

CERTIFICATE FOR ORDER OR RESOLUTION

STATE OF TEXAS
COUNTY OF HARRIS
HARRIS COUNTY MUNICIPAL UTILITY DISTRICT NO. 102

We, the undersigned officers of the Board of Directors of **Harris County Municipal Utility District No. 102** of Harris County, Texas (the "District"), hereby certify as follows:

1. The Board of Directors of the District convened in **regular session** on the **26th day of August, 2013**, at the regular meeting place thereof, and the roll was called of the duly constituted officers and members of the Board, to-wit:

Randal W. Ward	President
Douglas Jordan	Vice President
David Scholler	Secretary/Treasurer
Jason A. Iken	Assistant Secretary
Robert Moorman	Asst. Treasurer / Asst. Secretary / Investment Officer

and all of said persons were present, except for the following absentees:

Jason A. Iken & Robert Moorman, thus constituting a quorum.
Whereupon, among other business, the following was transacted at said meeting:

**AMENDED ORDER ADOPTING WATER CONSERVATION PLAN;
PROVIDING FOR IMPLEMENTATION AND ENFORCEMENT THEREOF; AND
CONTAINING OTHER PROVISIONS RELATED TO THE SUBJECT**

was introduced for the consideration of the Board. It was then duly moved and seconded that the Order or Resolution be adopted, and, after due discussion, the motion, carrying with it the adoption of said Order or Resolution, prevailed and carried by the following vote:

AYES: All present
NOES:

2. That a true, full and correct copy of the aforesaid Order or Resolution adopted at the meeting described in the above and foregoing paragraph is attached to and follows this certificate; and that said Order or Resolution has been duly recorded in said Board's minutes of said meeting; that the persons named in the above and foregoing paragraph were duly chosen, qualified and acting officers and members of the Board as indicated therein, that each of the officers and members of said Board was duly and sufficiently notified officially and personally, in advance, to the holding of said meeting for such purpose; that said meeting was open to the public as required by law; that public notice of the time, place and subject of said meeting was given as required by the Texas Government Code, §551.043 and §551.054, as amended, and that the undersigned are the duly chosen, qualified and acting officers of the current Board of Directors.

SIGNED AND SEALED the 26th day of August, 2013.


Secretary, Board of Directors


President, Board of Directors



AMENDED ORDER ADOPTING WATER CONSERVATION PLAN;
PROVIDING FOR IMPLEMENTATION AND ENFORCEMENT THEREOF; AND
CONTAINING OTHER PROVISIONS RELATED TO THE SUBJECT

WHEREAS, the Board of Directors (the "Board") of Harris County Municipal Utility District No. 102 (the "District"), has carefully considered the current water conditions in the District and area-wide and has determined that the adoption of this Water Conservation Plan (the "Plan") by the District is necessary to ensure that an adequate supply of water is maintained; and

WHEREAS, the Board of the District desires to evidence its approval of this Plan and to adopt such Plan as the official policy of the District; NOW, THEREFORE,

BE IT ORDERED BY THE BOARD OF DIRECTORS OF THE DISTRICT THAT

Section 1. Approval of the Plan. The Board of the District hereby approves and adopts this Plan as set forth in this Order, and the provisions of such Plan shall be implemented immediately and enforced as rules of the District.

Section 2. Declaration of Policy, Purpose and Intent. The purpose of the Plan is to promote the efficient and responsible use of water by (1) implementing structural programs that result in quantifiable water conservation results, (2) developing, maintaining and enforcing water conservation policies, and (3) supporting public education programs that educate customers about water and wastewater facilities operations, water quantity and quality, water conservation and non-point source protection.

Section 3. Service Area. Profile data for the District water utility is provided in Appendix "A". Appendix "A" includes data on the District's service area, including population and customer data, water use data, water supply system data and wastewater data. The Appendix "A" shall hereafter be updated at least once every five years.

Section 4. Five-year and Ten-year Targets. The District shall use reasonable efforts to reduce water loss and municipal use of water. In doing so, the District has identified the following goals for water savings:

- A. Five-year Target: Within five (5) years of the date hereof, the District shall attempt to reduce the average daily municipal use of water in the District's service area by 4 gallons per capita per day and to keep the unaccounted water in the system below 12% annually.
- B. Ten-year Target: Within ten (10) years of the date hereof, the District shall attempt to reduce the average daily municipal use of water in the District's service area by 15 gallons per capita per day and to keep the unaccounted water in the system below 12% annually.

