STANDARD (NON-EMERGENCY) REGULATION/RULE

11-1-3.A(22)

RULE RELATED TO DECLARING AND REMOVING A DROUGHT ALERT AND ADDRESSING RESPONSES TO A DROUGHT OR POTENTIAL DROUGHT

BRC Section that is the subject of this Rule: Chapters 11-1 and 11-2, B.R.C. 1981

1. This Rule incorporates the guidance, requirements, rules and regulations shown in **Attachment A.**
2. It is an affirmative defense to a charged violation of this Rule that the defendant acted with authorization of the City Manager for public land management, search and rescue, or public safety purposes.
3. To the extent only of any conflict, this Rule repeals any conflicting Rules or parts of Rules, including, without limitation, Rules 4-20-25.A(03) and 11-1-48.A(11).

*** NOTICE TO THE PUBLIC ***

Rule 11-1-3.A(22)

As adopting authority, on **November 2, 2022** the Boulder City Manager, filed with the city clerk a Rule proposing to establish details that the city manager may use to declare and remove a drought alert stage as well as guide an appropriate response to a drought event.

Copies of the Rule are available for public review at Central Records at the Municipal Building, 1777 Broadway, 2nd floor. Please contact Central Records at centralrecords@bouldercolorado.gov, or 303-441-3043 to make an appointment to review this Rule or to have a copy sent to you.

The public has a right to submit written comments on the proposed Rule for 15 days from the date of this publication (**November 21, 2022**). Please direct written comments to:

Laila Parker
City of Boulder
Water Resources Project Manager
parkerl@bouldercolorado.gov
1739 Broadway, Boulder, CO 80302

For more information call 303-441-4334.

If no written comments are received, the Rule will become final when the time for comments has passed.

STANDARD (NON-EMERGENCY) RULE SIGNATURE PAGE

RULE RELATED TO DECLARING AND REMOVING A DROUGHT ALERT AND ADDRESSING RESPONSES TO A DROUGHT OR POTENTIAL DROUGHT

B.R.C. Section Granting Rulemaking Authority:

Section 11-1-3, "Rules and Regulations," B.R.C. 1981

City Attorney's Office – Approval as to form and legality:

The proposed Rule was approved as to form and legality for adoption on 10/31/22 (date).

Signature: Jessica Pault-Atiase

City Manager / Adopting Authority – Approval as to substance

The proposed Rule was approved as to substance prior to publication and three copies were filed with the City Clerk on November 1, 2022 (date).

Adopting Authority Signature: TPR

City Clerk Publication:

The public notice will be published in the Daily Camera on **November 6, 2022** (date), starting a 15-day written comment period ending on **November 21, 2022**.

X No comments were received. The proposed Rule is in effect as of the end of the comment period.

City Clerk Signature: Elesha M. Johnson

City Manager / Adopting Authority - Comment Review/Effective Date:

____ Written comments were received for this Rule, and no change has been made. The Rule is in effect as of the end of the comment period.

____ Written comments were received for this Rule. The Rule was amended and returned to the City Attorney's Office for review on _____. The Rule is effective upon approval of the City Attorney.

City Attorney approval Date: _____

Signature: _____

____ Written comments were received for this Rule. The Rule has been amended and will be republished.

Adopting Authority Signature: _____

ATTACHMENT A

RULE RELATED TO DECLARING AND REMOVING A DROUGHT ALERT AND ADDRESSING RESPONSES TO A DROUGHT OR POTENTIAL DROUGHT

I. Authority.

This Rule is issued pursuant to Chapter 1-4, "Rulemaking," and Sections 11-1-3, "Rules and Regulations," 11-1-27, "Water Restrictions in Case of Emergency," 11-1-48, "Declaring and Removing a Drought Alert Stage," 11-1-49, "Drought Response Measures," and 11-1-51, "Enforcement of Drought Response Measures," B.R.C. 1981, and is related to declaring and removing a Drought Alert Stage and necessary responses to a drought or potential drought. Under sections 11-1-48 and 11-1-49, B.R.C. 1981, the city manager is authorized to declare a Drought Alert Stage and may, depending on the severity of the drought and the declared Drought Alert Stage, impose Drought Response Measures to maintain, conserve, replenish or protect the water supply of the city. The city manager will determine the extent and duration of any Drought Alert Stage and Drought Response Measures implemented. In issuing this Rule, the city manager has considered the guidance and recommendations provided in the City of Boulder Drought Plan.

