

## Appendix E-1

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# Drought Contingency Plan





Brazos River  
Authority

**Drought Contingency Plan**

October 29, 2012

**Prepared by:  
Brazos River Authority  
Waco, Texas**

# Drought Contingency Plan

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**Brazos River Authority  
Waco, Texas  
Drought Contingency Plan  
October 29, 2012**

**1. Introduction**

As a wholesale water supplier, the Brazos River Authority (BRA) adopts this Drought Contingency Plan (Plan) in conformance with the rules governing drought contingency plans for wholesale water providers set forth by the Texas Commission on Environmental Quality (TCEQ) in *Texas Administrative Code* Title 30, Part 1, Rule §288.22, *Drought Contingency Plans for Wholesale Water Suppliers*. Appendix A includes a copy of the TCEQ rules governing drought contingency plans for wholesale water providers. This Plan, date October 29, 2012, supersedes the previous plan dated June 5, 2007.

**2. Provisions to Actively Inform the Public and Provide Opportunity for Input**

The BRA has taken the following steps to actively inform the public and affirmatively provide opportunity for user input in the preparation of the Plan and to inform wholesale customers about the Plan:

- Placing a draft of the Plan on the BRA's Web site at [www.brazos.org](http://www.brazos.org) and inviting comments on the draft Plan.
- Discussing the Plan at the BRA's annual customer meetings conducted in July 2012.
- Sending a letter to all wholesale water customers and Regional Water Planning Groups discussing the draft Plan, mentioning where it could be found on the BRA's Web site, offering copies to those who did not wish to access the draft Plan on the Web site, and soliciting comments (Appendix B includes a copy of the letter sent to wholesale customers and Appendix C includes a copy of the letter sent to Regional Water Planning Groups).
- Providing written notice to the public concerning the draft Plan and inviting their comments (written notice is provided by posting with the Secretary of State's office and on the BRA official Web site).

**3. Coordination with Regional Water Planning Groups**

The BRA has statutory responsibility for conserving and developing the water resources of the Brazos River Basin in Texas and making them available for beneficial use. The Brazos River Basin covers approximately 47,000 square miles, with 44,440 in Texas (all or part of 70 counties) and slightly over 2,500 in New Mexico. The BRA's service area includes the Brazos River Basin in Texas. The BRA also supplies water outside of the Brazos River Basin to San Jacinto-Brazos Coastal Basin and a small part of the Trinity Basin.

The BRA has directed each of the Regional Water Planning Groups located within its service area (Region B, Region C, Region F, Region G, Region H, Region K, and Region O) to the draft Plan located on the BRA official Web site. Appendix C includes an example of the letter sent to the Regional Water Planning Groups.

#### **4. Information to be Monitored and Criteria for the Initiation and Termination of Drought Response Stages**

The BRA's general manager/chief executive officer (GM/CEO) or designee shall monitor water supply and demand conditions. The triggering criteria described below are based on hydrologic analyses and reservoir operations experience including lessons learned from the 2011 drought. Individual lake elevation triggers apply to Lakes Aquilla, Belton, Granger, Limestone, Proctor, and Somerville. For the Possum Kingdom Lake-Lake Granbury-Lake Whitney sub-system and the Lake Stillhouse Hollow-Lake Georgetown sub-system, drought stage trigger levels are based on their respective combined volumes. Additional triggers associated with the transfer of water from Lake Stillhouse Hollow to Lake Georgetown apply to Lake Georgetown.

Reservoir levels are continuously monitored by the BRA. The BRA, its customers, and other interested parties are all responsible for determining when lake levels approach important elevations associated with specific water supply intake structures. A table of critical elevations for customer water supply intake structures is contained in Appendix D.

Four levels of drought severity, as shown in Table 1, have been identified at which specific actions will be conducted. Each of the four levels includes recommendations for specific drought response actions that may be tailored to conditions as they exist at the time. Details on each of the four drought stages are also discussed. Elevation-Capacity Tables based on estimated 2015 sedimentation conditions are contained in Appendix E

House Bill 1437, passed by the Texas legislature in 1999, allows the BRA to contract with the Lower Colorado River Authority (LCRA) for up to 25,000 acre-feet of water from the Colorado River Basin (LCRA water) for use in Williamson County. For the LCRA water, drought stage trigger levels are based on the combined conservation storage of Lakes Buchanan and Travis as stipulated in the LCRA Drought Contingency Plan, as contained in Chapter 4 of LCRA's Water Management Plan, as well as LCRA's Drought Contingency Rules, LCRA's Raw Water Contract Rules related to Pro Rata Curtailment, and LCRA's TCEQ-approved Pro Rata Curtailment Plan.

The BRA will comply with the LCRA for water used under the LCRA contract. Table 2 includes the LCRA Drought Contingency Plan triggers.

<b>Table 1. - Drought Severity Triggers<sup>1</sup></b>			
<b>Status</b>	<b>Surface Elevation<sup>4</sup></b>	<b>Water Storage<sup>4</sup></b>	<b>Reservoir Drawdown</b>
	<b>(ft msl)</b>	<b>(acre-feet)</b>	<b>(ft)</b>
<b>Lake Aquilla</b>			
<b>Top of Conservation (full)</b>	537.5	43,715	0
<b>Stage 1 Drought Watch</b>	533.6	33,661	3.9
<b>Stage 2 Drought Warning</b>	530.1	25,573	7.4
<b>Stage 3 Drought Emergency</b>	525.8	17,486	11.7
<b>Stage 4 Pro-rata Curtailment</b>	523.1	13,385	14.4
<b>Lake Belton</b>			
<b>Top of Conservation (full)</b>	594	430,443	0
<b>Stage 1 Drought Watch</b>	587.2	357,268	6.8
<b>Stage 2 Drought Warning</b>	577.9	264,722	16.1
<b>Stage 3 Drought Emergency</b>	565.8	172,177	28.2
<b>Stage 4 Pro-rata Curtailment</b>	549.4	86,089	44.6
<b>Lake Granger</b>			
<b>Top of Conservation (full)</b>	504	49,161	0
<b>Stage 1 Drought Watch</b>	501.8	42,278	2.2
<b>Stage 2 Drought Warning</b>	498.3	30,971	5.7
<b>Stage 3 Drought Emergency</b>	493.7	19,664	10.3
<b>Stage 4 Pro-rata Curtailment</b>	489.7	12,321	14.3
<b>Lake Limestone</b>			
<b>Top of Conservation (full)</b>	363	199,882	0
<b>Stage 1 Drought Watch</b>	357.5	145,914	5.5
<b>Stage 2 Drought Warning</b>	354.7	118,933	8.3
<b>Stage 3 Drought Emergency</b>	351.4	91,953	11.6
<b>Stage 4 Pro-rata Curtailment</b>	346.2	57,657	16.8
<b>Lake Proctor</b>			
<b>Top of Conservation (full)</b>	1162	54,649	0
<b>Stage 1 Drought Watch</b>	1158.2	39,347	3.8
<b>Stage 2 Drought Warning</b>	1155.7	31,012	6.3
<b>Stage 3 Drought Emergency</b>	1152.3	22,677	9.7
<b>Stage 4 Pro-rata Curtailment</b>	1149.8	17,375	12.2
<b>Lake Somerville</b>			
<b>Top of Conservation (full)</b>	238	142,844	0
<b>Stage 1 Drought Watch</b>	234.8	114,275	3.2
<b>Stage 2 Drought Warning</b>	231.6	85,706	6.4
<b>Stage 3 Drought Emergency</b>	227.8	57,138	10.2
<b>Stage 4 Pro-rata Curtailment</b>	223.9	33,780	14.1

