

Colorado Department of Transportation MS4 Construction Sites Program Manual

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ACRONYM LIST

AD	Project advertisement date
BMP	Best management practice
CARL	Corrective Action Response Log
CDOT	Colorado Department of Transportation
CDPHE	Colorado Department of Public Health and Environment
CDPS	Colorado Discharge Permit System
CDPS-SCP	CDPS – Stormwater Construction Permit
CM/GC	Construction Manager/General Contractor
CMO	Contract modification order
DB	Design-build
DBB	Design-bid-build
DTD	Division of Transportation Development, Division of Engineering (CDOT)
EPA	Environmental Protection Agency (U.S. Federal Agency)
EPB	Environmental Programs Branch, DTD (CDOT)
IFB	Invitation for bid
LAS	Landscape Architecture Section, EPB (CDOT)
LASM	Landscape Architecture Section Manager (CDOT)
MCFM	MS4 Construction Field Manager (CDOT)
MCPM	MS4 Construction Program Manager (CDOT)
MS4	Municipal separate storm sewer system
MTCE	Division of Maintenance and Operations (CDOT)
NPDES	National Pollutant Discharge Elimination System
PDAC	Project Delivery Advisory Committee (CDOT)
PDD	Program Description Document
PM	Property Management, Division of Engineering (CDOT)
RECAT	Region Erosion Control Advisory Team (CDOT)
RFP	Request for Proposal
RFQ	Request for Quotation
RPEM	Region Planning and Environmental Manager (CDOT)
RTD	Region Transportation Director (CDOT)
RWPCM	Region Water Pollution Control Manager (CDOT)
SOP	Standard Operating Procedure



SSU	Standards and Specifications Unit, Project Development Branch (CDOT Headquarters)
SWMP	Stormwater Management Plan
SWMP Admin	SWMP Administrator for Construction
SWMP Designer	SWMP Administrator for Design
Task Force	MS4 Construction Sites Program Task Force
WQCD	Water Quality Control Division (CDPHE)
WQSM	Water Quality Section Manager (CDOT Headquarters)

1.0 INTRODUCTION

The Colorado Department of Transportation (CDOT) initiated the development of Standard Operating Procedures (SOPs) in August 2016 to direct uniform, statewide compliance with the Construction Sites Program requirements (Part I.E.1) in CDOT's Municipal Separate Storm Sewer System (MS4) Permit (MS4 Permit, Colorado Discharge Permit System [CDPS] No. COS000005). The SOP development process was preceded by Finding(s) of noncompliance documented during a U.S. Environmental Protection Agency (EPA) MS4 Permit Compliance Inspection in Spring 2015 (Appendix A) and a newly reissued MS4 Permit with an effective date of October 16, 2015.

The SOP development process has been, and continues to be, a collaborative effort among CDOT Headquarters and the five CDOT Regions. At the direction of CDOT's Chief Engineer/Director of Stormwater Compliance, the five Region Transportation Directors (RTDs) each appointed one Region Water Pollution Control Manager (RWPCM) and one engineer to sit on an MS4 Construction Sites Program Task Force (Task Force). The Chief Engineer charged the Task Force with developing MS4 Construction Sites Program SOPs to facilitate statewide compliance with MS4 Permit Construction Sites requirements. Task Force Delegates are responsible for disseminating information to Region staff regarding SOP progress, consensus agreements and challenges, as well as bringing Region input and suggestions to the Task Force. The MS4 Construction Program Manager (MCPM) facilitates Task Force meetings, assisted by the MS4 Construction Field Manager (MCFM), but neither votes on final decisions. Other CDOT staff, such as representatives from CDOT's Landscape Architecture Section (LAS) or Alternative Delivery Program, may be invited to present to the Task Force as subject matter experts but also do not vote on final decisions.

The Task Force convened in 2016 under a charter and direction from the Chief Engineer/Director of Stormwater Compliance. CDOT transitioned to a new Chief Engineer in 2019 but the charter and founding direction remain relevant. Specifically, the Task Force is directed to create MS4 Construction Sites Program SOPs that meet seven design criteria.

1. **Compliance** – Conforms to all State and Federal regulations, CDOT's MS4 Permit, the March 2015 EPA Audit and all CDOT policy, procedures, processes and CDOT Standard Specifications.
2. **Uniformity** – One set of SOPs for all MS4 processes throughout all Regions and Headquarters.
3. **Auditable/Trackable** – Performance measures which measure compliance with CDOT's MS4 Permit as well as conformance with the SOP's and documentation requirements that will allow auditing by the Water Quality Section Manager (WQSM), Headquarters Staff, Colorado Department of Public Health and Environment (CDPHE), or EPA and give the measurements the ability to assess risk.
4. **Clearly Defined Roles** – Ensure each person knows what they are responsible for in the process.
5. **Accountability** – Clear responsibilities for each role within the process.
6. **Escalation Process** – Taking issues up an internal chain of command to ensure compliance and accountability for any internal processes within the MS4 Program.
7. **User Friendly** – Processes cannot be overly complex. Simple, straight forward, and efficient.

The Task Force meets annually, or as needed, to discuss major program changes or challenges complying with MS4 Permit Construction Sites requirements.

CDOT published the first *MS4 Construction Program Manual (Manual)* on March 1, 2017. The 2017 Manual focused on Design-Bid-Build (DBB) projects and contained MS4 Construction Sites Program SOPs for project design phase, construction phase, and internal MS4 compliance monitoring. Six design phase SOPs addressed development and review of project stormwater management plans (SWMPs), modifying relevant templates and specifications, and work in the Cherry Creek Drainage Basin. Four construction phase SOPs addressed SWMP modifications, MS4 oversight inspections of active construction sites, returning active construction sites to MS4 Permit compliance, and long-term records retention. Six monitoring SOPs established processes for internal MS4 compliance audits, third party audits, updating the Manual and program description document (PDD), and communication with the Colorado Department of Public Health and Environment – Water Quality Control Division (CDPHE-WQCD). The 2017 Manual was expansive and included auditable roles across all CDOT functional units, including engineering and maintenance.

The Task Force reconvened in February 2020 to revise the 2017 Manual in response to additional Findings of noncompliance from a follow-up EPA inspection of CDOT’s MS4 Construction Sites Program conducted in April 2019 (Appendix B). In particular, the EPA found that the 2017 Manual did not contain SOPs for CDOT’s other project and project delivery types: Design-Build (DB), Property Management (PM), Construction Manager/General Contractor (CM/GC), and Maintenance (MTCE). The Task Force revised the 2017 Manual and SOPs based both on inspection findings and on feedback received from the Regions following three years of field testing the 2017 manual. The revisions focused on removing complexity, simplifying implementation, and integrating all project delivery methods without adversely impacting the underlying goal of directing compliance with the Construction Sites Program requirements (Part I.E.1) in CDOT’s MS4 Permit (COS000005). This *2021 MS4 Construction Sites Program Manual (2021 Manual)* consolidates the SOPs from 16 DBB SOPs to seven SOPs that cover all CDOT projects that meet the MS4 Permit definition of “covered construction activity,” regardless of project delivery method.

The streamlined 2021 Manual provides three primary compliance benefits to CDOT.

1. MS4 Permit compliance is written into functional work group manuals, not consolidated in the 2021 Manual. Accountability lies with each functional work group with support and oversight from CDOT’s MS4 Construction Sites Program.
2. The 2021 Manual provides the Headquarters Water Quality Section with direction on how to train, audit MS4 Permit compliance, and resolve non-compliance issues. The MCPM and MCFM work within existing chains-of-command and escalation processes to direct compliance with CDOT’s MS4 Permit by Headquarters, the Regions, CDOT Project Engineers, and staff in other functional units, as needed.
3. The Task Force agreed that a statewide uniform MS4 Construction Sites Program is one that achieves uniform, statewide MS4 Permit compliance while maintaining each Region’s organizational structure and acknowledging any resource limitations. Thus, the revised SOPs focus on MS4 Permit compliance targets and milestones, while allowing the Regions flexibility to achieve compliance in a manner that works within their existing structure.

1.1 PROJECT DELIVERY TYPES

CDOT traditionally uses DBB for delivery of its programs and projects. However, the demands on Colorado's transportation facilities continue to grow, along with the competition for available funding and expectations of higher quality and improved levels of service. To ensure timely, efficient, and effective responses to these demands, CDOT supports alternative delivery methods. DB and CM/GC are two alternative delivery methods that may be used where appropriate and approved by CDOT project development teams. In addition, PM and MTCE projects that result in a land disturbance of greater than or equal to one acre or that disturb less than one acre, but are part of a larger common plan of development, are subject to MS4 Permit requirements. CDOT PM and MTCE projects typically use the DBB method.

All CDOT projects follow a similar process from project planning to closeout, with modifications as required to facilitate the different project types CDOT uses (Figure 1). The general stormwater processes that need to be followed to maintain permit compliance are also similar for each of CDOT's project delivery methods – DBB, DB, and CM/GC.

1.1.1 DESIGN-BID-BUILD

DBB is CDOT's traditional, and most common, project delivery method. In DBB, CDOT designs, or retains a designer, to furnish complete design services then advertises and awards a separate construction contract based on the designer's completed construction documents. In DBB, CDOT "owns" the details of the design during construction and, as a result, is responsible for the cost of errors and omissions encountered in construction.

1.1.2 DESIGN-BUILD

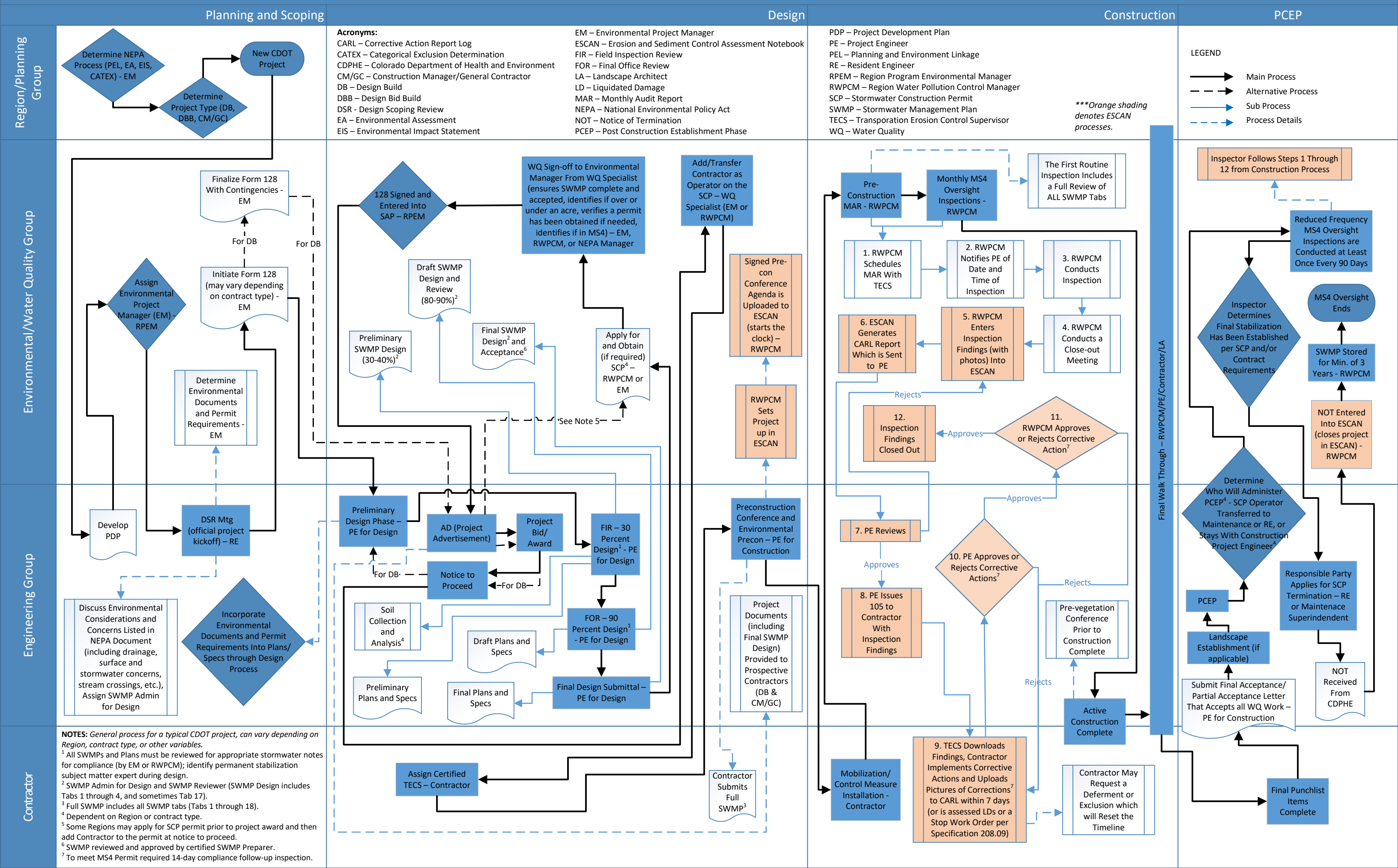
DB is a project delivery method in which CDOT procures both design and construction services in the same contract from a single, legal entity referred to as the design builder. The method typically uses Request for Quotation (RFQ) or Request for Proposal (RFP) procedures rather than the DBB Invitation for Bids (IFB) procedure. The design builder controls the details of design and is responsible for the cost of any error or omissions encountered in construction.

1.1.3 CONSTRUCTION MANAGER/GENERAL CONTRACTOR

CM/GC is a project delivery method in which CDOT contracts separately with a design consultant and a Contractor. The Contractor is involved in both the design and construction phases of a project and provides early input into the process. The intent is to form a partnership with CDOT, the design consultant, and the Contractor. CM/GC contracts share the risk between CDOT, the designer, and Contractor. The Contractor serves as the Construction Manager during design to provide pricing, constructability reviews, and risk analysis.

CM/GC breaks the overall project into multiple construction packages. Each construction package is severable and independent. In this way, CM/GC operates very similar to a DBB contract in that CDOT develops a separate and complete bid package for each construction package. After the design of each construction package is completed, the construction services are negotiated with the Contractor. If CDOT and the Contractor reach an agreement, then the Contractor becomes the prime or General Contractor and self performs the majority of the work and CDOT supplies construction management through its own staff or a consultant. If CDOT and the Contractor cannot agree on a price, CDOT issues an RFP for competitive bids on the construction package.

Figure 1: CDOT MS4 Construction Process Flow Chart



Unlike DBB, CM/GC brings Contractor services into the design process at a stage where definitive input can have a positive impact on the project. CM/GC is particularly valuable for new non-standard types of designs where it is difficult for CDOT to develop the technical requirements that would be necessary for DB procurement without industry input.

