



Cherry Creek Reservoir Drainage Basin, Colorado

Municipal Separate Storm Sewer Systems, Phase II Stormwater Permit

Permitting Authority Contacts:

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Permit Type: General permit for small municipal separate storm sewer systems

Effective Date: March 10, 2008

Expiration Date: March 9, 2013

Other Stakeholders:

Cherry Creek Basin Water Quality Authority
www.cherrycreekbasin.org/cc_home.asp

Cherry Creek Stewardship Partners
www.cherry-creek.org/

Pollutants and Indicators Addressed in Permit:

Phosphorus, pollutants associated with storm sewer discharges, chlorophyll a

Permit Information:

Permit: www.cdphe.state.co.us/wq/PermitsUnit/stormwater/2008MS4080000permit.pdf

Rationale: www.cdphe.state.co.us/wq/PermitsUnit/stormwater/2008MS4080000rat.pdf

Overview and Highlights

The Colorado Department of Public Health and Environment (CDPHE) developed a watershed-based Phase II Stormwater permit for Municipal Separate Storm Sewer Systems (MS4s) with discharges to the Cherry Creek Reservoir drainage basin in Colorado. The permit includes requirements for the Phase II Six Minimum Measures for all permitted discharges (Public Education, Public Involvement/Participation, Illicit Discharge Detection and Elimination, Construction Site Stormwater Runoff Control, Post-Construction Stormwater Management, and Pollution Prevention/Good Housekeeping [5 CCR 1002-61.18(11)(a)(ii)(A)-(F)]) as well as additional best management practice (BMP) requirements and implementation schedules under the Public Education, Construction, and Post-Construction BMP measures.

The permit requirements are based on the Cherry Creek Reservoir Control Regulation No. 72 (Control Regulation), which aims at protecting the reservoir’s beneficial uses. The watershed-based requirements of the permit implement the Control Regulation, and, therefore, the permit requirements are modified through Colorado’s triennial review process for the Control Regulation. This process provides for collaboration among permittees, the permitting authority, and watershed stakeholders to review and modify requirements every 3 years if needed.

Successful implementation of the permit, which is in its second cycle, has been attributed to effectively educating permittees and stakeholders and early cooperation among permittees, CDPHE, and the Cherry Creek Basin Water Quality Authority (Basin Authority) to develop requirements

Watershed: <i>Cherry Creek (Colorado)</i>		
Key Water Quality Concerns: <i>Phosphorus, chlorophyll a</i>		
Stakeholder Involvement Techniques:		
<ul style="list-style-type: none"> • <i>Permittees and other stakeholders worked closely with state to develop requirements.</i> • <i>Permit terms revised through public triennial review process for reservoir Control Regulation.</i> • <i>MS4s coordinate compliance activities across the watershed and within jurisdictions.</i> 		
Case Study Issues of Interest		
Type of Point Sources	POTW Discharges	
	Industrial Process Wastewater Discharges	
	Concentrated Animal Feeding Operations	
	Municipal Separate Storm Sewer System Discharges	✓
	Construction Site Stormwater Discharges	
	Industrial Facility Stormwater Discharges	
	Combined Sewer Overflows	
Highlighted Approach(es)	Statewide Watershed Approach	
	Implementation of Water Quality Standards	
	Implementation of Total Maximum Daily Loads or Other Watershed Pollutant Reduction Goals	✓
	Permit Coordination/Synchronization	
	Integrated Municipal Requirements	
	Point Source—Point Source Water Quality Trading	
	Point Source—Nonpoint Source Water Quality Trading	
	Discharger Association	
Coordinated Watershed Monitoring		

that are consistent with the regulations and feasible for permittees to accomplish. This process has also fostered collaboration among permittees both across the watershed and within jurisdictions to streamline compliance activities.

Permitting Background

Watershed Description

Cherry Creek flows north through the 245,500-acre Cherry Creek Reservoir drainage basin toward its confluence with the South Platte River, the point that marks the original settlement of Denver, Colorado. The 850-acre Cherry Creek Reservoir was built at the north end of the watershed for flood control, but its proximity to the Denver metropolitan area makes it a popular destination for swimming, boating, and other recreational activities. The Cherry Creek State Recreation Area surrounding the reservoir receives more than 1 million visitors each year.

