



City of Fort Worth
1000 Throckmorton St.
Fort Worth, Texas 76102
PWS #2200012

Drought Contingency & Emergency Water Management Plan

for Retail and Wholesale Water Customers

May 2014

Adopted:

Effective:

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1. INTRODUCTION AND OBJECTIVES

The purpose of this Drought Contingency and Emergency Water Management Plan (subsequently referred to as the Plan) is as follows:

- To conserve the available water supply in times of drought and emergency
- To maintain supplies for domestic water use, sanitation, and fire protection
- To protect and preserve public health, welfare, and safety
- To minimize the adverse impacts of water supply shortages
- To minimize the adverse impacts of emergency water supply conditions.

2. TEXAS COMMISSION ON ENVIRONMENTAL QUALITY RULES

TCEQ rule Title 30, Part 1, Chapter 288, Subchapter A, Rule 288.1 (4) defines a drought contingency plan as “a strategy or combination of strategies for temporary supply and demand management responses to temporary and potentially recurring water supply shortages and other water supply emergencies.”

TCEQ rules governing development of and minimum requirements for drought contingency plans for municipal water suppliers and wholesale water suppliers are contained in Texas Administrative Code Title 30, Part 1, Chapter 288, Subchapter B, Rule 288.20 and Rule 288.22, respectively.

3. WATER SYSTEM PROFILE

The City purchases water from the Tarrant Regional Water District (TRWD). The supply sources are:

- West Fork of Trinity River: Lake Worth, Eagle Mountain Lake, and Lake Bridgeport; (A pipeline connecting Eagle Mountain Lake to the East Texas supply is under construction.)
- East Texas: Cedar Creek Reservoir, located approximately 75 miles southeast of Fort Worth; and Richland Chambers Reservoir, located approximately 75 miles southeast of Fort Worth; and
- Clear Fork of the Trinity River via Lake Benbrook. (A pipeline connects Lake Benbrook to the East Texas Supply.)

System capacity with regards to the defined triggers in Section 4.4 is the total reliable pumping capacity is found in Appendix A. Therefore, the system capacity baseline for triggers is the reliable delivery capacity of 460 million gallons per day (MGD). See Appendix A for more details of the yields of each of the treatment plants. This trigger number will be evaluated each year to take into consideration improvements that may have been added to the system.

Fort Worth has about 227,500 active retail service connections and 30 wholesale water customers. Wholesale customers are Aledo, Benbrook Water & Sewer Authority, Bethesda Water Supply Corp., Burleson, Crowley, Dallas/Fort Worth International Airport, Dalworthington Gardens, Edgecliff Village, Everman, Forest Hill, Grand Prairie, Haltom City, Haslet, Hurst, Keller, Lake Worth, Northlake, North Richland Hills, Richland Hills, River Oaks, Roanoke, Saginaw, Sansom Park, Southlake, Trinity River Authority - Mosier Valley, Trophy Club Municipal Utility District, Westlake, Westover Hills, Westworth Village and White Settlement. Some of these customers have emergency contracts only and do not take from the Fort Worth system on a regular basis.

In accordance with Section 2.3 of the wholesale water contract, wholesale customers are required to institute and apply the same rationing, conservation measures or restrictions to the use of water by their customers for so long as any part of their total water supply is being furnished by Fort Worth.

Fort Worth maintains about 3,200 miles of distribution pipelines.

The water supply triggers defined in Section 4.4 were provided to Fort Worth by its water supplier, Tarrant Regional Water District. TRWD selected its triggers after hiring an outside consultant to evaluate where the triggers levels should be for the drought plan to achieve meaningful water savings.

4. DROUGHT CONTINGENCY/EMERGENCY WATER MANAGEMENT PLAN

4.1 Public Involvement

The public had several opportunities to provide input into the plan.

- Public meetings soliciting comments were held on June 25, 2013 and June 27, 2013. An additional digital meeting was held on July 8, 2013. The meetings were advertised on the city Web site, on City Page in the Fort Worth Star-Telegram, through news releases to the news media and neighborhood associations, and in handouts at public events as well as social media outlets.
- The Fort Worth Water Department's Water Conservation Advisory Committee discussed the draft plan's provisions and provided feedback during its August 22, 2013 meeting.
- The draft plan was posted on the City of Fort Worth Web site (www.fortworthgov.org/water) for one month prior to City Council adoption.
- Copies were available to anyone upon request.

