



OPERATIONS – MS4 (MUNICIPAL SEPARATE STORM SEWER SYSTEMS) FEATURES

ENVIRONMENTAL GUIDELINE



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PURPOSE

The purpose of this guideline is to provide guidance on what DEN's expectations are for the inspection and maintenance process of Denver's MS4 (Municipal Separate Storm Sewer System) Structural Control Systems. This document applies to MS4 structures used in the conveyance of stormwater flows through DEN to receiving waters of the State. These structures include, but are not limited to, storm sewer inlets, detention ponds, improved and unimproved channels, the storm sewer collection system, catch basins, and siphons. This document is one of several specifically identified procedures for activities/facilities that are required by the Pollution Prevention/Good Housekeeping section of CCD's MS4 permit.

Each operator and tenant conducting the inspection and maintenance of MS4 structural controls is responsible for understanding the applicable regulations and managing their activities; accordingly, this Environmental Guideline is meant as guidance only and does not supersede any regulations.

ACTIVITY DESCRIPTION

Stormwater control structures in the City and County of Denver (CCD) are maintained pursuant to the requirements of Colorado Discharge Permit System (CDPS) Permit No. COS-000001 for stormwater discharges from CCD's Municipal Separate Storm Sewer System (MS4). At DEN, structural controls are maintained under two separate sets of requirements. Ponds and conveyances associated with the stormwater system are managed pursuant to the requirements in the CCD MS4 permit. Ponds and conveyances associated with industrial systems [such as the spent ADF collection system] are managed in accordance with Maintenance of Sewer System Work Instruction.

Regional drainage ways at DEN are maintained by the Mile High Flood District (MHFD). Pond T-239 is maintained by MHFD. In addition, the Peña Boulevard Ponds will be inspected and maintained as detailed in the MOU between the City and County of Denver Department of Transportation and Infrastructure (DOTI) and the developers.



EXPECTATIONS

Best practices:

- Municipally owned structural controls should be inspected on a periodic basis to reduce pollutants in discharges from the MS4, ensure protection of the City's MS4 system, State receiving waters, and ensure proper functioning of the MS4 system. Improper operation due to lack of inspection and maintenance can lead to storm sewer overflows (flooding) and excessive debris build up, which leads to other environmental concerns.
- Maintenance of structural controls shall, at a minimum, meet or exceed recommendations outlined in the most recent version of the Mile High Flood District's Urban Storm Drainage Criteria Manual's Volume 3 – Best Management Practices.
- Obtain all applicable federal, state, and local permits for construction projects.
- Applicable sediment and erosion controls shall be installed to prevent illegal discharges to the storm sewer or waterways, such as inlet protection, silt fence, sediment traps, erosion control logs, check dams, and vehicle tracking control. Sediment and erosion controls will be installed and maintained in accordance with approved design criteria and/or industry standards.
- Protect storm drain inlets and drains with curb socks, rock berms, inlet protection, or drain covers/mats prior to any activity.
- Sediment, debris, and litter removed from structures will be disposed of in accordance with regulatory requirements. Disposal of solid waste on DEN property is prohibited without prior DEN ES approval. Manage waste generated during maintenance activities in accordance with Environmental Guideline General Waste Management.
- Where feasible, schedule maintenance activities during dry weather.
- Stay alert for any signs of illicit discharges. This includes "dry weather" flows or pipes or hoses emptying directly into waterways or the storm sewer system.
- Leaking material containers should be properly discarded and replaced.
- Store materials in containers under cover when not in use and away from any storm drain inlet.
- Keep impervious surfaces clean of debris and sediment to avoid transport of materials into the MS4.
- Training will be conducted as necessary to inform employees of impacts associated with illegal discharges and improper disposal of waste from municipal operations. Records should be maintained of training and should be available upon request.
- Store materials per RCRA-approved methods.
- Maintain legible labels and markings on all containers and tanks.
- Ensure adequate secondary containment for all bulk storage containers, and that all containers and containment are in good operating condition.
- If a spill occurs, call DEN Communications Center immediately at 303-342-4200.
- Private tenants are responsible for the maintenance of structural controls on or that service leased property pursuant to agreements signed with DEN. Tenants should periodically inspect structural controls and remove sediment, trash, and debris when observed.
- DEN ES performs periodic inspections of tenant-operated structural controls. The Pond Inspection Checklist in the Veoci inspection database is used to document the DEN ES inspections; however, there is



no required field documentation needed for the field inspection. The inspector makes visual observations and compiles a report summarizing these observations. If proper maintenance activities are not occurring as required, a report will be submitted to the DEN Properties Department for evaluation and compliance with applicable agreements signed with DEN.

