



**1.0 Purpose & Scope**

To reduce the amount of water applied to federal facilities grounds in order to conserve water.

**2.0 Activities & Departments Affected**

The On-site Landscape Contractor  
 GSA Building Manger per facility within Region 8  
 GSA Denver Federal Center Team 6 (maintains the program for the entire DFC)

**3.0 Exclusions**

Drip watering systems are excluded from monitoring requirements.

**4.0 Forms Used & Permits Required: (include reporting requirements)**

**Federal and State Forms and Permits:**

- There are no Federal or State forms required to track water conservation
- Backflow Prevention Assembly Test and Maintenance Form<sup>(1)</sup>, for the appropriate state; refer to the “*GSA Region 8 Cross-Connection & Backflow Prevention Environmental Procedure*”.

Note: (1) Backflow Prevention Assembly Test and Maintenance is in response to meet the requirements set forth in the Safe Drinking Water Act.

**In-house GSA Region 8 and Contractor Forms:**

- Contractor’s Daily Quality Control Inspection Form
- Surveillance Activity Checklist
- Through the Advanced Metering Program and Energy Usage Analysis System (EUAS) water usage can be tracked.

**5.0 Acronyms, Abbreviations and, Definitions**

<b>Acronyms</b>	<b>Meaning</b>
CEQ	Council of Environmental Quality
CFR	Code of Federal Regulations
CO	Contracting Officer
COR	Contracting Officer’s Representative
DFC	Denver Federal Center
EO	Executive Order
EPA	Environmental Protection Agency
EUAS	Energy Usage Analysis System
GSA	General Service Administration
PBS	Public Building Services



Acronyms	Meaning
QAP	Quality Assurance Person

Definitions:

Improved Lawn Areas: This defines grass areas that are regularly maintained and watered using an automated underground irrigation system.

Xeriscape: The word “Xeriscape” was coined by the Denver Water Department in 1981 to help make water conserving landscaping an easily recognized concept. The word is a combination of “landscape” and the Greek word “xeros,” which means ‘dry.’ The concept of Xeriscape is based on seven principles: planning & design, limiting turf areas, selecting and zoning plants appropriately, improving the soil, using mulches, irrigating efficiently, and doing appropriate maintenance.

**6.0 Procedure**

**State Specific Procedures & Requirements** [refer to individual State Legal Reviews for details on Statutes, Laws, and Rules]: There are no conservation requirements, except for when mandated by the state or local government during time of water restrictions (e.g., droughts). Pollution prevention and reporting is regulated per state and covered under a separate procedure.

STATE	REQUIREMENT
Colorado	Regulated by the CDPHE through the <a href="#">Water Quality Control Commission</a> .
Montana	Regulated by the Montana Department of Environmental Quality (DEQ) <a href="#">Water Quality Division</a> .
North Dakota	Regulated by the North Dakota Department of Health, Environmental Health Section, <a href="#">Water Quality Division</a> .
South Dakota	Regulated by the South Dakota DENR Division of Environmental Services through the <a href="#">Ground Water Quality</a> and <a href="#">Surface Water Quality</a> Programs.
Utah	Regulated by the Utah DEQ through the <a href="#">Division of Water Quality</a> .
Wyoming	Water quality is regulated by the Wyoming DEQ through the <a href="#">Water Quality Division</a> . Collectively the Water Quality Regulations are referred to as the Wyoming <a href="#">Water Quality Rules and Regulations</a> (WQRR). Ground water is regulated through the <a href="#">Ground Water Section</a> .

**Standardized Procedure:**

**6.1 Design**

6.1.1 The GSA is committed to installing xeriscape in all new areas that are landscaped and/or renovated. The Project Manager, GSA On-Site Landscape Designer, and Tenants will include xeric plants and the reduction of lawn areas in new designs, where applicable.



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6.1.2 The GSA landscape designer requires that all new planting beds are installed with a drip-watering system.

6.1.3 Trees throughout a federal facility should have a wood mulch ring to help retain moisture.

## **6.2 Monitoring**

6.2.1 The Contractor's Daily Quality Control Inspection Form is used to report irrigation operation and maintenance findings and is given to the Contracting Officer's Representative (COR) by the Contractor for review.

