

EXHIBIT "A"

# City of Richland Hills

## **Water Conservation Plan**

## **1. Introduction and Objectives**

The City of Richland Hills developed the following Water Conservation Plan (Plan) to provide a framework for future efforts to conserve existing water resources and avoid wasting water in current water use practices. The Plan outlines procedures to conserve the available water supply and protect the integrity of water supply facilities with particular regard for domestic water use, and fire protection, and to protect and preserve public health, welfare, and safety. Further, the goal of the Plan is to minimize adverse impacts of water supply shortage or other water supply emergency conditions.

The Plan outlines water conservation procedures currently used by the City of Richland Hills water system. The Plan also identifies practices that may reduce water usage in the future.

## **2. Water System Profile**

According to the 2010 Census, the City of Richland Hills has a population of 7,850. The city purchases a majority of its water production from the City of Fort Worth and the remaining is produced by city-owned water wells. There are currently five active water wells that pump water from the Trinity and Paluxy Aquifers. These wells play a major role in maintaining a low peaking factor during peak use periods. The City's utility profile and data can be found on the attached [Appendix A](#).

## **3. Record Management System**

The city administers a comprehensive records management system that accounts for water use by selected category and allows staff to monitor water usage characteristics and customer specific categories. The system also allows the city to monitor specific areas of the city to identify concentration of problem areas of the infrastructure system that need to be rehabilitated. Selected water user categories are shown on the attached [Appendix A](#). It should be noted that the city does not make classification distinctions between commercial and institutional or industrial water users.

## **4. Conservation Goals**

### **4.1 [GPCD Reduction](#)**

The city's current 5 year GPCD average is 125. Because of the city's fully developed condition, automatic meter reading system, and improvements to water infrastructure in the last 5 years, the city has maintained an average 125 GPCD. Industry wide this is an acceptable rate which the city will continue to maintain through a proactive approach to infrastructure improvements, maintenance of existing facilities, efficient management, record keeping policies, public notification of water usage requirements, training and annual review of average GPCD, peaking factor and water loss records. Table 1 below lists the reduction of GPCD and peaking factor for 5 and 10 year goals.

Table 1. Richland Hills Per Capita Water Use Goals:

<b>Water Use</b>	<b>2019</b>	<b>2024</b>
Peak GPCD	174	174
Annual Avg. GPCD	125	125
Peaking Factor	1.39	1.39

#### 4.2 Unaccounted Water Loss and Leak Detection

Unaccounted water loss occurs due to leaks, line breaks, meter inaccuracies, theft, flushing of lines, fires, and other issues. The city monitors water production and water billing on a monthly basis and calculates water losses as seen in the utility profile. The city has a leak detection and valve exercise program, monitors the distribution system on a daily basis and has been very effective in making repairs in a timely manner. The city’s average water loss rate of 9% is an acceptable rate and will continue to stay within this rate and reduced whenever possible. Table 2 below list the water loss projections for the 5 and 10 year Goals.

Table 2. Richland Hills Unaccounted Water Loss Goals:

<b>Unaccounted Water Loss</b>	<b>2019</b>	<b>2024</b>
Water Demand (gal)	354,225,000	354,405,000
Unaccounted Water (gal)	31,880,000	31,896,000
Unaccounted Water (%)	9.0	9.0

## 5. **Universal Metering and Meter Testing Program**

The City currently provides metering for all customers. The City will continue to provide universal metering and records will be kept for each meter. The City will implement a program of regularly scheduled maintenance and testing of meters as follows:

<b>Meter</b>	<b>Test Frequency (years)</b>
FWWD Meter	1
Well Meters	1
Meters 3” or larger	1
Meters larger than 1 ½”	5
Meters 1 ½” or smaller	10

## **6. Other Conservation Measures**

### **6.1 Continuing Public Education**

Educating and informing the citizens of Richland Hills is the most readily available and lowest cost method of promoting water conservation. Practices of water conservation will be accomplished through a program of direct mailings or distributions, information packets for new water customers, articles in the city newsletter, school programs or flyers, and reports at Council meetings and Town Hall meetings. Specific actions to be performed are as follows:

- a. At least four (4) times per year a direct mailing or distribution will be made to each water customer which includes information regarding water conservation.
- b. Water conservation material will be included in an information packet for new water customers.
- c. A water conservation “tip” will be included in every issue of the city newsletter which is distributed to every residence and business in Richland Hills.
- d. The City will be an active participant in National Drinking Water Week each year.
- e. Periodic reports will be made to the City Council regarding water conservation efforts.

### **6.2 Water Rate Structure**

The current water rate structure (see Appendix B) is an increasing rate to usage structure and promotes water saving practices. The City will periodically review respective retail water rate structures to insure that the prevailing rates encourage water conservation while covering the total cost of service and minimizing adverse impacts.

### **6.3 Xeriscaping**

The use of xeriscaping shall be encouraged through the education and information program. The City shall consider the use of such technology in its own future landscaping and irrigation projects.

