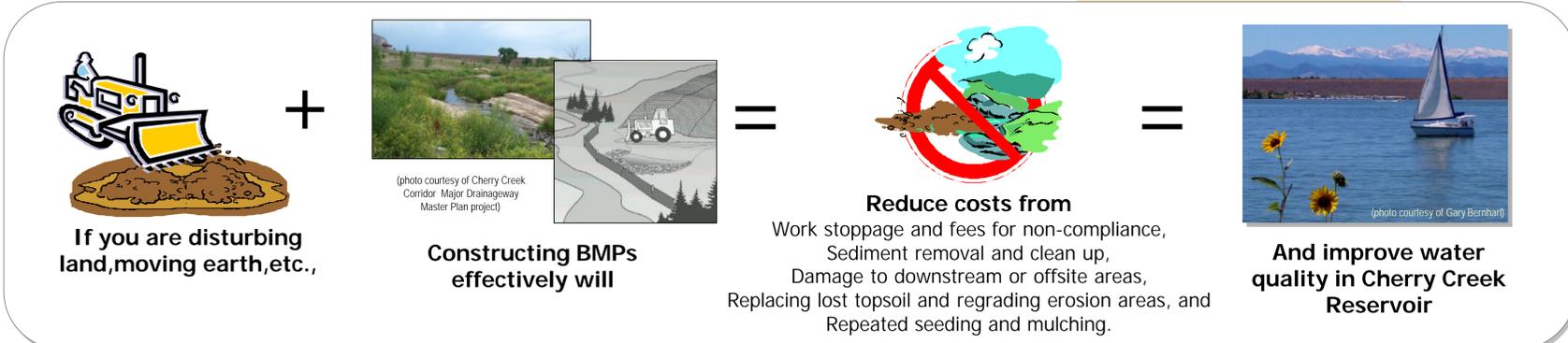


Constructing BMPs effectively

BMP
best management practice =
things we can do or build to
maintain or improve water quality



The BMP Series: FS 9

This poster is part of The BMP Series, a program developed by the Authority to provide education on BMP requirements within the Cherry Creek Reservoir Basin.
Authority manager: 303-779-4525

Steps to follow:

1. Know which BMPs are needed for the development.
2. Check with local land use agency to confirm rules and regulations.
3. Follow instructions and construct the BMP effectively.
4. Enjoy the reduced cost and added benefit.

DO Examples of effective BMP construction

Potential mistakes DON'T

Construction Fence and Construction Markers
Construction fence consists of orange plastic fencing material attached to support posts and used to control access to the construction site and delineate limits of construction. If appropriate, construction markers, consisting of orange painted survey lath at 100-foot maximum spacing, may be used to delineate limits of construction.

Use construction fence to restrict access to site and delineate limits of disturbance.

DON'T

This construction fence is in need of repair. Inspections shall be made daily and downed sections repaired immediately.

Concrete Washout Area
A concrete washout area is a shallow excavation with a small perimeter berm to isolate concrete truck-wash operations and to help control pollutants from the wash.

A properly installed concrete washout area.

DON'T

Extensive wasting of concrete on the construction site requires additional effort to clean up and can impair subsequent revegetation operations.

Erosion Control Blanket
Erosion control blanket is a fibrous blanket of straw, jute, or coconut material trenched in and staked down over prepared, seeded soil. The blanket reduces both wind and water erosion.

Ample erosion control blanket is used on this hill slope.

DON'T

Failure to utilize an erosion control blanket on this hill slope resulted in extensive erosion. Erosion control blankets should be utilized on slopes steeper than 4:1, after proper soil preparation and seeding has taken place.

Diversion Ditch
A diversion ditch is a small earth channel used to divert and convey runoff, generally to a sediment basin, check dam, or reinforced rock berm. Depending on slope, the diversion swale may need to be lined with erosion control matting, plastic (for temporary installations only), or riprap.

This diversion ditch provides protection for an adjacent drainage.

DO

This plastic lined diversion ditch (or slope drain, shown) or piped slope drain (not shown) may be used as a temporary alternative to a slope drain. Both allow runoff to be conveyed down a slope without causing rill and gully erosion.

DON'T

Lack of a diversion ditch at the top of this slope to divert upstream runoff has led to severe rill and gully erosion.

Check Dam
A check dam is a small rock dam, reinforced or non-reinforced and designed to withstand overtopping, that is placed in a stream or drainage. The purpose of the check dam is to trap sediment in the backwater zone upstream of the check and, when used in series, to reduce flow velocities.

Properly installed non-reinforced check dam.

DON'T

This disturbed drainage was not protected by a check dam at the downstream site perimeter, allowing sediment to be conveyed off-site.

Inlet Protection
Inlet protection can consist of a small reinforced rock berm or concrete blocks placed in front of (but not blocking) a curb inlet or around an area inlet to reduce sediment in runoff entering the storm sewer system.

Temporary Inlet Protection
This interim configuration of blocks protects a street inlet prior to paving.

Properly installed inlet protection.

DON'T

This inlet protection is overdue for sediment removal.

DON'T

Tubular markers were not placed in front of this inlet protection installation, making it more susceptible to damage from snowplows and other vehicles. This installation is in need of immediate repair.

Sediment Basin
A sediment basin is an impoundment that captures sediment-laden runoff and releases water slowly, providing prolonged settling times to capture coarse and fine-grained soil particles.

On a temporary basis, gravel packs can be installed around a sediment basin perforated pipe outlet, but they may cause clogging problems.

DON'T

The sediment basin on the right is improperly installed due to lack of an armored spillway. Pipe perforations set above the spillway crest elevation.

Seeding and Mulching
Seed disturbed areas with seed/grass mix and crimp in straw mulch to provide immediate protection against raindrop and wind erosion and, as the grass cover becomes established, to provide long-term stabilization of exposed soils.

A drill seeder can be used to plant seed.

Seed may be hand broadcast, at twice the drilled rate, raked and crimp mulched in small areas where it is not possible to drill seed.

DON'T

Do not hydroseed and hydromulch as one operation.

Silt Fence
Silt fence is a temporary sediment barrier constructed of woven fabric stretched across supporting posts. The bottom edge of the fabric is placed in an anchor trench that is backfilled with compacted soil.

Properly installed silt fence cannot easily be pulled out of the ground.

Silt fence is to be securely tied into adjacent BMPs such as the sediment control log shown here, or reinforced rock berms or sediment basin embankments.

A reinforced rock berm may be used downgradient of disturbed areas in lieu of silt fence.

DON'T

The lower edge of this silt fence is not anchored in a backfilled trench.

Vehicle Tracking Control Pad
A vehicle tracking control pad consists of crushed aggregate paced in a pad at all entrances/exits on a construction site utilized to remove mud/dirt from the tires of vehicles leaving the site.

Properly installed vehicle tracking control pad prevents the spread of mud and dirt from the site to other areas.

DON'T

Failure to utilize a vehicle tracking control pad allowed mud and dirt to be tracked out of this construction site, allowing the material to easily be washed away during a runoff event.

To find out more...

Photos and text for BMPs are courtesy of Douglas County Department of Public Works Engineering Division

Construction BMP training sessions may be offered by your local land use agency. Please contact your local land use agency for information on possible training sessions.