background

• Storm water management practices have evolved since the early 1970’s and continuously challenge local governments throughout the United States to minimize pollution and other impacts to our lakes and streams.

• For many years, the mandates focused on “point” sources (i.e. key locations of private or public discharges.) Sewer treatment plants were a DFW-area focus.

• More recent attention has now moved to the wider “non-point” sources, focusing on general urban runoff into drainage systems.
Recap: *Regulatory Obligations*

- In Feb. 2008, the City Council was briefed on the City of Richardson’s (a Phase II city) requirements & deadlines under the Texas Pollution Discharge Elimination System (TPDES) regulations.

- Key obligations included: pollution prevention, erosion management, public information, construction site mgt. etc.
Texas Pollution Discharge Elimination System (TPDES)

- State of Texas (TCEQ) component of National EPA Mandate
- Phased Permitting by Population Size (>100,000)
- **Initial Richardson Compliance Period:** 2007-2008
  - 5 Year Phased Program (Aug. 13, 2007)
  - Permitted Until 2012-2013
- **Future Re-permitting/Renewal Period in 2012-2013**
  - Renewal by Aug. 13, 2012
  - Draft Requirements Now being Issued
  - Stronger/Added Requirements
  - Several Municipal “Housekeeping” Requirements Proposed
Storm Water Management

• The **Storm Water Management Plan** has impacted the City’s operating budgets over the last several years as monitoring, maintenance and enforcement practices were put in place:
  
  • Expansion of existing services and best management practices
  
  • Additional development and redevelopment storm water design and review requirements
  
  • Increased construction storm water runoff permitting, inspection and record keeping procedures
  
  • Sustain maintenance levels for street sweeping & culverts and drainage way maintenance
  
  • Inspection, maintenance and or enforcement of storm water control structures
Richardson’s Prior Attention to Drainage Support

• Important 1996 innovative financial support policy posture for City/Owner cost-sharing in support of Creek Erosion capital improvements to creek-side parcels (Res. #96-05).

• $13 million of capital improvements were allocated through the 1997, 2006, and 2010 General Obligation element for drainage/erosion improvement, as well as $1 million of the 2001 C.O. program for expedited flood management improvements.

• Urban Lakes & Creekway property drainage system evaluation assessments

• Staff monitoring and community advisory for private property flood insurance mapping updates by FEMA – Dallas County/Richardson & Collin County/Richardson efforts.
Motivations for Action

• Four key elements have shaped the timing and features of this Storm Water Utility Review by the City of Richardson:

  • **Council’s Initiatives/Goals Guidance**
  
  • **Recent & Anticipated Texas Pollution Discharge Elimination System (TPDES) regulatory requirements**
  
  • **Community Requests for Enhanced Drainage Support/Services**
  
  • **The City’s strengthened attention to environmental management and positive ecological practices and facilities**
Utility Creation Process
Guidance from Local Govt. Code (LGC 552)

• Evaluate need for Storm Water Utility
• Develop rate basis for fee schedule
  • Assess drainage runoff features by key property types
  • Evaluation of impervious surface/lot size areas of City
• Determine storm water service and infrastructure costs and revenue requirements
• Develop Storm Water Utility policies, billing processes and proposed ordinances
• Provide posting of draft ordinance & resolution in newspaper
• Hold public hearing regarding the creation of a storm water utility and the proposed fee schedule
• Adopt ordinances establishing the Storm Water Utility and associated fee schedule
• Initiate billing and enhanced workplan/services
Rate Making Summary

• Storm Water Utility Rates are typically based on runoff contributed by an average residential home. **Lot size** is typical proxy for residential criteria.
  • Expressed as **rate per residential lot**

• Non-residential rates are based on an equivalent residential rate through the use of a scaling factor based on the amount of **impervious area** for each property.
  • Expressed as **rate per 100 sf of impervious surface** as calculated
Storm Water Utility Objectives

- Establish a **formal utility structure** with fiscal and operating features to continue to sustain our **environmental and regulatory obligations** for storm water management practices.
- **Enhance our annual storm water management work plan** and meet the community’s capital improvement and maintenance expectations.
- Allocate the related costs of storm water management services through **equitable rates** using the statutorily-provided guidance.
- Acknowledge **remaining role of periodic G.O. Bond** Program for larger CIP drainage projects.
Key Service & Project Elements