### **6.4 Plumbing Codes**

The City will adopt an amendment to its plumbing code that requires the use of water saving fixtures for all new construction and for replacement of plumbing in existing structures.

6.5 Plumbing Retrofit Program

The education and information program will provide information regarding the advantages of water saving devices.

6.6 Recycling and Reuse

The City’s wastewater effluent is currently treated and released by others. The City supports any efforts by those entities in this area.

6.7 Pressure Reduction

The City has installed a pressure reduction valve at its FWWD water source and its pump station and altitude valves at its two elevated storage tanks.

6.8 Landscape Water Management

The City has an existing ordinance which prohibits wasting water and which prohibits watering between 10 a.m. and 6 p.m. year round. The City has adopted ordinances to require rain and freeze sensors on new irrigation systems. Further, the City has adopted a twice per week watering schedule to mirror that of Fort Worth, as follows:

<b>Monday</b>	<b>Tuesday</b>	<b>Wednesday</b>	<b>Thursday</b>	<b>Friday</b>	<b>Saturday</b>	<b>Sunday</b>
No outdoor watering	Non-residential	Residential addresses ending in (0,2,4,6,8)	Residential addresses ending in (1,3,5,7,9)	Non-residential	Residential addresses ending in (0,2,4,6,8)	Residential addresses ending in (1,3,5,7,9)

6.9 Implementation and Enforcement

The Director of Neighborhood Services or his/her duly appointed representative will administer and enforce of the Plan. The director or designee will oversee the execution and implementation of all elements of the Plan. The director or designee will also be responsible for overseeing records of program implementation. The City Council has enacted appropriate ordinances to enforce this Plan, and such ordinances provide for enforcement procedures and penalties.

**7. Periodic Review and Reporting**

The City of Richland Hills will review this Plan and prepare annual reports as necessary or required by law. The Plan will also be updated as appropriate.

**APPENDIX A**

UTILITY EVALUATION DATA FORM

WATER SUPPLY AND DISTRIBUTION SYSTEM INFORMATION

- A. Population of Service Area 7,801
- B. Size of Service Area 3.9 sq. miles
- C. Water Production and Sales Information
  - 1. Water supplied during the last year: 356,522,400 gal/yr.
  - 2. Average water supplied for last 3 years: 368,917,706gal/yr.
  - 3. Estimated monthly water sales by user category for the last year in 1,000's of gallons (based on customer meters):

MONTH	RESIDENTIAL	COMMERCIAL	TOTAL
October-2012	25,113,000	6,762,700	31,875,700
November-2012	19,181,800	5,621,900	24,803,700
December-2012	18,139,400	4,633,600	2,773,000
January-2013	16,807,300	3,700,300	20,507,600
February-2013	16,589,000	4,196,100	20,785,100
March-2013	14,502,400	4,147,500	18,649,900
April-2013	16,823,400	4,640,500	21,463,900
May-2013	17,756,200	4,773,900	22,530,100
June-2013	20,177,600	5,407,100	25,584,700
July-2013	29,402,000	6,954,000	36,356,000
August-2013	30,212,600	7,618,900	37,831,500
September-2013	34,153,800	7,096,100	41,249,900
<b>TOTAL</b>	<b>258,858,500</b>	<b>65,552,600</b>	<b>324,411,100</b>

- 4. Highest daily water use (production) on record for system: 3,265,900 gal/day.
- 5. Peak daily use (production) for last year: 1,517,000 gal/day.
- 6. Unaccounted for water (prod.-sales)/production x 100=10% unaccounted for water.
- D. Number and type of meter connections in service area:  
 Residential: 2827                      Commercial: 289                      Industrial: 0

E: Net gain of new connections per year:

Residential: 0                  Commercial: 4                  Industrial: 0

F. Source of Water:

Ft. Worth Water Dept.	269,421,400
City Wells	87,101,000

G. Design capacity of Water system:                  3.8MGD

H. Major high-volume customer:

<u>NAME</u>	<u>ANNUAL WATER USE (GALLONS)</u>
Raintree Apartments	15,933,000
Birdville ISD	5,967,300
Alterra Healthcare Corp.	4,885,400
QW Coin Services	4,700,700
Lexington Place Nursing	3,470,800
First Industrial Realty Trust	3,021,400
Austin Road CO	2,868,100
Colormatrix Corp	2,750,500
Ash Park Apartments	2,679,900

## WASTEWATER SYSTEM INFORMATION

### A. Service Area Information

1. Percent of your potable water customers sewered by your utility's wastewater treatment system: 0%
2. Percent of your utility's potable water customers who have septic tanks or other privately operated sewage disposal systems: 0%
3. Percent of potable water customers sewered by another wastewater treatment utility: 100%

### B. Wastewater System Capacity Information

Average daily volume of wastewater treated for most recent year: 467,529 gal/day

### C. Estimated percent of wastewater flows to your treatment plant that originate from the following categories:

Residential:	70%
Industrial and Manufacturing:	5%
Commercial/Institutional	20%
Storm Water	5%