<b>Table 1. - Continued. Drought Severity Triggers<sup>1</sup></b>			
<b>Status</b>	<b>Surface Elevation<sup>2</sup></b>	<b>Water Storage<sup>2</sup></b>	<b>Reservoir Drawdown</b>
	<b>(ft msl)</b>	<b>(acre-feet)</b>	<b>(ft)</b>
<b>Lake Possum Kingdom, Lake Granbury, Lake Whitney<sup>3</sup></b>			
<b>Top of Conservation (full)</b>	N/A <sup>4</sup>	700,759 <sup>5</sup>	N/A <sup>4</sup>
<b>Stage 1 Drought Watch</b>	N/A <sup>4</sup>	561,290 <sup>5</sup>	N/A <sup>4</sup>
<b>Stage 2 Drought Warning</b>	N/A <sup>4</sup>	420,968 <sup>5</sup>	N/A <sup>4</sup>
<b>Stage 3 Drought Emergency</b>	N/A <sup>4</sup>	280,645 <sup>5</sup>	N/A <sup>4</sup>
<b>Stage 4 Pro-rata Curtailment</b>	N/A <sup>4</sup>	140,323 <sup>5</sup>	N/A <sup>4</sup>
<b>Lake Georgetown, Lake Stillhouse Hollow</b>			
<b>Top of Conservation (full)</b>	N/A <sup>4</sup>	262,503 <sup>6</sup>	N/A <sup>4</sup>
<b>Stage 1 Drought Watch</b>	N/A <sup>4</sup>	220,503 <sup>6</sup>	N/A <sup>4</sup>
<b>Stage 2 Drought Warning</b>	N/A <sup>4</sup>	162,752 <sup>6</sup>	N/A <sup>4</sup>
<b>Stage 3 Drought Emergency</b>	N/A <sup>4</sup>	105,001 <sup>6</sup>	N/A <sup>4</sup>
<b>Stage 4 Pro-rata Curtailment</b>	N/A <sup>4</sup>	52,501 <sup>6</sup>	N/A <sup>4</sup>
<b>Brazos River Authority System</b>			
<b>Top of Conservation (full)</b>	N/A <sup>4</sup>	1,883,761	N/A <sup>4</sup>
<b>Stage 1 Drought Watch</b>	N/A <sup>4</sup>	1,514,536	N/A <sup>4</sup>
<b>Stage 2 Drought Warning</b>	N/A <sup>4</sup>	1,140,639	N/A <sup>4</sup>
<b>Stage 3 Drought Emergency</b>	N/A <sup>4</sup>	766,741	N/A <sup>4</sup>
<b>Stage 4 Pro-rata Curtailment</b>	N/A <sup>4</sup>	413,416	N/A <sup>4</sup>

1. Triggers, excluding the Possum Kingdom-Granbury-Whitney System, derived for estimated year 2015 sedimentation conditions, 2015 demands and current return flows.
2. Elevation-Capacity Tables are contained in Appendix E.
3. Triggers derived for estimated year 2020 sedimentation conditions and 2020 demands. Operations in accordance with the Possum Kingdom-Granbury Water Management Study were also considered in the development of the triggers.
4. Surface elevation and reservoir drawdown are not applicable because reservoirs are operated as a system. Their combined storage is a better drought indicator than individual elevations because elevations in each reservoir can be influenced by other reservoirs within the system. For example, water can be transferred from Lake Stillhouse Hollow to Lake Georgetown through a pipeline that connects the two lakes. Stillhouse Hollow could be completely full while Lake Georgetown was 15 feet low, or Georgetown could be completely full with Stillhouse Hollow being 2.5 feet low, and in both cases, the collective capacity of the reservoirs is 94% full. Using combined storage instead of individual reservoir elevations for the trigger levels allows the operation of the pipeline to be taken into account.
5. Storages shown are for the combined conservation pool storage volume of Lakes Possum Kingdom, Granbury, and Whitney; BRA storage in Lake Whitney is limited to 50,000 acre-feet.
6. Storages shown are for the combined conservation pool storage volume of Lakes Stillhouse Hollow and Georgetown.

<b>Table 2. LCRA Drought Triggers</b>		
<b>2010 Water Management Plan - Drought Triggers</b>		
<b>When water in the lake is ...</b>	<b>On this date ...</b>	<b>Action prescribed in 2010 Water Management Plan</b>
<b>Lake Travis and Buchanan are full at 2.011 million acre-feet</b>		
Less than 94 percent full	Jan. 1 or July 1	Interruptible supplies cease for all customers except irrigation operations.
Less than 1.7 million acre-feet	Jan. 1	Environmental releases for bays and estuaries are reduced to meet 150 percent of critical (to the extent of storable inflows).
Less than 1.4 million acre-feet	At any time	Request firm customers to implement voluntary water use reduction measures to achieve a 5 percent reduction in use.
Less than 1.4 million acre-feet	Jan. 1	Begin gradual curtailment of interruptible supply to irrigation operations. Amount of curtailment increases when water storage levels are lower. Environmental releases for instream flows are reduced to meet critical needs.
Less than 1.1 million acre-feet	Jan. 1	Environmental releases for bays and estuaries are reduced to meet critical needs.
900,000 acre-feet	At any time	Request firm customers to implement mandatory conservation restrictions. Meet with customers to develop curtailment plan should drought worsen.
600,000 acre-feet	At any time	If criteria indicate that drought is worse than the Drought of Record, then begin pro rata curtailment of firm supply after ceasing interruptible supply (timing based on duration of drought).
325,000 acre-feet	Jan. 1	No interruptible supply available.
200,000 acre-feet	At any time	No interruptible supply available.

LCRA encourages its firm water customers to implement long-term, year-round water conservation measures to meet the goals included in their water conservation plans. LCRA has an ongoing public awareness campaign on water use and conservation.

### Stage 1 – Drought Watch Condition

Requirements for Initiation – The BRA’s GM/CEO or his/her designee may initiate a Drought Watch Condition in one or more of the following circumstances:

- For a reservoir/reservoir sub-system when the Palmer Hydrologic Drought Index (PHDI) is equal to or less than -2. The PHDI for each reservoir/reservoir sub-system is derived monthly.
- For a reservoir/reservoir sub-system, when the content of that reservoir/reservoir sub-system is at or below its corresponding Stage 1 Trigger (Table 1) and reasonable estimates of current annual demands, coupled with inflows and evaporation representative of the drought of record, indicate that the content could be reduced to the Stage 2 Trigger or less during the next 12 months.
- For a reservoir, group of reservoirs, or the entire BRA System when the combined storage of the BRA System is below the Stage 1 System Storage Trigger (Table 1) and reasonable estimates of current annual demands, coupled with inflows and evaporation representative of the drought of record, indicate that the combined system storage could be reduced to the Stage 2 System Storage Trigger or less during the next 12 months.