**Operations**
- Daily service administration
- Plan reviews
- Inspections & Compliance
- Inlet & conveyance debris removal/clean out
- Vegetation management
- Hazardous spill management
- Road surface debris removal
- Public Awareness and Outreach
- Engineering assessments and modeling
- Storm Preparation & Post-Event Response
- Pipe & Channel Repair

**Capital Projects**
- Flood control
- Erosion protection
- Storage and conveyance structures
- Velocity mitigation
- Storm water treatment structures
- Aeration & aquatic vegetation management
- Silt management & safe removal and disposal
- Bridge and Culvert Construction
- Spillways/Dam Structures
Rate Making Expense Elements

- City of Richardson Expense Elements:
  - Key Departments:
    - Public Services Department
    - Engineering Department
    - Health Department
    - Parks Department
    - Fire Department Hazmat
    - Communications Department
  - Services/Contracts:
    - Street Sweeping Operations
    - Street Sweeping Contract
    - Creek Mowing
    - Periodic Drainage Studies
  - Capital Projects Program:
    - Non-Bond PayGo Program
    - CIP Database: ~$60 million - A & B Lists
Regional Rate Adoption Context

- Eleven of the Twelve Comparison Cities have activated a Drainage Utility Fee, including: Dallas, Ft. Worth, Arlington, Plano, Irving, Frisco, Garland, Grand Prairie, McKinney, Mesquite, & Allen.
  - These fees have been in place for several years.
- Majority of cities have established Storm Water Utility Systems with residential rates varying from $2.00 to $19.00 per month
- Most cities use storm water fee revenues for operations and maintenance and some capital expenditures.
# 12-City Review

<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>Allen</td>
<td>Yes</td>
<td>$3.00</td>
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<td>Arlington</td>
<td>Yes</td>
<td>$4.25</td>
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<tr>
<td>Carrollton</td>
<td>-</td>
<td>-</td>
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<tr>
<td>Dallas</td>
<td>Yes</td>
<td>$7.77</td>
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<td>Ft. Worth</td>
<td>Yes</td>
<td>$4.75</td>
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<tr>
<td>Frisco</td>
<td>Yes</td>
<td>$2.00</td>
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<tr>
<td>Garland</td>
<td>Yes</td>
<td>$2.88</td>
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<td>Grand Prairie</td>
<td>Yes</td>
<td>$4.30</td>
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<tr>
<td>Irving</td>
<td>Yes</td>
<td>$4.00</td>
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<tr>
<td>McKinney</td>
<td>Yes</td>
<td>$2.75</td>
</tr>
<tr>
<td>Mesquite</td>
<td>Yes</td>
<td>$3.00</td>
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<tr>
<td>Plano</td>
<td>Yes</td>
<td>$3.30</td>
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<tr>
<td>Richardson</td>
<td>TBD</td>
<td>TBD</td>
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*Survey Avg: $3.82*
Land Parcel Review

• Over this study period, staff and Freese & Nichols Engineering consultants reviewed Richardson’s land parcel configurations:
  • Assessment of all property types
  • Sorting/grouping to determine “break-points” for possible rate grouping structure
  • Confirm from parcel data sampling that impervious surface follows lot size
  • Determine multiplier factor for commercial properties expressed as “residential equivalent” in rate per 100 sf of impervious surface

• Objective is to establish an equitable and reasonable allocation of fees for drainage program.
Key Assessments

• 50% of impervious area is residential / 50% are non-residential
• Residential lots follow a “bell-shaped” curve
• Lots fall into three groupings:
  • Smaller than 7,500 sf...about 8%
  • A larger group around 7,500 to 15,000...about 86%
  • A remaining larger lot group above 15,000...about 6%
• Impervious portion of lots are about 2,600 sf to 3,500 sf for most lots...larger lots have larger impervious areas (4,475 sf).
City of Richardson
Residential Property Size Distribution

- Residential Tiers (parcel area square feet)
  - Tier 1 (<7,500) 8%
  - Tier 2 (7,500-15,000) 86%
  - Tier 3 (>15,000) 6%