4.2 Public Education

Fort Worth will inform and educate the public about the Drought Contingency/Emergency Water Management Plan by the following means:

- Preparing fact sheets describing the plan and making these available online and at various city sites, and at events where the water department may have a booth.
- Posting a copy of the Plan on the city's Web site.
- Notifying local organizations, schools, and civic groups that staff are available to make presentations on the plan.

At any time that the Drought Contingency/Emergency Water Management Plan is activated or the stage changes, customers will notify local media of the issues, the current response stage, and the specific actions required of the public. The information will also be publicized on the city's Web site. Bill inserts will also be used as appropriate.

4.3 Initiation & Termination of Drought & Emergency Response Stages

The provisions of this Plan shall apply to all persons, customers, and property utilizing potable water provided by the City of Fort Worth. The terms "person" and "customer" as used in the Plan include individuals, corporations, partnerships, associations, and all other legal entities. The Plan does not apply to locations using treated wastewater effluent, private wells or possessing their own water rights in the Trinity River; however, any pond, impoundment, body of water, or other water source that is supplemented, or has the ability to supplement supply, with potable water shall adhere to the provisions of this plan.

The Plan may be applied to the entire city or geographic portions of the city as necessary. If the Plan is applied only to a limited sector, the boundaries will be defined in terms of roadways, creeks and other easily distinguishable features, such as city limits.

Initiation of a Drought/ Emergency Water Management Stage

The City Manager or his/her official designee may order the implementation of a drought response or water emergency stage when one or more of the trigger conditions for that stage is met. The following actions will occur when a stage is initiated.

- The public will be notified through local media and the City of Fort Worth Web site, as described in Section 4.2.
- Fort Worth's wholesale customers and Tarrant Regional Water District will be notified by telephone and with a follow-up letter, e-mail, or fax that provides details of the reasons for initiation of the drought or water emergency stage.
- The Fort Worth Water Department will notify the Executive Director of the TCEQ within 5 business days when mandatory provisions of the Plan are activated.

Stages imposed by TRWD action must be initiated by the City of Fort Worth.

For other trigger conditions, the City Manager or his/her official designee may decide not to order the implementation of a drought response or water emergency stage even though one or more of the trigger criteria for the stage are met. Factors which could influence such a decision include, but are not limited to, the time of the year, weather conditions, the anticipation of replenished water supplies, or the anticipation that additional facilities will become available to meet needs. The reason for this decision should be documented.

Termination of a Drought Stage

The City Manager or his/her official designee may order the termination of a drought response or water emergency stage when the conditions for termination are met or at their discretion. The following actions will be taken when a drought stage is terminated:

- The public will be notified through local media and the City of Fort Worth Web site as described in Section 4.2.
- Wholesale customers and TRWD will be notified by telephone with a follow-up letter, e-mail, or fax.
- If any mandatory provisions of the drought contingency/emergency water management plan that have been activated are terminated, customers will notify the Executive Director of the TCEQ within 5 business days.

The City Manager or his/her official designee may decide not to order the termination of a drought response stage or water emergency even though the conditions for termination of the stage are met. The City Manager or his designee may choose to implement a phased out approach when exiting various stages to protect the integrity of the system. Factors which could influence such a decision include, but are not limited to, the time of the year, weather conditions, or the anticipation of potential changed conditions that warrant the continuation of the drought stage. The reason for this decision should be documented.

4.4 Drought and Emergency Response Stages

Stage 1 – Water Watch

Triggering Conditions

- Water demand reaches or exceeds 90% of reliable delivery capacity for three consecutive days. The delivery capacity could be citywide or in a specified portion of the system.
- Fort Worth's water treatment or distribution system becomes contaminated.
- Fort Worth's water demand for all or part of the delivery system approaches delivery capacity because delivery capacity is inadequate.

- Fort Worth’s water supply system is unable to deliver water due to the failure or damage of major water system components.
- TRWD initiated Stage 1 – Water Watch for one or more of the following reasons:
 - Total raw water supply in TRWD western and eastern division reservoirs drops below 75% (25% depleted) of conservation storage.
 - Water demand for all or part of the TRWD delivery system exceeds delivery capacity because delivery capacity is inadequate.
 - Water demand is projected to approach the limit of TRWD’s permitted supply.
 - TRWD’s supply source becomes contaminated.
 - TRWD’s water supply system is unable to deliver water due to the failure or damage of major water system components.
 - The TRWD General Manager, with the concurrence of the TRWD Board of Directors, finds that conditions warrant the declaration of a Stage 1 drought.