This Rule is being adopted prior to the need to declare a drought so that the procedures and considerations are in place before a drought situation exists.

II. Purpose and Applicability.

The city manager is authorized, pursuant to the Boulder Revised Code, to declare and remove a Drought Alert Stage and to address necessary responses to a drought. The city has adopted a Drought Plan that provides guidance for recognizing droughts that limit the city's available water supply and for responding suitably to these droughts. This Rule provides the specific details that the city manager may use to declare and remove a Drought Alert Stage and guide appropriate responses to a drought event. Climate change or other unknown factors may affect the implementation of this Rule and therefore, specific conditions and the associated responses may be different than currently anticipated.

The purposes of this Rule are to:

(1) Preserve and allocate water to protect the public health, safety, and welfare and to ensure an adequate amount of water supply for each particular water year, plus a reasonable amount of water reserved for future years;
(2) Establish methodology used to inform the decision to declare and remove a Drought Alert Stage in conjunction with other appropriate data and operating experience; and
(3) Outline Drought Response Measures to result in the necessary levels of water demand reduction, promote the efficient use of water, support community goals, reflect the value of water, and avoid or minimize the costs of new water development and expanded water treatment.

III. Definitions and Abbreviations.

"C-BT" means Colorado-Big Thompson Project system and related water rights. The C-BT system is a water supply project operated by the Northern Colorado Water Conservancy District. The system brings water from the western slope to northeastern Colorado to serve as a supplemental water supply to native basin supplies for contract allottees.

"Drought Alert Stage" means the severity of the drought declared by the city manager. There are three Drought Alert Stages.

"Drought Plan" means a planning document developed by the city manager that describes recommended city actions before, during, and after a drought to address water supply shortage conditions.

"Drought Response Measures" means requirements, limitations, tools and programs that may be implemented in response to projected or actual drought-related water shortages and a drought declaration by the city manager.

IV. Declaring and Removing a Drought Alert Stage.

The Projected Storage Index ("PSI") is used to identify drought conditions, classify drought severity, and inform the designation of a Drought Alert Stage by the city manager. The PSI calculation, described in more detail in the Drought Plan, incorporates the following three main quantitative factors as significant indicators of the city's ability to provide a reliable water supply:

(1) Boulder's projected useable mountain storage in the Boulder Creek system.
(2) Boulder's portion of projected C-BT storage.
(3) Boulder's typical unrestrained (no drought restrictions) municipal water demand.

The city manager may use other relevant drought indicators and operating experience in addition to the PSI when adopting a Drought Alert Stage declaration and in determining an appropriate drought response. **Table 1** provides an overview of the PSI and related Drought Alert Stages, together with guidelines for demand reduction goals and responses.

Table 1: Projected Storage Index, Drought Alert Stages, and Demand Reduction Goals

PSI	Drought Alert Stage	Annual City-Wide Water Demand Reduction Goals	Response Overview
0.85-0.56	1	Up to 20%	Limitations are placed on lower-priority outdoor uses.
0.55 to 0.41	2	Up to 30%	Additional limitations are placed on lower-priority outdoor uses to allow higher-priority uses.
0.4 or less	3	Up to 50%	Additional limitations are placed on outdoor water uses; some indoor use limits may also be required to prioritize health and safety.

Each of the Drought Alert Stages is associated with a certain level of reduction in Boulder's overall water use based on the recommendations in the Drought Plan. Achieving the total annual

water demand reduction goals is the overarching purpose of drought response efforts. The total annual water use reduction goals will primarily be achieved via outdoor water use reductions.

The guidelines in **Table 1** were derived from water system modeling and prior city experience for consideration by the city manager in declaring or removing a Drought Alert Stage. Nevertheless, the guidelines in **Table 1** cannot reflect all of the real-world conditions that may affect such a decision. Other factors the city manager may consider include, but are not limited to, soil moisture levels, rate of snowpack dissipation, streamflow response to snowmelt, pattern of water rights calls from Boulder Creek and the South Platte River basins, state water administration issues, city water system operational constraints, the degree to which current unrestrained water demands approach projected build-out water demand levels, or any other factor that may be affecting either water supply or water demand during the drought period. Further, revised modeling or unexpected changes in water yields or demands projected for Boulder's buildout may change the water demand reduction goals shown in **Table 1**.