- For Lake Georgetown (in addition to triggers shown in Table 1),
  - When sustained pumping operations through the Williamson County Regional Raw Water Line (WCRRWL) continue for longer than one month.
  - As deemed appropriate due to disruption in WCRRWL pumping operations.
- For LCRA water, when the combined storage of Lakes Buchanan and Travis drops below 1.4 million acre-feet and interruptible stored water supplies to the irrigation operations are being curtailed.
- For a reservoir, group of reservoirs, or the entire BRA System when an unexpected condition has the potential to adversely affect the public health, welfare or safety.

Requirements for Termination – The BRA’s GM/CEO or his/her designee may terminate a Drought Watch Condition when any of the reasons for initiation have ceased to exist for a period of 30 consecutive days or other relevant factors determined by the BRA’s GM/CEO or designee.

To terminate a Drought Watch Condition for LCRA water, the BRA will comply with the LCRA Drought Contingency Plan, as contained in Chapter 4 of LCRA’s Water Management Plan, as well as LCRA’s pro rata curtailment plan and rules for water sale contracts.

Stage 2 – Drought Warning Condition

Requirements for Initiation – The BRA’s GM/CEO or his/her designee may initiate a Drought Warning Condition in one or more of the following circumstances:

- For a reservoir/reservoir sub-system, when the content of that reservoir/reservoir sub-system is at or below its corresponding Stage 2 Trigger (Table 1) and reasonable estimates of current annual demands, coupled with inflows and evaporation representative of the drought of record, indicate that the content could be reduced to the Stage 3 Trigger or less during the next 12 months.
- For a reservoir, group of reservoirs, or the entire BRA System when the combined storage of the BRA System is below the Stage 2 System Storage Trigger (Table 1) and reasonable estimates of current annual demands, coupled with inflows and evaporation representative of the drought of record, indicate that the combined system storage could be reduced to the Stage 3 System Storage Trigger or less during the next 12 months.
- For Lake Georgetown (in addition to triggers shown in Table 1),

- When sustained WCRRWL pumping operations continue for longer than 12 months.
- As deemed appropriate due to disruption in WCRRWL pumping operations.
- For LCRA water, when the combined storage of Lakes Buchanan and Travis is below 900,000 acre-feet and interruptible stored water supplies to the irrigation operations are being curtailed.
- For a reservoir, group of reservoirs, or the entire BRA System when an unexpected condition has the potential to adversely affect the public health, welfare or safety.

Requirements for Termination – The BRA’s GM/CEO or his/her designee may terminate a Drought Warning Condition when any of the reasons for initiation have ceased to exist for a period of 30 consecutive days or other relevant factors determined by the BRA’s GM/CEO or designee. Upon termination of a Drought Warning, a Drought Watch may become operative depending on conditions at the time.

To terminate a Drought Warning Condition for LCRA water, the BRA will comply with the LCRA Drought Contingency Plan, as contained in Chapter 4 of LCRA’s Water Management Plan, as well as LCRA’s pro rata curtailment plan and rules for water sale contracts.

Stage 3 – Drought Emergency Condition

Requirements for Initiation – The BRA’s GM/CEO or his/her designee may initiate a Drought Emergency Condition in one or more of the following circumstances:

- For a reservoir/reservoir sub-system, when the content of that reservoir/reservoir sub-system is at or below its corresponding Stage 3 Trigger (Table 1) and reasonable estimates of current annual demands, coupled with inflows and evaporation representative of the drought of record, indicate that the content could be reduced to the Stage 4 Trigger within the next 12 months.
- For a reservoir, group of reservoirs, or the entire BRA System when the combined storage of the BRA System is below the Stage 3 System Storage Trigger (Table 1) and reasonable estimates of current annual demands, coupled with inflows and evaporation representative of the drought of record, indicate that the combined system storage could be reduced to the Stage 4 System Storage Trigger within the next 12 months.
- For a reservoir/reservoir sub-system, when critical water supply infrastructure is damaged or otherwise rendered unable to meet projected demands due to natural disaster, power outage, structural failure, sabotage, or other reasons.
- For Lake Georgetown (in addition to triggers shown in Table 1),

- When the GM/CEO or his/her designee determines that hydrologic conditions (inflow and/or evaporation) are as severe as or worse than the driest 24-month period on record.
- As deemed appropriate due to disruption in WCRRWL pumping operations.
- For LCRA water, when LCRA, in accordance with its Water Management Plan, declares a Drought Worse than the Drought of Record.
- For a reservoir, group of reservoirs, or the entire BRA System when an unexpected condition has the potential to adversely affect the public health, welfare or safety.

Requirements for Termination – The BRA’s GM/CEO or his/her designee may terminate a Drought Emergency Condition when any of the reasons for initiation have ceased to exist for a period of 30 consecutive days or other relevant factors determined by the BRA’s GM/CEO or designee. Upon termination of a Drought Emergency, a Drought Warning or Drought Watch may become operative depending on conditions at the time.

To terminate a Drought Emergency Condition for LCRA water, the BRA will comply with the LCRA Drought Contingency Plan, as contained in Chapter 4 of LCRA’s Water Management Plan, as well as LCRA’s pro rata curtailment plan and rules for water sale contracts.

Stage 4 – Pro-rata Curtailment Condition

Requirements for Initiation – The BRA’s GM/CEO or his/her designee may initiate a pro-rata Curtailment Condition in one or more of the following circumstances:

- For a reservoir/reservoir sub-system, when the content of that reservoir/reservoir sub-system is at or below its corresponding Stage 4 Trigger (Table 1).
- For a reservoir, group of reservoirs, or the entire BRA System when the combined storage of the BRA System is below the Stage 4 System Storage Trigger (Table 1).
- For Lake Georgetown (in addition to triggers shown in Table 1) as deemed appropriate by the BRA’s GM/CEO or his/her designee due to disruption in WCRRWL pumping operations.
- For a reservoir, group of reservoirs, or the entire BRA System when an unexpected condition has the potential to adversely affect the public health, welfare or safety.

Requirements for Termination – The BRA’s GM/CEO or his/her designee may terminate a pro-rata Curtailment Condition when any of the reasons for initiation have ceased to exist for a period of 30 consecutive days or other relevant factors determined by the BRA’s GM/CEO or designee. Upon termination of a Pro-rata Curtailment, a Drought

Emergency, Drought Warning or Drought Watch may become operative depending on conditions at the time.

## **5. Procedures to be followed for Initiation and Termination of Drought Response Stages**

### Initiation of a Drought Response Stage

The BRA's GM/CEO or his/her designee may order the implementation of a Drought Response Stage when the trigger conditions for that stage are met. The following actions will be taken when a drought stage is initiated:

- The public will be notified through the appropriate media and the BRA Web site.
- Customers will be notified by telephone with a follow-up letter/fax or e-mail.
- Meetings will be held with customers as appropriate.
- The Executive Director of the TCEQ will be notified within five (5) business days.

The BRA's GM/CEO or his/her designee may decide not to order the implementation of a Drought Response Stage even though 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 Response Stage

The BRA's GM/CEO or his/her designee may order the termination of a drought response stage when the conditions for termination are met or at his/her discretion. The following actions will be taken when a drought stage is terminated:

- The public will be notified through local media and the BRA Web site.
- Wholesale customers will be notified by telephone with a follow-up letter/fax or e-mail.
- The Executive Director of the TCEQ will be notified within five (5) business days.