Terminating Conditions for Stage 1

Stage 1 will terminate when the total combined raw water supply in TRWD western and eastern division reservoirs exceeds 95% of conservation storage capacity or remains at or above 85% for 90 consecutive days, whichever occurs first.

Goal for Use Reduction for Stage 1

The goal for water use reduction under Stage 1, Water Watch, is five percent. If circumstances warrant or if required by TRWD, the City Manager or his/her official designee can set a goal for greater water use reduction.

Actions Available for Stage 1

The City Manager or his/her official designee may order the implementation of any of the actions listed below, as deemed necessary. The City Manager or his/her official designee must implement any action(s) required by the Tarrant Regional Water District.

All Water Users

Initiate mandatory restrictions to prohibit non-essential water use as follows:

- Discourage hosing of paved areas, such as sidewalks, driveways, parking lots, tennis courts, patios, or other impervious surfaces, except to alleviate an immediate health or safety hazard. This may include premises with raw or processed food, pharmaceutical or vaccine processing, storage or vending establishments including restaurants and grocery stores may be washed to the extent necessary for sanitary purposes. These areas may also include:
 - Trash and dumpster areas

- Areas around fuel pumps
 - Store front cleaning of areas with accumulated bird droppings, feathers and debris
 - Localized spot cleaning of parking areas to remove oil, grease buildup that may pose a health and safety issue.
- Discourage hosing of buildings or other structures for purposes other than fire protection or surface preparation prior to painting.
- Prohibit using water in such a manner as to allow runoff or other waste, including:
 - failure to repair a controllable leak, including a broken sprinkler head, a leaking valve, leaking or broken pipes, or a leaking faucet;
 - operating a permanently installed irrigation system with: (a) a broken head; (b) a head that is out of adjustment and the arc of the spray head is over a street or parking lot; or (c) a head that is misting because of high water pressure; or
 - during irrigation, allowing water to (a) to run off a property and form a stream of water in a street for a distance of 50 feet or greater; or (b) to pond in a street or parking lot to a depth greater than one-quarter of an inch.
 - Allowing or causing an irrigation system or other lawn watering device to operate during any form of precipitation or when temperatures are at or below 32 degrees Fahrenheit.
- Prohibit outdoor watering with sprinklers or irrigation systems between 10 a.m. and 6 p.m.
- Limit landscape watering with sprinklers or irrigation systems at each service address to a twice per week schedule as outlined below. This includes landscape watering of parks, golf courses, and sports fields. Wholesale customers may use a different watering schedule than the one below as long as it limits each service address to a twice per week schedule; however, use of the same schedule would simplify the messages passed to customers through the news media.
 - Residential addresses ending in an even number (0, 2, 4, 6, or 8) may water on Wednesdays and Saturdays.
 - Residential addresses ending in an odd number (1, 3, 5, 7 or 9) may water on Thursdays and Sundays.
 - All non-residential locations (apartment complexes, businesses, industries, parks, medians, etc.) may water on Tuesdays and Fridays.

Exceptions:

- Lawns and landscaping may be watered on any day by handheld hose, drip irrigation, a soaker hose or tree bubbler. (The intent of this measure

is to allow for the protection of structural foundations, trees, and other high value landscape materials).

