

# **DROUGHT CONTINGENCY PLAN**

(Updated June 17, 2014)

## **INTRODUCTION**

This chapter details the City's Drought Contingency Plan, also known as the Emergency Water Use Plan. Emergency water use planning is not the same as conservation planning. While water conservation involves permanent water use efficiency or reuse practices, the Emergency Water Use Plan establishes temporary methods or techniques designed to be used only as long as an emergency exists.

In order to conserve the available water supply and protect the integrity of its water system with particular regard for domestic water use, sanitation, and fire protection, and to protect and preserve public health, welfare, and safety and minimize the adverse impacts of water supply shortage or other water supply emergency conditions, the City of Grand Prairie hereby adopts the following regulations and restrictions on the delivery and consumption of water.

It is important that the City of Grand Prairie initiate this Drought Contingency Plan (the Plan) to manage available water resources and ensure that sufficient water is available to maintain water pressure, firefighting supply drinking and sanitation requirements. This plan also includes provisions for enforcement

Water uses regulated or prohibited under this Plan are considered to be non-essential and the continuation of such uses during times of water shortage or other emergency water supply conditions are deemed to constitute a waste of water which subjects the offender(s) to penalties as defined in Chapter 26, Article VII, Sections 26-135 through 26-146.

The City of Grand Prairie has multiple water connections, for regular supply as well as supplemental connections for emergencies only. Water supply sources include two connections to the City of Dallas (Capacity = approx 40 MGD), one to the City of Fort Worth (Capacity = 2.5 MGD), and ten (10) Trinity wells (Capacity = 8 MGD). In terms of emergency provisions, we have emergency only connections with Arlington and Mansfield. Additionally we have raw water supplies in Joe Pool Lake allowing an annual average withdrawal of up to 1.6 MGD (contracted from the Trinity River Authority) part of which is currently being used for irrigation of a golf course and for sale to gas well drillers, but is available for other non-potable uses, such as firefighting if necessary.

The City's average usage is about 25 MGD with peak usage about 44 MGD. These supplies are for the developed portions of the side north of and around Joe Pool Lake.

In addition we have a contract with Midlothian for 6.0 MGD. We also have a supply contract with Mansfield for up to 12 MGD, with 6 MGD committed for resale to the Johnson County Special Utility District. The Midlothian and Mansfield contracts are to provide a separate water supply to the developing areas in Ellis and Johnson Counties

south of Lake Joe Pool and not connected to the portions of the distribution system north of Joe Pool Lake. Currently none of this southern supply is being used, but has been provided for future development. The non-potable supplies in Joe Pool Lake are available for this area as well.

## PUBLIC INVOLVEMENT

The City of Grand Prairie provided several opportunities for public input into the preparation of the original plan. The emergency water use plan and stages requirements are similar to those in the original plan.

The City provided opportunity for the public input in the development of this drought contingency plan by the following means:

- City Council Public Hearing – June 17, 2014 TBD
- Making the draft available on the City's web site, [www.gptx.org](http://www.gptx.org)
- Providing a draft plan to anyone requesting a copy

## PUBLIC EDUCATION

The Grand Prairie Water Utilities will periodically provide the public with information about the plan, including information about the trigger conditions under which each Plan stage is initiated or terminated and the water use restrictions which will be implemented under each stage. Public education and information will be provided by various methods, including: the city website, publication in the city newsletter and other media of the city; press releases to local and area media; announcements and discussions on the City's cable access channel; messaged "give away" items and utility bill inserts.

The Grand Prairie Water Utilities staff will also provide the City Council with status reports on drought response programs, water emergencies and their results.

## AUTHORIZATION

The Grand Prairie City, Chapter 26, Article VII establishes the city's policy in the event of shortages or delivery limitations in the City's water system. Under the City Code, the City Manager is authorized to implement measures prescribed in this Emergency Water Use Plan.

The Grand Prairie Director of Public Works, or his designee, (hereafter referred to as the Director) is authorized to enforce the measures implemented and to promulgate regulations authorized by the Plan. The Director, upon determination that critical conditions exist, advises the City Manager who may order the implementation of the appropriate stage of this Emergency Water Use Plan to protect the public health, safety and welfare.

