

Stormwater Pollution Prevention Planning under the MS4

Utilizing the CMRSWC's SWPPP Template and Good Housekeeping Tools

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Introductions!

Central MA Regional Stormwater Coalition

- CIC Grant Funding
 - FY2012: \$310,000; 13 Towns
 - FY2013: \$115,000; 30 Towns
 - FY2014: \$80,000; 29(?) Towns

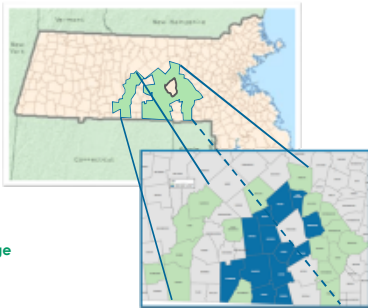
Aubrey Strause

- CMRSWC Facilitator FY2012-present
 - Tata & Howard (2012)
 - Verdant Water, PLLC (2013-present)
 - Fuss & O'Neill, Inc (May 2014- present)
- Grant writer (w/ Town leads)



CMRSWC Towns: FY2012 (13) & 2013 (30)

Paxton
Spencer
Leicester
Charlton
Sturbridge
Dudley
Webster
Grafton
Monson
Boylston
Hardwick
Northbridge
Sterling
Ware
Wilbraham

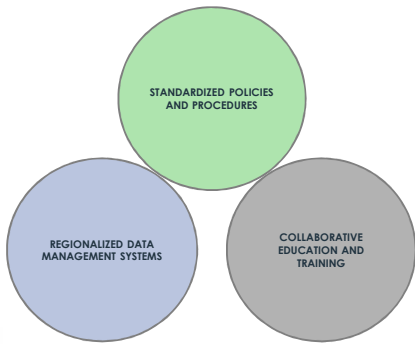


* Worcester has a different permit

Holden
West Boylston
Shrewsbury
Auburn
Millbury
Oxford
Northborough
Uxbridge
Upton
Westborough
North Brookfield
Palmer
Rutland
Southbridge
Hopkinton



CMRSWC Tasks Fit Into Three Categories



Standardized Policies and Procedures

1. Sump Pump Discharge Policy
2. Salt/Sand Application Benchmarking
3. Request for Proposals (RFP) for field work
4. Stormwater BMP Toolbox
5. 15 Standard Operating Procedures (SOPs)*
6. Stormwater Pollution Prevention Plan (SWPPP) Template*



*- Covered in today's training



Cost-Savings of SWPPP Template

| | Individual Approach | Regional Approach |
|------------------------|---------------------|-------------------|
| Consultant Fee | \$8,000 | \$16,000 |
| # of Towns Benefitting | 1 | 30 |
| Cost per Town= | \$8,000 | \$533 |

Assumption: both Approaches require 16 hours of staff time
Regional Approach = decreased cost per Town



SWPPP Template Caveats

1. This SWPPP Template will not be 100% applicable for all facilities.
2. This SWPPP Template is not ready to go "off the shelf".
3. This SWPPP Template was developed in 2012 and may require update per the 2014 MA MS4 Permit.
4. This SWPPP Template was not intended to replace any SWPPP already developed for any CMRSWC member.
5. Use of this SWPPP Template, like other CMRSWC tools, was voluntary.



Format of the SWPPP Template

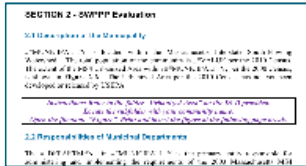
Location:

www.centralmstormwater.org/Pages/crsc_toolbox/SWPPPtemplate

Word Document:

- # indicates where site or Town-specific information is needed
- Delete what you don't need.
- TOC will automatically update

Instructions: directly in text inside boxes; purple font.



Exceptions in the SWPPP Template

Wastewater Treatment Facilities

- Covered under a separate permit program.



Facilities Owned by Quasi-Municipal Entities and Districts

- Facilities are not subject to governance by the permittee.
- Permittee lacks the legal authority to enforce requirements of the SWPPP.

Properties Owned but not Operated by the Permittee

- For example, school property may be owned by the Town but operated by the school **district**, not Town.
- Some Permittees lack legal authority to enforce requirements of the SWPPP: a gray area but will be important in new Permit.



Components of the SWPPP Template

Section 1: Overview

Section 2: Evaluation

Section 3: Municipal Facilities Assessment

- Facilities with low pollution potential
- Facilities with detailed narratives

Section 4: Detailed Facility Narrative

- Site or facility summary
- Pollution Prevention Team
- Site activities
- Material and equipment inventories
- Structural BMPs

Section 5: Non-Structural Controls (= SOPs!)



Current Requirements

Prior to 2003, EPA New England determined that
"municipal highway vehicle maintenance facilities that are owned or operated by a municipality...are not required to submit an NOI for permit coverage under the NPDES Storm Water Multi-Sector Permit for Industrial Activities (MSGP)."

