



THE STORMWATER PROGRAM:

*ILLICIT DISCHARGE DETECTION & ELIMINATION,
CONSTRUCTION, POST-CONSTRUCTION, AND
POLLUTION PREVENTION/GOOD HOUSEKEEPING*



Rachel Herbert

EPA/Office of Water/Water Permits Division

Stormwater Concerns

2

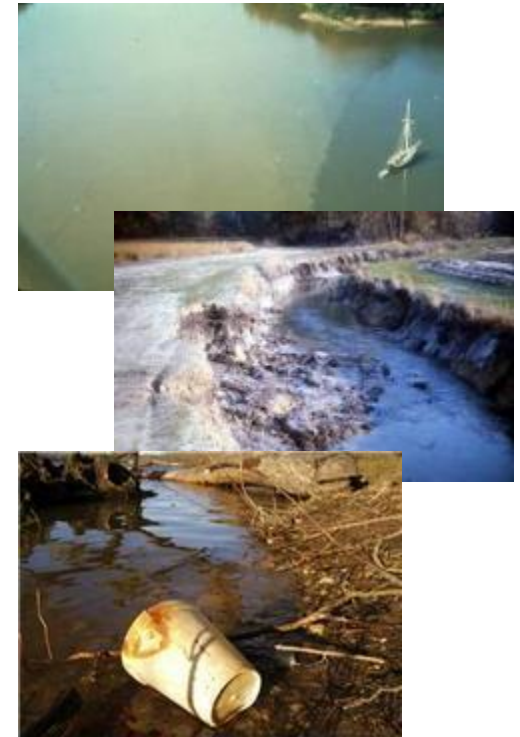
1. Increased amounts of stormwater and pollutants...



2. Enter the municipal separate storm sewer system (MS4) or is directly discharged to a nearby waterbody...

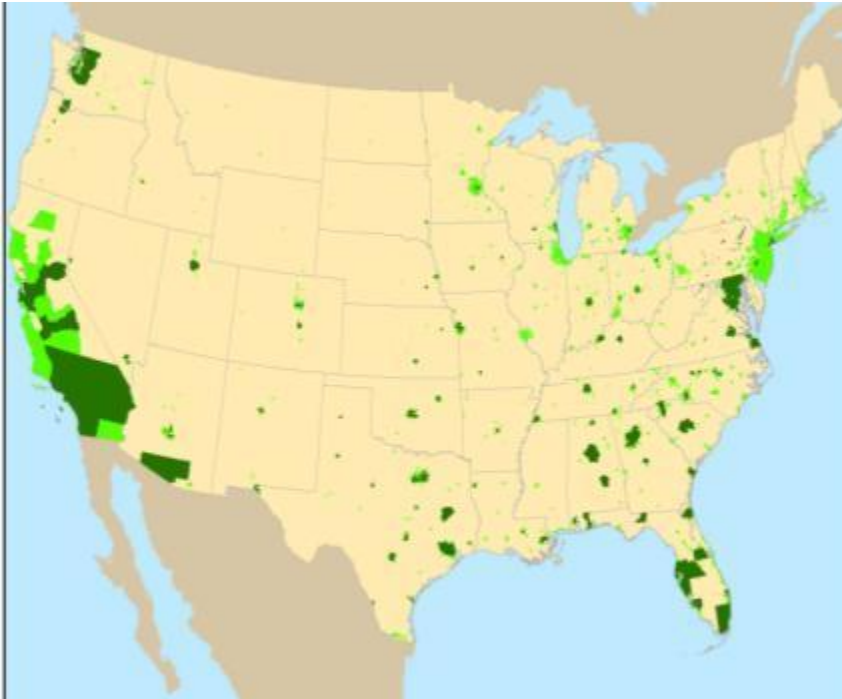


3. Which can lead to stream degradation and increased pollutants entering waterbodies



The Current Stormwater Program

3



Regulated Municipal Separate Storm Sewer Systems (MS4s)

- Medium and large MS4s serving with a population of 100,000 or more
- Small MS4s in urbanized areas

Current Coverage

- Primarily in urbanized area
- Accounts for much of the population
- Only about 2% of the land area

Examples of Owners/Operators of MS4s

4

- Cities
- Towns
- Counties
- Townships
- Boroughs
- Road Commissions
- Drain Commission
- Drainage Districts
- Departments of Transportation
- Public School Systems
- Public Colleges and Universities
- State or Federal Prisons
- State or Federal Hospitals
- Military Installations
- State or National Parks

Stormwater Program Elements (minimum control measures)

5

- Illicit discharge Detection & Elimination
- Post-Construction
- Construction
- Pollution Prevention/Good Housekeeping
- Public Education/Outreach
- Public Involvement/Participation

Focus of Today's Webinar

6

Previous Webinar Topics

- Public Education/ Outreach
- Public Involvement/
Participation

Today's Webinar Topics

- Illicit discharge Detection & Elimination
- Post-Construction
- Construction
- Pollution Prevention/ Good Housekeeping

Why Require Illicit Discharge Detection & Elimination?