Notwithstanding the targets identified above, the District shall not be obligated to achieve any water savings in its service area, and the District's failure to do so shall not subject the District to any liability whatsoever.

Section 5. Metering Devices. The District will meter all water delivered by the District, and all such metering devices will be calibrated within an accuracy of plus or minus 5.0%. The District's operator will establish a plan for periodic meter repair and replacement to ensure accuracy.

Section 6. Unaccounted Water Usage. The District authorizes the District's operator to implement any reasonable program to determine unaccounted-for uses of water and to make recommendations to the District regarding measures to control such unaccounted-for uses of water. Such measures may include periodic visual inspections along distribution lines, annual or monthly audits of the water system to determine illegal connection, and investigation of abandoned services. The District's operator shall also establish a program of leak detection, repair, and water loss accounting for the water storage, delivery, and distribution system in order to control unaccounted-for uses of water.

Section 7. Continuing Public Education and Information. The District hereby institutes an educational program, to be implemented immediately, to promote the Plan by the general public which may include any of the following:

- A. Publications of articles in a newspaper or newsletter of general circulation in the District's service area, providing information regarding water conservation; and
- B. Direct distributions to all customers of the District of educational and informational material regarding water conservation; and
- C. Additional educational activities consisting of (i) conducting an informational school program in a school attended by students within the District's service area, or (ii) conducting an educational program for Users at a public place within or accessible to residents within the service area of the District, or (iii) conducting or engaging in such other informational or educational activity designed to further water conservation measures as, in the discretion of the Board of Directors, may be consistent with the purposes and policies of this Plan, or (iv) any combination of the foregoing.

Section 8. Cost-based Rate Structure. The District hereby acknowledges that it has adopted an increasing block water rate structure, as reflected in its Rate Order, that is intended to encourage water conservation and discourage excessive use and waste of water.

Section 9. Reservoir Systems Operations Plan. The District does not own any reservoirs within a common watershed or river basin and is not required to establish a reservoir systems operation plan.

Section 10. Implementation and Enforcement. Without limitation to specific actions stated in this Plan to be taken by the District's operator, the District's operator will administer and enforce this Plan, and will oversee and be responsible for the execution and implementation of all elements of this Plan. The operator shall keep adequate records for Plan verification. The District's operator shall report to the Board of the District, at meetings of the Board, regarding actions taken and which need to be taken under this Plan.

An implementation and tracking schedule to be followed by the District's operator is attached hereto as Appendix B.

Section 11. Coordination with Regional Water Planning Groups. The District will document its coordination with the Region H water planning group in order to ensure consistency with the appropriate approved regional water plans.

Section 12. Record Management. The District authorizes the District's operator to establish a record management system to record water pumped, water delivery, water sales, and water losses, and which allows for the desegregation of water sales and uses into residential, commercial, public and institutional, and industrial user classes.

Section 13. Wholesale Water Customers. The District shall require that each successive wholesale customer develop and implement a water conservation plan or water conservation measures in compliance with all applicable rules of the Texas Commission on Environmental Quality. This requirement will also extend to each successive wholesale customer in the resale of water.

Section 14. Five-year Review. The District shall review and update the Plan every five years, or more frequently, as appropriate, based on an assessment of previous five-year and ten-year targets and any other new or updated information.

PASSED AND APPROVED this 26th day of August, 2013.

/s/ Randal W. Ward
President, Board of Directors

ATTEST:

/s/ David Scholler
Assistant Secretary, Board of Directors

(SEAL)

APPENDIX "A"



TEXAS WATER DEVELOPMENT BOARD UTILITY PROFILE (TWDB - 1965) (Formerly WRD 264)

The purpose of the Utility Profile is to assist with water conservation plan development and to ensure that important information and data be considered when preparing your water conservation plan and its target and goals. Please complete all questions as completely and objectively as possible. See *Water Conservation Plan Guidance Checklist* (TWDB-1968) for information on other water conservation plan provisions. You may contact the Municipal Water Conservation Unit of the TWDB at 512.463.7955 or wcpteam@twdb.state.tx.us for assistance.