- Maintenance activities are initiated by FAA requirements, field observations made during normal daily activities or based on the results of the DEN ES inspection. Depending on the level of maintenance required, DEN Field Maintenance or a contractor will provide maintenance activities for the municipally owned and operated MS4 system. These activities include but are not limited to mowing operations to limit unwanted vegetation and to improve aesthetics, removal of debris and litter to minimize inlet/outlet clogging, repair and re-vegetation of eroded areas, and remove accumulated sediment near culverts, in channels, and pond bottoms to maintain flow capacity.
- A detention facility is a sedimentation basin designed to totally drain dry sometime, usually within 40 hours, after stormwater runoff ends. The ponds are considered “dry” because they are designed not to have a significant permanent pool of water remaining between storm runoff events. Therefore, standing, or pooling water during dry periods indicates maintenance may be required.
 - Debris and litter removal will be conducted based on visual inspection.
 - Mowing operations will be conducted as needed.
 - Non-irrigated native grasses should be 4 to 6 inches tall.
 - Erosion and sediment control issues will be addressed as necessary based on visual inspection.
 - Sediment removal from the fore bay, micro-pool, and the pond bottom will take place based on visual inspection.
 - Repair and revegetation of eroded areas of basins and channels will take place as needed.
- Improved channels require periodic maintenance including debris and sediment removal, patching, joint repair, riprap adjustment, and other such activities.
- Mowing operations will be conducted as needed.
- Sediment in the channel should not reach a depth of 6 inches or impede the intended flow.
- MS4 related maintenance activities conducted by DEN Field Maintenance shall be recorded in the DEN Maximo system. Recorded information should include costs incurred and total hours for the activity. This information will be incorporated into the DEN MS4 Annual Summary submitted to DOTI annually.
- Results of the annual DEN ES inspection will be recorded on the Pond Inspection Checklist Form (Veoci inspection database) for incorporation into the DEN MS4 Annual Summary submitted to DOTI annually.

Shall Not

- Washing any spills into the sewer system is prohibited.
- Discharges to State Waters without a permit.
- Discharge of the following materials down any drain is prohibited:
 - Any oils or grease
 - Pesticides, insecticides, or herbicides
 - Solvents
 - Solids of any kind, including soil



- Generally prohibited discharges as specified by Metro Wastewater and Denver Wastewater rules and regulations
- Disposal/discharge of wastewater into any storm drain, inlet, etc. or waterway is prohibited.
- Transporting waste liquids and solids contained in equipment and originating from off-site onto DEN property is prohibited without prior approval from DEN Environmental Services (ES).
- Disposal of materials into the deicing waste (DIW) system (e.g., slot drains, ponds) without prior approval from DEN ES is prohibited.

REFERENCES

Contacts

- DEN Communications Center (for spill reporting): 303-342-4200
- DEN Environmental Services (Main Line): 303-342-2730; DENEnvironmental@flydenver.com

Additional Resources

- DEN Stormwater Management Plan (SWMP)
- DOT Labeling and Placarding Guidance
- SPCC Plan
- Mile High Flood Control District's Urban Storm Drainage Criteria Manual Volume 3 – Best Management Practices
- 40 CFR 117.3 Determination of Reportable Quantities for a Hazardous Substance
- 40 CFR 122-124 NPDES Regulations for Storm Water Discharges
- 40 CFR 260-262-273 Federal RCRA Regulations
- 6 CCR 1007-3, Part 261 State RCRA Regulations
- CCD MS4 Permit
- CCD Ordinances
- Denver Wastewater Management Division Rules and Regulations
- Metro Wastewater Reclamation District Rules and Regulations
- DEN Rules and Regulation 180
- CCD Mayor's Executive Orders