The BRA's GM/CEO or his/her designee may decide not to order the termination of a drought response stage even though the conditions for termination of the stage are met. 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.

## **6. Drought Response Stages, Measures to be Implemented and Goals for Use Reduction**

The BRA will notify the Executive Director of the TCEQ within five (5) business days when any Drought Stage is declared under this plan. In turn and in compliance with Title 30, *Texas Administrative Code*, Chapter 288, Subchapter B, Rule §288.22 (b) (included in Appendix A), the BRA's customers are required to notify the Executive Director of the TCEQ within five (5) business days of any mandatory actions that are subsequently implemented under their respective drought contingency plans.

### Stage 1 – Drought Watch Condition

The Stage 1, Drought Watch condition, is intended to raise customer and public awareness of potential drought problems. For water supplied from the Brazos River System, there is a voluntary target reduction goal of five percent (5) of the use that would have occurred in the absence of drought contingency measures. For LCRA water, there is a voluntary target reduction goal of five percent (5), as indicated in Table 2. The BRA's GM/CEO or his/her designee may perform or request implementation of any of the actions listed below, as deemed necessary:

- Inform customers of the drought watch condition and request them to inform their customers, if any.
- Notify customers of actions being taken and urge activation by customers of appropriate water conservation measures to achieve the target water use reduction goal.
- Meet with customers to discuss current drought and possible measures to be taken if the drought intensifies.
- Initiate Stage 1 or equivalent of customer drought contingency plans, if available.
- Intensify efforts on leak detection and repair.
- Reduce nonessential water use.
- Initiate voluntary landscape watering schedules.
- Verify the location, depth and operational requirements of intake structures.
- Increase public education efforts on ways to reduce water use.
- Investigate alternative ways to supply needs that could be implemented if the drought intensifies.
- In cooperation with customers, initiate the preparation of a specific drought response plan tailored to conditions as they exist at the time.
- Implement appropriate provisions of the specific drought response plan.

- Contact the TCEQ, United States Geological Survey (USGS) and US Army Corps of Engineers. Inform them of the situation and request appropriate actions from each, such as closer monitoring to protect releases, more frequent gage inspections to reflect actual flow conditions more accurately or a greater effort to meet exact release requests.
- Other actions as deemed appropriate for the given situation.

### Stage 2 – Drought Warning Condition

For water supplied from the Brazos River System, the goal for water use reduction under a Stage 2, Drought Warning condition, is a ten percent (10) reduction of the use that would have occurred in the absence of drought contingency measures. If circumstances warrant, the BRA's GM/CEO or his/her designee may modify this goal. For LCRA water, the target reduction goal is ten (10) to twenty (20) percent as indicated in Table 2. The BRA's GM/CEO or his/her designee may perform or request implementation of any of the actions listed below, as deemed necessary:

- Inform customers of the Drought Warning Condition and request that they inform their customer, if any.
- Notify customers of actions being taken and urge activation by customers of appropriate water conservation measures to achieve the target water use reduction goal.
- Meet with customers to discuss the current drought and possible measures to be taken.
- Initiate Stage 2 or equivalent of customer drought contingency plans, if available.
- Encourage the public to wait until the current drought has passed before establishing new landscaping.
- Initiate mandatory landscape and outdoor water use restrictions needed to achieve the water use reduction goal.
- Initiate engineering studies to evaluate alternative actions if conditions worsen.
- Further accelerate public education efforts on ways to reduce water use.
- In cooperation with BRA customers, develop or update the specific drought response plan tailored to conditions as they exist at the time.
- Implement appropriate provisions of the specific drought response plan.

- For LCRA firm water, begin discussions with LCRA to develop a specific curtailment plan, consistent with LCRA's TCEQ-approved Pro Rata Curtailment Plan and LCRA's Raw Water Rules related to pro rata curtailment.
- For LCRA firm water, any landscape water schedule used to implement restrictions should restrict daytime outdoor water use and not allow the irrigation of landscaping to occur more than twice a week.
- Implement other measures identified by the BRA and its customers.

### Stage 3 – Drought Emergency Condition

For water supplied from the Brazos River System, the goal for water use reduction under a Stage 3, Drought Emergency Condition, is a total reduction of twenty percent (20) in the use that would have occurred in the absence of any drought contingency measures. If circumstances warrant, the BRA's GM/CEO or his/her designee may modify this goal. For LCRA water, the LCRA will implement a mandatory pro-rata curtailment of a minimum of twenty percent (20) as indicated in Table 2. If the combined storage of Lakes Buchanan and Travis continue to drop below 600,000 acre-feet, the mandatory pro-rata curtailment percentage may be increased as determined by the LCRA Board of Directors. The BRA's GM/CEO or his/her designee may perform or request implementation of any of the actions listed below, as deemed necessary:

- Continue actions commenced under Stages 1 and 2.
- Inform customers of the Drought Emergency Condition and request that they inform their customers, if any.
- Notify customers of actions being taken and urge activation by customers of appropriate water conservation measures to achieve the target water use reduction goal.
- Require BRA customers to cease diversion and use of water under Interruptible Water Availability Agreements.
- Cease the sale of water by the BRA under Interruptible Water Availability Agreements.
- Limit or restrict the temporary assignment of water by BRA customers to third parties in accordance with the terms of the underlying contracts.
- In cooperation with BRA customers, develop or update the specific drought response plan tailored to conditions as they exist at the time.
- Implement appropriate provisions of the specific drought response plan.
- Meet with customers to discuss the current drought and measures to be taken.

- Initiate the drought emergency or equivalent stage in customer drought contingency plans as necessary to meet the target water use reduction goal.
- Initiate mandatory water use restrictions such as prohibiting hosing of paved areas, buildings or windows, prohibiting operation of ornamental fountains, prohibit washing or rinsing of vehicle by hose and prohibiting water use in such a manner as to allow runoff or other waste.
- Limit landscape watering at each service address.
- Prohibit draining and filling of existing swimming pools and filling of new swimming pools (pools may add water to replace losses during normal use).
- Prohibit establishment of new landscaping.
- Prohibit all outdoor watering including hand held hoses.
- Implement viable alternative water supply strategies (this may require prior approval of the TCEQ).
- Coordinate with customers regarding the pro-rata curtailment process in the event that drought conditions persist or intensify and a Pro-rata Curtailment Condition is initiated.

#### Stage 4 – Pro-rata Curtailment Condition

Under Stage 4, Pro-rata Curtailment Condition, the BRA’s customers will be required to implement a mandatory pro-rata curtailment of a minimum of thirty percent (30) in the use that would have occurred in the absence of any drought contingency measures for water use reduction, pursuant to *Texas Water Code* §11.039 (Appendix G). If circumstances warrant, the BRA’s GM/CEO or his/her designee may alter the mandatory pro-rata curtailment percentage. All uses of water for Interruptible Water Availability Agreements in the affected part of the system will be terminated prior to and during any mandatory pro-rata curtailment of water use under long-term contracts.

The general process under which the BRA will make water available during a pro-rata curtailment in accordance with *Texas Water Code* §11.039 is described below:

- Determine amount of water to be made available during pro-rata curtailment.