Once a Drought Alert Stage declaration has been made, the city manager will monitor changing water supply conditions and the results of drought response measures throughout the year to evaluate the degree to which water demand reduction goals have been achieved, with a focus on reductions achieved during the typical landscape irrigation season. Although changes in water demand during the year will not typically affect the city's water supply availability sufficiently to remove a Drought Alert Stage declaration until the following spring, larger than expected water demand reductions may be cause for an easing of the severity of Drought Response Measures prior to the next spring snowmelt period. For instance, if city-wide water demand is reduced sufficiently at some point during the year so that the annual water demand reduction goals are achieved early, then the need for Drought Response Measures will be reevaluated and may be reduced by the city manager. Once drought conditions have completely ended, as determined by the city manager based on assessment of the indicators discussed above, the city manager will remove the Drought Alert Stage and lift any Drought Response Measures imposed during the drought.

V. Strategies to Decrease Water Demand during a Drought.

Under a drought declaration, Drought Response Measures such as water budget reductions and water use limitations may be implemented by the city manager to reduce demand. The most extreme conditions may require indoor water use limitations in response to the drought declaration. These measures are summarized below.

a. Water Budgets, Water Rates, and Surcharges

The city has a water budget billing structure, which it uses to promote efficient water use through price signals. During a drought declaration, the city manager may reduce water budgets as a financial disincentive for water use, incentivizing customers to reduce water usage while still giving customers flexibility in how they use water. The city manager may also determine that an adjustment to water rates is required in order to maintain the revenue stability of the water utility enterprise.

Drought surcharges, in the form of a penalty rate or additional fee applied to the volume of water used in a given water budget rate block, may be implemented as a penalty to customers who do not conserve water in the amounts specified under the drought declaration.

b. Water Use Limitations

Specified water use limitations, initially targeting lower-priority water uses as informed by the Guiding Principles described in the Drought Plan, may be needed at times to achieve the necessary drought response and to support customers in managing use within their water budgets. Mandatory indoor water use reductions are anticipated only under the most extreme drought conditions. Some water use limitations, including day-of-the-week watering schedules which help with enforcement, will require ongoing water use monitoring to determine the frequency that is most appropriate to achieve water savings.

Table 2 below, from the Drought Plan, provides a summary of potential water use limitations that may be required for each Drought Alert Stage. The city manager will use this table as a guide when imposing specific limitations, as necessary, based on drought severity and water use reduction needs, to address the unique drought conditions of each drought declaration. Specific limitations will be identified by the city manager based on specific drought characteristics. These may include a subset of the water use limitations shown in the table, or additional Drought Response Measures that are not identified in the table, such as described in Section V.a above. This is not an exhaustive list of Drought Response Measures and may be revised as needed, as water supply or water use conditions change. The Drought Plan may be updated from time to time and therefore will contain the most up-to-date recommendations for water use limitations for consideration by the city manager.

Table 2: Potential Water Use Limitations

CATEGORY	STAGE 1 – SERIOUS	STAGE 2 – SEVERE	STAGE 3 – EXTREME
Potential Water Use Impacts	Limitations are placed on lower-priority outdoor uses.	Additional limitations are placed on lower-priority outdoor uses to keep higher-priority uses (as listed in Guiding Principles).	Additional limitations are placed on outdoor water uses; some indoor use limits may also be required to prioritize health and safety.
Citywide Water Demand Reduction Goals (Specific systemwide target percentages will depend upon drought severity.)			
Annual Total	Up to 20% reduction	Up to 30% reduction	Up to 50% reduction
Annual Outdoor	Up to 50% reduction	Up to 70% reduction	Up to 100% reduction
Outdoor* (Unless otherwise noted, restrictions will allow watering on designated days and times)			
Existing Irrigated Turfgrass and Annual Flowers	Allowed 2-3 days/week, depending on severity	Allowed 1-2 days/week, depending on severity	Not allowed
New and Existing Vegetable Gardens	Hand, drip or subsurface irrigation any day; overhead irrigation allowed 2-3 days/week, depending on severity	Hand, drip or subsurface irrigation any day; overhead irrigation allowed 1-2 days/week, depending on severity	Not allowed
Existing Shrubs and Perennials	Hand, drip or subsurface irrigation any day; overhead irrigation allowed	Hand, drip or subsurface irrigation any day; overhead irrigation allowed	Established shrubs only, watered by hand, drip system or deep root fork or