- Water use necessary for the repair of an irrigation system, plumbing line, fountain, etc. in the presence of the person making the repair.
 - Outdoor watering at service addresses with large multi-station irrigation systems may take place in accordance with a variance granted by the Water Director, if the Water Director determines that a property cannot be completely irrigated with an average of three-quarters of an inch of water in a single day, and that the property should be divided into sections to be irrigated on different days. If approved, no station will be watered more than twice per week.
 - Establishing new turf is discouraged. If hydromulch, grass sod, or grass seed is installed for the purpose of establishing a new lawn, there are no watering restrictions for the first 30 days while it is being established. After that, the watering restrictions set forth in this stage apply. (This does not include over seeding with rye, or seasonal grasses, since turf already exists.)
 - Golf courses may water greens and tee boxes as necessary, however watering must be done before 10 a.m. and after 6 p.m. Encouraged to reduce water use by five percent.
 - Skinned areas of sports fields may be watered as needed for dust control.
 - Watering of athletic fields (fields only, does not include surrounding landscaped areas) used for organized sports practice, competition, or exhibition events may occur as necessary to protect the health and safety of the players, staff, or officials present for athletic events. Encouraged to reduce water use by five percent.
 - Public areas that are open to the public at-large and have a high –impact from frequent use may be allowed additional watering, with a variance granted by the Water Director, if it is deemed to be beneficial to serve and protect the community amenity. Examples may include but are not limited to: outdoor amphitheaters, demonstration gardens, public art exhibitions, outdoor learning areas, arboretums, etc.
- All users are encouraged to use native and adapted drought tolerant plants in landscaping.
 - Washing of any motor vehicle, motorbike, boat, trailer, airplane, or other vehicle shall be limited to the use of a hand-held bucket or a hand-held hose equipped with a positive-pressure shutoff nozzle for quick rinses. Vehicle washing may be done at any time on the premises of a commercial car wash or commercial service station. Companies with an automated on-site vehicle washing facility may wash its vehicles at anytime. Further, such washing may be exempt from these requirements if the health, safety, and welfare of the public are contingent upon frequent vehicle

cleansing, such as garbage trucks and vehicles used to transport food and perishables.

- Discourage the filling, draining, or refilling of swimming pools, wading pools, hot tubs and Jacuzzi type pools except to maintain adequate water levels for structural integrity, proper operation and maintenance, and/or to alleviate an issue that poses a public safety risk.

City and Local Governments

In addition to the actions listed above:

- Review conditions and problems that caused Stage 1. Take corrective action.
- Increase public education efforts on ways to reduce water use.
- Increase enforcement efforts.
- Intensify leak detection and repair efforts.
- Audit all city and local government irrigation systems to ensure proper condition, settings, and operation.
- Identify and encourage voluntary reduction measures by high-volume water users through water use audits.
- Reduce non-essential water use. As used herein, non-essential water uses are those that do not have any health or safety impact and are not needed to meet the core function of the agency.
- The Water Director or his/her designee will notify wholesale customers of actions being taken and require them to implement the same stage and measures. Such action is in accordance with Section 2.5 of the uniform wholesale water contract. Per the contract, wholesale customers are required to institute and apply the same rationing, conservation measures or restrictions to the use of water by their customers for so long as any part of their total water supply is being furnished by Fort Worth.

Commercial or Industrial

- All actions listed above for all water users apply to commercial and industrial users.
- Stock at commercial plant nurseries is exempt from Stage 1 watering restrictions.
- Hotels, restaurants, and bars are encouraged to serve drinking water to patrons on an “on demand” basis.
- Hotels are encouraged to implement laundry conservation measures by encouraging patrons to reuse linens and towels.

- Car wash facilities must keep equipment in good working order, which should include regular inspections to be sure there are no leaks, broken or misdirected nozzles, and that all equipment is operating efficiently.
- All commercial and industrial customers are encouraged to audit irrigation systems

Stage 2 – Water Warning

Triggering Conditions for Stage 2

- Water demand reaches or exceeds 95% of reliable delivery capacity for three consecutive days. The delivery capacity could be citywide or in a specified portion of the system.
- Contamination of the water supply source(s) or water supply system.
- Demand for all or part of the delivery system equals or exceeds delivery capacity because delivery capacity is inadequate.
- Water supply system is unable to deliver water due to the failure or damage of major water system components.
- TRWD initiated Stage 2 – Water Warning for one or more of the following reasons:
 - Total raw water supply in TRWD western and eastern division reservoirs drops below 60% (40% depleted) of conservation storage.
 - Water demand for all or part of the TRWD delivery system exceeds delivery capacity because delivery capacity is inadequate.
 - Water demand is projected to approach the limit of TRWD’s permitted supply.
 - TRWD’s supply source becomes contaminated.
 - TRWD’s water supply system is unable to deliver water due to the failure or damage of major water system components.
 - The TRWD General Manager, with the concurrence of the TRWD Board of Directors, finds that conditions warrant the declaration of a Stage 2 drought.