6.2.2 The Government Quality Assurance Person (QAP) will make periodic inspections to ensure Contractor's performance of objectives has been completed. Inspections will be made as tasks are completed and documented on the Quality Assurance Plan.

6.2.3 Monitoring Automatic and Manual Irrigation Systems:

- The COR shall consult with the Denver Water Department to verify the current watering restrictions and ensure the Contractor understands and follows the watering schedule.
- The watering process shall include monitoring by the COR of both automatic and manual systems while they are in operation to check for possible breaks, leaks, or any damage not caused by the Contractor. During periodic inspections, the COR will document any discrepancies using the Surveillance Activity Checklist.
- The Contractor shall be responsible for the complete understanding and operation of all controllers and irrigation systems.
- The Contractor must flag or repair problems found and submit a list to the COR so repairs can be made.
- Periodic systems checks shall be made by the Contractor for all irrigation systems to detect problems not found during the normal watering process, and a list submitted to the COR.
- It is recommended that inspections are made by the Contractor on a weekly basis.

## **6.3 Maintenance**

6.3.1 The Contractor shall water improved lawn areas. Watering shall be performed as necessary to ensure the development of deep root systems,



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healthy vigorous growth, and a uniform green appearance without browning or barren areas resulting from lack of water. The Contractor shall ensure that no area is over-watered, and that only the minimum amount of water required maintaining the aforementioned condition is used. Water running off along curbs and into the gutters, as well as ponding, are a good indicator that the lawn is over-watered. The Contractor may make recommendations to the COR for nozzle or other fittings and hardware changes in order to promote water conservation.

- 6.3.2 The Contractor shall be responsible for watering any tree or shrub within all areas, including lawn areas, open areas, and field areas, on an as needed basis, due to drought or other stressed conditions. Newly planted trees (up to 5 years old) and shrubs (2 years old or less) not receiving water from an irrigation system shall be watered regularly throughout the growing season. A deep, thorough watering shall be made to each tree or shrub to ensure sufficient moisture is given them to encourage growth and development of the trees. Whenever established trees are in need of water they must also be included in the watering schedule. The Contractor utilizes a deep-feed watering system for all trees, instead of top watering them.
- 6.3.3 The Contractor shall thoroughly water in all new plantings, followed by a weekly deep watering throughout the first growing season and more frequently during hot weather. The Contractor shall insure that adequate water is provided during the winter months to avoid freezing dehydration.
- 6.3.4 The Snow Removal Contractor should dump snow piles in areas where the melt-off will be beneficial to the existing vegetation (trees, shrubs, flower & plant beds.)
- 6.3.5 The Contractor should increase the length at which lawns at a federal facility are cut to decrease the frequency of watering.
- 6.3.6 Sprinkler Head/ System Maintenance:
- Turf shall be cut away from the sprinkler heads as necessary by the Contractor to ensure better water coverage; to improve water conservation and to prevent flooding or excessive water loss onto streets, parking areas, or sidewalks.
  - The Contractor shall clean out sprinkler heads and nozzles when plugged with debris.
  - The Contractor may be required to flush out sprinkler lines with water to remove the accumulation of debris as a result of water line breaks.
  - Pressure regulators have been installed on all irrigation systems to



prevent misting and evaporation, and these should be monitored by the Contractor.

**6.3.7 and 6.3.8 Pertain to the Denver Federal Center**

6.3.7 Additional Water Sources (this paragraph is DFC specific)

- The Contractor shall not, under any circumstances, connect to any fire hydrant for lawn irrigation purposes. There is a domestic hydrant located near Building 76 that is fitted with a reduced pressure backflow preventer that can be used to fill a watering truck or water tank. The Contractor may connect to existing building hose bibs or specific connections on existing lawn irrigation systems.
- At the DFC, the Contractor can utilize the 500,000 gallon storage water tank adjacent to Building 49A to fill their water truck to water.

6.3.8 When not faced with drought conditions and required to follow the Denver Water Department's restrictions, the GSA may use the moisture sensors that were installed in most of the DFC's irrigation systems in 2000 by Johnson Controls. These moisture sensors were no longer utilized in 2002 when mandatory water restrictions were implemented.

