An Introduction to the Best Practices Guidebook for Municipal Water Conservation

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This project was made possible through a generous grant from the Colorado Water Conservation Board Office of Water Conservation and Drought Planning.

~ Thank you on behalf of the Colorado WaterWise Board of Directors and the future users of this valuable resource.

Colorado WaterWise

- The voice of Colorado's water conservation community.
- Established in 2000 to promote and facilitate the efficient use of water in Colorado.

colorado waterwise

The Voice of the Colorado Water Conservation Community

Colorado WaterWise Strategic Goals

- Serve as the primary urban water conservation technical resource for professionals in Colorado.
- Promote urban water conservation throughout Colorado.
- Participate in the development of urban water conservation policies and integrated resources planning tools.
- Ensure organizational sustainability and growth.

How will Colorado WaterWise meet strategic goals?

Through the development of a detailed Water Conservation Best Practices Guidebook for use throughout the state to help select the most sensible and cost effective water conservation measures and programs to implement.

Best Practice Project Evolution

- Work began in August 2009
- Contracted with Peter Mayer/Aquacraft to Author the BPs
- Contracted with Brenda O'Brien as Project Manager
- BPs driven by a Project Advisory Committee
- Reviewed by a Stakeholder Advisory Committee
- Guidebook available late August 2010
- BP Summary Guide available Fall 2010
- Free BP Workshops (Glenwood Springs, Pueblo, and Westminster)

Project Advisory Committee

Peter Mayer, BP Project Author
Brenda O'Brien, BP Project Manager

Drew Beckwith, Western Resource Advocates
Tracy Bouvette, Great Western Institute
Rich Brinkman, City of Grand Junction
Stu Feinglas, City of Westminster
Sarah Fluery, Eagle River Water and Sanitation
Ram Dhan Khasla, U.S. Bureau of Reclamation
Cindy Moe, Denver Water
Tim Murrell, Douglas County
Kevin Reidy, Colorado Water Conservation Board
Charlie Stevens, City of Rifle
Shelli Tressler, Pagosa Water and Sanitation District
Jean VanPelt, Southeastern CO Conservancy District
Esther Vincent, Northern Water
Scott Winter, Colorado Springs Utilities

The BP Guide will……

- Aid in the development and implementation of water conservation plans.
- Assist in the determination of the water conservation potential that exists in the urban/municipal sector.
- Be used by water professionals, water providers, government, consultants, property managers, engineers and other interested parties.

Note: This guidebook will not address agricultural conservation or any water use outside of post-treatment municipal supply.

What's the Purpose of the BP Guidebook?

A planning tool for improving and enhancing water efficiency in Colorado.

What are Best Practices?

AKA Best Management Practices (BP)

A body of knowledge combined with research experience, and analysis.

What's in the Best Practices Guidebook?

- Detailed descriptions of water conservation measures
- Program elements
- Regulations
- Policies and procedures
- Practices that can be implemented to maximize water savings

How were the BPs selected?

- Through a comprehensive literature review
- List of nearly 100 potential practices
- Collecting and combining BPs
- Focused on benefits and costs
- Stakeholder process made final selections

BPs Organized by Four Functional Categories

1. Water System and Utility Best Practices
2. Outdoor and Landscape Best Practices
3. Indoor Residential (single and multi-family) Best Practices
4. Indoor Non-Residential Best Practices

Additional BP Categorization

- Foundational – essential for all utilities
- Informational – educate to foster conservation actions
- Support – technical information, data, and assistance
- Management – improve utility management procedures
- Understanding – improve knowledge and understanding
- Operational – conservation in everyday utility functions

Water System and Utility BPs

1. Metering, Conservation Oriented Rates and Tap Fees, Customer Categorization in Billing System
2. Integrated Resources Planning, Goal Setting and Demand Monitoring
3. System Water Loss Control
4. Conservation Coordinator
5. Water Waste Ordinance
6. Public Information and Education

Outdoor and Landscape Irrigation Practices

7. Landscape Water Budgets, Information and Customer Feedback
8. Rules and Regulations for Landscape Design, Installation and Certification of Professionals
9. Water Efficient Design, Installation and Maintenance for New and Existing Landscapes
10. Irrigation Efficiency Evaluations

Indoor Residential (Single and Multi-Family)

11. Rules for New Construction
12. High-Efficiency Fixture and Appliance Replacement
13. Residential Water Evaluations Targeted at High Demand Customers

Non-Residential Indoor

14. Rules for New Construction
15. High-Efficiency Fixture and Appliance Replacement
16. Specialized Non-Residential Surveys, Audits, and Equipment Efficiency Improvements

Typical Best Practice Framework

- Overview
- Why a Best Practice?
- State Planning Requirements
- Applicability
- Implementation
- Water Savings and Other Benefits
  - Range of Likely Water Savings
  - How to Determine Savings
  - Savings Assumptions
  - Goals and benchmarks
  - Other benefits
- Utility & Customer Costs
- Resources and Examples

Best Practice Framework

BP #9: Water Efficient Design, Installation, and Maintenance Practices for New and Existing Landscapes

Overview

Describes key considerations for maximizing water efficiency through the proper design, installation and maintenance of landscapes and irrigation systems

Why a BP?

~50% of water consumption in Colorado

Best Practice Framework

State Planning Requirements

Fits with “Low water use landscapes, drought resistant vegetation, and efficient irrigation” [CRS 37-60-126 (4)(a)(II)]

Applicability

Applies to all utilities, city, counties and states seeking outdoor water use efficiency

Implementation

Landscape Design
Landscape Installation
Irrigation System Installation
Landscape Maintenance
Irrigation System Maintenance and Operation

Best Practice Framework

Range of likely water savings

- Varies from moderate to significant
- 10-40% to 22-63%

How to determine savings

- Use irrigation water budget compared to consumption
- Measure against before and after retrofit

Savings assumptions

- Water savings achieved by eliminating over-irrigation

Best Practice Framework

Goals and benchmarks

Establish goals for new landscape and irrigation installation and retrofits to meet strict efficiency standards.

Other Benefits

- Stormwater management
- Recreational opportunities
- Habitat
- Aesthetic benefits
- Reduction in non-point source pollution

Typical Best Practice Framework

Utility Costs

- Generally, falls less on utilities more on customers

Customer Costs

- Cost varies

Resources and Examples

- Use real examples and case studies from programs, ordinances, etc.

Best Practice Choice Suites

1. Foundational – No Excuse Best Practices
2. Foundational + Regulatory Best Practices
3. Complete Package of All Best Practices

Your Community, Your Choice.

Next Steps for BP Guidebook

- Publish Technical BP Guidebook
- Develop BP Summary Guide
- Conduct Stakeholder Workshops
  - Glenwood Springs, August 26
  - Pueblo, September 30
  - Westminster, October 21
- Disseminate BP Guidebook to Covered Entities

Thank You
Thoughts and questions?

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The Voice of the Colorado Water Conservation Community

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