Terminating Conditions for Stage 2

Stage 2 will terminate when the total combined raw water supply in TRWD western and eastern division reservoirs exceeds 75% of conservation storage capacity or remains at or above 70% for 30 consecutive days.

Goal for Use Reduction for Stage 2

The goal for water use reduction under Stage 2 – Water Warning is to decrease use by 10 percent. If circumstances warrant or if required by TRWD, the City Manager or his/her official designee can set a goal for greater water use reduction.

Actions Available for Stage 2

The City Manager or his/her official designee may order the implementation of any of the actions listed below, as deemed necessary. The City Manager or his/her official designee must implement any action(s) required by the Tarrant Regional Water District.

- Continue actions under Stage 1.
- Initiate engineering studies to evaluate water supply alternatives should conditions worsen.

All Water Users

- Limit landscape watering with sprinklers or irrigation systems to a once per week schedule at each service address as determined by the Water Director. This includes landscape watering at parks, golf courses, and sports fields. Wholesale customers may use a different watering schedule than the one used for Fort Worth retail customers as long as it limits each service address to once per week schedule; however, use of the same schedule would simplify the messages passed to customers through the news media.

Exceptions:

- Lawns and landscaping may be watered on any day, at any time, by handheld hose, drip irrigation, a soaker hose or tree bubbler (The intent of this measure is to allow for the protection of structural foundations, trees, and other high value landscape materials).
- Outdoor watering at service addresses with large multi-station irrigation systems may take place in accordance with a variance granted by the director of utilities, if the director determines that a property cannot be completely irrigated with an average of three-quarters of an inch of water in a single day, and that the property should be divided into sections to be irrigated on different days. If approved, no station will be watered more than once per week.
- Golf courses may water greens and tee boxes as needed to keep them alive, however watering must be done before 10 a.m. and after 6 p.m. Fairways are restricted to once per week watering as outlined above. Golf course rough cannot be watered.
- Watering of athletic fields (fields only, does not include surrounding landscaped areas) used for organized sports practice, competition, or

exhibition events may occur as necessary to protect the health and safety of the players, staff, or officials present for athletic events. Encouraged to reduce water use by 10%.

- All users are encouraged to wait until the current drought or emergency situation has passed before establishing new landscaping and turf. Variances granted for establishing new turfgrass or landscaping will be for a maximum of 30 days from the date of approval. After that, the watering restrictions set forth in this stage apply. (This does not include over seeding with rye since turf already exists.)
- Discourage the operation of ornamental fountains or ponds that use potable water except where necessary to support aquatic life or where such fountains or ponds are equipped with a recirculation system.
- Discourage the filling, draining, or refilling of swimming pools, wading pools, hot tubs and Jacuzzi type pools except to maintain adequate water levels for structural integrity, proper operation and maintenance, and/or to alleviate an issue that poses a public safety risk.
- Encourage the use of covers for all types of pools, hot tubs, and Jacuzzi type pools when not in use.

City and Local Governments

- Review conditions or problems that caused Stage 2. Take corrective action.
- Increase frequency of media releases on water supply conditions.
- Further accelerate public education efforts on ways to reduce water use.
- Eliminate non-essential water use. As used herein, non-essential water uses are those that do not have any health or safety impact and are not needed to meet the core function of the agency.
- Prohibit wet street sweeping.
- The Water Director or his/her designee will notify wholesale customers of actions being taken and require them to implement the same stage and measures. Such action is in accordance with Section 2.5 of the uniform wholesale water contract. Per the contract, wholesale customers are required to institute and apply the same rationing, conservation measures or restrictions to the use of water by their customers for so long as any part of their total water supply is being furnished by Fort Worth.

Commercial or Industrial

- All actions listed above for all water users apply to commercial and industrial users.

- Use of water from fire hydrants for any purpose other than firefighting related activities or other activities necessary to maintain public health, safety and welfare requires a variance issued by the Water Director. Fire hydrant use may be limited to only designated hydrants. Upon declaration of this drought stage, all holders or applicants of a Water Fire Hydrant Meter Agreement are required to apply for a variance as set forth in this plan. If conditions allow, as determined by the Water Director, the use of water from hydrants may continue until the Water Director or his/her designee issues a determination on the petition for variance. If conditions do not allow, the Water Director may require all fire hydrant meters be immediately returned from the field, pending determination of each petition for variance.

