



BUCHART HORN
ENGINEERS • ARCHITECTS • PLANNERS



MCMs No. 4 & 5
Construction Site and
Post Construction
Stormwater
Management
(aka... the during and the after)

Agenda

- Introduction
- Part 1 – MCM 4: Construction Site Stormwater Runoff Control
- Bathroom break
- Part 2 – MCM 5: Post-Construction Stormwater Management (PCSM)
- Summary/questions



MS4/Stormwater Experience



- Municipal Engineer (1996 – Current)
- Stormwater Engineer (2002 – Current)
- National Stormwater Center – Certified NPDES Stormwater Inspector
- Speaker – EPA/IECA Southeast Conference: Large Scale Industrial Adaptive Capture and Reuse



EPA MS4 Program Timeline

1972

NPDES created in Section 402 of the Clean Water Act (CWA) (actually exempted stormwater...too expensive)

1977

Congress amends CWA to enhance NPDES Program

1987

Water Quality Act passed (added non-discrete outfalls)



1990

Updates made to CWA to require Phase I NPDES Permits

1999

US EPA establishes regulations requiring Phase II NPDES permits:

- Regulated small MS4s
- Regulates "small" construction sites



BUCHART HORN
ENGINEERS • ARCHITECTS • PLANNERS

Proposed MS4 General Permit Remand Rule

- Changes to regulations governing small MS4s
- Stems from US Court of Appeals case
- Refines permit to ensure pollutants are reduced to Maximum Extent Practicable (MEP)
- To be published in Federal Register: 12/28/2015



Construction Site Runoff: The During

- Summary/MCM Goal
- Inspection items
- CSSRC/erosion control successes
- CSSRC/erosion control fails



MCM 4: Construction Site Stormwater Runoff Control

- Create a program of procedures providing requirements for construction stormwater permitting, construction inspection, and enforcement of and installation of E&S control measures
- Implement and enforce an ordinance to require the implementation of Erosion and Sediment Control BMPs
- Ensure and verify construction waste is handled and disposed of properly
- Create a system for implementing and logging any public complaints or concerns regarding construction activities



Inspection



- Strategically time inspections, if possible, prior to or during rain
- Review plans/specifications in office
- Review previous materials: previous reports, NOVs, etc.
- Prepare:
 - Inventory equipment
 - Safety gear
 - Permit (copy)
 - Logbook (for notes)
 - Camera
 - Tape measure
 - Credentials



Entry

- Note general items (*time/temperature/conditions/workers on-site/equipment*)
- Review postings (are documents on-site?)
- Observe entry and exit points
- Observe perimeter controls (in place and operational/functioning?)



Document/Plan Review

- Observe if plans and reports are on-site
- Observe current status of items (note: complete/partial/not started)



Site Inspection

- Conduct walking review of site concentrating on Erosion Control BMPs
- Record detailed notes regarding observations



Photographs

- Document conditions to support site inspection notes



Exit Interview

- Any noted concerns or issues?
- Do any BMPs require field adjustments (are any changes in progress?)



Construction Site Runoff Control: Success



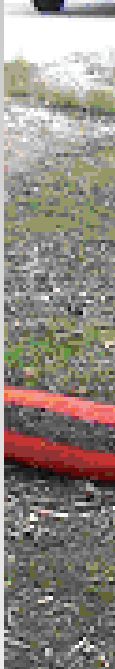
BUCHART HORN
ENGINEERS • ARCHITECTS • PLANNERS

Construction Site Runoff Control: Success



BUCHART HORN
ENGINEERS • ARCHITECTS • PLANNERS

Construction Site Runoff Control: Success



BUCHART HORN
ENGINEERS • ARCHITECTS • PLANNERS

Construction Site Runoff Control: Success



Construction Site Runoff Control: Failure



Construction Site Runoff Control: Failure



BUCHART HORN
ENGINEERS • ARCHITECTS • PLANNERS

Construction Site Runoff Control: Failure



Construction Site Runoff Control: Success



BUCHART HORN
ENGINEERS • ARCHITECTS • PLANNERS

Construction Site Runoff Control: Failure



BUCHART HORN
ENGINEERS • ARCHITECTS • PLANNERS

Construction Site Runoff Control: Failure



Construction Site Runoff Control: Failure



Construction Site Runoff Control: Failure



Thoughts on a good BMP to use on either or both of these sites?



BUCHART HORN
ENGINEERS • ARCHITECTS • PLANNERS

Construction Site Runoff Control: Failure



Thoughts on a good BMP to use on either or both of these sites?