Public notification of the initiation or termination of emergency use response stages shall be by means that may include, but are not limited to, website publication, publication in newspapers of general circulation, Grand Prairie's cable television access channel, direct mail to each customer, signs posted in public places, press releases to local and area media, and utility bill inserts.

The triggering criteria described herein for each response stage are based on historical analysis and recognized vulnerability of the water supply source and water distribution system during high water use demands and drought conditions.

The City Manager shall inform the City Council of the order as quickly as feasible. Upon the recommendation of the Public Works Director, the City Manager may upgrade or downgrade the stage of emergency in accordance with the appropriate triggering conditions. Any change in the stage of the order must be made in the same prescribed manner. The City Manager may terminate the order when a determination has been made that the conditions creating the emergency no longer exist. The termination order shall be issued in the same manner as the initiation order.

#### CORRDINATION WITH REGIONAL WATER PLANNING GROUPS

The service area of the City of Grand Prairie is located within the Region C regional planning area and the City of Grand Prairie has provided a copy of this Plan to the Region C regional planning group and will provide all updates to the Region C planning group.

The City of Grand Prairie purchases a majority of its water from the City of Dallas; the supply is supplemented with purchased water from the City of Fort Worth and eleven ground water wells. The Dallas Water Utilities (DWU) and Fort Worth Water Utilities (FWWU) have implemented their own Drought Contingency Plans that include water use restrictions that are applicable to its retail and wholesale customers. A portion of irrigation water for some golf courses is supplied with reuse water from Lake Joe Pool under contract with the Trinity River Authority (TRA). This plan was also coordinated with the TRA.

The proposed stages and triggering conditions in this Emergency Water Use Plan are similar to provisions established by the city's wholesale water suppliers. The primary responsibility of the wholesale suppliers is to assure sufficient supplies for its own retail customers. These suppliers have assured the City of Grand Prairie that it can meet its contractual wholesale obligations to the City. However, wholesale customers are required to impose water use restrictions equal to or greater than those imposed by the wholesale suppliers or they may reduce their maximum contracted wholesale flow rate to the wholesale customers by five percent. In addition, the wholesale suppliers' drought regulations require its wholesale customer cities to enforce similar standards and procedures in their systems. If a Stage 3 (Water Crisis) occurs, the customer cities of

DWU and FWWU are expected to reduce their flow rate, as established by the wholesale contract, equivalent to that imposed on their retail customers.

## APPLICATION

The provisions of this plan shall apply to all persons, customers, and property utilizing potable water provided by the City of Grand Prairie Water Utilities. The terms “person” and “customer” as used in the Plan include individuals, corporations, partnerships, associations and all other legal entities.

The water use restrictions imposed under this Plan do not apply to the use of non-potable sources or water sources other than that provided by Grand Prairie Water Utilities.

## DEFINITIONS

Aesthetic water use – Water use for ornamental or decorative purposes such as fountains, reflecting pools, and water gardens.

Allowed watering hours; as established in the Grand Prairie City Code. Chapter \_\_\_\_

Automatic Irrigation System: mans a site specific system of delivering water, generally for landscape irrigation, via a system of pipes or other conduits installed below ground that will automatically cucle water using landscape sprinklers according to a preset program, whether on a designated timer or through manual operation.

Aquatic Life; A vertebrate organism dependent upon an aquatic environment to sustain its life.

City Manager: The City Manager of Grand Prairie

Commercial and institutional water use – water use by commercial and non-profit establishments and governmental entities such as retail establishments, hotels and motels, restaurants, and office building.

Conservation – those practices, techniques, and technologies that reduce the consumption of water, reduce the loss or waste of water, improve the efficiency in the use of water or increase the recycling and reuse of water so that a supply is conserved and made available for future or alternative uses.

Contamination; a naturally occurring or man-made element which compromises the safety of the water supply

Customer – any person, company, or organization using water supplied by the City of Grand Prairie.