Stage 3 – Emergency Water Use

Triggering Conditions for Stage 3

- Water demand has reaches or exceeds 98% of reliable delivery capacity for one day. The delivery capacity could be citywide or in a specified portion of the system.
- Contamination of the water supply source(s) or water supply system.
- Demand for all or part of the delivery system exceeds delivery capacity because delivery capacity is inadequate.
- Water supply system is unable to deliver water due to the failure or damage of major water system components.
- TRWD has initiated Stage 3 – Emergency Water Use, which may also be initiated by one or more of the following:
 - Total raw water supply in TRWD western and eastern division reservoirs drops below 45% (55% depleted) of conservation storage.
 - Water demand for all or part of the TRWD delivery system exceeds delivery capacity because delivery capacity is inadequate.
 - Water demand is projected to approach or exceed the limit of TRWD’s permitted supply.
 - TRWD’s supply source becomes contaminated.
 - TRWD’s water supply system is unable to deliver water due to the failure or damage of major water system components.
 - The TRWD General Manager, with the concurrence of the TRWD Board of Directors, finds that conditions warrant the declaration of a Stage 3 drought.

Terminating Conditions for Stage 3

Stage 3 will terminate when the total combined raw water supply in TRWD western and eastern division reservoirs exceeds 60% of conservation storage capacity or remains at or above 55% for 30 consecutive days, whichever occurs first.

Goals for Use Reduction for Stage 3

The goal for water use reduction under Stage 3, Emergency Water Use, is to decrease use by 20 percent. If circumstances warrant or if required by TRWD, the City Manager or his/her official designee can set a goal for a greater water use reduction.

Actions Available for Stage 3

The City Manager or his/her official designee may order the implementation of any of the actions listed below, as deemed necessary. The City Manager or his/her official designee must implement any action(s) required by the Tarrant Regional Water District.

- Continue or initiate any actions available under Stages 1 and 2.

All Water Users

- Prohibit landscape watering, including at parks, golf courses, and sports fields.

Exceptions:

- Watering with hand-held hose, soaker hose or drip irrigation system may occur any day and any time. (The intent of this measure is to allow for the protection of structural foundations, trees, and other high value landscape materials).
- Golf course greens only may be watered by hand-held hose as needed to keep them alive. Watering of athletic fields (fields only, does not include surrounding landscaped areas) used for organized sports practice, competition, or exhibition events may occur as necessary to protect the health and safety of the players, staff, or officials present for athletic events may be allowed to water by variance. A water management plan must be submitted to the Water Director detailing how each area will comply with stage 3 drought measures.
- Prohibit establishment of new landscaping. Variances may be granted for those landscape projects started prior to the initiation of stage 3 drought restrictions.
- Vehicle washing restricted to commercial car wash, commercial service station or a private on-site vehicle washing facility and can only be done as necessary for health, sanitation, or safety reasons, including but not limited to the washing of garbage trucks and vehicles used to transport food and other perishables. All other vehicle washing is prohibited.
- Prohibit the operation of ornamental fountains or ponds that use potable water except where necessary to support aquatic life.

- Prohibit the draining, filling, or refilling of swimming pools, wading pools and Jacuzzi type pools. Existing private and public pools may add water to maintain pool levels; however they may not be refilled using automatic fill valves.
- Prohibit hosing of buildings or other structures for purposes other than fire protection or surface preparation prior to painting with high-pressure equipment. Must be performed by a professional power washing service utilizing high efficiency equipment and a vacuum recovery system where possible.

City and Local Governments

In addition to actions listed above:

- Continue or initiate any actions available under Stages 1 and 2.
- Review conditions or problems that caused Stage 3. Take corrective action.
- Implement viable alternative water supply strategies.
- Increase frequency of media releases explaining emergency situation.
- Reduce city and local government water use to maximum extent possible.
- Prohibit the permitting of new swimming pools, Jacuzzi type pools, spas, ornamental ponds and fountain construction. Pools already permitted and under construction may be completely filled with water.
- Institute a mandated reduction in deliveries to all wholesale customers. Such a reduction will be distributed as required by Texas Water Code §11.039.
- If TRWD has imposed a reduction in water available to customers, impose the same percent reduction on wholesale customers.
- The Water Director will notify wholesale customers of actions being taken and require them to implement the same stage and measures. Such action is in accordance with Section 2.5 of the uniform wholesale water contract. Per the contract, wholesale customers are required to institute and apply the same rationing, conservation measures or restrictions to the use of water by their customers for so long as any part of their total water supply is being furnished by Fort Worth.

