

# 2016 RECYCLED WATER MANAGEMENT ADVISORY COMMITTEE

## CHARTER

Denver Parks & Recreation (Denver Parks) and Denver Water agree that recycled water is a valuable resource that has provided a sustainable, low cost water supply to irrigate city parks for over a decade. The water is considered a highly treated water source and part of Denver Water's long term planning efforts to use the right water for the right use. Each year over 314,116,000 millions of gallons of recycled water are delivered to 34 parks plus City Park Golf course (979 acres), thus saving potable water for appropriate uses.

## BACKGROUND

In April of 2004, Denver Water launched the Recycled Water System in the Denver Metro Area. As the recycled program has grown over the years, Denver Water has partnered with various academic and professional organizations to study, monitor, adapt and build on the recycled water program for the long term. Over the past decade of study, we have learned that there are some parameters within water treated to recycled water quality standards than can stress trees and other plant species. The primary area of concern, specifically for conifer species, is salinity. Recycled water is higher in salinity than potable water. Concerns about recycled water use and the possible impacts related to tree removal or decline in parks have been expressed by community organizations, park users, and in the media.

Denver Water and Denver Parks acknowledge that, while recycled water is an important resource crucial for conserving future water supplies, recycled water use in the parks system must be managed to mitigate salinity buildup in soils and plant tissue. A collaborative advisory group to address this issue was included during the development of a recently signed Intergovernmental Agreement (IGA) between Denver Water and the City and County of Denver. Development of the IGA began in 2013 and was signed by City Council on December 14, 2015 and the Denver Water Board of Commissioners on December 9, 2015.

The following language is included in the IGA:

*"Reuse Monitoring and Maintenance Strategies Group. The Board and Parks recognize that buildup of salts (salinity, sodium, and chloride) may occur in soils and plant tissues, and that tolerances vary by species, soil type, and the age of plant material. Acceptable levels of salts buildup is currently unknown. The Board and Parks will form a collaborative group in 2016 to determine necessary testing, explore mitigation strategies, and discuss remediation"*

## REUSE MONITORING AND MAINTENANCE STRATEGIES GROUP

The Recycled Water Management Advisory Committee is being convened with the specific purpose of exploring soil and plant health issues related to recycled water and providing feedback for the long term management strategy for the recycled water program in Denver Parks. The committee will be comprised of representatives from Denver Water, Denver Parks and external stakeholders representing neighborhoods with parks served by recycled water. The role and expected outcome of the group will be as follows:

### **Role**

- Serve in an advisory capacity to provide feedback on the future management of the recycled water program in Denver parks. Includes providing input on:
  - Identification of research gaps and direction for future studies
  - Potential mitigation and remediation strategies for salinity issues
  - Metrics to measure the impacts of recycled water, soil and plant health in the long term
  - Communication strategies for the program, study results and metrics moving forward

### **Expected outcomes:**

- Mutually acceptable mitigation and remediation measures for recycled water use in Denver parks
- Metrics for monitoring salinity impacts on soil health and plant tissue
- Educated committee members on issues such as: water quality, recycled water maintenance, best management practices, regulatory restraints, and cost.
- Denver Water and Denver Parks cost sharing, data sharing and reporting.
- Library of recycled water studies available to the public
- Collaboration and communication between Denver Water, Denver Parks and external stakeholders.
- Opportunities for external stakeholders to be engaged and provide feedback into the present and future management of recycled water in Denver Parks.
- Summary report with recommendations from Advisory Group on mitigation and remediation practices that can be possibly implemented. Summary can include efforts undertaken by Denver Parks and Denver Water to manage the use of recycled water in Denver parks.

### **Mitigation and remediation measures should:**

- Be cost effective.
- Focus on the distribution and application process
- Be fair and equitable to all recycled water users.
  - Denver Water staff and customers (throughout entire service area), Denver Parks staff, park visitors, neighborhood communities home to recycled water parks, other users of the recycled water system.
- Focus on using the right water for the right use

## **Membership:**

- Scott Gilmore, Denver Parks, Deputy Executive Director
- Deb Binard, Denver Parks, Water Conservation
- Doug Woods, Denver Parks, Parks Maintenance
- Rob Davis, Denver Parks, City Forester
- Cyndi Karvaski, Denver Parks, Communications
- Brenley McKenna, Denver Water, Reusable Water Program Manger
- Russell Plakke, Denver Water, Recycling Plant Supervisor
- Katie Knoll, Denver Water, Stakeholder Relations
- Mark Cassalia, Denver Water, Conservation Specialist
- Damian Higham, Denver Water, Recycled Water Specialist
- PRAB Members (Liz Drogan, Jay Rust, Eric Clayman, Thad Jacobs)
- Sonia John, External Stakeholder
- Cindy Johnstone, External Stakeholder
- David Matthews, External Stakeholder

## **Technical Workgroup:**

- Bill Jacobi, CSU - Professor Emeritus of Forest and Shade Tree Pathology
- Terri Engle, CSU
- Bahman Sheikh, Denver Water
- Al Polansky, Denver Environmental Health
- Sonrisa Lucero, Denver Office of Sustainability
- Steve Geist, Swingle Representative

## **Timeline**

The proposed timeline for the committee is to have six meetings between February and July of 2016 to discuss the recycled water program, impacts, metrics and possible mitigation and remediation strategies. Two additional meetings will be scheduled in November and December of 2016 to re-group, assess the progress made during the 2016 irrigation season and set the direction for ongoing communication between Denver Water, Denver Parks and stakeholders moving forward. The committee structure will be evaluated at the end of 2016 to ensure that all stakeholders are engaged and updated annually on the recycled water program.

## **Logistics**

Meetings will be facilitated by an outside facilitator to ensure that all members have an opportunity to participate fully and express their point of view. A steering committee comprised of the facilitator (Lisa Carlson), one representative from Denver Water (Brenley McKenna), one from Denver Parks (Deb Binard), and one external stakeholder (Cindy Johnstone) will set the agenda for each meeting. Prior to each meeting the committee will receive the agenda and background materials and members will be expected to review the material in advance of the meeting.

A Recycled Water webpage will be created on the Denver Parks and Recreation website. Recycled Water studies and related information will be posted on this site. Committee meetings agendas and meeting summaries for each meeting will also be posted in a timely manner.

## **Decision Making**

Decisions and recommendations will be based on a majority group consensus.