**Delivery Capacity:** refers to the maximum amount of water that can be delivered to customers when considering the limitation of the system components such as sources, treatment, storage, transmission, or distribution, individually and in combination with each other when operating at their designated capacity

**Demand Period** – 6:00 am to 5:59 am of any 24 hour period.

**Director** – Director of Public Works of Grand Prairie

**Domestic water use** – water use for personal needs or for household or sanitary purposes such as drinking, bathing, heating, cooking, sanitation, or for cleaning a residence, business, industry, or institution.

**DWU** – Dallas Water Utilities

**Drip Irrigation:** micro irrigation with low volume and low pressure release of water through point source emitters or pressure compensation in-line drip emitters

**Drought Contingency Plan:** 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. This document is the Drought Contingency Plan for the City of Grand Prairie.

**Even number address** – streets addresses, box numbers, or rural postal route numbers ending in 0, 2, 4, 6, or 8 and locations without address.

**Foundation Watering:** the application of water using a hand-held hose, soaker hose or drip irrigation system placed within 24 inches of the foundation, which does not produce a spray above ground or result in water run-off.

**Gold Course:** a commercial or governmental property made up of greens, tees, fairways and related areas which are irrigated and landscaped for the purposes of playing golf.

**FWWU** – Fort Worth Water Utilities

**Gas Well Operations:** use of water from the public water system for purposes of extraction of natural gas to include drilling, fracturing or site pond filling.

**Hand watering:** The application of water for irrigation purposes through a hand-held water hose, watering can or bucket.

**Hose-end Sprinkler:** a device through which water flows from a hose to a sprinkler to water any lawn or landscape.

**Industrial water use:**– the use of water in processes designed to convert materials of lower value into forms having greater usability and value.

Institutional Use: the use of water by an establishment dedicated to public service, such as a school, university, hospital, nursing home or government facility. All facilities dedicated to general public service on a non-discriminatory basis are considered institutional regardless of ownership.

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, and rights-of-way and medians.

Non-essential Water Uses – Water use that does not directly benefit or maintain health, personal cleanliness, or firefighting purposes.

- (a) Irrigation of landscape areas, including parks, athletic fields, and golf courses, except otherwise provided under this Plan;
- (b) Use of water to wash any motor vehicle, motorbike, boat, trailer, airplane or other vehicle; except as otherwise provided under this plan.
- (c) Use of water to wash down any sidewalks, walkways, driveways, parking lots, tennis courts, or other hard-surfaced areas;
- (d) Use of water to wash down buildings or structures for purposes other than immediate fire protection;
- (e) Flushing gutters or permitting water to run in any gutter or street, except as part of water quality management to flush stagnant water or enhance disinfection residuals;
- (f) Use of water to fill, refill, or add to any indoor or outdoor swimming pools or Jacuzzi-type pools;
- (g) Use of water in a human made water feature, including but not limited to a fountain or pond for aesthetic or scenic purposes except where necessary to support aquatic life;
- (h) Failure to repair a leak(s) within a reasonable period after having been given notice directing the repair of such leak(s) and;
- (i) Use of water from hydrants for purposes other than fire fighting and uses necessary for the conduct of businesses such as approved construction and flushing to maintain water quality.
- (j) Use of water from public drinking supply for gas well operations including fracturing and drilling.

Non-potable Water: water that is not intended or suitable for drinking and has not been approved for human consumption

Ornamental Fountain: an artificially created structure from which a jet stream, valves and emission devices or flow of water emanates and is not typically utilized for the preservation of aquatic life.

Odd numbered address - street addresses, box numbers, or rural postal route numbers ending in 1, 3, 5, 7, or 9.

psi – Pounds per square inch.

Potable Water: water that is suitable for drinking by the public

Pressure plane – Any area of the water system distinguished by the high water level of its elevated storage tanks and/or designed pressure ranges.

Recreational water use: water used for leisure or entertainment purposes

TRA – Trinity River Authority

Reduced Delivery Capacity: refers to the maximum amount of water that can be delivered to customers when considering reductions of delivery capacity based on scheduled shutdowns of infrastructure and/or unforeseen shutdowns of infrastructure, such as line breaks, equipments failure, etc.