Water Quality and Regulatory History

Cherry Creek Reservoir is designated for warm water aquatic life, primary recreation, water supply, and agriculture uses. In the early 1980s, a study identified phosphorus as the nutrient critical to algal productivity in the reservoir. To prevent eutrophication and protect the reservoir's beneficial uses, CDPHE adopted the Control Regulation in 1985. The Control Regulation established a total phosphorus numeric water quality standard for the reservoir and introduced a total phosphorus total maximum annual load (TMAL) and implementation plan for the reservoir.

In 1988 legislative declaration (Colorado Revised Statutes 25-8.5-101 et seq.) established the Basin Authority to develop and implement plans for water quality controls for the Cherry Creek Basin. The Basin Authority is a quasi-municipal corporation and political subdivision of Colorado that has primary responsibility for water quality in the Cherry Creek Basin. The Basin Authority reviews and makes recommendations for technical specifications for new projects in the Cherry Creek Basin and also implements its own work plan. The Control Regulation requires the Basin Authority to spend at least 60 percent of its funding on constructing and maintaining pollutant-reduction facilities.

In 2000 CDPHE replaced the total phosphorus standard for Cherry Creek Reservoir with a new water quality standard for chlorophyll *a* along with a total phosphorus goal, rather than a standard. CDPHE decided to use a response variable (chlorophyll *a* level) rather than a causative variable (total phosphorus) as the water quality standard because it more directly relates to the reservoir's beneficial uses. CDPHE then requested cooperation from the Basin Authority in considering amendments to the existing Control Regulation to implement the new standard for the Cherry Creek Basin. Revisions to the Control Regulation in 2001 recognized that Cherry Creek Reservoir was not attaining the chlorophyll *a*

standard. According to the Basin Authority's 2006 Annual Report, the annual phosphorus loads to the reservoir since the early 1990s have been lower than the TMAL, but the chlorophyll *a* standard was achieved in only 3 of the previous 15 years. The phosphorus goal was never achieved during the same period. The revised Control Regulation introduced a phased approach to implementing the phosphorus TMAL to facilitate the additional investigations necessary to recalculate the TMAL to meet the new chlorophyll *a* standard.

Stormwater Phase II Minimum Measures

1. Public Education
2. Public Involvement/ Participation
3. Illicit Discharge Detection and Elimination
4. Construction Site Stormwater Runoff Control
5. Post-Construction Stormwater Management
6. Pollution Prevention/ Good Housekeeping

Other revisions to the Control Regulation incorporated the six minimum measures required under the newly implemented Phase II stormwater regulations. Furthermore, consistent with the phosphorus TMAL, the Control Regulation includes specific requirements for regulated stormwater discharges in the Cherry Creek Basin to control the discharge of nutrients to the Cherry Creek Reservoir. The Control Regulation contains requirements based on *Colorado's Phase II Municipal Guidance* (Phase II Guidance, available at www.cdphe.state.co.us/wq/PermitsUnit/stormwater/ms4guide.pdf) and the Basin Authority's 2000 *Cherry Creek Reservoir Watershed Stormwater Quality Requirements* (Cherry Creek Basin Stormwater Requirements, available at www.cherrycreekbasin.org/pdf/SW%20Req.pdf).

Permit Development

In 2002 CDPHE initiated a watershed-based permitting approach in conjunction with the Basin Authority to implement the Phase II stormwater provisions of the Control Regulation within the context of the phosphorus TMAL. The general permit, originally issued in March 2003 and reissued in March 2008, reflects the requirements of both the Phase II Guidance and the Cherry Creek Basin Stormwater Requirements. Permit requirements that apply to all permitted discharges are based on the Phase II. Additional permit requirements for discharges to the Cherry Creek Reservoir drainage basin are based on the Cherry Creek Basin Stormwater Requirements.

More than 300 stakeholders were involved in developing the permit, but the public process for the permit addressed only the Phase II stormwater provisions. The watershed-based permit provisions are strictly for implementing the Control Regulation; therefore, stakeholder involvement that helped shape the terms of the watershed-based permit provisions occurred primarily during CDHPE's triennial review process

for the Control Regulation. During the review process, the Basin Authority held development meetings with stakeholders including municipalities, industrial dischargers, and water users.

The general permit was originally issued in March 2003. A revised permit became effective on March 10, 2008. The new permit revised only provisions of the permit applicable to all municipalities; watershed-based provisions are unchanged from the previous permit. The next triennial review for the Control Regulation is scheduled for 2008. Changes to the watershed-based permit provisions, which implement the Control Regulation, will be made through the triennial review process if needed.