The amount of water made available to all affected customers with long-term contracts will be reduced by an equal percentage from the customers’ reasonable demands. The determination of a customer’s available supply during a curtailment will be based on the following:

- Actual water use from a dry 12-month period (the “Reference Year”) will serve as the default “Baseline Amount” to which pro-rata reductions would be applied. The Baseline Amount cannot exceed a customer’s

annual contracted quantity and would follow a typical pattern of water use.

- The Baseline Amount is subject to adjustment based upon conditions that caused a customer's water use in the Reference Year to be reduced, including, but not limited to:
  - implementation of water conservation or drought contingency measures during the Reference Year which resulted in quantified and documented savings;
  - new growth that has since resulted in increases to customer's reasonable demands;
  - plant outages or other incidents that reduced demand; or
  - customer did not hold a water supply contract for the entire Reference Year.
- The amount of water to be made available to a customer during a curtailment (Annual Allotment) will be equal to the Baseline Amount, less the percentage curtailment ordered by the BRA's GM/CEO or his/her designee.

- Implementation of pro-rata Curtailment

In the event that the BRA orders a pro-rata curtailment, the order will include the pro-rata percentage curtailment which will apply to each customer's Baseline Amount. If conditions change while pro-rata curtailment is in effect, the curtailment percentage may be adjusted by the GM/CEO or his/her designee.

During a pro-rata curtailment, customers will be required to use no more than their Annual Allotment. Non-compliance will be considered as a breach of contract per the terms of each customer's water supply agreement, and will be handled as such.

- Cessation of pro-rata Curtailment

In the event that the BRA implements pro-rata curtailment under Stage 4 of this Plan, conditions will be specified under which the curtailment will be lifted.

## **7. Required Provision on Distribution of Water in Case of Shortage in BRA Contracts**

As required by Title 30 of the *Texas Administrative Code* §288.22(a)(7), the BRA shall include a provision in every water contract entered into or renewed after adoption of the Plan, including contract extensions, indicating that in case of a shortage of water resulting from drought the water will be divided in accordance with the provisions of *Texas Water Code* §11.039.

## **8. Provisions for Granting Variances**

The BRA's GM/CEO or his/her designee may grant a temporary variance to the requirements of this Plan if it is determined that:

- Failure to grant such variance would cause an emergency condition adversely affecting the public health, welfare or safety, or
- Compliance with this Plan cannot be technically accomplished during the duration of the water supply shortage or other condition for which the Plan is in effect, or
- Alternative methods can be implemented which will achieve the same level of reduction in water use.

Variances shall be granted or denied at the discretion of the BRA's GM/CEO or his/her designee. All petitions for variances should be in writing and should 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.
- Alternative measures that will be taken to reduce water use.
- Other pertinent information.

For LCRA water, LCRA may consider a temporary variance to the pro rata water allocation requirement in accordance with LCRA's Drought Contingency Plan.

## **9. Procedures for Implementation and Enforcement**

Appendix F is a copy of the BRA's Board resolution approving this Plan. Compliance with this Plan, as amended from time to time, is a condition in the BRA's water supply agreements. Failure to comply with the Plan is a violation of the water supply agreement provision and will be treated as such.

## **10. Review and Update**

The BRA shall review this Plan at least every five (5) years and shall update as appropriate based on new or updated information.

**APPENDIX A**  
**Texas Administrative Code, Section 288.22**  
**Texas Commission on Environmental Quality Rules on Drought Contingency**  
**Plans for Wholesale Water Suppliers**

**APPENDIX A**  
**Texas Administrative Code, Section 288.22**  
**Texas Commission on Environmental Quality Rules on Drought Contingency**  
**Plans for Wholesale Water Suppliers**

<b><u>TITLE 30</u></b>	ENVIRONMENTAL QUALITY
<b><u>PART 1</u></b>	TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
<b><u>CHAPTER 288</u></b>	WATER CONSERVATION PLANS, DROUGHT CONTINGENCY PLANS, GUIDELINES AND REQUIREMENTS
<b><u>SUBCHAPTER B</u></b>	DROUGHT CONTINGENCY PLANS
<b>RULE §288.22</b>	<b>Drought Contingency Plans for Wholesale Water Suppliers</b>

(A) A drought contingency plan for a wholesale water supplier must include the following minimum elements:

- (1) Preparation of the Plan shall include provisions to actively inform the public and to affirmatively provide opportunity for user input in the preparation of the Plan and for informing wholesale customers about the Plan. Such acts may include, but are not limited to, having a public meeting at a time and location convenient to the public and providing written notice to the public concerning the proposed plan and meeting.
- (2) The drought contingency plan must document coordination with the regional water planning groups for the service area of the wholesale public water supplier to ensure consistency with the appropriate approved regional water plans.
- (3) The drought contingency plan must include a description of the information to be monitored by the water supplier and specific criteria for the initiation and termination of drought response stages, accompanied by an explanation of the rationale or basis for such triggering criteria.
- (4) The drought contingency plan must include a minimum of three drought or emergency response stages providing for the implementation of measures in response to water supply conditions during a repeat of the drought-of-record.
- (5) The drought contingency plan must include the procedures to be followed for the initiation or termination of drought response stages, including procedures for notification of wholesale customers regarding the initiation or termination of drought response stages.
- (6) The drought contingency plan must include specific, quantified targets for water use reductions to be achieved during periods of water shortage and drought. The entity preparing the Plan shall establish the targets. The goals established by the entity under this paragraph are not enforceable.

(7) The drought contingency plan must include the specific water supply or water demand management measures to be implemented during each stage of the plan including, but not limited to, the following:

(a) pro rata curtailment of water deliveries to or diversions by wholesale water customers as provided in Texas Water Code, §11.039; and

(b) utilization of alternative water sources with the prior approval of the executive director as appropriate (e.g., interconnection with another water system, temporary use of a non-municipal water supply, use of reclaimed water for non-potable purposes, etc).

(8) The drought contingency plan must include a provision in every wholesale water contract entered into or renewed after adoption of the Plan, including contract extensions, that in case of a shortage of water resulting from drought, the water to be distributed shall be divided in accordance with Texas Water Code, §11.039.

(9) The drought contingency plan must include procedures for granting variances to the plan.

(10) The drought contingency plan must include procedures for the enforcement of any mandatory water use restrictions including specification of penalties (e.g., liquidated damages, water rate surcharges, discontinuation of service) for violations of such restrictions.

(B) The wholesale public water supplier shall notify the executive director within five (5) business days of the implementation of any mandatory provisions of the drought contingency plan.

(C) The wholesale public water supplier shall review and update, as appropriate, the drought contingency plan, at least every five (5) years, based on new or updated information, such as adoption or revision of the regional water plan.

**Source Note:** The provisions of this §288.22 adopted to be effective February 21, 1999, 24 TexReg 949; amended to be effective April 27, 2000, 25 TexReg 3544; amended to be effective October 7, 2004, 29 TexReg 9384

**APPENDIX B**  
**Example Letter to Wholesale Water Customers**

## APPENDIX B

### Example Letter to Wholesale Water Customers



Brazos River Authority



QUALITY • CONSERVATION • SERVICE

Date

[Customer]

[Address]

Dear «Salutation»:

The Brazos River Authority (BRA) is performing an update of its Drought Contingency Plan (Plan). In accordance with Texas Commission on Environmental Quality regulations, we are notifying our customers that the draft Plan is available for review and comment on the BRA's Web site at [www.brazos.org](http://www.brazos.org).