Retail Customers: non-wholesale customers

Run-off: a stream of water which overflows from a lawn or landscape onto a street, sidewalk, parking lot, or other impervious surface for a distance of more than 50 feet; or forms a puddle or pond to a depth greater than one-quarter of an inch

Soaker hose: a permeable garden-type hose that is laid above ground that provides irrigation at a slow and constant rate.

Swimming pool: a structure that is used for swimming, bathing or water play, including all equipment and appurtenant facilities.

TCEQ: Texas Commission of Environmental Quality

Vehicle wash facility: a permanently located business that washes vehicles or other mobile equipment with water or water based products, including but not limited to self-service car washes, full service car washes, roll-over in-bay style car washes, and facilities managing vehicle fleets or vehicle inventory

Wholesale Treated Water Customer: any water supplier that receives all or a portion of its treated water supply directly or indirectly from the City of Grand Prairie.

Untreated water customer: any person, company, organization or water supplier buying non-potable water from the City of Grand Prairie

## LAWN AND LANDSCAPE IRRIGATION CONSERVATION

### A. Lawn and Landscape Irrigation Restrictions.

1. Customers shall not permit the irrigation or watering of a lawn or landscape located on premises owned, leased or managed by the customer in a manner that causes:
  - (a.) a substantial amount of water to fall upon impervious areas instead of a lawn or landscape, such that a constant stream of water overflows from the lawn or landscape onto a street or other drainage area; or
  - (b.) an irrigation system or other lawn or landscape watering device to operate during any form of precipitation.
2. Customers shall not operate a lawn or landscape irrigation system or device that:
  - (a.) has any broken or missing sprinkler head; or
  - (b.) has not been properly maintained in a manner that prevents the waste of water.
3. Except for hand watering and the use of soaker hoses, irrigation or watering of any lawn or landscape shall be prohibited between the hours of 10:00 a.m. and 6:00 p.m..

### B. Rain Sensing Devices, and Freeze Sensors are required.

1. Any commercial or industrial customer class irrigation system installed within the City on or after June 1, 2009 must be equipped with rain and freeze sensors.
  - (a) All rain and freeze sensors for commercial customer class lawn irrigation systems shall undergo annual inspection and testing.



2. Any residential customer class irrigation system installed within the City on or after June 1, 2009 must be equipped with rain and freeze sensors.

#### STAGE ONE (1)

A. REQUIREMENTS FOR INITIATION. Stage 1 may also be initiated at other times during the year if one or more of the following occur:

Condition 1: Pursuant to requirements specified in the wholesale treated water purchase contracts with any wholesale water supplier, notification is received from such supplier requesting initiation of water restrictions.

Condition 2: Combined storage fall below 200 gallons per capita at the beginning of a 24-hour demand period.

Condition 3: Water demand exceeds ninety percent (90%) of the current maximum flow rate contracted with DWU for three (3) consecutive days.

Condition 4: Other – situations that limit distribution of water, as determined by the Director such as:

- a. Short or long term equipment failure or failure to maintain 35-psi pressure at up to 500 service locations or up to 10 fire hydrants in localized areas.
- b. Short term deficiencies within an entire pressure district.
- c. Power failure or restrictions.
- d. Short term disruptions of major water supply lines.

B. REQUIREMENTS FOR TERMINATION Stage 1 will be automatically rescinded on September 30 of each year, provided one or more of the triggering conditions listed above have ceased to exist for a period of at least three consecutive days.

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C. Customers shall conserve water and adhere to the following water use restrictions:

1. Landscape watering will be limited to two days per week per the following schedule:

- Even Numbered addresses watering on Mondays and Thursdays.
  - Odd numbered addresses water on Tuesday and Fridays.
2. City government will schedule landscape watering so that a particular facility location will be watered no more than two days per week.
  3. City government may eliminate street washing (except when used water can be captured for reuse.)
  4. City government will reduce vehicle washing, except when the water can be captured for reuse, or if the health, safety, and welfare of the public is contingent upon frequent vehicle cleansing (such as animal control vehicles and vehicles used to transport food and perishables.)
  5. Discontinue operations of ornamental fountains and any other non-essential use of water and try to minimize loss or excess use.
  6. Recommend irrigation of landscaped areas by means of hand-held garden hose, soaker hose, bucket, or drip irrigation system.
  7. Acceleration of public information efforts to educate customers in best landscape management practices, enlist their support of voluntary water use restrictions, and to remind customers that the summer water surcharge rate structure is in effect.
  9. Notify major water users and request voluntary water use reductions.
  10. Encourage less water use on construction projects.
  11. Initiate or increase production from Water wells
  12. To the extent allowed by law and contractual obligations, withdrawal of water from Joe Pool Lake for non-potable uses will be permitted and encouraged subject to City authorization and payment arrangements
  13. Prohibit all non-essential uses as defined above.