Permit Strategy

The Colorado Discharge Permit System (CDPS) General Permit for Stormwater Discharges Associated with Cherry Creek Reservoir drainage basin MS4s (Watershed-based Permit) was adopted to implement the watershed-based Control Regulation, which includes phosphorus wasteload allocations (WLA) to achieve the chlorophyll *a* standard for the Cherry Creek Reservoir. Nineteen MS4s are covered under the Watershed-based Permit—these are all the Phase II stormwater MS4s with discharges to the Cherry Creek Reservoir drainage basin. The permit includes requirements for public education, construction, and post-construction BMPs for discharges to the Cherry Creek drainage basin that go beyond the basic Phase II stormwater requirements. The additional requirements focus on nutrient reduction BMPs to address the phosphorus TMAL.

Stakeholder involvement is a critical part of the permitting strategy for the Watershed-based Permit. CDPHE, the Basin Authority, all MS4s discharging to the Cherry Creek Basin, Cherry Creek State Park, and wastewater treatment plants coordinate through a Working Group organized as a subcommittee of the Basin Authority in 2000 to revise the Control Regulation that drives the Watershed-based Permit requirements. The Phase II Guidance that provides the basis for many of the permit requirements encourages coordination among permittees.

Although the permit itself is not directly linked to other watershed-based programs, the permittees regularly work with non-regulatory organizations. In particular, a stakeholder organization known as the Cherry Creek Stewardship Partners (see Permit Highlights below) is very involved with the permittees in the Cherry Creek Basin and provides compliance assistance and guidance for construction and post-construction BMPs.

Permit Highlights

The Watershed-based Permit is primarily a traditional MS4 stormwater permit but includes additional watershed-based

requirements for discharges to the Cherry Creek Basin to (1) help meet the phosphorus TMAL for stormwater sources addressed by the Control Regulation, (2) support attainment of the chlorophyll *a* standard and, (3) support the attainment of designated uses in Cherry Creek Reservoir. CDPHE has not identified specific administrative or programmatic goals for the permit. There is a phosphorus trading program in the watershed; however, neither the permit nor the Control Regulation directly incorporate water quality trading for the regulated stormwater dischargers.

Permittee Coordination

Permittees and CDPHE have identified coordination among permittees and other stakeholders as a major component of successful implementation of the permit. Permittees and other watershed stakeholders coordinate across the Cherry Creek watershed and within jurisdictional boundaries to implement activities under the general permit. Watershed-wide coordination occurs primarily through the Basin Authority, Cherry Creek Stewardship Partners, and cooperative groups of MS4 permittees. The Phase II Guidance encourages coordination among permittees.

Cherry Creek Basin Water Quality Authority (Basin Authority)

The Basin Authority comprises watershed stakeholders including two counties, seven municipalities, one member representing seven special districts (wastewater authorities and districts), and seven private citizens who represent various environmental and economic concerns and are appointed by the Governor. As stated above, the Basin Authority makes recommendations on proposed projects in the Cherry Creek Basin including new wastewater treatment plants, expansions for existing facilities, BMPs to be implemented by the Basin Authority, and new construction projects submitted by the Basin Authority or permittees. Permittees take the recommendations under advisement but are not required to act on the Basin Authority's recommendations unless directed by CDPHE.

The Working Group is a subcommittee of the Basin Authority's Technical Advisory Committee. The Working Group shares resources such as ordinances for construction requirements and public outreach materials among its members. The Working Group is also coordinating with CDPHE to determine what revisions might be necessary to the Control Regulation during the upcoming triennial review.

Cherry Creek Stewardship Partners

Cherry Creek Stewardship Partners is a voluntary stakeholder organization that focuses on public education. The voluntary organization is composed predominantly of the same land use agencies that make up the Basin Authority. A large portion of the group's annual budget is provided by the Basin Authority, which is funded through taxes and is committed to spend a portion of its funds on public education. Although it

is a separate organization, Cherry Creek Stewardship Partners acts as the public education arm of the Basin Authority. Three subcommittees—water quality, education, and open space—coordinate public education activities such as field trips for children, train-the-trainer events, BMP workshops, and technical seminars. The Cherry Creek Stewardship Partners also provides compliance assistance and guidance for construction and post-construction BMPs.

Cooperative Groups

The MS4 permittees in the Cherry Creek Basin have formed cooperative groups within which permittees work together and share resources to implement their requirements under the Watershed-based Permit. Cooperative groups of permittees share educational materials and technical resources for permit compliance. Two examples of such cooperative groups are the Douglas County Stormwater Co-op and Arapahoe SPLASH (Stormwater Permittees for Local Awareness of Stream Health). Some permittees have also organized a stormwater utility to fund stormwater compliance activities and infrastructure.