1.1.4 PROPERTY MANAGEMENT

The Colorado State Buildings Program operates under the authority of State Statute, §24-30-1300, C.R.S. The PM Program Architect is delegated the authority to administer this program for CDOT. This delegated authority is only for those buildings which are constructed with public funds and where state employees are housed or have office space in the buildings (e.g. maintenance yards). CDOT's PM Program provides management of project-related land improvements and general ledger properties owned by CDOT for CDOT's use.

As the State Buildings Program delegate, the PM Program Architect is responsible for review and coordination of plans, contractual procedures as they relate to the construction and management of CDOT buildings and property sites (property owned by CDOT for CDOT's use), and construction, renovation, demolition, and maintenance of all CDOT-owned buildings and property sites. This includes ensuring that all facilities acquired, demolished or constructed by CDOT for CDOT's use are in accordance with all applicable laws and regulations, including the MS4 Permit.

1.1.5 MAINTENANCE

CDOT Maintenance is responsible for preserving and keeping all roads, roadsides, structures, and miscellaneous facilities in as close to their original or improved condition as possible. The prime duty of Department maintenance personnel is to keep all highways that are open to traffic in safe and usable condition as available resources allow. The MS4 Permit's definition of "construction" does not include routine maintenance to maintain the original line and grade, hydraulic capacity, or original purpose of the facility. The MS4 Permit identifies roadway "maintenance" projects which are not subject to MS4 Permit requirements, including:

...projects that do not change the existing template of the roadway which includes the roadway and shoulders to the point of slope selection and maintenance to existing drainage features. Maintenance projects do not change the existing template of the roadway; do not disturb more than 1-acre of subbase or subgrade at any one time; and do not include activities such as widening, paving previously unpaved shoulders, other project work beyond the shoulders, slope flattening, roadway realignment and other roadway and/or drainage improvements. Maintenance projects do not disturb one acre or more beyond the "Z slope" or shoulders which do not lead to any increase of impervious surface. Roadway maintenance projects include treatments or overlays with a net surface gain of 6 inches or less and base/subbase is not exposed. Maintenance projects include shouldering projects that increase the roadway elevation by 2 inches or less with an overall treated depth not exceeding the 6-inch limit identified for reconstruction and disturb less than 1-acre of subbase or subgrade at any one time. Maintenance projects include rubbilization and overlay projects with a net surface gain of 6 inches or less and disturb less than 1-acre of subbase or subgrade at any one time.

CDOT activities to conduct repairs that are not part of regular maintenance or that are for replacement are considered covered construction activities when the project disturbs one acre or more or is part of a common plan of development. These construction activities are then subject to MS4 Permit requirements. Repaving activities where underlying and/or surrounding soil is cleared, graded, or excavated as part of the repaving operation may also be considered covered construction activities subject to MS4 Permit requirements depending on the size of the disturbed area.

1.2 REGULATORY BASIS

CDOT's MS4 Permit (CDPS No. COS000005) is the regulatory basis for the MS4 Construction Sites Program SOPs, along with the Findings of noncompliance documented during the EPA's Spring 2015 and April 2019 inspections of CDOT's MS4 Construction Sites Program.

1.2.1 MS4 PERMIT

The CDPHE-WQCD is authorized by the EPA to administer the National Pollutant Discharge Elimination System (NPDES) permit program as the CDPS. CDPS Permit No. COS000005 authorizes CDOT to discharge from its MS4 Permit Area to State Waters in accordance with the permit's effluent limitations, monitoring requirements, and other conditions. CDOT's MS4 Permit contains specific regulatory requirements for CDOT's seven MS4 Programs¹, including CDOT's MS4 Construction Sites Program. Appendix C identifies significant MS4 Permit Construction Sites Program requirements and the relevant MS4 Construction Sites Program SOPs and the Specifications used by CDOT to comply with these requirements.

CDOT's MS4 Permit area includes all areas of the Colorado state highway system and associated rights-of-way, as well as any properties that are CDOT-owned and operated, within another MS4 Permittee's permit area. "Another MS4 Permittee's permit area" is all the MS4 Phase I and Phase II permittees in Colorado, these are listed in CDOT's MS4 Permit. The current version of CDOT's MS4 Permit is published on CDOT's MS4 Program webpage.² Note that the procedures and SOPs included herein are applied statewide, both within and outside of the MS4 Permit area, to encourage uniformity and avoid different standards depending on whether a project is in or out of CDOT's MS4 Permit Area.

1.2.2 EPA INSPECTIONS AND FINDINGS

EPA inspected CDOT's MS4 Program from March 30, 2015 through April 2, 2015, accompanied by CDPHE-WQCD staff. At the time of the inspection, CDOT was working under the previous MS4 Permit that was set to expire on January 31, 2012 but was administratively extended.

In a Chief Engineer's memo issued on August 4, 2016, the CDOT Chief Engineer/Director of Stormwater Compliance identified repeated EPA Findings of noncompliance that CDOT was inconsistent in applying and enforcing its MS4 Construction Sites Program requirements across CDOT Regions. Inconsistent application of the MS4 Construction Sites Program makes it difficult for CDOT to establish metrics to ensure regulatory compliance and to identify and correct areas of noncompliance.

¹ Construction Sites Program, Permanent Water Quality Management, Illicit Discharges Program, Industrial Facilities Program, Public Education and Outreach Program, Pollution Prevention and Good Housekeeping Program, and Wet Weather Monitoring Program.

² <https://www.codot.gov/programs/environmental/water-quality/documents/ms4-program>

EPA conducted a follow up inspection of CDOT’s MS4 Construction Sites Program from April 15 to 17, 2019. Additional Findings of noncompliance were observed that showed that CDOT, particularly at the individual project level, must continue to pursue compliance with the MS4 Permit Construction Sites Program requirements.

The programmatic Findings of noncompliance from the 2015 EPA inspection and 2019 EPA follow-up inspection are listed in Appendices A and B, respectively, along with applicable SOPs that CDOT will use to avoid these and similar Findings in the future.

1.3 COMPLIANCE ASSURANCE

CDOT relies on a hierarchy of inspections, monitoring, and audits to meet its MS4 Permit Construction Program requirements (Figure 2).

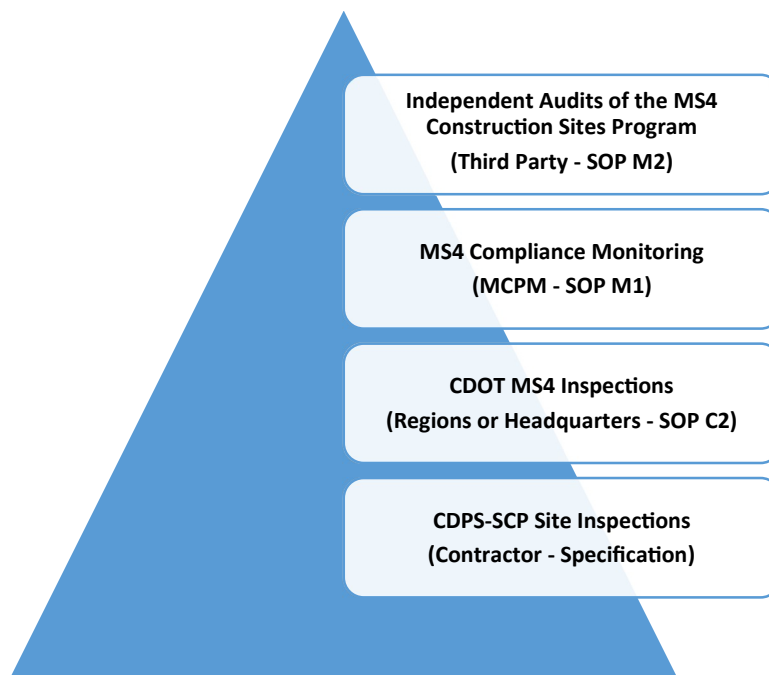


Figure 2. Hierarchy of MS4 Construction Sites Program Inspections, Audits and Monitoring Events

1. CDPS-SCP Site Inspections. Contractors inspect their construction projects for compliance with the CDPS Stormwater Construction Permit (CDPS-SCP).
2. CDOT MS4 Inspections. Region or Headquarters staff inspect CDPS-SCP-permitted projects to document compliance with CDOT MS4 Permit requirements.
2. MS4 Compliance Monitoring. CDOT MS4 compliance monitoring events evaluate the performance of CDOT Region and Headquarters staff with MS4 Construction Sites Program roles and responsibilities.
4. Independent Audits of the MS4 Construction Sites Program. Third party or regulatory agency audits of CDOT’s MS4 Construction Sites Program occur at least once during each MS4 Permit cycle and are performed by CDPHE-WQCD, EPA Region 8, CDOT’s internal auditing department, or a Contractor/Consultant.

CDOT is responsible for effectively implementing the MS4 Construction Sites Program and will follow established internal escalation processes to return to compliance with MS4 Permit

requirements. If CDOT cannot successfully resolve noncompliance internally, the MCPM and CDOT/CDPHE Liaison draft a report of noncompliance for signature by the Chief Engineer/Director of Stormwater Compliance and delivery to the WQCD in compliance with MS4 Permit, Part II.A.4.

1.3.1 REGULATORY COMMUNICATIONS

To maintain permit compliance, CDOT may have regulatory questions for the WQCD that range from project-specific questions to broader programmatic questions. The CDOT/CDPHE Liaison is CDOT’s designated point of contact for communication with the WQCD. With a single point of contact, CDOT-wide regulatory questions will be recognized, addressed, and communicated to appropriate CDOT MS4 personnel to ensure MS4 Construction Sites Program uniformity and statewide compliance.

CDOT recognizes two primary types of questions that may arise during program implementation, small impact questions and large impact questions. Large impact questions have potential implications for stormwater management across multiple CDOT construction sites, CDOT Regions, or CDOT’s MS4 Construction Sites Program. Large impacts can affect water quality standards and compliance actions. Small impact questions are project-specific MS4 Permit or CDPS-SCP questions with minimal or no regulatory exposure.

CDOT MS4 personnel may contact CDPHE directly with small impact questions if an immediate response is needed, followed by a debrief to the MCPM and CDOT/CDPHE Liaison after a response is received from the WQCD. This ensures the CDOT/CDPHE Liaison can disseminate pertinent information throughout all CDOT Regions as needed. CDOT MS4 personnel submit large impact questions to the CDOT/CDPHE Liaison, MCPM, and MCFM. If the CDOT/CDPHE Liaison, MCPM, and MCFM cannot address the questions internally, the CDOT/CDPHE Liaison will submit the questions to the WQCD. The CDOT/CDPHE Liaison will obtain a written response from the WQCD and share it with CDOT MS4 personnel. In the event the CDOT/CDPHE Liaison is unable to obtain a timely response, the WQSM may coordinate with the WQCD to answer CDOT questions.

1.4 CONTACTS FOR ADDITIONAL INFORMATION

The intended audience for the 2021 Manual and SOPs is CDOT employees, Consultants, and Contractors involved in applicable phases of the project delivery process. However, in some cases the relevant information needed to maintain compliance with CDOT’s MS4 Permit may be more appropriate in other CDOT manuals where the target audience will more easily be reached (Table 1). For example, CDOT engineers utilize the *CDOT Construction Manual* for DBB projects. Therefore, if a CDOT engineer has a critical SOP role for MS4 Permit compliance, then this information will be included in the *CDOT Construction Manual*. Where applicable, the reference document with the required information will be noted in the applicable SOP.

Table 1. CDOT Specialty Manuals Linked with the MS4 Construction Sites Program

Document	Intended Audience	Web Address
Construction Manual	Engineering and Project Engineers	https://www.codot.gov/business/designsupport/bulletins_manuals/construction-manual
Design Build Manual	Design Build Project Teams	https://www.codot.gov/business/designsupport/adp-db-cmqc/2016-cdot-d-b-manual



Document	Intended Audience	Web Address
Construction Manager / General Contractor Manual	CM/GC Project Teams	https://www.codot.gov/business/designsupport/adp-db-cmhc/documents/cmhc-manual
Project Development Manual	Project Development Teams, all delivery types	https://www.codot.gov/business/designsupport/bulletins_manuals/2013-project-development-manual
Property Management section of the Right of Way Manual	Property Management Project Teams	https://www.codot.gov/business/propertymanagement/row-manual-property-management.html

Table 2 lists CDOT Headquarters staff who can be contacted with questions about the MS4 Construction Sites Program and Manual.

Table 2. CDOT Contacts MS4 Construction Sites Program Contacts

Name	Title	Direct Line	Email
Laura Newman, PE	MS4 Construction Program Manager	303.757.9257	Laura.Newman@state.co.us
Paul Heffernan	MS4 Construction Field Manager	970.389.4632	Paul.Heffernan@state.co.us
Jean Cordova, CPMSM	Water Quality Section Manager	303.513.4635	Jean.Cordova@state.co.us

MS4 Construction Sites Program Task Force Delegates will also answer questions about the program and Manual. Each Region has two Delegates, one of whom is an RWPCM. The Manual belongs to the Task Force and is a tool to facilitate the implementation of a unified MS4 Construction Sites Program statewide.

1.5 SUMMARY

The 2021 Manual sets forth critical design, field, and monitoring SOPs to meet CDOT’s MS4 Permit requirements and resolve EPA Findings of noncompliance. This Manual is a ready reference for CDOT MS4 personnel to understand roles and responsibilities for all aspects of the MS4 Construction Sites Program.

When creating the SOPs, the Task Force was encouraged to apply existing CDOT processes provided these processes are compliant with MS4 Permit requirements. To this end, this Manual does not rewrite or change established CDOT processes (e.g., the roles of the Standards and Specifications Unit [SSU] and the Project Development Advisory Committee [PDAC] in changing

specifications) that allow CDOT to maintain permit compliance. The goal of this Manual is to work within those established processes.

This Manual is a dynamic document reviewed at least annually by the MCPM and MCFM and updated, as needed, with Task Force consultation. Updates may be driven by modifications to CDPHE permits, CDOT Standard Specifications, industry standards, internal CDOT processes, or by Findings from internal or third party MS4 audits.



2.0 DESIGN SOPS

The Task Force approved two design phase MS4 Construction Sites Program SOPs to replace the *2017 Manual's* six design phase SOPs. The two SOPs apply to all covered construction activities regardless of project delivery method.

1. Updating CDOT's Water Quality Specifications and Related Field Implementation Documents (SOP D1)
2. Project SWMP Preparation and Review (SOP D2)

SOP D1 describes the process to add, modify, or remove a CDOT Water Quality Specification or related field implementation document. SOP D2 addresses preparing and reviewing a project's SWMP.