APPLICANT DATA

Name of Utility: Harris County Municipal Utility District No. 102

Public Water Supply Identification Number (PWS ID): 1010503

Address: 406 W Grand Parkway S, Suite 260 City: Katy


State: TX Zip Code: 77494 Email: syoung@municipaldistrictservices.com

Telephone Number: (281) 290-6500 Fax: (281) 392-3643

Regional Water Planning Group: H

Groundwater Conservation District: HGSD

Form Completed By: Susan K. Young Title: Mananger, EHS&C

Signature:  Date: _____
Digitally signed by Susan Young
DN: cn=Susan Young, o=Municipal District Services, ou=Environmental Health
Safety & Compliance, email=syoung@municipaldistrictservices.com, c=US
Date: 2013.09.23 09:44:22 -0500

Contact information for the person or department responsible for implementing the water conservation program:

Name: Municipal District Services, LLC Phone: (281) 290-6500

Email: ddennis@municipaldistrictservices.com

UTILITY DATA

A. Population and Service Area Data

1. Current population of service area: 10,194

2. Current population served by utility: Water: 10,194

Wastewater: 10,194

3. Population served by water utility for the previous five years starting with the most recent year:

Year	Population
2012	10,194
2011	10,149
2010	9,981
2009	9,132
2008	11,406

4. Projected population for service area in the following decades:

Year	Population
2010	10,700
2020	10,700
2030	10,700
2040	10,700
2050	10,700

5. List source(s)/method(s) for the calculation of current and projected population:

For 2009 - 2012 we used the residential connections + any apartment units + the commercial usage = the population. Irrigation accounts and vacant connections were not used in the calculation. For 2008 we used a number provided by a previous operator. The District is built out so the future population should remain steady.

B. Active Connections

1. Current number of active connections by user type. If not a separate classification, check whether multi-family service is counted as **Residential** or **Commercial**

Water User Type*	Metered	Un-metered	Total
Residential Single Family	2,885	0	2,885
Residential Multi-family	16	0	16
Commercial/Institutional	29	0	29
Industrial	0	0	0
Other (please describe): Irrigation Meters	51	0	51

* See Appendix A #1.

2. List the net number of new connections per year for most recent three years:

Water User Type*	2012	2011	2010
Residential Single Family	23	27	43
Residential Multi-family	0	0	0
Commercial/Institutional	0	2	0
Industrial	0	0	0
Other (please describe): Irrigation Meters	0	1	2

* See Appendix A #1.

C. High Volume Customers

List annual water use for the five highest volume retail and wholesale customers.
Please indicate if treated or raw water delivery.

Customer	Water User Type*	Annual Water Use (in gallons)	Treated	Raw
Colonies at Copperfield	Multifamily	24,101,000	<input checked="" type="radio"/>	<input type="radio"/>
Meadow Creek Apartments	Multifamily	12,041,000	<input checked="" type="radio"/>	<input type="radio"/>
New Plan Excel Trust Inc.	Commercial	8,027,000	<input checked="" type="radio"/>	<input type="radio"/>
Houston Garden Center	Commercial	5,911,000	<input checked="" type="radio"/>	<input type="radio"/>
Fidinam Inv Consulting Inc	Multifamily	5,064,000	<input checked="" type="radio"/>	<input type="radio"/>

* See Appendix A #1

D. Water Supply System

- Design daily capacity of system: 4,226,400 gallons per day
- Storage Capacity: Elevated 500,000 gallons per day
Ground 745,000 gallons per day
- If surface water, do you recycle filter backwash to the head of the plant?
Yes No . If yes, approximately _____ gallons per day.

E. Water Accounting Data

- Amount of water use in gallons for previous five years.
Please indicate whether: Treated Water or Raw Water

YEAR	2012	2011	2010	2009	2008
January	24,952,000	23,948,000	24,136,000	30,258,000	26,798,000
February	22,479,000	23,208,000	21,230,000	27,608,000	22,141,000
March	26,154,000	29,750,000	28,238,000	32,458,000	22,092,000
April	30,655,000	37,575,000	31,366,000	30,935,000	28,929,000
May	36,380,000	45,797,000	41,188,000	41,065,000	32,141,000
June	36,804,000	48,259,000	38,176,000	58,503,000	39,912,000
July	30,321,000	44,998,000	32,462,000	50,448,000	35,687,000
August	37,512,000	50,355,400	43,271,000	46,380,000	35,082,000
September	32,388,000	42,173,448	33,930,000	35,058,000	32,630,000
October	31,969,000	33,792,000	39,936,000	28,653,000	29,632,000
November	29,393,000	29,564,000	28,889,000	29,629,000	29,300,000
December	25,900,000	26,196,000	28,427,000	26,728,000	33,967,000
TOTAL	364,907,000	435,615,848	391,249,000	437,723,000	368,311,000

Please indicate how the above figures were determined (e.g., from a master meter located at the point of a diversion from a stream or located at a point where raw water enters the treatment plant).