BUCHART HORN
ENGINEERS • ARCHITECTS • PLANNERS

Construction Site Runoff Control: Failure



Construction Site Runoff Control: Failure



BUCHART HORN
ENGINEERS • ARCHITECTS • PLANNERS

Construction Site Runoff Control: Failure



Construction Site Runoff Control: Failure



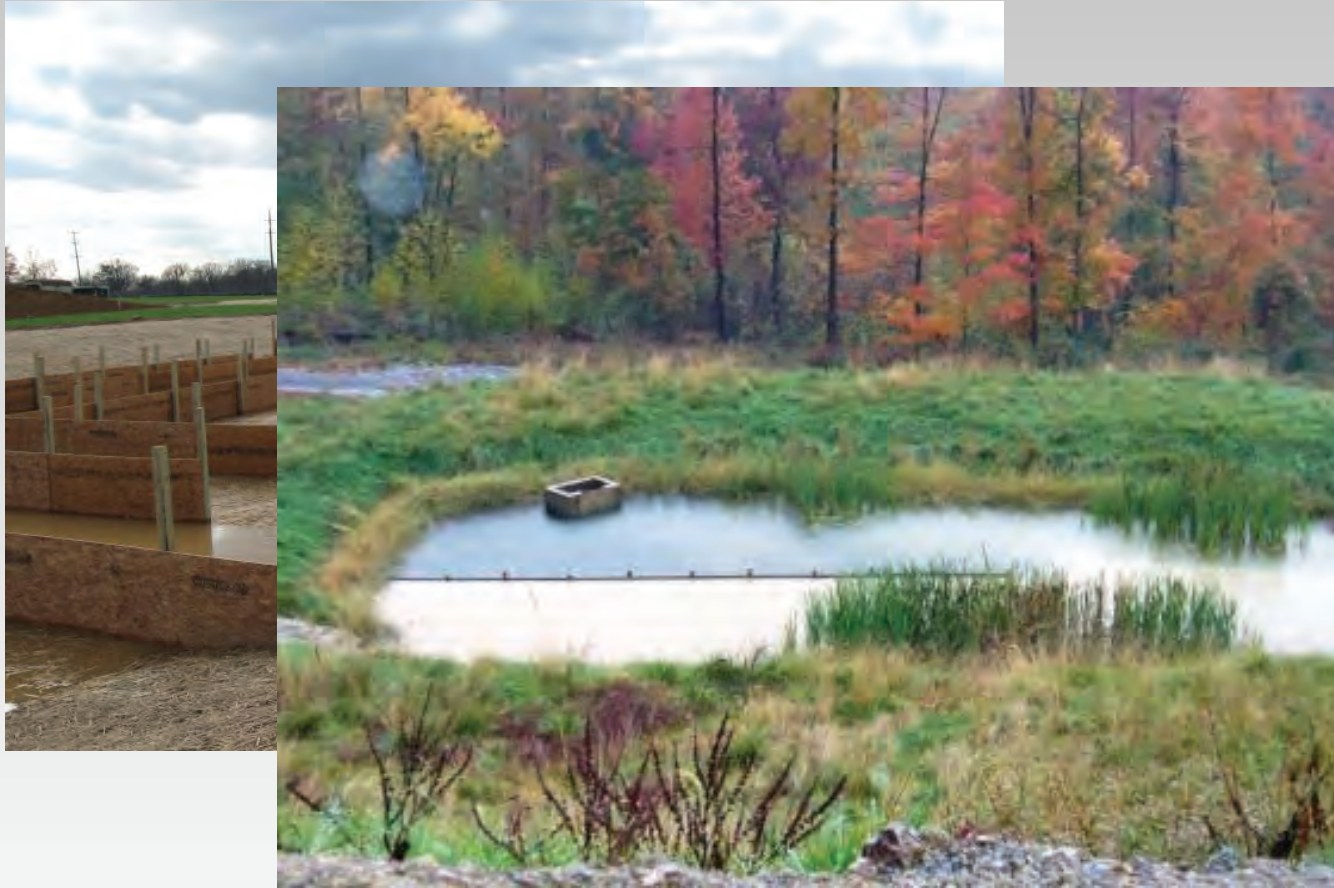
BUCHART HORN
ENGINEERS • ARCHITECTS • PLANNERS

Construction Site Runoff Control: Success



BUCHART HORN
ENGINEERS • ARCHITECTS • PLANNERS

Construction Site Runoff Control: Success



BUCHART HORN
ENGINEERS • ARCHITECTS • PLANNERS

Construction Site Runoff Control: Success

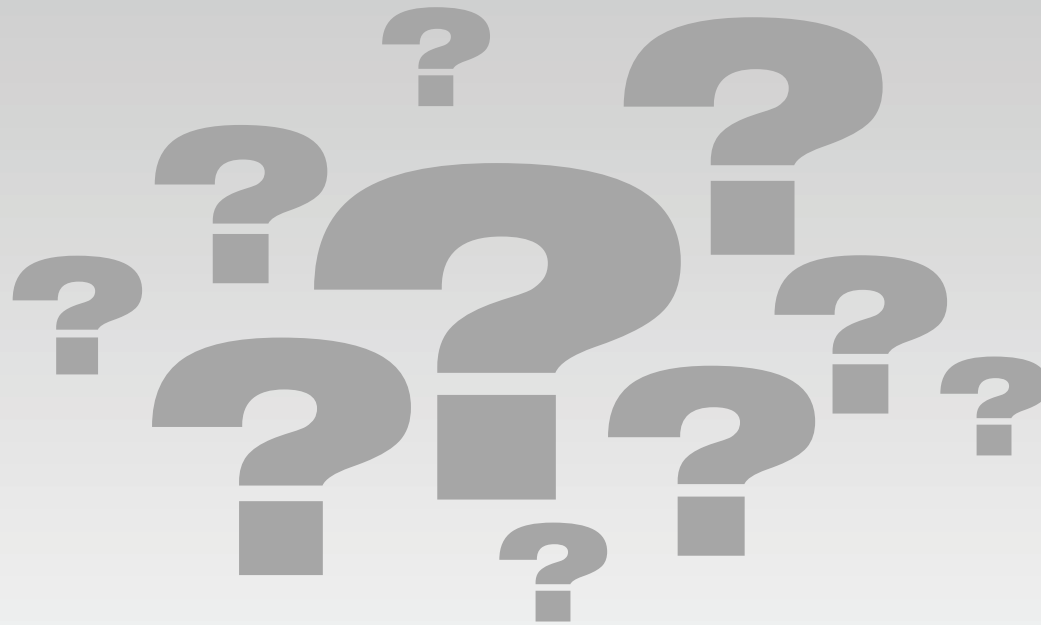


Construction Site Runoff Control: Failure



BUCHART HORN
ENGINEERS • ARCHITECTS • PLANNERS

Questions?



Thank You!



BUCHART HORN
ENGINEERS • ARCHITECTS • PLANNERS
www.bucharthorn.com