- Ten to fifteen permittees coordinate efforts to implement Phase II requirements through the **Douglas County Stormwater Co-Op**. The Co-Op began meeting before the permit effective date to assemble the permit application and develop a very detailed and comprehensive Stormwater Management Program, which has been used as a model for several other Phase II stormwater management programs across the country. To fulfill their public education requirements under the permit, the co-op members worked together to develop brochures that would meet all the permittees' needs. This approach saved money by allowing permittees to share printing and mailing costs.
- **Arapahoe SPLASH** is a similar group of MS4 permittees in Arapahoe County. Permittees work together through Arapahoe SPLASH to provide educational outreach, opportunities for public participation, and staff training to increase public awareness of the role of individuals in protecting water quality. SPLASH members coordinate efforts under a Memorandum of Understanding Cooperation Agreement between governmental and quasi-governmental entities within Arapahoe County to meet their Phase II requirements. SPLASH events and education in the Cherry Creek watershed are coordinated with the assistance of the Cherry Creek Stewardship Partners.
- **Southeast Metro Stormwater Authority (SEMSWA)** is an independent stormwater utility formed in 2006 to provide a funding mechanism for providing stormwater services, including complying with Phase II stormwater regulations. SEMSWA was formed through an intergovernmental agreement (IGA) among the city of

Centennial, Arapahoe County, the Arapahoe County Water and Wastewater Authority, East Cherry Creek Valley Water and Sanitation District, and Inverness Water and Sanitation District. The IGA was based on recommendations from a local advisory committee made up of homeowners associations, businesses, schools, churches, and environmental groups, which researched local stormwater runoff issues and cost-effective solutions.

Planning Activities

Planning activities under the Watershed-based Permit are consistent with Phase II stormwater requirements. Permittees must develop a CDPS Stormwater Management Program that addresses the Phase II Six Minimum Measures and includes measurable goals. Measurable goals for each of the six minimum measures must include dates for undertaking the required actions, interim milestones, and the frequency of the action. A fully developed program includes standard operating procedures, supporting documentation, implementation guidance, rules, and other elements necessary to implement the Phase II requirements.

Permit Components

As discussed above, the Watershed-based Permit includes all the required elements of a traditional Phase II stormwater permit and additional requirements specific to discharges to the Cherry Creek Reservoir drainage basin.

Effluent Limits

The permit contains the technology-based effluent limits (six minimum measures) required under the Phase II Stormwater regulations. For discharges to the Cherry Creek Reservoir drainage basin, the permit also contains water quality-based effluent limitations in the form of additional requirements under the Public Education, Construction, and Post-Construction minimum measures that focus on controlling phosphorus. The additional requirements in the permit are primarily for BMPs that affect the amount of phosphorus entering the Cherry Creek Reservoir. The additional requirements for Public Education require a focus on significant sources of nutrients. The additional requirements for Construction and Post-Construction are based on recommended procedures outlined in the Basin Authority's Cherry Creek Reservoir Watershed—Stormwater Quality Model Stormwater Ordinance (revised April 19, 2001), which is based on the Cherry Creek Basin Stormwater Requirements. The general permit also includes detailed requirements for BMPs taken from the Model Ordinance. The table (right) outlines the effluent limitations that are based on the Phase II Stormwater six minimum measures and the additional requirements that apply to discharges to the Cherry Creek Reservoir drainage basin for the Public Education, Construction, and Post-Construction minimum measures.