CATEGORY	STAGE 1 – SERIOUS	STAGE 2 – SEVERE	STAGE 3 – EXTREME
	2-3 days/week, depending on severity	1-2 days/week, depending on severity	needle 1 day/week
Existing Trees	Recommended 3 or fewer days/week (customers choose days)	When water use limitations in other categories impact the watering of trees, follow Save Our Shade or more recent guidance for watering established trees	
Existing Community Parks, Athletic/Playing Fields	Irrigation reduced to achieve annual outdoor demand reduction goal of up to 50%	Irrigation reduced to achieve annual outdoor demand reduction goal of up to 70%	Not allowed
New Landscape Installation (Other Than Vegetable Gardens)	Allowed from September to April	No new installation allowed; stormwater control measures must be maintained	
Sprinkler System Maintenance	Minimize test run times per zone		Not allowed
Swimming Pools, Splash Parks, Misting Devices, Water Features*	Follow best practices to limit spillage, reduce evaporation (e.g., use pool covers), use backwash systems and maximize water reuse while maintaining water quality; pool filling/refilling and use of splash parks and/or water features may be prohibited under certain conditions		
Vehicle Washing	Limitations may be placed on car washing, particularly where water recycling technologies or other water efficient technologies and practices are not in place; at a minimum, best practices will be encouraged		
Additional Outdoor Uses for Public/Commercial/Industrial			
Public Street/Sidewalk Cleaning	Essential cleaning for the protection of public health, safety and the environment only; dry methods must be deployed first whenever possible		Extreme health and safety issues only; high-efficiency equipment only
Irrigated Stormwater Control Measures	Overhead irrigation allowed 2-3 days/week, depending on severity hand, drip or subsurface irrigation any day	No overhead irrigation; hand, drip or subsurface irrigation allowed 1-2 days/week, depending on severity	Established shrubs only, watered by hand, drip system or deep root fork or needle 1 day/week
Construction Dust Control and Construction Water	Encourage alternative (non-water) dust control measures; implement current industry best management practices	Whenever possible, industry best management practices must be deployed first	Allowed only when no alternative (non-water) dust control measures exist that meet environmental standards
Hydrant Flushing and Testing	Limit to an as-needed basis to meet operational requirements or to address water quality concerns		
Indoor			
Indoor Uses	Encourage efficient water use	Measures will be implemented to reduce non-sanitary indoor uses with exceptions for certain business functions	Indoor measures will be recommended and/or may be required
* BPR will follow internal guidance per the BPR Drought Plan, which may differ from the limitations listed above, to conserve and restrict water use on city-owned facilities to meet the required demand reduction goals specified in a drought declaration.			

VI. Drought Response Measures for Boulder Parks and Recreation and other Public Facilities.

The Drought Plan emphasizes the importance of the provision of water for essential uses, such as those necessary to maintain basic public health, safety, and welfare. The Guiding Principles in the Drought Plan prioritize water use for commonly used community spaces, such as parks and athletic fields. Accordingly, it may be necessary to allow a different watering standard for public properties that are owned and operated by the government for use by the larger community, such as the City of Boulder, University of Colorado, and the Boulder Valley School District. Such public areas may need to have a higher degree of flexibility for water use than private areas, in order to preserve the ability to use these public areas during a drought. Nevertheless, public areas still must comply with the overall water demand reduction goals but they may do so with the flexibility to manage their entire systems. For example, internal guidance that may be developed by the City of Boulder Department of Parks and Recreation may differ from the limitations listed in **Table 2** to conserve and restrict water use on park lands and other city-owned facilities but will still meet the required demand reduction goals specified in a drought declaration by the city manager. This concept can be incorporated into each of the Drought Alert Stages.