CDOT staff or Designees with identified design SOP roles:

- SWMP Designers with a valid CDOT SWMP certification
- SWMP Reviewers with a valid CDOT SWMP certification
- Landscape Architecture Section Manager (LASM)
- MCFM
- MCPM
- WQSM
- Task Force Delegates



SOP D1 - UPDATING CDOT'S WATER QUALITY SPECIFICATIONS AND RELATED FIELD IMPLEMENTATION DOCUMENTS

Revision Number: 1.4
Date Issued/Revised: January 1, 2021
Project Delivery Method: DBB (including PM and MTCE), DB, CM/GC

1.0 OVERVIEW AND MS4 APPROACH

CDOT's MS4 Permit states that CDOT must identify documents and electronic records (defined as 'list of citations' in the permit) used to comply with the permit requirements. Documents that CDOT uses to comply with permit requirements include CDOT Standard Specifications 107.25, 208, 213, and 216 (collectively referred to herein as CDOT's Water Quality Specifications). Field implementation documents include CDOT Forms 1388, 1176, and 1177 and Standard Plans M-208-1 and M-216-1. SOP D1 describes the process to add, modify, or remove select CDOT Water Quality Specifications and field implementation documents.

SSU updates the CDOT Standard Specifications annually. A project's advertisement (AD) date generally determines which version of CDOT's Standard Specifications apply. Each year's version of the CDOT Standard Specifications applies to all projects advertised for bids after October 1 of the same year, i.e., the *2019 Standard Specifications for Road and Bridge Construction* apply to all projects advertised for bids between October 1, 2019 and September 30, 2020. A subsequent Contract Modification Order (CMO) or other contract change updates the applicable version of the CDOT Standard Specifications.

The LAS is responsible for preparing and updating Standard Specifications 213 and 216, and while these are considered CDOT Water Quality Specifications they are not subject to the procedures established in this SOP. The LAS is also responsible for updating Standard Plans M-208-1 and M-216-1. The LAS has its own processes to add or otherwise modify the SWMP templates, site map standards, SWMP tabs, Standard Plans M-208-1 and M-216-1, and CDOT Standard Specifications 213 and 216.

2.0 REGULATORY CRITERIA

- MS4 Permit, Part I.B. Control Measures
- MS4 Permit, Part I.E.1.a.
- MS4 Permit, Part I.E.1.b.iii.

3.0 LINKED CDOT SPECIALTY MANUALS

- None

4.0 METHODS/PROCEDURES

1. The MCPM or MCFM accept proposed changes to CDOT Water Quality Specifications or field implementation documents, with a rationale for the proposed change, from any CDOT personnel.



- a. Proposed changes are submitted to the MCPM and MCFM via email or other electronic method, or can be verbally communicated during program meetings and then documented in meeting minutes or through written follow-up communication.
 - b. The MCPM, MCFM, or Designees save an electronic record of proposed changes and associated rationale submitted throughout the year.
2. The MCPM, MCFM, or Designee assign a high or low priority to each requested change to CDOT Water Quality Specifications or field implementation documents.
 - a. High priority changes, such as MS4 Permit compliance issues, are immediately evaluated by the MCPM, LASM, and WQSM, or Designees.
 - b. The MCPM, LASM, and WQSM (or Designees), and others as invited, meet once per year, if needed, to evaluate low priority changes.
3. The MCPM, LASM, WQSM, or their Designees, draft proposed CDOT Water Quality Specifications or field implementation document language.
4. The MCPM, MCFM, or Designees provide a written rationale for rejected change requests to the CDOT personnel who requested the change.
5. The MCPM, MCFM, or Designees submit draft CDOT Water Quality Specification and field implementation document revisions to all Task Force Delegates for comment*. In the case of high priority changes, if expeditious revisions are critical for program compliance, verbal or electronic input or concurrence from the Task Force Delegates may be solicited in lieu of a review and comment period.
6. Task Force Delegates collect and compile input on draft language from their Region, as necessary. *
7. The MCPM, MCFM, or Designees evaluate Task Force input and revise draft language, as necessary. A second round of comment may be conducted if requested by Task Force Delegates or is otherwise determined to be needed. *
8. The MCPM works with the WQSM to submit suggested CDOT Water Quality Specifications and field implementation document language to the appropriate CDOT technical review board(s).

* Review period deadlines will be established for all reviews. Review period deadlines are firm and if comments are not received by the deadline, it will be assumed that no comments are forthcoming.

5.0 DOCUMENTATION AND REPORTING REQUIREMENTS

- CDOT Form 1215, CDOT Submittal of New Specification or Specification Change

6.0 MS4 TRAINING REQUIREMENTS

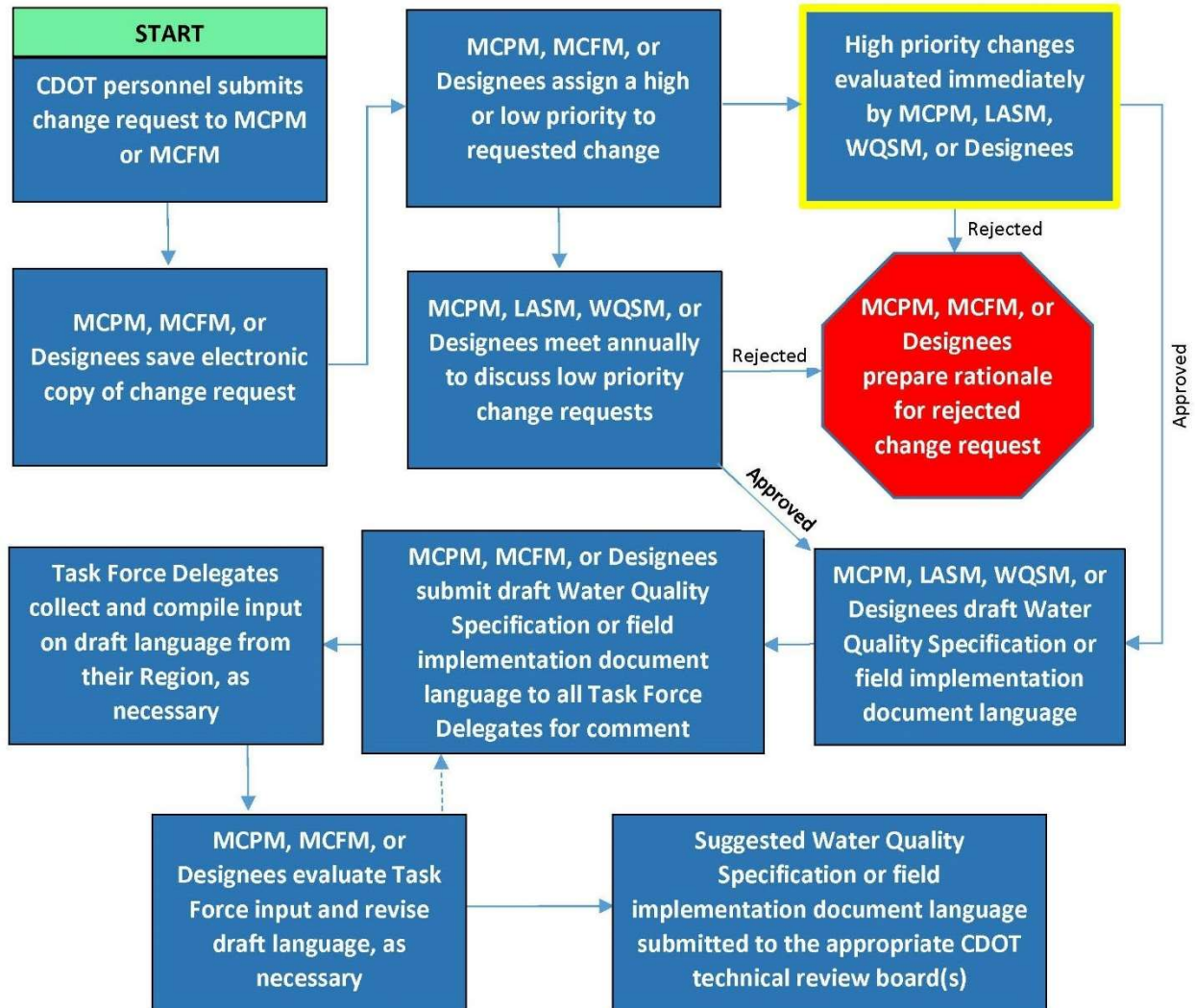
- None currently.

7.0 ATTACHMENTS

SOP D1, Attachment 1 is the process flowchart for updating CDOT Water Quality Specifications and field implementation documents.



SOP D1, Attachment 1





SOP D2 - PROJECT SWMP PREPARATION AND REVIEW

Revision Number: 1.4
Date Issued/Revised: January 1, 2021
Project Delivery Method: DBB (including PM and MTCE), DB, CM/GC

1.0 OVERVIEW AND MS4 APPROACH

CDOT requires a SWMP for every construction project, regardless of the size of the disturbance area. Construction Sites Program requirements in CDOT's MS4 Permit, however, only apply to covered construction activities. Because of this, SOP D2 is designed to ensure compliance with MS4 Permit requirements for control measures (Part I.E.1.a.iii) and SWMPs (Part I.E.1.a.iv). Covered construction activities:

“...include construction activities that result in a land disturbance of greater than or equal to one acre or that is less than one acre but is part of a larger common plan of development or sale that would disturb, or has disturbed since March 2, 2001, one acre or more, unless excluded below or the disturbed areas have been finally stabilized. Covered construction activities include the land disturbing activity and all activities and materials associated with the construction project and located at or contiguous to the land disturbing activities” (COS000005, Part I.E.1).

This SOP addresses development and review of SWMPs before construction activities start. CDOT SWMPs use either the template for > 1-acre impact or < 1-acre impact, both are published on the CDOT SWMP Templates webpage. CDOT's SWMP templates, SWMP site map standards, and SWMP tabs are maintained by the LAS to meet MS4 Permit and CDPS-SCP requirements.

The major/minor SWMP modifications SOP (SOP C1) governs the process of revising SWMPs during construction.

CDPS-SCP projects located in or draining to the Cherry Creek Drainage Basin are responsible for complying with the MS4 Construction Sites Program as well as additional Cherry Creek Basin Water Quality Authority requirements (5 CCR 1002-72).

2.0 REGULATORY CRITERIA

- CDOT MS4 Permit (COS000005), Part I.B.1. Good Engineering, Hydrologic and Pollution Control Practices
- CDOT MS4 Permit (COS000005), Part I.E.1.a.iv Stormwater Management Plans (SWMPs)
- CDOT MS4 Permit (COS000005), Part I.E.1.a.iv(B) Initial SWMP Review
- CDOT MS4 Permit (COS000005), Part I.E.1.b. Recordkeeping
- CDOT MS4 Permit (COS000005), Part I.E.1.c. PDD

3.0 LINKED CDOT SPECIALTY MANUALS

- CDOT Project Development Manual



4.0 METHODS/PROCEDURES

1. The SWMP Administrator for Design (SWMP Designer) develops the project's SWMP according to Section 3.15 of the *CDOT Project Development Manual* and the requirements of the CDPS-SCP.
 - a. **SWMP Administrator for Design (SWMP Designer)** is a Contractor or full-time CDOT employee who has successfully completed CDOT's Stormwater Management Plan (SWMP) certification course and holds a valid CDOT SWMP certification. SWMP Designers may delegate the SWMP provided the work is done under a SWMP Designer's guidance and direction.
2. The SWMP Designer, in coordination with the Regional Planning and Environmental Manager (RPEM) or Region Designees, notifies the SWMP Reviewer that the SWMP is complete and ready for review.
 - a. **SWMP Reviewer** is a full-time CDOT employee, preferably a Region Environmental staff, who holds a valid CDOT SWMP certification. SWMP Reviewers review and approve project SWMPs for Colorado Discharge Permit System–Stormwater Construction Permit projects. A SWMP Reviewer may not review a SWMP for which they were the SWMP Designer.
3. The SWMP Reviewer evaluates the SWMP and either provides comments or accepts the SWMP within the project's specified timelines.
 - a. The review process continues until the SWMP Reviewer accepts the SWMP.
4. The RPEM, or Region Designee, records the SWMP acceptance date on Form 128 (Categorical Exclusion Determination), a SWMP approval memo, or other documentation signed by the SWMP Reviewer (SWMP acceptance document).
 - a. The SWMP must be accepted before the start of construction activities.
 - b. The SWMP acceptance document must be saved with the project files.
 - c. The final SWMP reviewed for the SWMP acceptance document must be saved with the project files.

5.0 DOCUMENTATION AND REPORTING REQUIREMENTS

- The SWMP Designer's name must be recorded on the SWMP.
- A copy of the final, accepted SWMP must be stored in the project files.
- The SWMP acceptance document must be stored in the project files.
- Documentation of conformance with 5 CCR 1002-72 requirements if the project is in, or drains to, the Cherry Creek Drainage Basin.