Commercial or Industrial

- All actions listed above for all water users apply to commercial and industrial users.
- Hotels, restaurants, and bars required to serve drinking water to patrons on an “on demand” basis.
- Hotels are required to implement laundry conservation measures by encouraging patrons to reuse linens and towels.

- Stock at commercial plant nursery may be watered only with a hand-held hose, hand-held watering can, or drip irrigation system.
- Commercial and industrial water users required to reduce water use by a set percentage determined by the Water Director.
- Use of water from hydrants for any purpose other than firefighting related activities or other activities necessary to maintain public health, safety and welfare requires a special permit issued by the Water Director. Fire hydrant use may be limited to only designated hydrants.

4.5 Procedures for Granting Variances to the Plan

The Water Director or his/her official designee may grant temporary variances for existing water uses otherwise prohibited under this drought contingency plan if one or more of the following conditions are met:

- Failure to grant such a variance would cause an emergency condition adversely affecting health, sanitation, or fire safety for the public or the person requesting the variance.
- Compliance with this plan cannot be accomplished due to technical or other limitations.
- Alternative methods that achieve the same level of reduction in water use can be implemented.

Variances shall be granted or denied at the discretion of the Water Director or his/her official designee. All petitions for variances should be in writing, using the forms provided, and must include the following information:

- Name and address of the petitioner(s)
- Purpose of water use
- Specific provisions from which relief is requested
- Detailed statement of the adverse effect of the provision from which relief is requested
- Description of the relief requested
- Period of time for which the variance is sought
- Detailed schedule of irrigation that shows a reduction in use over the 30 day period for new lawns and landscapes. Schedule should be designed so that at the end of the 30 day period, lawn and landscaped areas can adhere to the twice per week schedule defined in Stage 1.
- Alternative measures that will be taken to reduce water use
- Other pertinent information.

4.6 Procedures for Enforcing Mandatory Water Use Measures

Mandatory water use restrictions may be imposed in Stages 1, 2, and 3. These mandatory water use restrictions will be enforced by warnings and penalties as follows:

- On the first violation, customers will be given a written warning that they have violated the mandatory water use restriction.
- On the second and subsequent violations, citations may be issued to customers, with minimum and maximum fines established by ordinance.
- After three violations have occurred, the utility may cut off water service to the customer.

Appendix B contains a copy of the City of Fort Worth City ordinance adopting this Plan and the enforcement actions and penalties.

4.7 Coordination with the Other Entities

Appendix C includes a copy of a letters sent to the chair of the Region C Water Planning Group, General Manager of TRWD and the Executive Director of TCEQ upon adoption of this Plan.

4.8 Review and Update of Drought Contingency Plan

As required by TCEQ rules, Fort Worth will review this drought contingency plan in 2009 and at least every five years thereafter. The plan will be updated as appropriate based on new or updated information.

5.0 Drought Contingency Plan Definitions

Term	Definition
Aesthetic water use	Water use for ornamental or decorative features such as fountains, reflecting pools and water gardens.
Alternative Water Source	Means water produced by a source other than a water treatment plan and in not considered potable. These sources can include, but are not limited to: reclaimed/recycled water, collected rain water, collected grey water, private well water.
Athletic field	Means a sports playing field, the essential feature of which is turf grass, used primarily for organized sports for schools, professional sports, or sanctioned league play.
Automatic Irrigation System	Means a site specific system of delivering water generally for landscaping via a system of pipes or other conduits installed below ground that automatically cycles water use through water emitters to a preset program, whether on a designated timer or through manual operation.
Aquatic Life	Means a vertebrate organism dependent upon an aquatic environment to sustain its life.
Conservation	Those practices, techniques, and technologies that reduce water consumption; reduce the loss or waste of water; improve the efficiency in water use; and increase the recycling and reuse of water so that supply is conserved and made available for other or future uses.
Customer	Any person, company, or organization using water supplied by TRWD or through an entity supplied by TRWD.
Drip irrigation	An irrigation system (drip, porous pipe, etc.) that applies water at a predetermined controlled low-flow levels directly to the roots of the plant
Drought Contingency Plan	Means a strategy or combination of strategies for temporary supply management and demand management responses to temporary or potentially recurring water supply shortages and other water supply emergencies.