6.3 All supporting information and records will be saved on the P drive and stored with the appropriate Property Manager. This documentation will be reviewed during the Management Analysis Review System (MARS).

**7.0 Records Management**

- Contractor's Daily Quality Control Inspection Form
- Surveillance Activity Checklist
- Backflow Prevention assembly test and maintenance report

**8.0 References**

Denver Water Department Mandatory Watering Restrictions

Denver Water Department Xeriscape Seminars

Executive Order 13423 (Federal Register, Vol. 72, No. 17): "Strengthening Federal Environmental, Energy, and Transportation Management", signed by President George W. Bush on 24 January 2007

Executive Order 13514 (Federal Register, Vol. 74, No. 194): "Federal Leadership in



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Environmental, Energy, and Economic Performance", signed by President Barack Obama on 5 October 2009

**9.0 Appendices**

Attachment A: Grounds maintenance Water Usage Flowchart  
 Attachment B: Surveillance Activity Checklist

<b>Document Control Information:</b>	<b>Approved &amp; Dated:</b>
Grounds Maintenance-Water Use "Month-Date-Year".doc	RJM July 6, 2012

<b>Document Revision and Update:</b>		
<b>Revision Date</b>	<b>Nature of Revision</b>	<b>Revision made by:</b>
12/19/2005	Working Draft	Bruce D. Johnson, Margaret Daulton, Mark Baca
03/16/2006	Original Release	Bruce D. Johnson, Margaret Daulton, Mark Baca
01/22/2010	Add ISO 14001 Document Controls, add state regulations, add Flowchart (by Erik Petrovskis), outline Region 8 requirements, and update to address new federal regulations.	Robert Melvin
03/19/2010	Backflow testing documentation added and procedure changed to be more regional	Mark Baca , Bruce D. Johnson, Robert Melvin
06/20/2012	Emphasize Roles and Responsibilities in section 6, update flowchart	Mark Baca, Nick Gutschow, Robert Melvin





**ATTACHMENT A: Grounds maintenance Water Usage Flowchart**

**DESIGN**

**Project Manager, GSA On-Site Landscape Designer, and Tenants:**

All new landscaped areas to include xeriscapes and lawn reductions

**Contractor:**

**Snow Removal Contractor:**  
 Monitor weather, dump snow in areas beneficial to existing vegetation

**Contractors** shall use designated fire hydrant for watering. Contractor may use domestic hydrant at recycling yard for filling water truck

- Responsible Parties:**
- Contracting Officer's Representative (COR)
  - Contractor
  - Property Managers

Supporting information and data reports are saved on the P drive and stored with appropriate Property Manager.

**MAINTENANCE**

**Contractor:**

Water improved lawn areas appropriately

Water trees and shrubs per specifications

Increase lawn cutting length to save water

Cut away turf at sprinkler heads to improve coverage

Clean sprinkler heads

Flush out sprinkler lines

**Internal GSA Audit:** Review documents during Management Analysis Review System (MARS)

**MONITORING**

**Contracting Officer's Representative (COR):**

Consults with local water authority for restrictions.

Ensures contractors knowledge of watering restrictions

Inspects automatic and manual watering systems

Documents discrepancies on Surveillance Activity Checklist

**Contractor:**

Provide Daily Quality Inspection Form reporting irrigation to COR

Flag all problems. Notify COR so repairs are made

Make equipment inspections weekly

REV. 03/26/2012



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**ATTACHMENT B: Surveillance Activity Checklist**

**SURVEILLANCE ACTIVITY CHECKLIST**

(To be performed (Daily) (Monthly) (Weekly), etc.)

DELIVERY ORDER # P-08-02-JA-0008 Grounds Maintenance

<b>Contract Performance Objective Requirement</b>	<b>Contract Paragraph Number</b>	<b>Method Of Surveillance</b>	<b>Date Inspected</b>	<b>Where Inspected</b>	<b>Was Standard Met?</b>	<b>Date Expected Corrective Action to be Completed</b>