Master meters located at the facilities.

2. Amount of water sold in **gallons** as recorded by Water User Type for the previous five years (See Appendix A #1)

Year	Residential Single Family	Residential Multi Family	Commercial/ Institutional	Industrial	Other	Wholesale	Total Sold
2012	261,441,000	38,676,000	17,755,000	0	19,461,000	31,223,000	368,556,000
2011	322,325,000	42,203,000	20,005,000	0	21,977,000	37,390,000	443,900,000
2010	258,243,000	38,873,000	17,732,000	0	17,761,000	30,046,000	362,655,000
2009	389,274,000			0		23,589,000	412,863,000
2008	310,060,000		43,688,000	0	466,000	4,892,000	359,106,000

3. GPCD and Seasonal Water Use for the previous five years

Year	Population	Total Water Use	Total gallons per capita per day (GPCD)*	Residential GPCD**	SEASONAL WATER USE***	
					Winter per capita per day	Summer per capita per day
2012	10,194	333,684,000	90	81	80	114
2011	10,149	398,225,848	108	98	80	157
2010	9,981	361,203,000	99	82	82	127
2009	9,132	414,134,000	124	117	103	189
2008	11,406	363,419,000	87	74	81	108
Five Year Average	10,172	374,133,170	102	90	85	139

* Total GPCD (See Appendix A #2):

** Residential GPCD (See Appendix A #3):

*** Seasonal Water Use (See Appendix A #4)

4. Water Loss Data for the previous five years (See Appendix A #5)

Year	Water Loss expressed in gallons	Water Loss expressed in GPCD	Water Loss expressed as a percentage
2012	21,731,000	6	6.51%
2011	19,882,848	5	4.99%
2010	21,688,000	6	6.00%
2009	19,748,000	6	4.77%
2008	9,349,000	2	2.57%
Five Year Average	18,479,770	5	4.97%

5. Peak Day Use (in gallons) to Average Daily Use (in gallons) Ratio for the previous five years
(See Appendix A #6)

Year	Average Daily Use	Peak Day Use	Ratio
2012	999,745	2,261,000	2.26
2011	1,193,468	2,827,000	2.37
2010	1,071,915	2,199,000	2.05
2009	1,199,241		0.00
2008	1,009,071		0.00

F. Projected Demands

Estimate water supply requirements for at least the next ten years using population trends, historical water use, and economic growth, etc.

Year	Population	Water Demand (in gallons)
2013	10,486	1,048,600
2014	10,490	1,049,000
2015	10,494	1,049,400
2016	10,498	1,049,800
2017	10,502	1,050,200
2018	10,506	1,050,600
2019	10,510	1,051,000
2020	10,514	1,051,400
2021	10,518	1,051,800
2022	10,550	1,055,000

Indicate sources of data and how projected water demands were determined. Attach additional sheets if necessary.

Population based on current connections at 3.5 person per connection at the current count of 2996 connections. Population increases based on available acreage in the District filled over the next 9 years. Current capacity in the District is 3.7 connections per acre applied to vacant acreage over 9 years. 15 acres currently out of District available for annexation, assuming 32 connections applied in 2022 that use 100 gallons per day for each person.

G. Wastewater System Data

1. Design capacity of wastewater treatment plant(s): 1,300,000 gallons per day
2. Is treated effluent used for:

Use	Total Annual Volume (in gallons)
On-site irrigation	
Plant wash down	9,600,000
Chlorination/de-chlorination	
Industrial	
Landscape irrigation (parks, golf courses)	
Agricultural	
Other (please describe):	

Could treated effluent be substituted for certain potable water now being used? Yes No

H. Wastewater Data for Service Area

1. Percent of water service area served by wastewater system: 100 %
2. Monthly wastewater volume in **gallons**, treated for previous five years.