6.0 MS4 TRAINING REQUIREMENTS

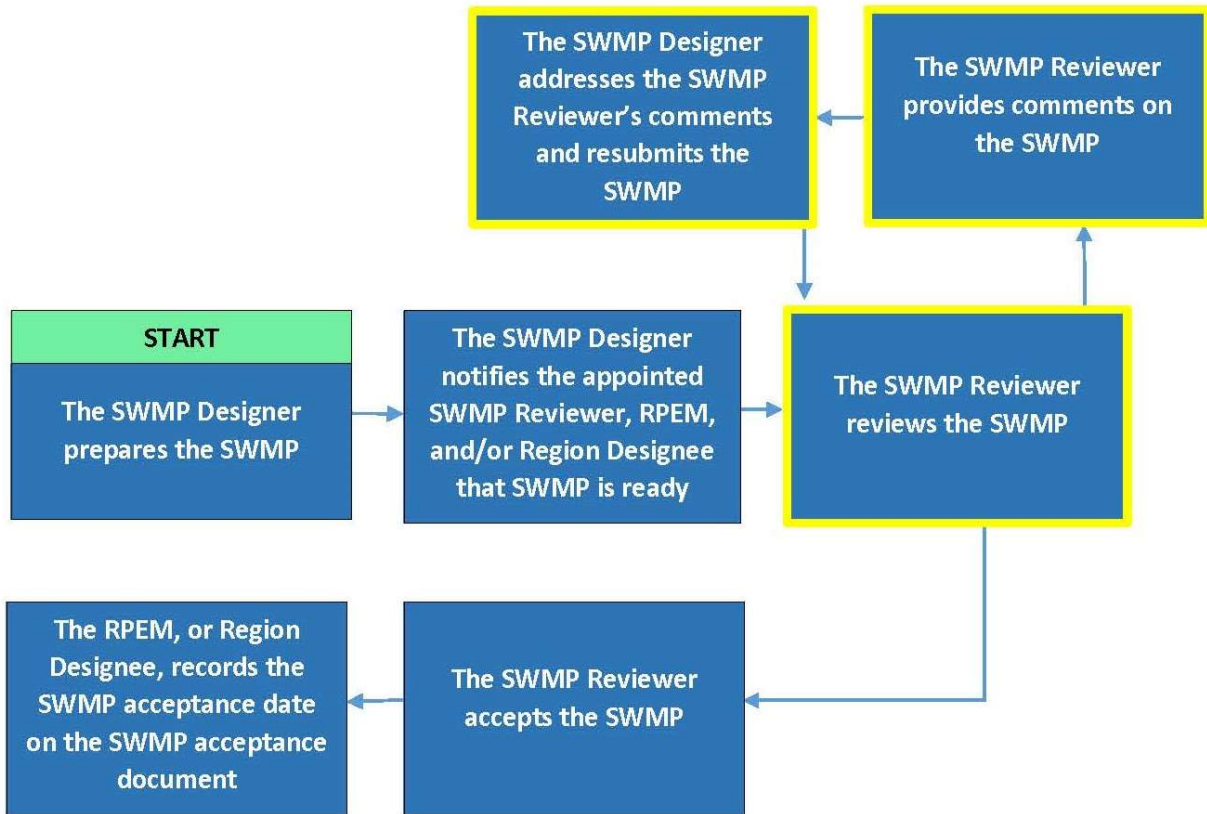
- CDOT SWMP Certification

7.0 ATTACHMENTS

SOP D2, Attachment 1 is the process flowchart for the Project SWMP Preparation and Review.



SOP D2, Attachment 1



3.0 MS4 CONSTRUCTION SITES SOPS

The Task Force approved three construction phase MS4 Construction Sites Program SOPs to replace the 2017 Manual's four construction phase SOPs. The three SOPs apply to all covered construction activities regardless of project delivery method.

1. Major and Minor SWMP Modifications during Construction (SOP C1)
2. CDOT MS4 Inspections (SOP C2)
3. Long-term SWMP Retention (SOP C3).

MS4 Construction Sites SOPs C1 and C2 are effective during active and post-active construction. SOP C3 ensures that SWMPs for completed projects are retained in compliance with MS4 Permit requirements and CDOT's records retention policy (Procedural Directive 51.1 Requirements for the Retention of Documents³).

CDOT Standard Specification, subsection 208.09 is CDOT's regulatory mechanism to resolve MS4 Permit compliance issues at CDOT-owned construction sites. Subsection 208.09 sets forth timelines, penalties, and escalation processes for Regular, Chronic, and Severe Findings, and Recalcitrance.

CDOT staff with identified construction phase SOP roles:

- RWPCMs or designee⁴
- Project Engineers or designee⁴
- MCFM
- MCPM

³https://www.codot.gov/content/programs/training/01112017_Records%20on%20the%20Move_Rev_A/51.1%20PD%20Requirements%20for%20the%20Retention%20of%20Documents.pdf

⁴ In certain circumstances contractors may be hired to represent CDOT to conduct MS4 inspections.

SOP C1 - MAJOR AND MINOR SWMP MODIFICATIONS DURING CONSTRUCTION

Revision Number: 1.4
Date Issued/Revised: January 1, 2021
Project Delivery Method: DBB (including PM and MTCE), DB, CM/GC

1.0 OVERVIEW AND MS4 APPROACH

MS4 Permit, Part I.E.1.a.iv(A) requires CDOT to “develop and implement procedures to address modifications to SWMPs, including how minor and major modifications are defined and reviewed.”

SOP D2 describes the SWMP development process prior to active construction. SOP C1 addresses major and minor modifications to a project SWMP during active construction.

2.0 REGULATORY CRITERIA

- CDPS-SCP (COR-400000), Part I.D.5.c. and d.
- MS4 Permit (COS000005), Part I.E.1.a.iv(A)
- MS4 Permit (COS000005), Part I.E.1.c.iv(A)

3.0 LINKED CDOT SPECIALTY MANUALS

- CDOT Construction Manual
- CDOT Design Build Manual
- CDOT Construction Manager/General Contractor Manual
- CDOT Property Management section of the Right of Way Manual

4.0 METHODS/PROCEDURES

CDPHE-WQCD defines major SWMP modifications and minor SWMP modifications in the draft Non-standard MS4 Permit (CDPS Permit No. COR070000). CDOT is adopting these definitions, pending any changes to the definitions between the draft and final Non-standard MS4 Permit. The Department anticipates that these definitions will carry forward into the next iteration of CDOT’s MS4 Permit.

For major SWMP modifications, the Project Engineer will follow the Contract Modification Order (CMO) process described in the CDOT Construction Manual, or another relevant project delivery manual. The Project Engineer should consult with the RWPCM to discuss how the CMO will impact project compliance with MS4 Permit requirements.

Steps for a minor modification are as follows:

1. The RWPCM reviews all minor SWMP modifications during the next CDOT MS4 Inspection after the SWMP is modified.
2. The RWPCM may reject the minor SWMP modification if it is “determined to not be selected, designed, installed, implemented, and maintained in accordance with good engineering,



hydrologic, and pollution control practices, and the manufacturer's specifications" (COS000005, Part I.B.1).

- a. A minor SWMP modification is rejected with an adverse Finding in CARL following the CDOT MS4 Inspection.
- b. The 208.09 Specification applies to all Findings, including rejected minor SWMP modifications.

5.0 DOCUMENTATION AND REPORTING REQUIREMENTS

- Documentation of project SWMP modifications must be in accordance with Subsection 208.2.2 of the CDOT Construction Manual.
- The SWMP must record all modifications at the time the change occurs in site conditions.

6.0 MS4 TRAINING REQUIREMENTS

- None currently.

7.0 ATTACHMENTS

SOP C1, Attachment 1 is the process flowchart for major and minor SWMP modifications during construction.

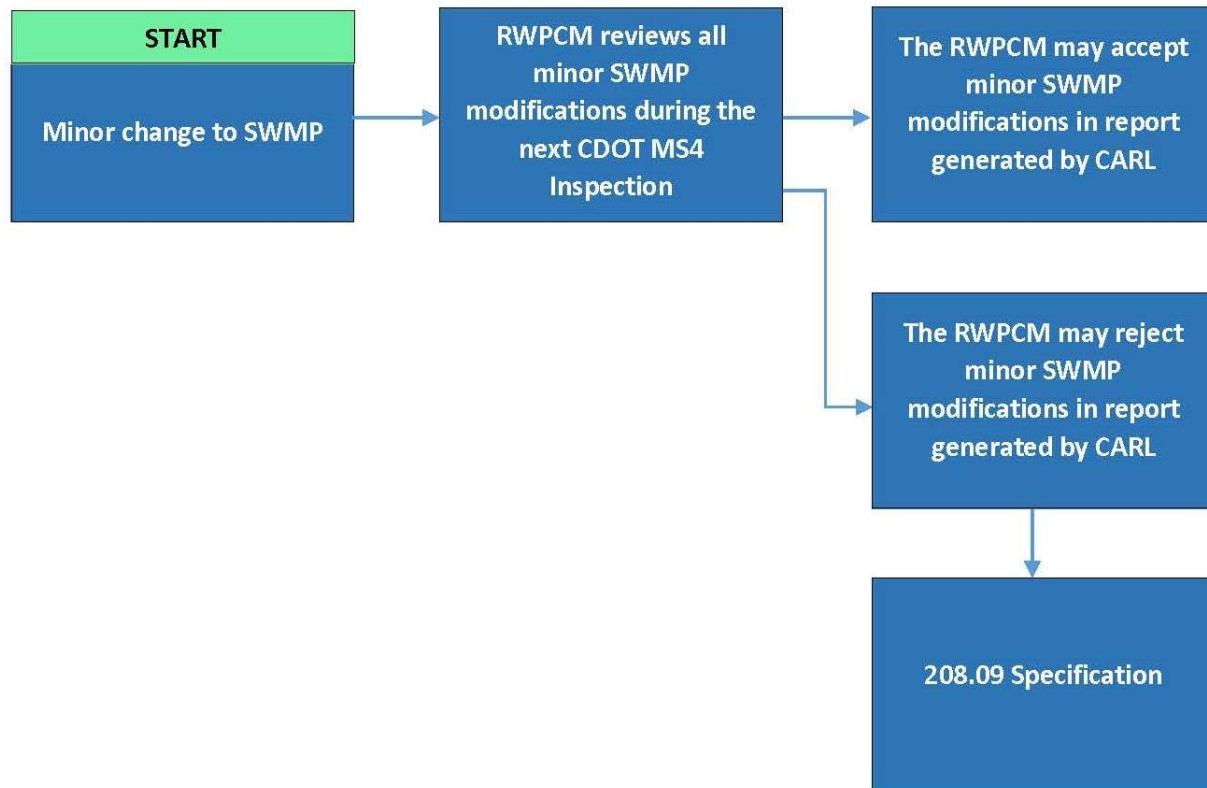


SOP C1, Attachment 1

Major SWMP Modification



Minor SWMP Modification





SOP C2 – CDOT MS4 INSPECTIONS

Revision Number: 1.4
Date Issued/Revised: January 1, 2021
Project Delivery Method: DBB (including PM and MTCE), DB, CM/GC

1.0 OVERVIEW AND MS4 APPROACH

The MS4 Permit defines four types of CDOT MS4 Inspections, including the minimum inspection frequency to maintain compliance with MS4 Permit requirements.

- Routine Inspection
- Winter Conditions
- Reduced Frequency/Scope Inspection
 - Inactive sites
 - Stormwater Management System Administrator’s Program
- Compliance Follow-up Inspection

The methods/procedures described in Section 4.0 of SOP C2 are initiated when CDOT, or a designated CDOT representative, schedules a Routine Site Inspection or Reduced Frequency/Scope Inspection of a covered construction activity. For sites where construction activities are temporarily halted or snow cover exists due to winter conditions, inspections are temporarily not required as described in the definition of Winter Conditions.

Standard Specifications, Subsection 208.09 is the regulatory mechanism CDOT uses to return covered construction activities to compliance with applicable Construction Sites Program requirements in CDOT’s MS4 Permit (COS000005, Part I.E.1) and the CDPS-SCP.

2.0 REGULATORY CRITERIA

- CDPHE MS4 Permit (COS000005), Part I.E.1.a.v.
- CDPHE MS4 Permit (COS000005), Part I.E.1.a.vii Training
- CDPHE MS4 Permit (COS000005), Part I.E.1.b. Recordkeeping

3.0 LINKED CDOT SPECIALTY MANUALS

- None.

4.0 METHODS/PROCEDURES

The CDOT inspector is typically the RWPCM; however, the MCFM, MCPM, or their Designees may lead a CDOT MS4 Inspection.

1. The CDOT inspector schedules a Routine Inspection or Reduced Frequency/Scope Inspection of a covered construction activity.
 - a. CDOT must conduct a Routine Site Inspection at least once every 45 days during active construction and at least once before final stabilization (COS000005, Part I.E.1.a.v(B)).



- i. Routine Site Inspections may be referred to as MARs (monthly audit reports) or RECATs (Region Erosion Control Assessment Team). A RECAT is a Headquarters-led Routine Site Inspection.
 - ii. Alternative inspection methods may be utilized for large projects.⁵
 - b. CDOT must conduct a Reduced Frequency/Scope Site Inspection at least every 90 days for:
 - i. Sites where surface ground disturbance activities are completed and are pending growth for final stabilization or for sites where no construction activity has occurred since the last CDOT MS4 Inspection (COS000005, Part I.E.1.a.v(C)1).
 - ii. Construction activities being operated by a participant in a Division designated Stormwater Management System Administrator's Program in accordance with Article 8 of Title 25, Colorado Revised Statutes that has been identified by the Administrator to be fully implementing the program and qualified for reduced oversight incentives of the program (COS000005, Part I.E.1.a.v(C)2).
 - c. If Winter Conditions apply in accordance with COS000005 (Part I.E.1.a.v(A)), the CDOT inspector is responsible for documenting Winter Conditions exclusions in CARL. SOP C2, Steps 1 through 8 do not apply during Winter Conditions.
2. The CDOT inspector notifies the Project Engineer of the date and time of the Routine Site Inspection or Reduced Frequency/Scope Inspection.
3. The CDOT inspector conducts an administrative review of the SWMP against CDOT Standard Specifications, subsection 208.03(d)1, and Part I.E.1.a.iv of CDOT's MS4 Permit.

⁵ *Large Project Site Inspections*

For most projects, a CDOT MS4 Inspection consists of a one day, point-in-time inspection by a single inspector. However, on large projects this method may not adequately assess all control measures, pollutant sources, and discharge points. In these cases, CDOT will utilize a variety of optional methods to ensure MS4 Permit compliance, including:

- CDOT Contractors, not associated with the project and paid for by CDOT, may be used to ensure that all control measures, pollutant sources and discharge points are adequately inspected at least every 45 days for active construction sites. These inspections may be documented outside of CARL, however Finding(s) will be documented with water quality related Form 105s issued by the Project Engineer or Designee.
- Multiple day inspections may be conducted by Region, HQ, or CDOT Contractor inspectors.
- CDOT may use multiple inspectors on the same day, inspecting different areas of the project at the same time.
- Drones may be used for visual inspections of the project (under development).
- Satellite imagery may be used for visual inspections of the project (under development).
- Other methods may be used as approved by MCPM or MCFM.

Projects will be determined to be large projects at the RWPCMs discretion; but will typically be impossible to adequately inspect in one day by one person. Long linear projects, with few discharge points, flat topography, infiltrating soil types etc., that can easily be inspected in a day, will not be considered a large project.