E. GOAL Achieve a 5% reduction in water use

## STAGE TWO (2)

A. REQUIREMENTS FOR INITIATION Stage 2 may be implemented when one or more of the following conditions occur:

Condition 1 Pursuant to requirements specified in the wholesale treated water purchase contract, notification is received from one or more wholesale supplier requesting water restrictions.

Condition 2 Total water supply reduced by 10% on a continuous basis during high water usage months.

Condition 3. Water use exceeds one hundred percent (100%) of the current maximum flow rate contracted from wholesale water suppliers for five consecutive days.

Condition 4. Combined storage falls below 150 gallons per capita at the beginning of a 24-hour demand period.

Condition 5. Failure to maintain 35 psi pressure in any pressure plane.

Condition 6. Water use exceeds one hundred and three percent (103%) of the current maximum flow rate contracted from either wholesale water supplier for three (3) consecutive days.

Condition 7. Short-term deficiencies in the City's distribution system limit supply capabilities, such as system outage due to the failure or damage of major water system components.

B. REQUIREMENTS FOR TERMINATION Stage 2 of the Plan may be rescinded when all of the conditions listed as triggering have ceased to exist for a period of three (3) consecutive days or until the water system has fully recovered to normal operating conditions.

Upon termination of Stage 2, Stage 1 becomes operative unless also rescinded.

C. AVAILABLE MEASURES All restrictions/requirements of Stage 1 shall remain in effect during Stage 2. Under threat of penalty for violation, the following water use restrictions shall apply during Stage 2.

1. City Manager, or other designated City official, announces the beginning of mandatory water restrictions.

2. Landscape watering will be limited to *once per week*, based on the last digit of the service address, according to the following schedule:

- Even Numbered addresses watering on Mondays.
- Odd numbered addresses water on Fridays.

a. Properties having multiple addresses will be identified by the lowest address number. If no address exists, the Director or his/her designee will assign one.

b. The lowest address number will identify apartments, office complexes, or other property containing multiple addresses.

c. Public spaces, and large landscape watering involving multiple watering stations and unable to reasonably comply with the odd even schedule will be conducted in accordance to a schedule determined by the Director that is at least as restrictive as address based schedules.

d. Foundations and new plantings may only be watered using a hand-held garden hose, soaker hose, bucket, or drip irrigation system for up to two (2) hours on any day. Nurseries may water plant stock only without restrictions.

3. Use of water to wash any motor vehicle, motorbike, boat, trailer, airplane or other vehicle is **restricted**, except on the designated landscape watering days. Such washing, when allowed, shall be done with a hand-held bucket or a hand-held hose equipped with a positive shutoff nozzle for quick rinses. Vehicle washing may be done at any time on the immediate premises of a commercial car wash or commercial service station. Such washing may be exempted from these regulations 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.

4. Use of water for the draining and refill of any indoor or outdoor swimming pool or Jacuzzi-type pool is **prohibited**, except for water used to refill pools which have undergone repair or are newly constructed.

5. Operation of any ornamental fountain or pond for aesthetic or scenic purposes is **prohibited**, except where necessary to support aquatic life or where such fountains or ponds are equipped with a recirculation system.

6. Use of water from fire hydrants shall be limited to fire fighting related activities, or other activities necessary to maintain public health, safety, and welfare, except that use of water from designated fire hydrants for construction purposes may be allowed under special permit from Grand Prairie Water Utilities.

7. Golf courses may water greens and tee boxes by special permit. Irrigation of golf course fairways and other areas must comply with the once per week rotation schedule specified for landscape watering.