YEAR	2012	2011	2010	2009	2008
January	19,663,000	20,854,000	18,452,000	20,584,000	22,667,000
February	18,516,000	17,432,000	17,083,000	17,696,000	20,328,000
March	19,864,000	18,183,000	18,031,000	19,561,000	21,000,000
April	18,613,000	17,905,000	17,253,000	21,810,000	20,529,000
May	19,300,000	19,209,000	18,542,000	21,793,000	17,907,000
June	18,875,000	18,745,000	18,746,000	20,130,000	20,875,000
July	24,330,000	19,564,000	21,860,000	213,289,000	22,454,000
August	23,299,000	19,005,000	19,441,000	18,321,000	22,576,000
September	22,624,000	17,391,000	19,877,000	17,550,000	18,694,000
October	19,196,000	18,570,000	18,604,000	19,344,000	21,943,000
November	15,580,000	17,693,000	18,549,000	16,560,000	21,057,000
December	17,016,000	19,015,000	19,053,000	19,530,000	21,289,000
TOTAL	236,876,000	223,566,000	225,491,000	426,168,000	251,319,000

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Appendix A

Definitions of Utility Profile Terms

1. **Residential – Single Family** should include water sold to single family and duplexes.
Residential – Multi-Family should include water sold to this class of customers only.
Commercial/Institutional sales should include water sold to retail businesses, offices, hospitals, etc.
Industrial sales should include water sold to manufacturing and other heavy industry.
Wholesale sales should include water sold to another utility for resale to the public.
Other water sales should be noted as necessary.
2. **Total use in gallons per capita per day** is defined as total average daily amount of water treated or raw water provided for potable use by a public water supply system. The calculation is made by dividing the water diverted or pumped for treatment by population served. Indirect reuse volumes shall be credited against total diversion volumes for the purpose of calculation gallons per capita per day for targets and goals developed for the water conservation plan. Total water use is calculated by subtracting the wholesale sales from the total treated or raw water.
3. **Residential use in gallons per capita per day** is calculated by dividing the total single family plus multi-family residential water sales by the population served and then dividing by 365.
4. **Seasonal water use** is the difference between winter daily per capita use and summer daily per capita use. To calculate the **winter daily per capita use**, add the monthly diversions for December, January, and February, and divide by 90. Then divide this figure by the population. To calculate the **summer daily per capita use**, use the months of June, July, and August.
5. **Water Loss** is the difference between water a utility purchases or produces and the amount of water that it can account for in sales and other use, metered and unmetered, such as firefighting, line flushing, and water for public buildings and water treatment plants. Water loss can result from:
 1. Inaccurate or incomplete record keeping;
 2. Meter error;
 3. Leaks; and
 4. Water theft and unauthorized use.
6. The **peak-day to average-day ratio** is calculated by dividing the maximum daily pumpage by the average daily pumpage. Average daily pumpage is the total pumpage for the year divided by 365.

APPENDIX “B”

Schedule for Implementing Plan to Achieve Targets and Goals

Harris County Municipal Utility District No. 102 (the “District”) will adhere to the following schedule to achieve the targets and goals for water conservation:

- Calibrations of master meters for all treated water deliveries will be conducted annually.
- The District’s meter replacement program will be as follows:
 - Residential meters will continue to be monitored for accuracy and replaced after one million gallons of usage.
 - Commercial meters will continue to be annually monitored for accuracy and replaced or repaired based on the test results.
- Water accountability will be monitored monthly.
 - Real water losses will be identified and corrected.
 - Real water losses will be minimized by replacement of deteriorating water mains and appurtenances, as is conducted by the District’s operator on an on-going basis and as specified in the District’s Capital Improvements Plan.
- The District will mail out water conservation material semi-annually (once in the spring and once in the summer) to all customers. The material will be developed by the District or obtained from the Texas Water Development Board, Texas Commission on Environmental Quality, or other sources.
- Water conserving pricing:
 - The District’s current rates are shown in the District’s Rate Order, as amended from time to time.
 - The District will continue to review rates annually to insure water revenues exceed expenses and replacement costs and to discourage excessive and wasteful use.
- A leak detection program is currently in use by the District, which reduces real water losses.

Tracking Targets and Goals

The District’s operator shall track targets and goals by utilizing the following procedures:

- Logs shall be maintained for meter calibration, meter testing, and meter replacement programs.
- Water accountability shall be documented and kept in the District’s operator’s files.
- The District’s operator shall keep a record of the number of mail-outs distributed semi-annually.
- Rates are tracked by means of the District’s adopted Rate Order, as amended from time to time.