- a. During the first Routine Site Inspection of a new project, the CDOT inspector reviews the entire SWMP and verifies the following:
 - i. The tab sections contain the required documents.
 - ii. The documents reflect current conditions at the site.
 - iii. The SWMP is compliant with the requirements of CDOT's MS4 Permit and the SCP.
 - b. After the first Routine Site Inspection, the CDOT inspector reviews, at a minimum:
 - i. the SWMP Site Map,
 - ii. the calendar,
 - iii. CDOT Form 1176 (Stormwater Field Inspection Report – Active Construction) records since the last Routine Site Inspection,
 - iv. water quality related Form 105s (e.g., initiation of a 208.09 process or approval of major SWMP modifications) issued by the Project Engineer since the last Routine Site Inspection, and
 - v. any SWMP tabs where changes may have occurred since the last Routine Site Inspection (e.g., non-standard control measures added or additional potential pollutants).
4. The CDOT inspector conducts the field review to evaluate for any situations that are in noncompliance with CDOT's MS4 Permit and/or CDOT's Water Quality Specifications or Standard Plans M-208-1 or M-216-1.
 5. The CDOT inspector conducts a close-out meeting with the Contractor's SWMP Administrator for Construction (SWMP Admin) to review Findings and compliance-assistance opportunities.
 6. The CDOT inspector enters administrative Findings, field Findings, and compliance-assistance justification into CARL.
 7. CARL notifies the Project Engineer of any Regular Findings, Severe Findings, Chronic Findings, or other issues relating to the 208.09 specification.
 8. Project Engineer notifies the Contractor of the Findings. Contractor must address the Findings in accordance with CDOT Standard Specifications, subsection 208.09.
 9. A Compliance Follow-up Inspection must occur within 14 days of CDOT identifying that there is a failure to implement a control measure or an inadequate control measure unless corrections were made and observed by the CDOT inspector during the initial inspection. One of the following may be performed as a Compliance Follow-up Inspection (COS000005, Part I.E.1.a.v(D)2):
 - a. Routine Site Inspection (follow Steps 1 through 8 of this section).
 - b. Reduced Frequency/Scope Inspection (follow Steps 1 through 8 of this section)
 - c. Require the operator to inspect and report that the control measure has been implemented or corrected as necessary to meet the requirements of Part I.E.1. The owner report must include photographs of the new/adequate control measure (this process is documented in CARL and is subject to the requirements of Subsection 208.09).



5.0 DOCUMENTATION AND REPORTING REQUIREMENTS

Routine Site Inspections, Reduced Frequency/Scope Inspections, Compliance Follow-up Inspections, and Winter Conditions reporting occurs through CARL and may include documentation such as field notes, digital photography, and other relevant information.

6.0 MS4 TRAINING REQUIREMENTS

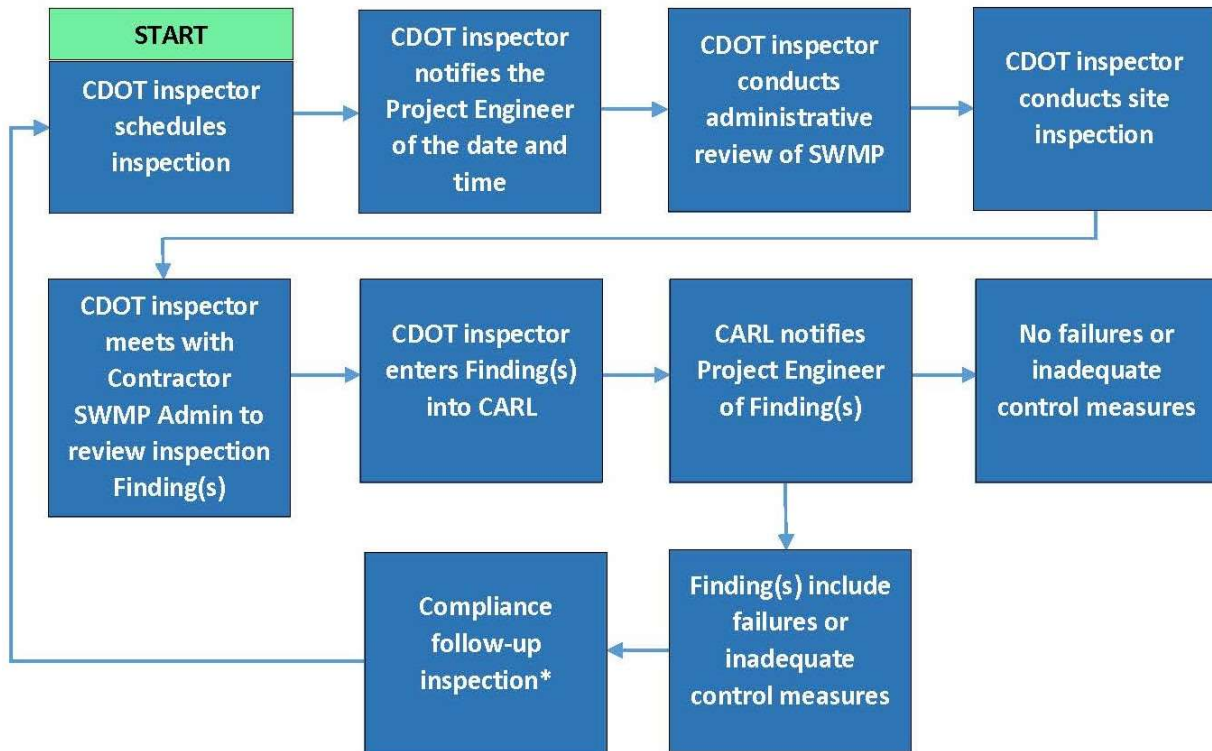
- TECS Certification Class

7.0 ATTACHMENTS

SOP C2, Attachment 1 is the process flowchart for a Routine Site Inspection.



SOP C2, Attachment 1



*If the CDOT inspector chooses to conduct a routine site inspection within 14 days of identifying a failure to implement a control measure or an inadequate control measure, then the Routine Site Inspection process is repeated. CDOT typically requires the operator to inspect and report (with photographic verification) that the control measure has been implemented or corrected as necessary.



SOP C3 - LONG-TERM SWMP RETENTION

Revision Number: 1.4
Date Issued/Revised: January 1, 2021
Project Delivery Method: DBB (including PM and MTCE), DB, CM/GC

1.0 OVERVIEW AND MS4 APPROACH

SOP C3 sets forth consistent and uniform direction for retaining SWMPs by RWPCMs or their Designees. This SOP is initiated when a covered construction activity is inactivated. This SOP remains in effect for the duration of time required by CDOT's MS4 Permit or CDOT's records retention policy (Procedural Directive 51.1 Requirements for the Retention of Documents⁶), whichever is longer. The RWPCM does not need to retain SWMPs beyond the longer of the two required record retention periods. Additional information and any applicable forms are available through CDOT's Records Management team (<https://sites.google.com/state.co.us/cdothub/teams/records-management>).

SOP C3 ensures that RWPCMs can efficiently retrieve SWMPs (paper or electronic) for inactivated construction projects to respond to a records request by the WQCD, the EPA, the MCPM, the MCFM, or Designees.

2.0 REGULATORY CRITERIA

CDPS MS4 Permit (COS000005), Part I.K.2. Retention of Records

3.0 LINKED CDOT SPECIALITY MANUALS

- CDOT Construction Manual
- CDOT Design Build Manual
- CDOT Construction Manager/General Contractor Manual
- CDOT Property Management section of the Right of Way Manual

4.0 METHODS/PROCEDURES

1. The RWPCM obtains the project's final SWMP upon project completion.
2. The RWPCM, or Designee, documents the discard date for the SWMP as the length of time specified in CDOT's MS4 Permit or CDOT's record retention policy, whichever is longer.
 - a. The discard date is updated if CDPHE-WQCD requests a storage extension or CDOT's record retention policy changes.
3. The RWPCM stores the SWMP in an accessible location known by the RWPCM and Designees so the SWMP can be efficiently retrieved when requested.

⁶https://www.codot.gov/content/programs/training/01112017_Records%20on%20the%20Move_Rev_A/51.1%20PD%20Requirements%20for%20the%20Retention%20of%20Documents.pdf



4. The RWPCM or Designee will make the SWMP available for review by the WQCD, EPA, MCPM, MCFM, or Designees if requested during CDOT's established SWMP retention period.

5.0 DOCUMENTATION AND REPORTING REQUIREMENTS

- The RWPCM is responsible for maintaining a spreadsheet or other electronic document that lists all retained SWMPs, storage location(s), and the retention expiration date for each SWMP.
- Documentation and reporting requirements must be compliant with the Water Quality Record File Plan and CDOT MS4 Permit requirements and are subject to compliance monitoring by the MCPM, MCFM, or Designees.

6.0 MS4 TRAINING REQUIREMENTS

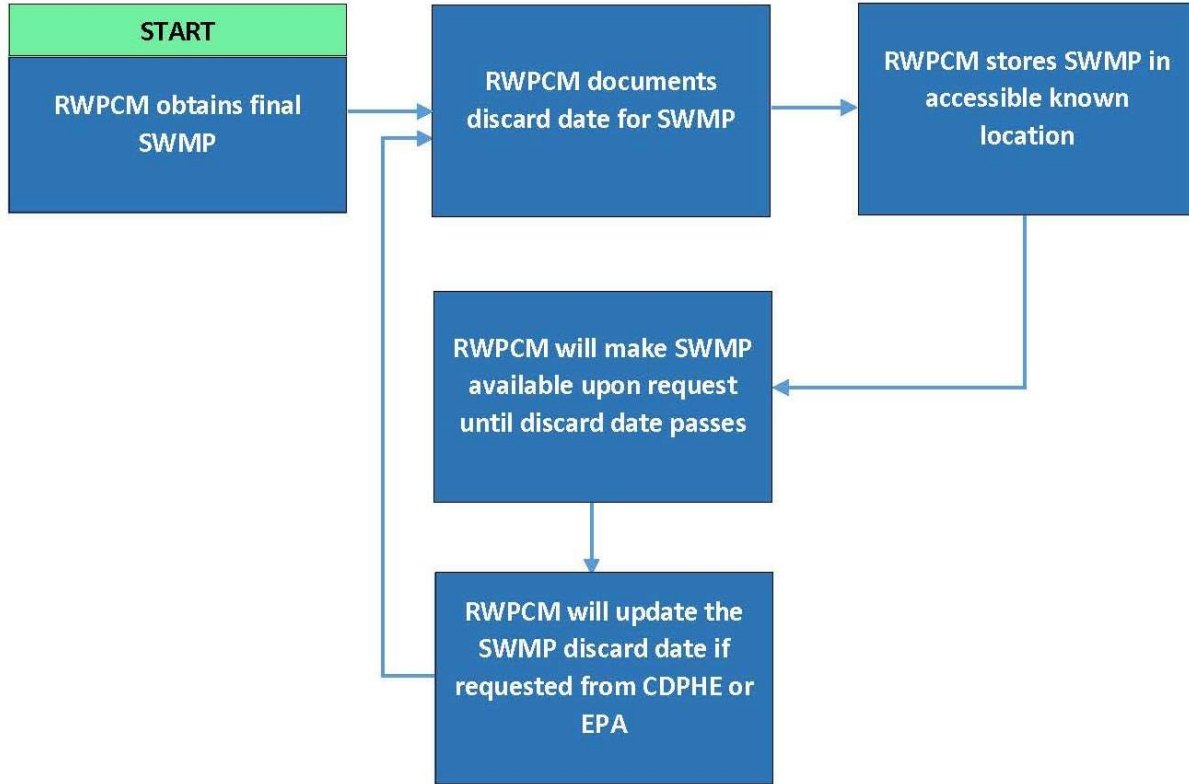
- None currently.

7.0 ATTACHMENTS

SOP C3, Attachment 1 is the process flowchart for Long-term SWMP Retention.



SOP C3, Attachment 1





4.0 MS4 MONITORING PROCEDURES

The overall goal of the 2021 Manual is to maintain statewide compliance with CDOT's MS4 Permit and protect State Waters by following consistent methodologies and procedures during project design and active construction. CDOT MS4 personnel are further informed, through the MS4 compliance monitoring SOPs, of the processes and steps that the MCPM, MCFM, or Designees, will follow to measure Department compliance with MS4 Permit Construction Sites requirements and the escalation processes available to resolve noncompliance at the Region or Headquarters level.

The Task Force approved two MS4 Monitoring SOPs to replace the 2017 Manual's six MS4 Monitoring SOPs.

1. MS4 Compliance Monitoring (SOP M1) applies to Region environment/water quality staff and is performed by the MCPM or MCFM.
2. MS4 Construction Sites Program Third-Party Audit (SOP M2) evaluates MS4 Permit compliance by Headquarters DTD staff and is performed by a third party.

The activities covered under monitoring SOPs removed from the 2021 Manual are led by the MCPM or MCFM following existing CDOT protocols and procedures and do not require SOPs.

Water quality staff at CDOT Headquarters (MCPM, MCFM, WQSM, and others) will utilize existing chains-of-command and escalation procedures (with support from the Chief Engineer/Director of Stormwater Compliance) to direct compliance by staff in other CDOT functional work areas, including engineering and maintenance.

The following guidelines pertain to all MS4 compliance monitoring events.

- Evaluations of construction phase SOPs will be scheduled during the active construction season and monitoring of design and non-project SOPs will occur during the winter or off-season.
- MS4 compliance monitoring is used to evaluate and foster consistency in MS4 Construction Sites Program implementation across CDOT, including MS4 Permit requirements, as well as incorporate lessons learned throughout CDOT's MS4 Construction Sites Program.
- MS4 compliance monitoring is reported to the WQSM annually, and to CDOT's Chief Engineer/Director of Stormwater Compliance as requested.

Key staff, or their Designees, responsible for implementing the MS4 Monitoring SOPs are:

- CDOT/CDPHE Liaison
- Chief Engineer/Director of Stormwater Compliance
- MCFM
- MCPM
- WQSM



SOP M1 - MS4 COMPLIANCE MONITORING

Revision Number: 1.4
Date Issued/Revised: January 1, 2021
Project Delivery Method: DBB (including PM and MTCE), DB, CM/GC

1.0 OVERVIEW AND MS4 APPROACH

SOP M1 is the process the MCPM, or Designee, uses to conduct MS4 Construction Sites Program self-monitoring activities, record observations, and respond to MS4 Construction Sites Program non-compliance, including escalation processes, in the Regions.

MS4 compliance monitoring is a necessary step in the hierarchy of MS4 Construction Sites Program oversight events (Figure 33). Third-party audits of the MS4 Construction Sites Program are addressed in SOP M2.