Table 1. Effluent Limitations

Phase II Minimum Control Measures for all Permitted Discharges	Additional Requirements for Discharges to Cherry Creek Reservoir Drainage Basin
Public Education	
<p>Implement a public education program to promote behavior change to reduce water quality effects from stormwater runoff and illicit discharges</p> <ul style="list-style-type: none"> ◆ Target specific pollutants that affect or could affect beneficial uses ◆ Conduct outreach about effects of stormwater discharges and steps the public can take to reduce pollutants in stormwater runoff ◆ Inform businesses and the public of municipal prohibitions against illegal discharges 	<p>Conduct outreach focused on the stormwater sources likely to contribute nutrient loads. The permit identifies specific sources that should be addressed: chemical deicing, retailers that store fertilizers outdoors, concentrated agricultural activities such as turf farms, landscape plant facilities, and animal feeding operations</p>
Public Involvement/Participation	
<ul style="list-style-type: none"> ◆ Comply with applicable state, tribal, and local public notice requirements ◆ Provide for public review and comment on the CDPS Stormwater Management Program 	<p>No additional requirements</p>
Illicit Discharge Detection and Elimination	
<ul style="list-style-type: none"> ◆ Develop a storm sewer system map showing all outfalls and receiving waters ◆ Through an ordinance or other regulatory mechanism, prohibit non-stormwater discharges into the MS4 and include enforcement procedures ◆ Develop a plan to detect and address non-stormwater discharges into the MS4 ◆ Train municipal employees to recognize and respond to illicit discharges 	<p>No additional requirements</p>
Construction Site Stormwater Runoff Control	
<p>Develop, implement, and enforce a program to reduce pollutants in, or prevent, construction site stormwater runoff to the MS4. The program must include the following:</p> <ul style="list-style-type: none"> ◆ A regulatory mechanism requiring the implementation of proper erosion and sediment controls for construction sites, including sanctions to ensure compliance ◆ Requirements for implementing appropriate BMPs for erosion and sediment control and good housekeeping ◆ Procedures for construction site plan review and compliance assessment ◆ Procedures for compliance assurance, including enforcement procedures and sanctions as well as training for municipalities and construction contractors on regulatory requirement 	<p>For new development and redevelopment projects permittees must develop, implement, and enforce a program to control phosphorus discharges. The program must include construction BMPs specified in the Control Regulation to accomplish the following:</p> <ul style="list-style-type: none"> ◆ Phase construction activities to minimize exposed soil. Disturbed areas 40 acres or more must not be exposed for more than 30 days without stabilization. The permittee may authorize exemptions to this requirement under specific circumstances and with certain conditions. ◆ Reduce stormwater runoff flow to non-erosive velocities when practicable. ◆ Protect state waters on construction sites from erosion and sedimentation resulting from land disturbance. ◆ Control sediment before it leaves the construction site. Construction sites must include at least one sediment entrapment BMP before the stormwater exits the site and prevent deposition of sediment off-site from vehicle tracking onto paved surfaces.

Phase II Minimum Control Measures for all Permitted Discharges	Additional Requirements for Discharges to Cherry Creek Reservoir Drainage Basin
	<ul style="list-style-type: none"> ◆ Stabilize all exposed disturbed areas where construction activities are not taking place for longer than 14 days. ◆ Revegetate disturbed areas within 14 days after construction activity has ceased. ◆ Inspect construction BMPs after installation, after any runoff event, and at least every 14 days.
Post-Construction Stormwater Management	
<p>Develop, implement, and enforce a program to address stormwater runoff from new development and redevelopment projects, including the following:</p> <ul style="list-style-type: none"> ◆ Strategies that include a combination of structural or nonstructural BMPs, or both ◆ A regulatory mechanism that requires addressing post-construction runoff ◆ Procedures to determine if BMPs are installed according to specifications ◆ Procedures to ensure long-term operation and maintenance of BMPs, including enforcement procedures ◆ An enforcement program ◆ Procedures and mechanisms to track the location and adequacy of long-term BMPs 	<p>Stormwater programs for development and redevelopment projects must include the following:</p> <ul style="list-style-type: none"> ◆ Requirements for permanent BMP plan submittal, including inspection and maintenance provisions. ◆ Required permanent BMPs. The permit refers to requirements in the control regulation that specify use of permanent BMPs with a water quality capture volume (WQCV) of at least the 80th percentile runoff event. The Control Regulation includes a list of approved BMPs that must be used to meet the WQCV, as well as provisions for WQCV alternatives. ◆ Provisions for permanent BMP inspections. The specific requirements are detailed in the Control Regulation. ◆ Additional BMP requirements for facilities with both construction and industrial stormwater requirements and for commercial facilities. The additional BMPs are specified in the Control Regulation. ◆ Additional BMP requirements for stream preservation areas. Specific areas are identified in the Control Regulation along with BMPs to treat the WQCV for all runoff from land disturbance within the stream preservation areas. ◆ Required permanent BMP operation and maintenance provisions. The specific requirements are detailed in the control regulation.
Pollution Prevention/Good Housekeeping	
<ul style="list-style-type: none"> ◆ Develop and implement an operation and maintenance program to prevent or reduce pollutant runoff from municipal operations into the storm sewer system ◆ Inform public employees of the effects of illegal discharges and improper waste disposal ◆ Prevent or reduce stormwater pollution from municipal facilities and activities 	<p>No additional requirements</p>

The original Watershed-based Permit allowed phased development and implementation for all permittees' Stormwater Management Programs as long as the programs were fully developed and implemented at the end of the 5-year permit term. A schedule and measureable goals for program development had to be established through negotiations between CDPHE and the permittee. For discharges to the Cherry

Creek Reservoir drainage basin, however, the original permit included specific interim deadlines for the additional Public Education, Construction, and Post-Construction requirements to ensure implementation before the end of the permit term in March 2008.