8. Water for non-potable uses from Lake Joe Pool may be allowed by special permit

D. GOAL Reduce the average daily water demand 5% below 100 percent of the combined water from City of Grand Prairie water wells and maximum wholesale flow rates contracted from DWU and FWWU..

### STAGE THREE (3)

A. REQUIREMENTS FOR INITIATION Stage 3 may be implemented when one or more of the following conditions occur:

Condition 1 Pursuant to requirements specified in the wholesale purchase contract, notification is received from either wholesale water supplier requesting initiation of water restrictions.

Condition 2 Total water supply reduced by 20% on a continuous basis during high water usage months.

Condition 3 Combined storage falls below 140 gallons per capita at the beginning of a 24-hour demand period.

Condition 4 Stage 2 restrictions fail to alleviate continued potable water storage depletion

Condition 5 Long term deficiencies in supply within and entire pressure district.

Condition 6 Failure to maintain 35 psi pressure in any portion of the distribution system.

Condition 7 Any unanticipated situations that limit distribution of water, as determined by the Director.

Condition 8 Power failure or restrictions.

B. REQUIREMENTS FOR TERMINATION Stage 3 of the Plan may be rescinded when all of the conditions listed as triggering have ceased to exist for a period of three (3) consecutive days or until the water system has fully recovered to normal operating conditions.

Upon termination of Stage 3, Stage 2 becomes operative unless also rescinded.

C. AVAILABLE MEASURES All restrictions from Stage 1 and Stage 2 shall remain in effect during Stage 3. Under threat of penalty for violation, the following water use restrictions shall apply during Stage 3

1. Use of water to wash any motor vehicle, motorbike, boat, trailer, airplane or other vehicle is ***prohibited***. Such washing may be exempted from these regulations 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. Vehicle washing may be done at any time on the immediate premises of a commercial car wash or commercial service station using recirculation water.

2. No outdoor landscape watering except for foundations and trees
  3. Foundations and new plantings may only be watered with a hand-held garden hose soaker hose, bucket, or drip irrigation system for up to two (2) hours.
  6. Golf courses will be ***prohibited*** from watering greens and tee boxes except by special permit
  7. Alert neighboring watering systems with emergency connections that some water supplies may be requested. Set meters at predetermined sites.
- D. GOAL Reduce the average daily water demand below ninety percent (90%) of the combined water from City of Grand Prairie water wells and maximum wholesale flow rates contracted from DWU and FWWU..

## ENFORCEMENT

The City Manager, or a designated official, is authorized to enforce the measures set forth in this plan, and to promulgate regulations, not in conflict with this plan, or state or federal laws, in aid of enforcement. A person who makes, causes, or permits use of water contrary to the measures implemented by the City Manager shall be punishable as provided for in the accompanying ordinance.

## VARIANCES

During the times the various stages of the Emergency Water Use Plan are in operation, the City Manager, or a designated official, may grant variances in special cases after evaluation of hardship, need or customer efforts to conserve water.

- I. Variances shall be granted only under the following circumstances and conditions:
  - A. The applicant must sign a compliance agreement on form provided by the City, agreeing to use the water only in the amount and manner permitted by the variance;

B. Granting of variance must not cause an immediate significant reduction in the City's water supply, or shortages within certain pressure zones or areas;

C. The applicant must demonstrate extreme hardship or need relating to their health, safety, or welfare, and show evidence of substantial water conservation efforts

D. The health, safety and welfare of other persons must not be adversely affected by the granting of the variance.

II. A granted variance may be revoked under the following circumstances:

A. That the conditions of the above section (Section I, A – D) are no longer being met;

B. The terms of the compliance agreement are violated; or

C. The health, and safety of other persons requires that the variance be revoked.

#### SEVERABILITY AND SAVINGS CLAUSE

Should any section, sentence, clause or phrase of this plan be declared unconstitutional or unlawful, said portion shall be severed and have no effect on the remaining sections, or enforceability of the plan. Nothing within this plan shall be construed to limit the authority of the Mayor, The City Council, of the City Manager to seek emergency relief under the provisions of any state or federal disaster relief regulations.