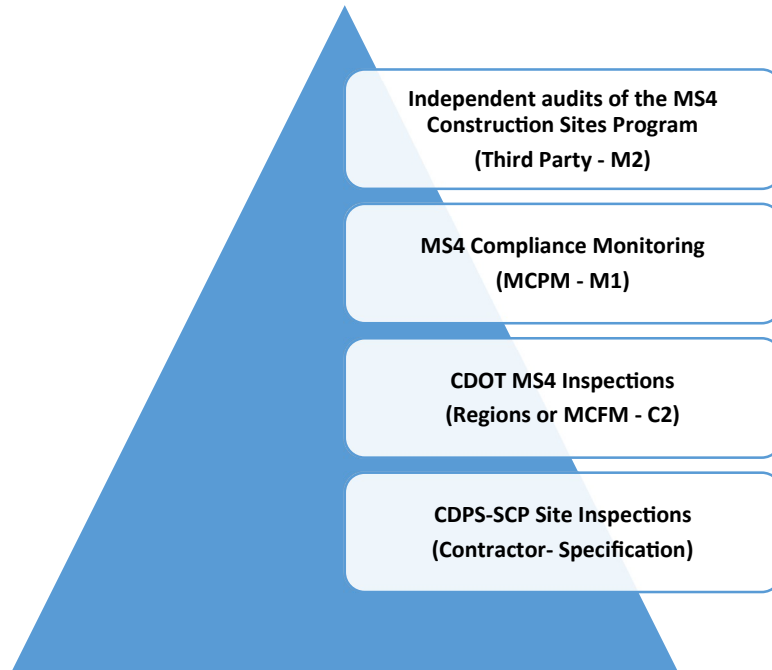


Figure 3. The Hierarchy of MS4 Construction Sites Program Inspections, Audits and Monitoring Events

SOP M1 includes two components:

- MS4 Compliance Monitoring evaluates implementation of the Manual by RWPCMs and other Region water quality staff. MS4 compliance monitoring, conducted in person or through CARL, verifies that MS4 roles, responsibilities, methods, and procedures are followed and are consistent across CDOT Regions. Headquarters staff performing MS4 compliance monitoring provide compliance assistance or require compliance actions to resolve non-compliance issues with the CDOT MS4 Construction Sites Program and identifies training needs. MS4 compliance monitoring also keeps the Chief Engineer/Director of Stormwater Compliance informed about compliance with the MS4



Construction Sites Program, overall regulatory risk, and opportunities to engage other CDOT functional units to improve MS4 Permit compliance.

- MS4 Compliance Monitoring strengthens the MS4 Construction Sites Program by sharing lessons learned across the state and resolving systemic issues.

Escalation processes provide the opportunity and time for CDOT to internally resolve MS4 Construction Sites Program compliance issues and avoid immediate self-reporting of MS4 Permit noncompliance to the CDPHE-WQCD. CDOT works to resolve noncompliance with communication and training over escalating the issue to immediate supervisors and above. Escalation processes, however, are invoked when a pattern of noncompliance is documented.

MS4 compliance monitoring events are scheduled to allow time to oversee all aspects of the MS4 Construction Sites Program active and post-active construction and project termination.

2.0 REGULATORY CRITERIA

- CDPHE MS4 Permit (COS000005), Part I.E.1
- CDPHE MS4 Permit (COS000005), Part I.I.1

3.0 LINKED CDOT SPECIALITY MANUALS

- None.

4.0 METHODS/PROCEDURES

MS4 compliance monitoring focuses on the current needs of the MS4 Construction Sites Program such as identification of inadequate control measures, MS4 Permit familiarity, and uniform implementation of the MS4 Construction Sites Program.

Planning

1. The MCPM, or Designee, and the WQSM meet annually to develop MS4 compliance monitoring targets, goals and metrics for upcoming monitoring events. The LASM may also be consulted, as needed.
2. The MCPM, or Designee, and the WQSM have the option to focus on overall implementation of the Manual or, on an annual basis, may choose to focus on specific SOPs to reduce CDOT's regulatory risk and/or improve uniformity of implementation.
3. The MCPM, or Designee, develops an MS4 compliance monitoring agenda, schedule, and evaluation criteria.
4. The MCPM, or Designee, notifies the RWPCMs of the monitoring agenda, schedule, and evaluation criteria for that year.

Field/Document Reviews

If the MCPM, or Designee, elects to monitor construction phase SOPs, then the following steps must be followed:

1. The MCPM, or Designee, contacts the RWPCM to mutually agree on two projects that will be part of the MS4 compliance monitoring event for the year.
2. The MCPM, or Designee, contacts the RWPCM to schedule the MS4 compliance monitoring event.



- a. For Regions with more than one RWPCM, the MCPM, or Designee, will select two projects for each RWPCM and coordinate the schedule with each RWPCM.
3. The MCPM, or Designee, conducts the MS4 compliance monitoring event according to the schedule. The MCPM, or Designee, will monitor how the Regions are implementing the SOPs on their projects and evaluate for consistency with other Regions.
4. The MCPM, or Designee, conducts a debriefing meeting at the end of each MS4 compliance monitoring event with the MS4 personnel involved in the MS4 compliance monitoring event. The debriefing meeting will discuss strengths, areas for improvement and related compliance monitoring Finding(s).
5. The MCPM, or Designee, documents the MS4 compliance monitoring event and associated Finding(s). Documentation, at a minimum, consists of a narrative summary prepared and saved to the Water Quality files (accessed only by the MCPM, MCFM, and WQSM, and others deemed necessary) and shared with the inspected party.
6. The MCPM tracks the implementation of compliance actions and escalation processes resulting from each MS4 compliance monitoring event.
7. The MCPM, or Designees, presents lessons learned from each annual MS4 compliance monitoring to the WQSM, LASM, RWPCMs, and other applicable personnel. This information may be presented through e-mail, in-person trainings, environmental bulletins (if needed), or other relevant means of information sharing.

Non-Compliance Reporting

Non-compliance observations are first addressed verbally with training and compliance assistance for the inspected party. If compliance is not forthcoming, CDOT follows established internal escalation processes to return to compliance with MS4 Permit requirements. If CDOT “[is] unable to comply with any permit limitations, standards or permit requirements specified in this permit” the Director of Stormwater Compliance will follow the noncompliance notification requirements of Part II.A.4 of CDOT’s MS4 Permit.

5.0 DOCUMENTATION AND REPORTING REQUIREMENTS

- A summary of each MS4 compliance monitoring event and associated Finding(s) must be documented and tracked in the MS4 Construction Sites Program files maintained at CDOT Headquarters.
- The MCPM, or Designee, prepares an annual summary of Finding(s)s and compliance challenges documented during that years MS4 compliance monitoring events.

6.0 MS4 TRAINING REQUIREMENTS

- None currently.

7.0 ATTACHMENTS

SOP M4, Attachment 1 is the process flowchart for MS4 Compliance Monitoring .

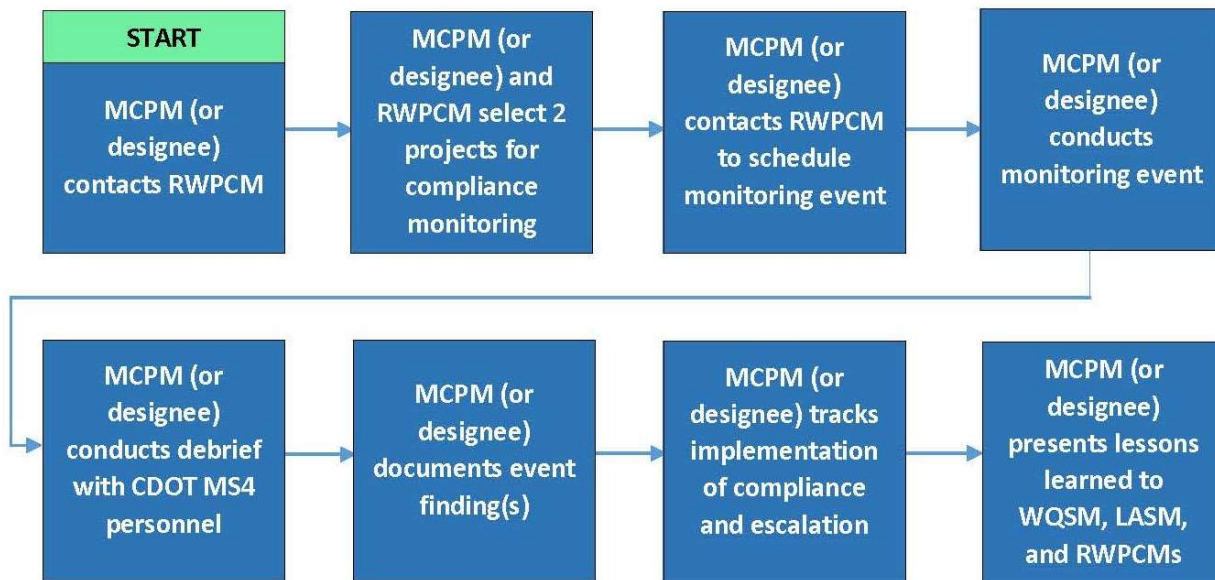


SOP M1, Attachment 1

Planning



Field/Document Reviews





SOP M2 - MS4 CONSTRUCTION SITES PROGRAM THIRD-PARTY AUDIT

Revision Number: 1.4
Date Issued/Revised: January 1, 2021
Project Delivery Method: DBB (including PM and MTCE), DB, CM/GC

1.0 OVERVIEW AND MS4 APPROACH

CDOT’s MS4 Construction Sites Program will be audited by a third party at least once during each MS4 Permit cycle unless an EPA or CDPHE inspection for MS4 Permit compliance is announced. The third-party audit may be conducted by CDOT’s internal auditing department or a Contractor/Consultant. CDOT will count regulatory audits by CDPHE-WQCD or the EPA as third-party audits for scheduling purposes. Third-party audits are the final step in the hierarchy of MS4 Construction Sites Program oversight events (Figure 44). Third-party auditors will review MS4 Construction Sites Program documentation and case studies, interview Headquarters and Region MS4 personnel and attend Routine Audits led by the RWPCM or monitoring events led by the MCPM, or Designees. Third-party audit reports will be available for review by CDOT Headquarters and Region staff.

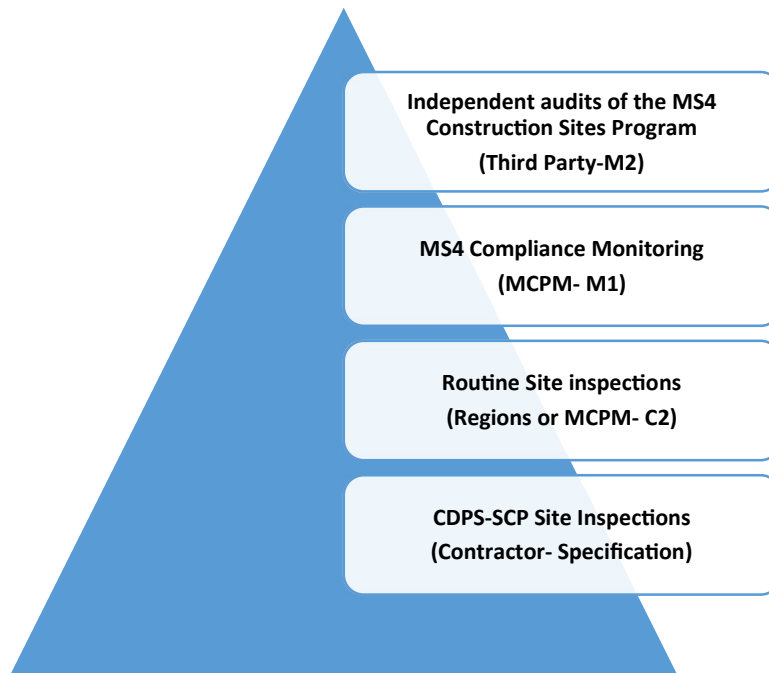


Figure 4. The Hierarchy of MS4 Construction Sites Program Inspections, Audits and Monitoring Events

2.0 REGULATORY CRITERIA

- Not applicable



3.0 LINKED CDOT SPECIALITY MANUALS

- None.

4.0 METHODS/PROCEDURES

1. The MCPM schedules one third-party audit during each MS4 Permit cycle, unless an MS4 Permit inspection is conducted by a regulatory agency. The regulatory agency inspection counts as a third-party audit.
2. The WQSM and MCPM discuss the general timing of the third-party audit and whether a Contractor or CDOT's Audit Division will conduct the audit.
3. The WQSM provides the auditor with the requested documents.
4. The auditor provides the WQSM with a list of MS4 Construction Sites Program roles and processes that will be evaluated.
5. The WQSM notifies relevant MS4 personnel of the third-party audit.
6. The auditor conducts the audit according to their framework and scope. The third-party audit, at a minimum, includes compliance items and documentation identified in the 2021 Manual.
7. The auditor convenes a closing meeting to discuss preliminary audit Findings with the WQSM, MCPM, MCFM and relevant MS4 personnel.
8. The auditor submits a written report to the WQSM.
9. The WQSM meets with the MCPM to assign a level of risk to Finding(s) in the audit report and develop a risk-based compliance action plan.
10. The MCPM presents the audit report and the risk-based compliance action plan to CDOT MS4 personnel.
11. The WQSM and the MCPM present the third-party audit report and compliance action plan to the Chief Engineer/Director of Stormwater Compliance.
12. The MCPM sets a schedule for implementing the compliance action plan and periodically reports compliance action progress to the WQSM and Chief Engineer/Director of Stormwater Compliance.

5.0 DOCUMENTATION AND REPORTING REQUIREMENTS

- The auditor prepares a written report that will be saved in the MS4 Construction Sites Program files maintained at CDOT Headquarters.
- The WQSM compiles a third-party audit response report and compliance action plan that will be saved in the MS4 Construction Sites Program files maintained at CDOT Headquarters.

6.0 MS4 TRAINING REQUIREMENTS

- None currently

7.0 ATTACHMENTS

- None currently

DEFINITIONS

CARL (Corrective Action Response Log) is any program used and directed by CDOT to document compliance with corrective actions to Findings documented in routine site inspections or other CDOT MS4 Construction Sites Program inspections, examples include ESCAN 1.0, ESCAN 2.0, and 2NForm.

CDOT MS4 Inspections include Routine Site Inspections (referred to by CDOT as Monthly Audit Reports or MARs), Compliance Follow-up Inspections, Reduced Frequency/Scope Site Inspections, or other construction site inspection required by the MS4 Permit. CDOT MS4 Inspections may be led by Region Water Pollution Control Managers, the MS4 Construction Field Manager, the MS4 Construction Program Manager, or their Designees.

CDOT Standard Specifications refers to CDOT's *Standard Specifications for Road and Bridge Construction* which contains the provisions and requirements that control work on CDOT construction projects. The CDOT Standard Specifications are updated annually and published on CDOT's website. A project's advertisement (AD) date generally determines which version of CDOT's Standard Specifications apply. Each year's version of the CDOT Standard Specifications applies to all projects advertised for bids after October 1 of the same year, i.e., the *2019 Standard Specifications for Road and Bridge Construction* apply to all projects advertised for bids after October 1, 2019 and up to the date a more current version is released.

