

CUYAMACA COLLEGE
COURSE OUTLINE OF RECORD

Environmental Health and Safety Management 225– Stormwater Runoff Management Post-Construction Best Management Practice Inspections

1 hour lecture, 1 unit

Catalog Description

Stormwater Runoff Management Post-Construction Best Management Practices (BMPs) Inspections provides applicable skills in stormwater management to municipal inspectors for stormwater post-construction BMPs. Coursework covers a review of stormwater rules/regulations, inspection demands of various post-construction BMP operations, and common inspection form completion. Applications include understanding Municipal Separate Storm SEWR System (MS4) permit requirements, principles of hydraulic and water quality mechanisms for post-construction BMPs and inspecting toward effective operational BMPs during storms. The course provides knowledge and skills to meet goals and expectations of post-construction BMP inspections.

Prerequisite

“C” grade or higher or “Pass” in EHSM 220 or equivalent

Entrance Skills

- 1) General knowledge of stormwater permits (industrial, construction, municipal), the hydrologic cycle, and common water quality pollutants (e.g., metals, nutrients, sediment).
- 2) Understand the purpose of BMPs, be able to reference factsheets, and apply fundamental safety and inspection practices.

Course Content

- 1) Watersheds: surface water, groundwater
- 2) Municipal Separate Storm Sewer System (MS4) Permit
- 3) Construction General Permit (CGP)
- 4) Best Management Practices (BMPs) and Field Inspections
- 5) Post-Construction or Operational BMPs
- 6) Construction and Municipal Field Inspection forms
- 7) SWPPP Post-Construction and Operations and Maintenance plan review

Course Objectives

Students will be able to:

- 1) Apply California and Federal regulations to inspect stormwater compliance programs in various BMP applications.
- 2) Identify and interpret stormwater BMPs and SWPPP documentation.
- 3) Differentiate requirements of construction and post-construction BMP and stormwater permits requirements.
- 4) Identify common deficiencies in post-construction BMPs found during on-site stormwater inspections.

Method of Evaluation

A grading system will be established by the instructor and implemented uniformly. Grades will be based on demonstrated proficiency in a subject matter determined by multiple measurements for

evaluation, one of which must be essay exams, skills demonstration or, where appropriate, the symbol system.

- 1) Quizzes and exams that measure students' ability to identify, describe and apply California and Federal stormwater municipal permits requirements.
- 2) Exercises that measure students' ability to perform stormwater inspections and develop programs in compliance with California and Federal stormwater regulations and standards.
- 3) Video presentations/projects measuring the student's ability to create or apply stormwater management.

Special Materials Required of Student

None

Minimum Instructional Facilities

Smart Classroom

Method of Instruction

- 1) Lecture and discussion
- 2) Field trips, guest lecturers
- 3) Projects, site scenario exercises

Out-of-Class Assignments

- 1) **Reading:** Lecture notes, County and City of San Diego Post-Construction Design criteria, review the NURP study and urban runoff pollutant sources, review pollutants not treated by passive post-construction BMPs, active treatment BMPs.
- 2) **Writing:** Summarize the value of post-construction or operational BMPs, observe a post-construction BMP in field (with or without rain) and provide a description of beneficial features and shortcomings of the arrangement of post-construction BMPs, describe operation & maintenance requirements.
- 3) **Other:** Observe post-construction BMPs in field, consider a site plan with proposed post-construction BMPs.

Texts and References

- 1) Required (representative example): California State Water Resources Control Board. (n.d.). *NPDES 2022 Construction Stormwater General Permit*. Retrieved September 24, 2025, from https://www.waterboards.ca.gov/water_issues/programs/stormwater/construction/general_permit_reissuance.html
- 2) Supplemental:
 - a. California Department of Transportation. (2024, March). *Construction site best management practices (BMP) manual* (Report No. CTSW-RT-24-425.11.1). Division of Environmental Analysis, Stormwater Program. Brown and Caldwell. <https://dot.ca.gov/programs/environmental-analysis/stormwater-management-program>
 - b. US EPA. (December, 2021) National Menu of Best Management Practices (BMPs) for Stormwater-Post-Construction. <https://www.epa.gov/npdes/national-menu-best-management-practices-bmps-stormwater-post-construction>

Student Learning Outcomes

Upon successful completion of this course, students will be able to:

- 1) Evaluate Federal, State, and Municipal post-construction stormwater standards to maintain stormwater permit compliance, perform post-construction BMP site inspections, and recommend industry specific BMPs.
- 2) Provide a robust inspection background to apply to site-specific and permit specific inspection requirements.