Number of Residences

Property Size (square feet)
Residential Lot Types
# Residential Features

<table>
<thead>
<tr>
<th>Residential Category</th>
<th>Parcel Category Limits</th>
<th>% of Residences</th>
<th>Impervious Area per Res. (sf)</th>
</tr>
</thead>
<tbody>
<tr>
<td>R1</td>
<td>&lt;7,500</td>
<td>8%</td>
<td>2,600</td>
</tr>
<tr>
<td>R2</td>
<td>7,500-14,999</td>
<td>86%</td>
<td>3,573</td>
</tr>
<tr>
<td>R3</td>
<td>15,000+</td>
<td>6%</td>
<td>4,475</td>
</tr>
</tbody>
</table>
Allowed/Recommended Exemptions

- School District properties are proposed for exemption: RISD & PISD
- Church Property is proposed for exemption
- UTDallas property is already exempt under state statute
Exemption Recommendations
Proposed Rates

- **Residential**: A three-tier structure is supported by data analysis. Tiers and relative rate factor provide equity in rate allocation.
  - R1 - Rate of $2.75/month
  - R2 - Rate of $3.75/month
  - R3 - Rate of $4.75/month

- **Commercial**: A rate of $0.105/100 sf of impervious surface as assigned by measurement.
  - Equivalent to avg. residential lot (middle tier). Individual commercial lot measurements will be performed.

- **Billing**: Monthly charge will be placed on water/sewer account’s monthly bill. Identified with separate line description/itemization on bill. Similar collection/payment features to current “water bill”.

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# Annual Billing Impact

<table>
<thead>
<tr>
<th>Example</th>
<th>Billing Unit</th>
<th>Annual Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Single Family Residential Parcel</td>
<td>$3.75/month</td>
<td>$45</td>
</tr>
<tr>
<td>Largest Apartment</td>
<td>$0.105/100sf</td>
<td>$11,805</td>
</tr>
<tr>
<td>Largest Comm. /Retail (only 8 over $10,000 annually)</td>
<td>$0.105/100sf</td>
<td>$21,839</td>
</tr>
</tbody>
</table>
Budgetary Integration of a New Storm Water Utility

• A new **Drainage Utility Fund** will be established in City Budget at rate adoption – mid-2011-2012 implementation
• All rate **revenue** is deposited and tracked from this new fund.
• Storm water/drainage **expenses** will be allocated as follows:
  • Identified expenses that are “fractional” will remain in General Fund and a prescribed interfund G&A transfer will be initiated to assign the cost burden to the Drainage Utility Fund
  • Key contractual expenses and the capital PayGo programs will be directly expensed from this new Drainage Utility Fund
• A new Drainage Utility Fund Summary will become part of periodic budget reporting, annual budget preparation, and included in the annual audit/CAFR.
• With the mid-year initiation in 2011-2012 for this program and partial year receipt of revenues, a modified capital program will occur for this start-up year, but a full year program begins with next fiscal year: 2012-2013.
Key Richardson Work Plan Elements

<table>
<thead>
<tr>
<th>Element</th>
<th>Amount/Yr.</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual Rate Revenue</td>
<td>$2,500,000</td>
<td>a. Annual collection estimate -net of recommended exemptions</td>
</tr>
<tr>
<td>Department Expenses</td>
<td>$845,000</td>
<td>b. G&amp;A elements in General Fund related to drainage services:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Public Works, Parks, Engineering, Health, Communications, Fire</td>
</tr>
<tr>
<td>City Sweeping Operations</td>
<td>$65,000</td>
<td>c. Current contract to be moved to new Drainage Fund</td>
</tr>
<tr>
<td>Street Sweeping Contract</td>
<td>$290,000</td>
<td>d. Annual PayGo allocation for annual programming</td>
</tr>
<tr>
<td>Sub-total</td>
<td>$1,200,000</td>
<td></td>
</tr>
<tr>
<td>PayGo Capital Program/Year</td>
<td>$1,300,000</td>
<td></td>
</tr>
<tr>
<td>Total Annual Program</td>
<td>$2,500,000</td>
<td></td>
</tr>
</tbody>
</table>
### Additional Contract Services – 5 Yr. Est.