CDOT's Water Quality Specifications are the list of applicable CDOT Standard Specifications on which Finding(s) are based. The CDOT Water Quality Specifications are *CDOT Standard Specifications for Road and Bridge Construction* (CDOT Standard Specifications) Subsection 107.25 (Water Quality Control) and Sections 208 (Erosion Control), 213 (Mulching) and 216 (Soil Retention Covering). Findings for certain projects may also need to reference Standard Special Provisions or Project Special Provisions. If a project has a Special Provision, in the event of a discrepancy the order of precedence is Special Provisions (Project Special Provisions then Standard Special Provisions), Plans, Supplemental Specification, and then Standard Specifications.

Cherry Creek Basin Water Quality Authority is the entity responsible for enforcing the Colorado Department of Health's Regulation 72 within the Cherry Creek Drainage Basin.

Cherry Creek Drainage Basin is defined by 5 CCR 1003-72 as "all lands that drain into the following: (a) the main stem of Cherry Creek, from the source of East and West Cherry Creek to the inlet of Cherry Creek Reservoir (Segment 1), including alluvial groundwater; (b) Cherry Creek Reservoir (Segment 2), including alluvial groundwater; (c) all tributaries to Cherry Creek, including wetlands and alluvial groundwater, from the sources of East and West Cherry Creeks (parts of Segment 4), and (d) all lakes and reservoirs in the Cherry Creek Reservoir watershed (Segment 5, in part) as described in the Classifications and Numeric Standards - South Platte River Watershed, Regulation #38 (5 CCR 1002-38)."

Chief Engineer is CDOT's Director of Stormwater Compliance responsible for integrated transportation program development functions including planning, engineering, design, and construction. The Chief Engineer oversees all project development and delivery functions in CDOT's five regions, controls engineering and construction contracts, and manages resulting claims and liabilities.

Chronic Finding (Chronic Noncompliance) is assessed when the same Regular Finding at the same location is documented twice in the last three CDOT MS4 inspections. Engineer observed findings outside these inspections will not apply (CDOT Standard Specifications, subsection 208.09).

Compliance Action is a response to a documented failure to implement one or more aspects of the MS4 Construction Sites Program.

Compliance Assistance may be used to address low-risk issues of observed noncompliance during a CDOT MS4 Inspection or MS4 monitoring event. A determination of “low risk” to justify compliance assistance must be documented in the CDOT MS4 inspection report or MS4 monitoring report. The “low risk” determination is based on risk factors such as the first observed instance of the specific noncompliance at the construction site, the noncompliance will not result in a discharge, the noncompliance does not impair the effectiveness of the control measure or the MS4 Construction Sites Program, or other low risk factors documented by the CDOT inspector.

Compliance Follow-up Inspection “must occur within 14 days of [CDOT] identifying that there is a failure to implement a control measure or an inadequate control measure unless corrections were made and observed by the inspector during the initial inspection. [CDOT] must require the removal of the pollutants, when feasible, from the MS4 when [CDOT] identifies a failure to implement a control measure or an inadequate control measure resulting in pollutants discharging to the MS4 or beyond the limits of the construction site. One of the following may be performed or required in lieu of a compliance follow-up inspection within 14 days of the permittee site inspection identifying that there is a failure to implement a control measure or an inadequate control measure: (a) Routine inspection, (b) Reduced frequency inspection, (c) Require the operator to inspect and report that the control measure has been implemented or corrected as necessary to meet the requirements of Part I.E.1 [of COS000005]. The owner report must include photographs of the new/adequate control measure.” (COS000005, Part I.E.1.v.D.)

Control Measures are best management practices (BMPs), or other methods used to prevent or reduce the discharge of pollutants to state waters as defined in Part I.B. of CDOT’s MS4 Permit.

Covered Construction Activities are defined in the MS4 Permit as “...construction activities that result in a land disturbance of greater than or equal to one acre or that is less than one acre, but is part of a larger common plan of development or sale that would disturb, or has disturbed since March 2, 2001, one acre or more, unless excluded below or the disturbed areas have been finally stabilized. Covered construction activities include the land disturbing activity and all activities and materials associated with the construction project and located at or contiguous to the land disturbing activities.” (COS000005, Part I.E.1.)

Delegates, two per CDOT Region, are appointed by the Region Transportation Director (RTD) to sit on the MS4 Construction Sites Program Task Force. Delegates represent their Region, are responsible for communicating MS4 Construction Sites Program changes to their Region and present MS4 Construction Sites Program change requests from their Region to the MS4 Construction Sites Program Task Force.

Design Criteria are seven basic standards set forth by CDOT’s Chief Engineer/Director of Stormwater Compliance for designing the MS4 Construction Sites Program Standard Operating Procedures: compliance, uniformity, clearly defined roles, accountability, escalation process, auditable and user friendly.



Designee is an appointed individual who works under the direction and guidance of a designated MS4 role.

Director of Stormwater Compliance (CDOT's Chief Engineer) "...shall, at all times, 1) have the authority to direct all levels of employees within each CDOT region to perform actions necessary to achieve and maintain compliance with the Permit, 2) have the authority to impose sanctions against Contractors and to initiate or direct disciplinary actions against any Region Transportation Director, CDOT engineer, or other region employee for continued or reoccurring noncompliance with the Permit, and 3) be able to direct the development and implementation of functional stormwater management systems at CDOT construction projects, which include, but are not limited to, the development of site specific Stormwater Management Plans (SWMPs) that prescribe functional best management practices for all phases of construction activities and the implementation of functional erosion and sediment control practices that are installed and maintained to form a system/series of pollutant control best management practices at each site" ([CDOT Compliance Order on Consent](#)).

Environmental Bulletin is issued by the Water Quality Section Manager to disseminate information to stakeholder groups critical to MS4 Permit compliance, regulatory audits and MS4 Construction Sites Program Manager monitoring activities (for most current bulletin locations see the CDOT MS4 Construction Sites Program Description Document).

Field Implementation Documents may include CDOT Forms 1176, 1177, and 1388, and Standard Plans M-208-1 and M-216-1.

Final Stabilization "is the condition reached when all ground surface disturbing activities at the site have been completed, and for all areas of ground surface disturbing activities a uniform vegetative cover has been established with an individual plant density of at least 70 percent of pre-disturbance levels, or equivalent permanent, physical erosion reduction methods have been employed" (MS4 Permit, Part I.E.1.).

Finding is a situation upon inspection that is documented as being in noncompliance with CDOT's Water Quality Specifications, Standard Plans M-208-1 or M-216-1, or MS4 Permit requirements. CDOT classifies Finding(s) as Regular, Chronic, or Severe.

Form 105s are the official method for written communication between the CDOT Project Engineer and the Contractor. Per CDOT Standard Specification 105.01 the Engineer will, in writing, suspend the work, wholly or in part:

- 1) For failure of the Contractor to correct conditions unsafe for the workmen or the public.
- 2) For failure to carry out contract provisions.
- 3) For failure to carry out orders.
- 4) For periods of unsuitable weather.
- 5) For conditions unsuitable for the prosecution of the work.
- 6) For any other condition or reason determined to be in the public interest.

Inadequate Control Measure is a "control measure [that] is not designed, implemented, or operating in accordance with the requirements of the permit, including the specific requirements in each program area in [MS4 Permit] Part I.E or other requirements and implemented and maintained to operate in accordance with the design" (MS4 Permit, Part I.B.3) or a control measure not designed, implemented or operating in accordance with CDOT's Water Quality Specifications or Standard Plans M-208-1 or M-216-1.

Large Impact Question is a question from CDOT to the Colorado Department of Health's Water Quality Control Division with potential implications for stormwater management across multiple CDOT construction sites, CDOT Regions, or CDOT's MS4 Construction Sites Program. Large impacts are those that can affect water quality standards and compliance actions and could potentially impact CDOT methods and SOPs for maintaining compliance with the MS4 Permit.

Major SWMP Modification is a change to the original site plan that removes or adds additional area to the project, modifies the final hydrology or drainage of the final design, replaces approved site plans, or otherwise expands or contracts the scope of the original project. Major SWMP modifications shall be submitted to CDOT for review and acceptance by a CDOT-certified SWMP Designer.

Minor SWMP Modification is a modification to the original site plan that does not increase the scope or change hydrology of the project but modifies or improves specific control measure in use at the site, indicates progression in project phasing, or specifies relocation of previously approved control measures within the project. Minor SWMP modifications shall be made in the field by the construction site operator and thoroughly documented in the site plan narrative and drawings. CDOT must review these revisions during the next CDOT MS4 Inspection, determine if the CDOT accepts the minor modification, and documents acceptance by initialing the map or written documentation.

Monitoring includes of MS4 compliance monitoring events directed by the MS4 Construction Program Manager or third-party audits of CDOT's MS4 Construction Sites Program.

MS4 Construction Sites Program Citations are the list of documents and electronic records CDOT uses to comply with the MS4 Permit requirements. The MS4 Construction Sites Program Citations include, but are not limited to, the current version of *CDOT Standard Specifications for Road and Bridge Construction* (CDOT Standard Specifications) Subsection 107.25 (Water Quality Control) and Sections 208 (Erosion Control), 213 (Mulching) and 216 (Soil Retention Covering) [collectively referred to as CDOT's Water Quality Specifications], as well as Standard Plans M-208-1 (Temporary Erosion Control) and M-216-1 (Soil Retention Covering).

MS4 Construction Sites Program Task Force (Task Force) consists of two Region Transportation Director-appointed Delegates from each Region and the MS4 Construction Program Manager. The Task Force meets annually or as needed. The Task Force is the owner of the *MS4 Construction Sites Program Manual*.

MS4 Construction Field Manager assists the MS4 Construction Program Manager with implementation of the MS4 Construction Sites Program, including training and compliance monitoring. The MS4 Construction Field Manager reports to the Water Quality Section Manager and sits at CDOT Headquarters.

MS4 Construction Program Manager is the Chief Engineer/Director of Stormwater Compliance's designated representative to implement and administer CDOT's MS4 Construction Sites Program. The MS4 Construction Program Manager is accountable for statewide MS4 Construction Sites Program compliance. The MS4 Construction Program Manager reports to the Water Quality Section Manager and sits at CDOT Headquarters.

MS4 Personnel have MS4 Construction Sites Program roles and responsibilities defined in the *MS4 Construction Sites Program Manual*.

Non-structural Control Measures are institutional, educational, or pollution prevention practices designed to limit the amount of stormwater runoff or pollutants generated by a construction project. Examples include surface roughening, topography (i.e., landform), grading practices, soil retention blankets, temporary seeding, mulch, vegetative buffers, soil binders and tackifiers.

Project Engineer is defined in the current version of the *CDOT Standard Specifications for Road and Bridge Construction*, Subsection 101.51. Project Engineer is synonymous with Construction Engineer.

Project Special Provisions are pre-advertisement additions and revisions to the standard and supplemental specifications covering conditions specific to an individual project (CDOT Standard Specifications, Subsection 101.72).

RECATs (Region Erosion Control Assessment Teams) are Site Inspections led by the MS4 Construction Program Manager, MS4 Construction Field Manager, or Designee to assist the Regions.

Recalcitrance is willful negligence or misrepresentation or unwillingness to adhere to CDOT's Water Quality Specifications or CDOT Standard Plans M-208-1 or M-216-1. The MS4 Permit requires CDOT to have processes and sanctions to minimize the occurrence of, and obtain compliance from, chronic and recalcitrant violators of control measure requirements.

Reduced Frequency/Scope Inspections for inactive sites are performed "...at least every 90 days for sites that surface ground disturbance activities are completed and are pending growth for final stabilization or for sites where no construction activity has occurred since the last inspection." (MS4 Permit, Part I.E.1.) Reduced Frequency/Scope Inspections are conducted by Region Water Pollution Control Managers, Headquarters staff or CDOT Contractors to measure MS4 Permit compliance until construction resumes or the project achieves final stabilization.

Regulatory Mechanism is the mechanism that allows CDOT to implement and enforce the requirements of CDOT's MS4 Permit pertaining to the MS4 Construction Sites Program (COS000005, Part I.E.1.a.i.). CDOT's regulatory mechanism is described in CDOT Standard Specifications, subsection 208.09.

Regular Finding is a situation upon inspection that is in noncompliance with CDOT's Water Quality Specifications or Standards Plans M-208-1 or M-216-1 (CDOT Standard Specifications, subsection 208.09).

Routine Site Inspections are conducted by CDOT at least once every 45 days at active, CDOT-owned construction sites, as required by the MS4 Permit. Routine Site Inspections are conducted by Region Water Pollution Control Managers, Headquarters staff or CDOT Contractors to measure MS4 Permit compliance on active CDOT construction projects.

Severe Finding is a discharge outside the project's limits of construction, subsection 107.25(a), to State Waters or to a live inlet where the pollutant cannot be reclaimed (CDOT Standard Specifications, subsection 208.09).

Small Impact Question is a question from CDOT to the Colorado Department of Health's Water Quality Control Division about a project-specific MS4 Permit or Colorado Discharge Permit System–Stormwater Construction Permit question with minimal or no regulatory exposure (e.g. questions on the Colorado Environmental Online Services [CEOS]).

Standard Special Provisions are pre-advertisement additions and revisions to the standard and supplemental specifications covering conditions specific to a selected group of projects or which are intended for temporary use (CDOT Standard Specifications, Subsection 101.72).

State Waters are any and all surface and subsurface waters which are contained in or flow in or through this state, but does not include waters in sewage systems, waters in treatment works of disposal systems, waters in potable water distribution systems, and all water withdrawn for use until use and treatment have been completed.

Structural Control Measure is a physical device typically designed and constructed to trap or filter pollutants from runoff or reduce runoff velocities. Standard Plans M-208-1 and M-216-1, for example, identify temporary, structural control measures for erosion and sediment control.

Stormwater Management Plan (SWMP) is a site-specific document, required by CDOT's MS4 Permit, the Colorado Discharge Permit System–Stormwater Construction Permit, and CDOT Standard Specification 208.03(d)1 that locates and identifies all structural and non-structural control measures for the covered construction activities. The SWMP must contain installation, implementation, and maintenance specifications or a reference to the document with installation, implementation, and maintenance specifications for all structural control measures. A narrative description of non-structural control measures must be included in the SWMP. (COS000005, Part I.E.1.a.iv(A))

SWMP Acceptance Document is either a signed Form 128 (Categorical Exclusion Determination), a SWMP approval memo, or other documentation signed by the SWMP Reviewer.