Primary changes to the Plan include the following:

- 1) Established new trigger levels;
- 2) Incorporated Lower Colorado River Authority requirements for HB 1437 water;
- 3) Established new water use demand reduction targets; and
- 4) Incorporated more detail on pro-rata curtailment.

If you prefer to review a hard copy of the draft Plan, you may request one through our Public Information Office by calling (254) 761-3111. Comments on the draft Plan will be accepted through close of business on Monday, September 10, 2012. Please mail written comments to:

Brazos River Authority  
Attn: Chris Higgins  
P.O. Box 7555  
Waco, TX 76714-7555

Following the receipt of comments, the Plan will be considered for adoption at the next BRA Board of Directors meeting on October 29, 2012.

Sincerely,

BRAD BRUNETT  
Water Services Manager  
BB

**APPENDIX C**  
**Example Letter to Regional Water Planning Groups**  
**[Planning Groups B, C, F, G, H, K and O]**

**APPENDIX C**  
**Example Letter to Regional Water Planning Groups**  
**[Planning Groups B, C, F, G, H, K and O]**



Brazos River Authority



QUALITY • CONSERVATION • SERVICE

---

Date

[Chairman]  
Chair, Region \_ Water Planning Group  
[Address]

Dear «Salutation»:

The Brazos River Authority (BRA) is performing an update of its Drought Contingency Plan (Plan). In accordance with Texas Commission on Environmental Quality regulations, we are notifying relevant regional water planning groups that the draft Plan is available for review and comment on the BRA's Web site at [www.brazos.org](http://www.brazos.org).

Primary changes to the Plan include the following:

- 1) Established new trigger levels;
- 2) Incorporated Lower Colorado River Authority requirements for HB 1437 water;
- 3) Established new water use demand reduction targets; and
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If you prefer to review a hard copy of the draft Plan, you may request one through our Public Information Office by calling (254) 761-3111. Comments on the draft Plan will be accepted through close of business on Monday, September 10, 2012. Please mail written comments to:

Brazos River Authority  
Attn: Chris Higgins  
P.O. Box 7555  
Waco, TX 76714-7555

Following the receipt of comments, the Plan will be considered for adoption at the next BRA Board of Directors meeting on October 29, 2012. A final copy of the Plan will be forwarded to the regional water planning groups after it is adopted by the BRA Board.

Sincerely,

BRAD BRUNETT  
Water Services Manager

BB:kl

Brazos River Authority Drought Contingency Plan  
October 2012

Appendix C - 2

**APPENDIX D**  
**Customer Water Supply Intake Structures**

## APPENDIX D

### Customer Water Supply Intake Structures

Physical Lakeside Intakes		
RESERVOIR	BRA CUSTOMER	MINIMUM OPERATION LEVEL (ft) <sup>1</sup>
AQUILLA	AQUILLA WSD	507
BELTON	BELL COUNTY WCID #1	540
	CITY OF GATESVILLE	538
	BLUEBONNET WSC	568
GEORGETOWN	GEORGETOWN, CITY OF	732
	ROUND ROCK, CITY OF	747
	BRUSHY CREEK MUD	747
GRANBURY	TXU - COMANCHE PEAK	678
	TXU - DECORDOVA	675
	LENMO INC. (LEONARDS)	682
	WOLF HOLLOW I, L.P.	673
	SWATS	674
GRANGER	EAST WILLIAMSON COUNTY REGIONAL WATER SYSTEM	496 <sup>2</sup>
LIMESTONE	NRG	330
	SOUTH LIMESTONE COUNTY WATER SUPPLY	354
	LUMINANT (OAK GROVE MANAGEMENT)	331
PROCTOR	UPPER LEON RIVER MWD	1135
POSSUM KINGDOM	SPORTSMAN'S WORLD MUD	983
	POSSUM KINGDOM WSC	982
	WEST CENTRAL BRAZOS PIPELINE	967
SOMERVILLE	CITY OF BRENHAM	208
STILLHOUSE HOLLOW	CENTRAL TEXAS WSC	582
	WILLIAMSON COUNTY REGIONAL RAW WATER LINE	559.5
	KEMPNER WSC	580

<sup>1</sup> This list includes some of the larger BRA water customers. It is not all inclusive. The Minimum Operation Levels represent the critical reservoir elevation at which the operation of the intake structure would start to be compromised. These values were provided directly by the customers. The BRA makes no statement as to their accuracy, and they are not intended for any other use outside of this DCP.

<sup>2</sup> Construction on the new intake is to be completed in the spring of 2013. The Minimum Operation Level of the new intake will be 479 feet msl.

**APPENDIX E**  
**Elevation-Capacity Tables**  
**Selected Reservoirs**

**APPENDIX E**  
**Elevation-Capacity Tables**  
**Selected Reservoirs**

<b>Table E-1 Lake Aquilla Elevation-Capacity Values Year 2015 Estimated Sedimentation Conditions</b>			
Elevation (Feet msl)	Capacity (Acre-Feet)	Elevation (Feet msl)	Capacity (Acre-Feet)
495	0	517	6,014
496	0	518	6,942
497	0	519	7,957
498	0	520	9,059
499	0	521	10,235
500	0	522	11,483
501	6	523	12,802
502	27	524	14,193
503	73	525	15,671
504	150	526	17,253
505	265	527	18,937
506	422	528	20,723
507	626	529	22,623
508	880	530	24,634
509	1,185	531	26,750
510	1,544	532	28,980
511	1,966	533	31,345
512	2,454	534	33,848
513	3,011	535	36,488
514	3,652	536	39,276
515	4,373	537	42,206
516	5,160	537.5	43,715

Baseline Conditions from Texas Water Development Board,  
2002 Volumetric Survey

**Table E-2 Lake Belton Elevation-Capacity Values  
Year 2015 Estimated Sedimentation Conditions**

Elevation (Feet msl)	Capacity (Acre-Feet)	Elevation (Feet msl)	Capacity (Acre-Feet)	Elevation (Feet msl)	Capacity (Acre-Feet)
484	0	521	12,252	558	124,135
485	0	522	13,522	559	129,412
486	0	523	14,865	560	134,811
487	0	524	16,281	561	140,346
488	0	525	17,779	562	146,029
489	0	526	19,360	563	151,874
490	0	527	21,019	564	157,884
491	0	528	22,750	565	164,040
492	0	529	24,553	566	170,325
493	2	530	26,429	567	176,762
494	11	531	28,383	568	183,394
495	31	532	30,422	569	190,248
496	68	533	32,550	570	197,351
497	123	534	34,775	571	204,707
498	198	535	37,106	572	212,293
499	291	536	39,552	573	220,093
500	404	537	42,114	574	228,096
501	540	538	44,784	575	236,287
502	704	539	47,557	576	244,655
503	903	540	50,440	577	253,229
504	1,148	541	53,437	578	262,047
505	1,434	542	56,552	579	271,100
506	1,756	543	59,789	580	280,368
507	2,112	544	63,144	581	289,844
508	2,502	545	66,611	582	299,518
509	2,928	546	70,207	583	309,377
510	3,393	547	73,943	584	319,418
511	3,896	548	77,827	585	329,614
512	4,440	549	81,864	586	339,997
513	5,029	550	86,051	587	350,600
514	5,668	551	90,380	588	361,403
515	6,361	552	94,847	589	372,413
516	7,121	553	99,447	590	383,625
517	7,965	554	104,167	591	395,028
518	8,906	555	108,997	592	406,635
519	9,940	556	113,936	593	418,447
520	11,058	557	118,979	594	430,443