<table>
<thead>
<tr>
<th>Service Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Watershed, Flood Prevention and Lake Studies</td>
<td>$250,000</td>
</tr>
<tr>
<td>Water Quality (Debris Removal in Creeks/Public Info.)</td>
<td>$250,000</td>
</tr>
<tr>
<td>System Maintenance (Vegetative Clearing/Inspection/Cleaning/Repair)</td>
<td>$500,000</td>
</tr>
</tbody>
</table>

**Sub Total** $1,000,000

### Capital Projects

<table>
<thead>
<tr>
<th>Project Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vegetative Clearing - West Fork South of Campbell</td>
<td>$100,000</td>
</tr>
<tr>
<td>Dumont Dr. at Hunt Branch Culvert Replacement</td>
<td>$300,000</td>
</tr>
<tr>
<td>Aeration for Lakes</td>
<td>$200,000</td>
</tr>
<tr>
<td>Hunt Branch Culvert - Belt Line to Cottonwood</td>
<td>$880,000</td>
</tr>
<tr>
<td>Cottonwood Culvert at Wisteria</td>
<td>$150,000</td>
</tr>
<tr>
<td>Cottonwood Culvert at Brentwood</td>
<td>$600,000</td>
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<tr>
<td>Cottonwood Culvert at Melrose</td>
<td>$1,100,000</td>
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<tr>
<td>West Fork Culvert at Melrose</td>
<td>$400,000</td>
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<tr>
<td>1112 N. Floyd Erosion Repair</td>
<td>$175,000</td>
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<tr>
<td>Sharps Farm Lake Rehabilitation</td>
<td>$400,000</td>
</tr>
<tr>
<td>3109 &amp; 3113 Springbranch Erosion Repair</td>
<td>$70,000</td>
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<tr>
<td>Lawnmeadow Flood Prevention</td>
<td>$900,000</td>
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<tr>
<td>Beck Branch Erosion Repair</td>
<td>$70,000</td>
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<tr>
<td>Lamp Post Flood Prevention</td>
<td>$165,000</td>
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<tr>
<td>Chippewa Flood Prevention</td>
<td>$950,000</td>
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<tr>
<td>N. Waterview at West Fork Bridge Improvement</td>
<td>$200,000</td>
</tr>
<tr>
<td>2305 Custer Parkway Erosion Repair</td>
<td>$325,000</td>
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<tr>
<td>333 - 335 Ridgebriar Erosion Repair</td>
<td>$135,000</td>
</tr>
<tr>
<td>Summit Dr. Flood Prevention</td>
<td>$1,075,000</td>
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<tr>
<td>Waterview Dr. North of Cullum Erosion Repair</td>
<td>$95,000</td>
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<tr>
<td>3329 Haylee Ct. Erosion Repair</td>
<td>$100,000</td>
</tr>
<tr>
<td>Kirby Lake Rehabilitation</td>
<td>$400,000</td>
</tr>
<tr>
<td>Silt removal from Park Lakes</td>
<td>$355,000</td>
</tr>
</tbody>
</table>

**Sub Total** $21,445,000

**Total Capital Program** $22,445,000
New Level of Drainage Service & Projects
Important Public Awareness Focus

**THE DRAIN IS JUST FOR RAIN**

Next time you are taking care of your yard, remember it's important for all of us to make it a point to keep our storm drains clear and clean. You see, they are meant to carry rain water away and to help water the grass away from your home during a heavy rainfall. The water then runs into and through the storm drain system to nearby waterways, and ultimately to our waterways, and ultimately to Lake Victoria, too.

Bag it, don't blow it.

Don't blow it—bag or compost your leaves or grass clippings. And please, don't put anything—garbage, motor oil, paint, refrigerators or waste water—down the storm drain. Because it could end up as “poison” on you.

Clean waterways start here.
Notice and Preparation

- Prior TPDES & Drainage Utility Work Session briefings since February 2008
- Recent Work Session briefing on October 17, 2011
- *Richardson Today*
- Mayor’s *Week in Review* item
- Web Page information
- *Dallas Morning News* publication
  - Draft Ordinance # 3843 – Drainage System
  - Draft Resolution # 11-33 – Rates
  - Published entire documents three times, as required:
    - Oct. 28, Nov. 4, Nov. 11.
Future Steps After Adoption

• Complete preparation steps for February 1, 2012 billing start with billing cycles
• Sustain drainage utility operations & public awareness programs
• Establish 2011-2012 mid-year start-up budget
• Evaluate partial year and new 2012-2013 Drainage Capital Improvement projects
• Prepare TPDES Renewal Permit materials – due by August 2012