7

An illicit discharge is generally anything that is not comprised entirely of stormwater

- ▣ Enters systems through direct or indirect connections
- ▣ Pollutants often include heavy metals, toxics, oil and grease, solvents, nutrients, viruses, and bacteria from these discharges
- ▣ Have been shown to significantly degrade receiving water quality and threaten aquatic, wildlife, and human health



Examples of Illicit Discharge Sources

- Sanitary wastewater
- Effluent from septic tanks
- Improper oil disposal
- Radiator flushing disposal
- Spills from roadway accidents
- Improper disposal of auto and household toxics

What's Required for Illicit Discharge Detection and Elimination?

8



A storm sewer system map showing outfalls and locations of receiving waters



A code or ordinance prohibiting non-stormwater discharges into the system and appropriate enforcement procedures and actions



A plan to detect and address illicit discharges



Education about the hazards of illegal discharges



Determination of appropriate practices and measurable goals

Implementation

9

- Outfall and storm sewer system mapping/inventory
- Locating and removing illicit connections and documenting actions taken
- Public complaint hotline and outreach to stakeholders



Why Construction Site Runoff Controls?

10

Polluted stormwater runoff from construction sites often flows to storm sewers and ultimately is discharged into local rivers and streams

Siltation can cause physical, chemical, and biological harm to our nation's waters



Pollutants Commonly Discharged from Construction Sites

- Sediment
- Solid and sanitary wastes
- Phosphorus
- Nitrogen
- Pesticides
- Oil and grease
- Concrete truck washout
- Construction chemicals
- Construction debris

What's Required for Construction Site Runoff Controls?

11



Code or ordinance requiring proper erosion and sediment controls



Construction site plan reviews that consider water quality impacts



Have sanctions to ensure compliance



Establish procedures for receipt and consideration of information submitted by the public



Determination of appropriate practices and measurable goals

Implementation

12

- Site plan reviews
- Site inspections
- Field staff training
- Respond to public inquiries and complaints

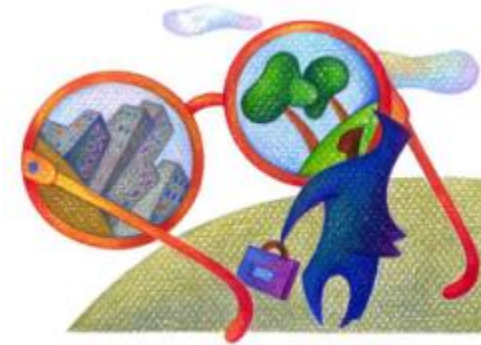


Why Require Post-Construction Runoff Control Measures?

13

Stormwater from new development or redevelopment can significantly impact nearby waterways.

- ▣ As runoff flows over areas altered by development, it picks up harmful sediment and chemicals
- ▣ Increased impervious surfaces like parking lots, driveways, and rooftops alter the natural water cycle



Project Timeline

Site Design

Active Construction

Post-Construction

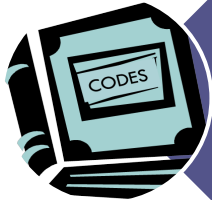


What's Required for Post-Construction Runoff Control Measures?

14



Develop and implement strategies which include a combination of structural and/or non-structural practices



Ordinance requiring implementation of controls



Ensure adequate long-term operation and maintenance of controls



Determine appropriate practices and measurable goals

Implementation

15

- Review plans for stormwater quality and quantity requirements
- Develop training programs
- Develop tracking/site inventory
- Perform inspections
- Enact maintenance ordinances
- Enforce



Green Infrastructure Approaches

Infiltration ~ Evapotranspiration ~ Capture & Use

16



- ❑ Reduce impervious cover in parking & street designs
- ❑ Bioretention/rain gardens
- ❑ Permeable pavements
- ❑ Green roofs
- ❑ Cisterns & rain barrels
- ❑ Trees & expanded tree boxes
- ❑ Reforestation & restoration

Why Require Pollution Prevention/ Good Housekeeping?

17

- Municipal operations/activities can release pollutants
 - Streets, parking lots, open spaces, and storage and vehicle maintenance areas
- Preventing pollution in the first place is more cost effective than cleaning it up later



What's Required for Pollution Prevention/ Good Housekeeping?

18



Develop and implement an operation and maintenance program



Train employees on how to incorporate pollution prevention/good housekeeping techniques



Determine appropriate BMPs and measurable goals for this minimum measure

Implementation

19

- ❑ Inventory of municipal facilities
- ❑ Municipal facility assessments and inspections
- ❑ Storm sewer system maintenance
- ❑ Street sweeping
- ❑ Field staff training



How do you become involved?

20

Form
Partnerships



- Topics like:
 - ▣ Stormwater specific issues
 - ▣ Water quality
 - ▣ Watershed concerns
 - ▣ Soil conservation
 - ▣ Water quantity
- Efforts like:
 - ▣ Local events such as fairs
 - ▣ Brochures/handouts
 - ▣ Informing site plan reviews for construction/ post-construction
 - ▣ Expert reviews/provide input

www.epa.gov/npdes/stormwater/municipal