Baseline Conditions from Texas Water Development Board,  
2003 Volumetric Survey

<b>Table E-3 Lake Georgetown Elevation-Capacity Values Year 2015 Estimated Sedimentation Conditions</b>			
<b>Elevation (Feet msl)</b>	<b>Capacity (Acre-Feet)</b>	<b>Elevation (Feet msl)</b>	<b>Capacity (Acre-Feet)</b>
714	0	753	6,018
715	6	754	6,431
716	13	755	6,857
717	22	756	7,298
718	32	757	7,757
719	45	758	8,233
720	59	759	8,728
721	75	760	9,243
722	94	761	9,777
723	116	762	10,330
724	140	763	10,904
725	170	764	11,498
726	211	765	12,114
727	263	766	12,753
728	324	767	13,415
729	398	768	14,101
730	486	769	14,813
731	586	770	15,550
732	697	771	16,313
733	818	772	17,101
734	949	773	17,911
735	1,090	774	18,745
736	1,242	775	19,603
737	1,407	776	20,483
738	1,584	777	21,388
739	1,776	778	22,316
740	1,983	779	23,270
741	2,205	780	24,249
742	2,441	781	25,255
743	2,691	782	26,288
744	2,955	783	27,349
745	3,233	784	28,438
746	3,528	785	29,557
747	3,838	786	30,705
748	4,164	787	31,881
749	4,505	788	33,083
750	4,860	789	34,310
751	5,231	790	35,560
752	5,618	791	36,833

Baseline conditions from Texas Water Development Board, 2005 Volumetric Survey

<b>Table E-4 Lake Granbury Elevation-Capacity Values Year 2015 Estimated Sedimentation Conditions</b>			
<b>Elevation (Feet msl)</b>	<b>Capacity (Acre-Feet)</b>	<b>Elevation (Feet msl)</b>	<b>Capacity (Acre-Feet)</b>
627	0	661	11,129
628	0	662	12,314
629	0	663	13,584
630	0	664	14,940
631	0	665	16,384
632	0	666	17,921
633	0	667	19,550
634	0	668	21,270
635	2	669	23,084
636	16	670	24,995
637	47	671	27,010
638	100	672	29,136
639	177	673	31,381
640	276	674	33,756
641	399	675	36,271
642	546	676	38,928
643	718	677	41,739
644	914	678	44,724
645	1,139	679	47,913
646	1,399	680	51,321
647	1,699	681	54,938
648	2,040	682	58,751
649	2,421	683	62,772
650	2,841	684	67,016
651	3,303	685	71,492
652	3,814	686	76,250
653	4,377	687	81,332
654	4,998	688	86,793
655	5,677	689	92,650
656	6,413	690	98,914
657	7,211	691	105,621
658	8,076	692	112,757
659	9,013	693	120,323
660	10,029		

Baseline conditions from Texas Water Development Board, 2003 Volumetric Survey

<b>Table E-5 Lake Granger Elevation-Capacity Values Year 2015 Estimated Sedimentation Conditions</b>			
<b>Elevation (Feet msl)</b>	<b>Capacity (Acre-Feet)</b>	<b>Elevation (Feet msl)</b>	<b>Capacity (Acre-Feet)</b>
464	0	485	5,622
465	0	486	6,658
466	0	487	7,808
467	0	488	9,069
468	0	489	10,440
469	0	490	11,923
470	7	491	13,521
471	36	492	15,240
472	94	493	17,091
473	183	494	19,084
474	304	495	21,231
475	454	496	23,551
476	631	497	26,053
477	849	498	28,745
478	1,121	499	31,634
479	1,462	500	34,713
480	1,892	501	37,977
481	2,432	502	41,467
482	3,091	503	45,183
483	3,848	504	49,161
484	4,690		

Baseline conditions from Texas Water Development Board,  
2002 Volumetric Survey

<b>Table E-6 Lake Limestone Elevation-Capacity Values Year 2015 Estimated Sedimentation Conditions</b>			
<b>Elevation (Feet msl)</b>	<b>Capacity (Acre-Feet)</b>	<b>Elevation (Feet msl)</b>	<b>Capacity (Acre-Feet)</b>
320	0	342	33,113
321	0	343	37,216
322	0	344	41,725
323	0	345	46,615
324	40	346	51,843
325	194	347	57,426
326	497	348	63,395
327	952	349	69,721
328	1,581	350	76,356
329	2,403	351	83,325
330	3,418	352	90,700
331	4,622	353	98,527
332	6,013	354	106,771
333	7,634	355	115,405
334	9,514	356	124,439
335	11,641	357	133,861
336	14,030	358	143,704
337	16,676	359	154,022
338	19,542	360	164,841
339	22,607	361	176,130
340	25,864	362	187,796
341	29,349	363	199,882

Baseline conditions from Texas Water Development Board,  
2002 Volumetric Survey

<b>Table E-7 Lake Possum Kingdom Elevation-Capacity Values Year 2020 Estimated Sedimentation Conditions</b>					
<b>Elevation (Feet msl)</b>	<b>Capacity (Acre-Feet)</b>	<b>Elevation (Feet msl)</b>	<b>Capacity (Acre-Feet)</b>	<b>Elevation (Feet msl)</b>	<b>Capacity (Acre-Feet)</b>
893	0	929	15,433	965	139,791
894	0	930	16,806	966	145,749
895	0	931	18,282	967	151,889
896	0	932	19,860	968	158,214
897	0	933	21,548	969	164,717
898	0	934	23,349	970	171,400
899	0	935	25,260	971	178,266
900	0	936	27,272	972	185,323
901	0	937	29,387	973	192,592
902	0	938	31,614	974	200,086
903	13	939	33,960	975	207,808
904	59	940	36,430	976	215,765
905	140	941	39,023	977	223,960
906	260	942	41,740	978	232,405
907	428	943	44,582	979	241,122
908	647	944	47,547	980	250,147
909	917	945	50,635	981	259,489
910	1,231	946	53,845	982	269,141
911	1,582	947	57,176	983	279,110
912	1,975	948	60,632	984	289,393
913	2,412	949	64,211	985	299,982
914	2,889	950	67,912	986	310,870
915	3,404	951	71,737	987	322,051
916	3,959	952	75,693	988	333,521
917	4,553	953	79,784	989	345,282
918	5,187	954	84,009	990	357,341
919	5,865	955	88,371	991	369,719
920	6,587	956	92,872	992	382,436
921	7,353	957	97,512	993	395,589
922	8,162	958	102,288	994	409,322
923	9,015	959	107,204	995	423,690
924	9,920	960	112,269	996	438,553
925	10,880	961	117,485	997	453,752
926	11,896	962	122,846	998	469,244
927	12,987	963	128,349	999	485,007
928	14,166	964	133,995	1,000	501,089