Monitoring and Reporting Requirements

Consistent with the Phase II stormwater regulations, there are no overall monitoring requirements and no monitoring requirements specific to the watershed-based provisions in the permit, but monitoring can be required on a case-by-case basis or if a total maximum daily load (TMDL) and WLAs apply to the receiving water.

All permittees must submit an annual report by March 10 of each year for the preceding year. The elements of the annual report address only the stormwater Phase II annual reporting requirements, which focus largely on status reporting relative to the Stormwater Management Program; there are no additional watershed-based reporting requirements.

Permit Effectiveness

Environmental Benefits

Ultimately, reduction or maintenance of chlorophyll *a* levels in the Cherry Creek Reservoir will demonstrate success of the permit. To date, CDPHE has not yet identified progress in terms of phosphorus reductions or resulting chlorophyll *a* reductions, which might indicate a need to review the TMAL to determine whether the nutrient WLAs and load allocations are appropriate.

Benefits to the Permittee and Other Stakeholders

The permit has been successful from an implementation and administrative standpoint. From a permittee's perspective, a key component of the success of this permit has been the excellent working relationship that exists between CDPHE and the permittees. This relationship was established early in the process of revising the Control Regulation and developing the Phase II Guidance and has been maintained through permit implementation and revision. At least one permittee has found that cooperative, educated, and experienced regulators who are rigorous with respect to meeting the requirements but who are also fair, flexible, and willing to work with permittees are critical to the success of the Watershed-based Permit.

Stakeholder education is also a key component to success. CDPHE was astute in setting up the permittees' Working Group and educating the regulated entities on the intent of the regulations. This approach allowed the stakeholders to work with CDPHE as it developed regulations and guidance that meet the Phase II requirements and are feasible to implement. For example, the Post-Construction BMPs control measure in the Phase II regulations was an implementation challenge because many municipalities viewed it as an

unfunded mandate to take on long-term responsibility for BMP maintenance where property managers, homeowners associations, and similar entities are unable or unwilling to fulfill their responsibilities. Early education and coordination with CDPHE allowed some MS4s to form stormwater utilities to provide a dedicated funding source for their post-construction BMP requirements.

Lessons Learned

Achieving consensus on the appropriate construction and post-construction BMPs for discharges to the Cherry Creek Reservoir drainage basin was one of the major challenges in developing the watershed-based requirements in the Control Regulation. Construction and post-construction BMPs in the Control Regulation and permit are based on the Cherry Creek Basin Stormwater Requirements and are selected through a cooperative process between CDPHE and the watershed stakeholders. At the same time, allowing the permittees to play a significant role in developing the basis for permit requirements has facilitated successful implementation of the permit.

The interrelationship among the Cherry Creek Basin Stormwater Requirements, the Phase II Guidance, the Control Regulation, and the Watershed-based Permit has complicated the process of modifying the requirements when necessary. CDPHE's Monitoring Program assesses the condition of the reservoir to determine any needs for changes in the Control Regulation. Any need for additional or reduced basin-specific requirements that is based on water quality monitoring is addressed through the Control Regulation triennial review process. Changes in the Control Regulation result in changes to the permit. When changes to the BMPs are needed, it is a challenge to make modifications to the guidance documents that will translate to enforceable provisions in the Control Regulation and permit. Some permittees have also found the permit requirements to be too prescriptive.

The approach used in the Cherry Creek watershed could be a useful model for other watersheds where the watershed-based requirements are driven through a TMDL or regulatory process similar to the one in the Cherry Creek Basin. Despite some of the additional complications of linking the Cherry Creek Basin Stormwater Requirements, the Phase II Guidance, the Control Regulation, and the Watershed-based Permit, revising the watershed-based requirements through a stakeholder process, driven by the TMAL and coordinated with the Control Regulation triennial review generally has worked well for Cherry Creek stakeholders.

Resources

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Note: All Web references current as of March 14, 2008.