## UTILITY FINANCIAL OPERATIONS INFORMATION

### A. Water and Wastewater Rate Structure

See Appendix B

### B. Source of Revenue for the Utility:

1. Percent of annual revenues from water or wastewater rates: 100%
2. Percent of annual revenues from all other sources (taxes, general revenue, etc.): 0%

### C. Annual Statement of Costs

1. Annual operating costs: \$ 2,994,158
2. Annual revenue: \$ 4,122,817

**MISCELLANEOUS STATISTICAL DATE  
OCTOBER 1, 2013**

**WATER RATES:**

Residential Monthly Billing:

First 2,000 gallons (minimum)	
3/4" meter	\$ 21.45
1" meter	\$ 35.81
1.5 meter	\$ 71.41
2.0" meter	\$114.30
3.0"meter	\$214.43
4.0"meter	\$357.45
2,001 - 4,000 gallons (per 1,000 gallons)	\$ 4.17
4001 - 10,000 gallons (per 1,000 gallons)	4.40
10,001 - 20,000 gallons (per 1,000 gallons)	4.97
over 20,000 gallons (per 1,000 gallons)	6.03

Commercial Monthly Billing:

First 2,000 gallons (minimum)	
3/4" meter	\$ 21.45
1" meter	\$ 35.81
1.5 meter	\$ 71.41
2.0" meter	\$114.30
3.0"meter	\$214.43
4.0"meter	\$357.45
2,001 - 4,000 gallons (per 1,000 gallons)	\$ 4.58
4,001 - 10,000 gallons (per 1,000 gallons)	4.85
10,001 - 20,000 gallons (per 1,000 gallons)	5.48
over 20,000 gallons (per 1,000 gallons)	6.62

**SEWER RATES:**

Residential:

Minimum Rate (first 2,000 gallons)	\$ 28.18
Volume charge (per 1,000 gallons, based on winter month average)	\$ 1.98

Commercial:

Minimum rate (first 2,000 gallons)	\$ 33.18
Volume charge (per 1,000 gallons)	\$ 2.27

**NUMBER OF METERS:**

Active	3116
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## **APPENDIX B**

### WATER RATES

#### **A. WATER RATES ENUMERATED**

From and after the 1st day of October, 2010 (meter readings after such date), the following water rates and charges shall be in full effect within the city:

1. All customers with water service shall be charged the following, unless otherwise provided for:

- First 2,000 gallons                      \$ 21.45 minimum
- 2,001-4,000 gallons                      \$ 4.17 per 1,000 gallons
- 4,001-10,000 gallons                      \$ 4.40 per 1,000 gallons
- 10,001-20,000 gallons                      \$ 4.97 per 1,000 gallons
- Over 20,000 gallons                      \$ 6.35 per 1,000 gallons

2. Charges for apartment houses shall be as follows:

When two (2) or more residential living units are supplied with water from one (1) meter, a minimum water service charge of \$21.45 will be made each month for each unit, adjusted by an occupancy factor of 80%.

(Ordinance No. 1180-10. Section 1, of October 1, 2010)

#### **B. BILLING**

The water charges shall be billed out to the customer as net bills. The gross bill shall be ten percent (10%) added if the bill is not paid by the due date. The due date shall be the fifteenth (15<sup>th</sup>) day of the month after the meter is read.

(Ordinance No. 453 of May 18, 1981)

## SEWER RATES

### A. SEWER RATES ESTABLISHED

From and after October 1, 2010, the following sewer charges shall be made to customers on the Richland Hills sewer system:

1. The monthly minimum charge for all customers shall be \$28.18 for the first 2,000 gallons of actual water used or wastewater produced during the monthly billing periods.
2. The monthly minimum charge for all commercial and industrial customers shall be \$33.18 for the first 2,000 gallons of actual water used and wastewater produced during the monthly billing period. In addition to the monthly base charge, non-residential customers shall be charged a monthly excess sewer or wastewater volume usage charge of two dollars and twenty seven cents (\$2.27) per 1,000 gallons of total water used and wastewater produced over the first 2000 gallons of winter average water volume usage included in the base charge.
3. The monthly volume charge for all single-family residential customers shall be based on the individual customer's average monthly water usage during the preceding winter quarter months of December, January and February and calculated at the rate of one dollar and ninety eight cents (\$1.98) per 1,000 gallons of actual water used or wastewater produced during the monthly billing period over the first 2,000 gallons. When no preceding winter quarter average is available from records, an estimated average monthly volume of 10,000 gallons shall be used.
4. When two (2) or more residential living units are supplied with water from one (1) meter, a minimum sewer charge of \$28.18 will be made each month for each unit, adjusted by an occupancy factor or 80%. The monthly volume charge shall be calculated at the rate of one dollar and ninety-eight cents (\$1.98) per 1,000 gallons of actual water used or wastewater produced during the monthly billing period after subtracting 2,000 gallons for each minimum included in the occupancy factor.

(Ordinance No. 1180-10, Section 3, of October 1, 2010)