Fountain	An artificially created jet, stream or flow of water, a structure, often decorative, from which a jet, stream or flow of water issues.
Golf Course	Means an irrigated and landscaped playing area made up of greens, tees, fairways, roughs and related areas used for the playing of golf.
Hand-held hose	Means a hose physically held by one person, fitted with a manual or automatic shutoff nozzle.
Hand Watering	Means the application of water for irrigation purposes through a hand-held watering hose, watering can, or bucket.
Hose-end Sprinkler	Means a device through which water flows from a hose to a sprinkler to water any lawn or landscape.
Hosing	Means to spray, water, or wash with a water hose.
Industrial water use	Means the use of water for or in connection with commercial or industrial activities, including but not limited to, manufacturing, bottling, brewing, food processing, scientific research and technology, recycling, production of concrete, asphalt, and cement, commercial uses of water for tourism, entertainment, and hotel or motel lodging, generation of power other than hydroelectric and other business activities.
Irrigation system	Means a system of fixed pipes and water emitters that apply water to landscape plants or turfgrass, including, but not limited to, in-ground and permanent irrigation systems.
Lake, lagoon or pond	Means an artificially created body of fresh or salt water.

Landscape irrigation use	Water used for the irrigation and maintenance of landscaped areas, whether publicly or privately owned, including residential and commercial lawns, gardens, golf courses, parks, right-of-ways, medians and entry ways.
“New landscape” means	<ul style="list-style-type: none"> a. Installed during construction of a new house, multi-family dwelling, or commercial building; b. Installed as part of a governmental entity’s capital improvement project; or c. Alters more than one-half the area of an existing landscape.
Non-essential water use	<p>Water uses that are not required for the protection of public health, safety and welfare, such as:</p> <ul style="list-style-type: none"> a. Irrigating landscape areas, including parks, athletic fields, and golf courses, except as otherwise provided under this plan; b. Washing any sidewalks, walkways, driveways, parking lots, tennis courts, or other hard-surfaced areas; except to alleviate a public health and safety issue; c. Washing any automobile, motorbike, boat (and/or trailer), airplane, or other vehicle except where required by law for safety and sanitary purposes. d. Washing buildings or structures for purposes other than immediate fire protection, or other uses provided under this plan; e. Filling, refilling, or adding to any swimming pools or Jacuzzi-type pools, except to maintain safe operating levels; f. Filling or operation of a fountain or pond for aesthetic or scenic purposes except when necessary to support aquatic life; g. Failure to repair a controllable leak within a reasonable time period after being directed to do so by formal notice; and h. Drawing from hydrants for construction purposes or any other purpose other than firefighting or protection of public drinking water supplies.
Park	Means a non-residential or multifamily tract of land, other than a golf course, maintained by a city, private organization, or individual, as a place of beauty or public recreation and available for use to the general public.
Power/Pressure washer	Means a machine that uses water or a water-based product applied at high pressure to clean impervious surfaces.
Pressure washer (High-Efficiency)	Means a machine that uses water or a water-based product applied at 1500 pounds per square inch (PSI) or greater.
Reclaimed Water	Municipal wastewater effluent that is given additional treatment and distributed for reuse in certain applications. Also referred to as recycled water.

Soaker hose	Means a flexible hose that is designed to slowly emit water across the entire length and connect directly to a flexible hose or spigot. Does not include hose that by design or use sends a fine spray in the air. It is not considered drip irrigation.
Splash Pad/Spray Park	Means an area for water play that has no standing water. Typically, they utilize various spray nozzles which spray water in multiple directions.
Swimming pool	Means any structure, basin, chamber, or tank including hot tubs, containing an artificial body of water for swimming, diving, or recreational bathing, and having a depth of two (2) feet or more at any point.
Vegetable garden	Means any noncommercial vegetable garden planted primarily for household use; "noncommercial" includes incidental direct selling of produce from such a vegetable garden to the public.
Well Water	Means water that has been, or is, obtained from the ground by digging, boring, or drilling to access an underground aquifer.

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