SWMP Administrator for Design (SWMP Designer) is a Contractor or full-time CDOT employee who has successfully completed CDOT's Stormwater Management Plan (SWMP) certification course and holds a valid CDOT SWMP certification. SWMP Designers may delegate the SWMP provided the work is done under a SWMP Designer's guidance and direction.

SWMP Administrator for Construction (SWMP Admin) is responsible for ensuring the SWMP acts as a living document meaning it must reflect field conditions as written or updated. The SWMP Admin supplies any missing information or tabs and is responsible for the implementation and updates to the SWMP during construction.

SWMP Reviewer is a full-time CDOT employee, preferably a Region Environmental staff, who holds a valid CDOT SWMP certification. SWMP Reviewers review and approve project SWMPs for Colorado Discharge Permit System–Stormwater Construction Permit projects. A SWMP Reviewer may not review a SWMP for which they were the SWMP Designer.

SWMP Site Maps show the entire site and identify construction site boundaries; all areas of ground disturbance; areas of cut and fill; areas used for storage of building materials, equipment, soil, or waste; locations of dedicated asphalt or concrete batch plants; locations of all structural control measures; locations of all non-structural control measures, as applicable; and locations of springs, streams, wetlands and other surface waters (CDPS-SCP, Part I.C.2). See also *CDOT Standard Specifications for Road and Bridge Construction*, Subsection 208.03(d)1(2).

SWMP Tabs divide the SWMP into sections specified by CDOT Standard Specifications, subsection 208.03(d)1. SWMP tabs are not required on projects that do not require a Colorado Discharge Permit System–Stormwater Construction Permit .

Winter Exclusions or Winter Conditions. The MS4 Permit does not require CDOT MS4 Inspections at sites where construction activities are temporarily halted, snow cover exists over

the entire site for an extended period and melting conditions posing a risk of surface erosion do not exist. This exclusion is applicable only during the period where melting conditions do not exist. The following information must be documented for this exclusion: dates when snow cover occurred, date when construction activities ceased, and date melting conditions began (COS000005, Part I.E.1.a.v.A.). Routine Site Inspections must be carried out once every 45 days, if this is not possible, as soon as possible after melting conditions with a potential for erosion begin.



APPENDIX A – 2015 EPA AUDIT FINDINGS AND RELEVANT MS4 CONSTRUCTION SITES PROGRAM SOPS AND CDOT’S WATER QUALITY SPECIFICATIONS

EPA 2015
Audit
Finding
Reference

Finding Language

Relevant MS4 Construction Sites Program
SOP(s) and CDOT’s Water Quality Specifications

1CS	The Green Book does not require stop work orders to be issued for discharges to state waters or other egregious non-compliance instances.	<ul style="list-style-type: none"> MS4 Compliance Monitoring (M1) MS4 Regulatory Authority (208.09 Specification) CDOT MS4 Inspections (C2)
2CS	CDOT failed to ensure compliance with the Construction General Permit, enforce according to the Green Book, and implement sanctions for chronic failures at design-bid projects.	<ul style="list-style-type: none"> MS4 Compliance Monitoring (M1) MS4 Regulatory Authority (208.09 Specification) CDOT MS4 Inspections (C2)
3CS	CDOT failed to follow the Green Book procedure for several construction sites across Regions by failing to issue and collect liquidated damages for corrective actions that went beyond 48 hours.	<ul style="list-style-type: none"> MS4 Compliance Monitoring (M1) MS4 Regulatory Authority (208.09 Specification) CDOT MS4 Inspections (C2)
4CS	CDOT has no formal mechanism to address chronic noncompliance by Contractors as long as corrective actions occur within 48 hours.	<ul style="list-style-type: none"> MS4 Compliance Monitoring (M1) MS4 Regulatory Authority (208.09 Specification) CDOT MS4 Inspections (C2)
5CS	Contractors’ failures to meet Construction General Permit and Green Book requirements were not identified by CDOT inspectors and a Contractor Transportation Erosion Control Supervisor inspector during oversight inspections at CDOT construction sites.	<ul style="list-style-type: none"> MS4 Compliance Monitoring (M1) MS4 Regulatory Authority (208.09 Specification) CDOT MS4 Inspections (C2)
2PM	CDOT Headquarters and Regional staff are not consistently aware of the requirements in the Stormwater Management Programs, and the Stormwater Management Programs are not being consistently implemented.	<ul style="list-style-type: none"> Updating CDOT’s Water Quality Specifications and Related Field Implementation Documents(D1) Project SWMP Preparation and Review (D2) Major and Minor SWMP Modifications During Construction (C1) CDOT MS4 Inspections (C2) Long-Term SWMP Retention (C3) MS4 Regulatory Authority (208.09 Specification) MS4 Compliance Monitoring (M1)
3PM	CDOT has not ensured training for staff on requirements of CDOT’s MS4 Permit and associated CDOT programs.	<ul style="list-style-type: none"> Updating CDOT’s Water Quality Specifications and Related Field Implementation Documents (D1) Project SWMP Preparation and Review (D2) Major and Minor SWMP Modifications During Construction (C1) CDOT MS4 Inspections (C2) Long-Term SWMP Retention (C3) MS4 Regulatory Authority (208.09 Specification) MS4 Compliance Monitoring (M1)

PM = Program Management
CS = Construction Sites



APPENDIX B – 2019 EPA AUDIT PROGRAMMATIC FINDINGS AND RELEVANT MS4 CONSTRUCTION SITES PROGRAM SOPS AND CDOT’S WATER QUALITY SPECIFICATIONS

Appendix B is limited to programmatic Finding(s) that CDOT had not fully addressed following the 2015 EPA audit. The 2019 EPA audit also identified project specific Finding(s) that are not included in the table below.

<i>EPA 2019 Audit Finding Reference</i>	<i>Finding Language</i>	<i>Relevant MS4 Construction Sites Program SOP(s) and CDOT's Water Quality Specifications</i>
Finding 3	CDOT's MS4 Construction Sites Program Manual does not address Construction Management /General Contractor, Property Management and Maintenance projects.	<ul style="list-style-type: none"> • Updating CDOT's Water Quality Specifications and Related Field Implementation Documents (D1) • Project SWMP Preparation and Review (D2) • Major and Minor SWMP Modifications During Construction (C1) • CDOT MS4 Inspections (C2) • Long-Term SWMP Retention (C3)
Finding 11	CDOT's inspection process for larger sites does not assess and document the minimum required elements required by the Permit including inspection of all control measures, pollutant sources and discharge points.	<ul style="list-style-type: none"> • CDOT MS4 Inspections (C2)
Finding 12	CDOT failed to perform a routine inspection within 45 days of the February 6, 2019 routine inspection for the C470 project.	<ul style="list-style-type: none"> • CDOT MS4 Inspections (C2)



APPENDIX C - MS4 PERMIT CONSTRUCTION PROGRAM REQUIREMENTS AND RELEVANT MS4 CONSTRUCTION SITES PROGRAM SOPS AND CDOT'S WATER QUALITY SPECIFICATIONS

<i>Relevant MS4 Permit Requirement</i>	<i>MS4 Permit Page(s)</i>	<i>Relevant Construction Program SOP(s) and CDOT's Water Quality Specifications</i>
Part I.B. CONTROL MEASURES	6	<ul style="list-style-type: none"> Updating CDOT's Water Quality Specifications or Related Field Implementation Documents (D1) Project SWMP Preparation and Review (D2) Major and Minor SWMP Modifications During Construction (C1) CDOT MS4 Inspections (C2) CDOT Specifications 107.25 and 208
Part I.E.1.a.	9	<ul style="list-style-type: none"> Updating CDOT's Water Quality Specifications or Related Field Implementation Documents (D1) Project SWMP Preparation and Review (D2) Major and Minor SWMP Modifications During Construction (C1) CDOT MS4 Inspections (C2) MS4 Regulatory Authority, 208.09 Specification
Part I.E.1.a.i. Regulatory Mechanism	9	<ul style="list-style-type: none"> MS4 Regulatory Authority, 208.09 Specification
Part I.E.1.a.iv. Stormwater Management Plans (SWMPs)	11	<ul style="list-style-type: none"> Project SWMP Preparation and Review (D2)
Part I.E.1.a.iv(A)	11	<ul style="list-style-type: none"> Project SWMP Preparation and Review (D2) Major and Minor SWMP Modifications During Construction (C1)
Part I.E.1.a.iv(B) Initial SWMP Review	11	<ul style="list-style-type: none"> Project SWMP Preparation and Review (D2)
Part I.E.1.a.v. Permittee Site Inspection.	11-13	<ul style="list-style-type: none"> CDOT MS4 Inspections (C2)
Part I.E.1.a.vi. Enforcement Response	13	<ul style="list-style-type: none"> MS4 Regulatory Authority, 208.09 Specification
Part I.E.1.a.vii Training	13	<ul style="list-style-type: none"> CDOT MS4 Inspections (C2) MS4 Compliance Monitoring (M1)
Part I.E.1.a.viii. Cherry Creek Reservoir Drainage Basin Discharges	14	<ul style="list-style-type: none"> Project SWMP Preparation and Review (D2)
Part I.E.1.b. Recordkeeping	14	<ul style="list-style-type: none"> SWMP Preparation and Review (D2) CDOT MS4 Inspections (C2) Long-term SWMP Retention (C3) <i>(records for site inspections, enforcement response, Cherry Creek Reservoir Drainage Basin discharges, and overlapping permit areas are maintained in CARL or project files)</i>
Part I.E.1.b.iii.	14	<ul style="list-style-type: none"> Updating CDOT's Water Quality Specifications or Related Field Implementation Documents (D1)
Part I.E.1.b.iv. Recordkeeping	14	<ul style="list-style-type: none"> SWMP Preparation and Review (D2) Long-term SWMP Retention (C3)
Part I.E.1.b.vii. Training [Recordkeeping]	15	<ul style="list-style-type: none"> MS4 Compliance Monitoring (M1) CDOT Standard Specifications, 208.03(c) <i>(records for required training are maintained in CARL and project files)</i>
Part I.K.2. Retention of Records	67	<ul style="list-style-type: none"> Long-term SWMP Retention (C3)



APPENDIX D – REFERENCES TO EXISTING SOURCE DOCUMENTS

- 5 CCR 1002-72 Cherry Creek Reservoir Control Regulation
<http://www.sos.state.co.us/CCR/GenerateRulePdf.do?ruleVersionId=4895&fileName=5%20CCR%201002-72>
- CDOT Manual of Maintenance Procedures <https://fliphtml5.com/vhpuv/yqhy/basic>
- CDOT Construction Manual
https://www.codot.gov/business/designsupport/bulletins_manuals/construction-manual/2019-construction-manual.pdf
- CDOT Construction Manual, Subsection 107.25 Water Quality Control and Sections 208 Erosion Control, 213 Mulching and 216 Soil Retention Covering
https://www.codot.gov/business/designsupport/bulletins_manuals/construction-manual/2019-construction-manual.pdf
- CDOT Form 1176 – Stormwater Field Inspection Report and Weekly Meeting Notes – Active Construction <https://www.codot.gov/library/forms/cdot1176.pdf>
- CDOT Form 1177 – Stormwater Field Inspection Report - Post Construction, Environmental
<https://www.codot.gov/library/forms/cdot1177.pdf/view>
- CDOT Form 128 (Categorical Exclusion Determination)
<https://www.codot.gov/library/forms/cdot0128.pdf>
- CDOT Form 1388 - Daily Stormwater Log, Environmental
<https://www.codot.gov/library/forms/cdot1388.pdf/view>
- CDOT *MS4 Construction Sites Program Description Document*
https://www.codot.gov/programs/environmental/water-quality/stormwater-programs/assets/cdot-ms4-construction-pdd_20200624.pdf/view
- CDOT Procedural Directive 513.1 “Construction Project Specifications”
<https://www.codot.gov/business/designsupport/cdot-construction-specifications/2011-Specs/specs-changes-under-consideration/pd-513-1-review/view>
- CDOT Project Development Manual, Subsection 2.11 Hydraulic Design (Erosion Control and Stormwater) https://www.codot.gov/business/designsupport/bulletins_manuals/2013-project-development-manual/revs-to-project-manual/2013-project-development-manual.pdf
- CDOT Project Development Manual, Subsection 2.23 Special Provisions
https://www.codot.gov/business/designsupport/bulletins_manuals/2013-project-development-manual/revs-to-project-manual/pdm-section-2-23
- CDOT Project Development Manual, Subsection 3.15 Stormwater Management Plans (SWMP)
https://www.codot.gov/business/designsupport/bulletins_manuals/2013-project-development-manual/revs-to-project-manual/2013-project-development-manual.pdf
- CDOT Roadway Design Guide, Chapter 16 Construction Specifications
https://www.codot.gov/business/designsupport/bulletins_manuals/roadway-design-guide



- CDOT Standard Specifications <https://www.codot.gov/business/designsupport/cdot-construction-specifications>
- CDOT SWMP Notebook Tabs <https://www.codot.gov/programs/environmental/water-quality/documents/swmp-notebook-tabs>
- CDOT SWMP Template >1 Acre Impact
<https://www.codot.gov/programs/environmental/landscape-architecture/swmp-template-1-acre-impact>
- New ProjectWise Project Folder Structure Announcement
<https://www.codot.gov/business/designsupport/cadd/pw-new-folder-structure/view>
- Procedural Directive 51.1 Requirements for the Retention of Documents
(https://www.codot.gov/content/programs/training/01112017_Records%20on%20the%20Move_Rev_A/51.1%20PD%20Requirements%20for%20the%20Retention%20of%20Documents.pdf)
- Standard Plan M-208-1, Temporary Erosion Control
https://www.codot.gov/business/designsupport/standard-plans/copy_of_2012-m-standards-plans/2012-m-standards-pdfs/10-temporary-erosion-control/m-208-1-temp-erosion-control
- Standard Plan M-216-1, Soil Retention Covering
https://www.codot.gov/business/designsupport/standard-plans/copy_of_2012-m-standards-plans/2012-m-standards-pdfs/m-216-1_soil_retention_covering/m-216-1_soil_retention_covering

APPENDIX E – REVISION HISTORY

1. March 31, 2017 – Minor editorial changes by the MCPM
2. October 4, 2017 – Minor editorial and CDOT organizational changes by the MCPM
3. April 1, 2019 – Minor editorial and CDOT organizational changes by the MCPM
4. January 1, 2021 – significant rewrite to clarify compliance with new permit requirements, integrate relevant project delivery methods, and simplify the SOPs.
(April 26, 2021 – minor editorial and clarification revisions to Version 1.4 by the MCPM)