Baseline conditions from Texas Water Development Board,  
2005 Volumetric Survey

<b>Table E-8 Lake Proctor Elevation-Capacity Values Year 2015 Estimated Sedimentation Conditions</b>			
<b>Elevation (Feet msl)</b>	<b>Capacity (Acre-Feet)</b>	<b>Elevation (Feet msl)</b>	<b>Capacity (Acre-Feet)</b>
1,131	0	1,147	11,603
1,132	0	1,148	13,264
1,133	0	1,149	15,031
1,134	42	1,150	16,928
1,135	222	1,151	18,943
1,136	579	1,152	21,056
1,137	1,074	1,153	23,267
1,138	1,662	1,154	25,579
1,139	2,334	1,155	28,016
1,140	3,113	1,156	30,798
1,141	4,001	1,157	34,050
1,142	4,977	1,158	37,634
1,143	6,052	1,159	41,471
1,144	7,263	1,160	45,515
1,145	8,604	1,161	49,741
1,146	10,048	1,162	54,144

Baseline conditions from Texas Water Development Board,  
2002 Volumetric Survey

<b>Table E-9 Lake Somerville Elevation-Capacity Values Year 2015 Estimated Sedimentation Conditions</b>	
<b>Elevation (Feet msl)</b>	<b>Capacity (Acre-Feet)</b>
208	0
209	0
210	0
211	20
212	246
213	804
214	1,667
215	2,893
216	4,527
217	6,617
218	9,156
219	12,094
220	15,404
221	19,033
222	22,993
223	27,299
224	31,956
225	37,079
226	42,727
227	48,813
228	55,302
229	62,186
230	69,416
231	76,963
232	84,898
233	93,306
234	102,192
235	111,535
236	121,372
237	131,794
238	142,844

Baseline conditions from Texas Water Development Board,  
2003 Volumetric Survey

**Table E-10 Lake Stillhouse Hollow Elevation-Capacity Values  
Year 2015 Estimated Sedimentation Conditions**

Elevation	Capacity	Elevation	Capacity	Elevation	Capacity
505	0	545	9,887	585	70,690
506	0	546	10,571	586	73,324
507	0	547	11,288	587	76,023
508	0	548	12,037	588	78,786
509	0	549	12,820	589	81,618
510	0	550	13,637	590	84,519
511	0	551	14,488	591	87,489
512	0	552	15,376	592	90,529
513	0	553	16,300	593	93,644
514	2	554	17,261	594	96,840
515	7	555	18,263	595	100,121
516	18	556	19,305	596	103,478
517	40	557	20,389	597	106,910
518	83	558	21,515	598	110,417
519	148	559	22,685	599	113,998
520	233	560	23,895	600	117,656
521	338	561	25,145	601	121,393
522	469	562	26,436	602	125,211
523	634	563	27,773	603	129,113
524	833	564	29,157	604	133,101
525	1,060	565	30,595	605	137,182
526	1,308	566	32,087	606	141,363
527	1,576	567	33,633	607	145,651
528	1,863	568	35,231	608	150,052
529	2,169	569	36,882	609	154,565
530	2,495	570	38,585	610	159,188
531	2,842	571	40,339	611	163,927
532	3,211	572	42,142	612	168,791
533	3,603	573	43,997	613	173,787
534	4,016	574	45,902	614	178,923
535	4,451	575	47,859	615	184,206
536	4,904	576	49,869	616	189,631
537	5,376	577	51,936	617	195,208
538	5,865	578	54,060	618	200,976
539	6,373	579	56,247	619	206,942
540	6,899	580	58,498	620	213,052
541	7,446	581	60,812	621	219,288
542	8,016	582	63,186	622	225,670
543	8,611	583	65,621		
544	9,234	584	68,122		

Baseline conditions from Texas Water Development Board, 2005 Volumetric Survey

**Table E-12. Lake Whitney Elevation-Capacity Values**

Brazos River Authority storage within Lake Whitney totals 50,000 af for capacity above 520 ft. elevation. Drought contingency plan trigger values for the collective BRA storage in the Lake Possum Kingdom-Lake Granbury-Lake Whitney system take into account only this 50,000 acre-foot capacity, and not the entire capacity of Lake Whitney. Specific elevation-capacity values for Lake Whitney as a whole therefore do not apply.

**APPENDIX F**  
**Brazos River Authority**  
**Board Resolution Adopting the Drought Contingency Plan**

**APPENDIX F**  
**Brazos River Authority**  
**Board Resolution Adopting the Drought Contingency Plan**



Brazos River Authority

**RESOLUTION OF THE BOARD OF DIRECTORS OF  
THE BRAZOS RIVER AUTHORITY  
OCTOBER 29, 2012**

**Agenda Item No. 9  
Drought Contingency Plan Update**

"**BE IT RESOLVED** by the Board of Directors of the Brazos River Authority that the Drought Contingency Plan, as presented at the October 29, 2012 Board of Director's Meeting and prepared in conformance with the requirements of the Texas Commission on Environmental Quality (TCEQ), is hereby adopted and supersedes the Drought Contingency Plan dated June 5, 2007; and

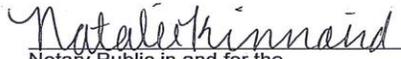
**BE IT FURTHER RESOLVED** that the General Manager/CEO is directed to submit the adopted Brazos River Authority Drought Contingency Plan to the TCEQ."

The aforementioned resolution was approved by the Board of Directors of the Brazos River Authority on October 29, 2012, to certify which witness my hand and seal.

  
**Dave Scott**  
Presiding Officer

SUBSCRIBED AND SWORN TO BEFORE ME on this the 29<sup>th</sup> day of October, 2012, to certify which witness my hand and official seal.



  
Natalie Kinnaird  
Notary Public in and for the  
State of Texas

**APPENDIX G**  
**Texas Water Code Section 11.039**  
**Distribution of Water during Shortage**

## **APPENDIX G**

### **Texas Water Code Section 11.039**

#### **§ 11.039. Distribution of Water During Shortage**

(a) If a shortage of water in a water supply not covered by a water conservation plan prepared in compliance with Texas Natural Resource Conservation Commission or Texas Water Development Board rules results from drought, accident or other cause, the water to be distributed shall be divided among all customers pro rata, according to the amount each may be entitled to, so that preference is given to no one and everyone suffers alike.

(b) If a shortage of water in a water supply covered by a water conservation plan prepared in compliance with Texas Natural Resource Conservation Commission or Texas Water Development Board rules results from drought, accident or other cause, the person, association of persons, or corporation owning or controlling the water shall divide the water to be distributed among all customers pro rata, according to:

(1) the amount of water to which each customer may be entitled; or

(2) the amount of water to which each customer may be entitled, less the amount of water the customer would have saved if the customer had operated its water system in compliance with the water conservation plan.

(c) Nothing in Subsection (a) or (b) precludes the person, association of persons, or corporation owning or controlling the water from supplying water to a person who has a prior vested right to the water under the laws of this state.

Amended by Acts 1977, 65th Leg., p. 2207, ch. 870, § 1, eff. Sept. 1, 1977.

Amended by Acts 2001, 77th Leg., ch. 1126, § 1, eff. June 15, 2001.