BUT

Coverage for these facilities was swept into the Phase II Municipal (MS4) Permit



Current Requirements

| | Currently (2003 MA MS4 Permit) |
|----------------------------|---|
| Section | MCM #6 |
| Scope | "preventing and/or reducing pollutant runoff from municipal operations"; "schedules for municipal maintenance"; "inspection procedures and schedules for long-term structural controls" |
| Types of Facilities | "at a minimum, maintenance activities for the following: parks and open space (areas such as public golf course and playing fields); fleet maintenance, building maintenance, new construction and land disturbance; and roadway drainage system maintenance and stormwater system maintenance" |



Pending Requirements: Facilities

| Likely in 2014 New MA MS4 Permit | | |
|----------------------------------|---|---|
| Section | 2.3.7.1 (O&M Programs) | 2.3.7.2 (SWPPP) |
| Types of Facilities | <ul style="list-style-type: none"> a. Parks and open space b. Buildings and facilities where pollutants are exposed to stormwater runoff c. Vehicles and equipment d. Infrastructure: catch basins; street sweeping; parking lot sweeping; winter road maintenance; storage of sweepings; BMPs like retention basins and swales | <ul style="list-style-type: none"> a. Maintenance garages b. Public works yards c. Transfer stations d. Waste handling facilities <p>Can combine facilities on the same property into one SWPPP</p> |
| Schedule | <p>Inventory all municipal facilities within six months.</p> <p>Develop O&M Plan within one year.</p> | <p>Develop and implement SWPPP within two years.</p> |



Pending Requirements: Scope

| Likely in 2014 New MA MS4 Permit | | |
|----------------------------------|--|---|
| Section | 2.3.7.1 (O&M Programs) | 2.3.7.2 (SWPPP) |
| Scope | <p>"Implement an operations and maintenance program for permittee operations that includes a training component and has a goal of preventing or reducing pollutant runoff and protecting water quality from permittee operations"</p> | <p>"develop and fully implement a SWPPP"</p> <p>SWPPP shall contain:</p> <ul style="list-style-type: none"> i. Pollution Prevention Team ii. Description of facility and ID of pollutant sources iii. ID stormwater controls iv. Include practices to minimize/prevent exposure; good housekeeping; preventative maintenance; spill prevention and response; erosion & sediment control; manage runoff; salt storage; training; maintain control measures v. Inspections vi. Repair or update BMPs |
| Documentation | <p>Part of the Stormwater Management Plan (SWMP)</p> | <p>Separate from the SWMP</p> |



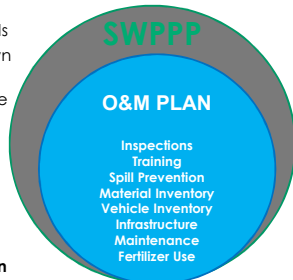
SWPPP vs. O&M Plan

O&M Plan Required for:

- Open spaces: cemeteries, golf courses, parks, ball fields
- Town Facilities: Schools, Town Hall, Rec center
- Roadways and infrastructure

SWPPP Required for:

- Maintenance Garages
- DPW/Highway Facilities
- Waste Handling Facilities



What's in a SWPPP But Not in an O&M Plan?

- Mandatory Monitoring



Section 1. Overview

- Introduction
- Objectives
- Reviews MS4 permit coverage information
- Defines the Exclusions
- Customized for CMRSWC Towns



Section 2. SWPPP Evaluation

- Description of the municipality
- Summary of 303(d) List impaired waters in the municipality
- Endangered or Threatened Species Evaluation
 - Discharges from Urbanized Area must not adversely affect endangered or threatened species under the Endangered Species Act.
- Historic Places Evaluation
 - Discharges from Urbanized Area must not adversely affect properties listed on or eligible for the National Register of Historic Places.



Section 3. Facility Assessment

Facilities with Low Pollution Potential

Do not require a detailed narrative.

- Schools
- Police Stations
- Fire Stations
- Recreation Centers
- Senior Centers
- Municipal Parks
- Athletic Field
- Municipal Cemeteries
- Municipal Swimming Pools
- Town Commons
- Veterans Squares

Facilities with High Pollution Potential

Require a detailed SWPPP narrative.



Section 4. Detailed Facility Info

Where on the site are sources of potential stormwater pollution?

Where does drainage go?

Where could failure occur?

What is the health of the water to which the site discharges?

Where are control measures located?



Section 4. Detailed Facility Info

Facility Summary and Description

- Name, location, and purpose of facility
- Site map

List and Describe Structures at the Facility

Examples:

- Vehicle storage and maintenance
- Storage of deicing materials
- Aboveground storage tanks
- Oil/water separators (**SOP 11**)



Section 4. Detailed Facility Info


Site Drainage

- Location of drainage structures and BMPs
- Catchment delineation and outfall(s)
- Receiving waters and impairments
- Applicable TMDLs



Site Plans

- Don't need to be fancy- just functional.
- Direction(s) of surface water flow
- Location of drainage structures and outfalls
- Material storage
- Vehicle storage
- Location(s) of spill kits



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Section 4. Detailed Facility Info

Pollution Prevention Team

- Three people, at a minimum
- Knowledgeable about the site
- Understand concepts in the MS4 Permit
- Trained on spill cleanup and reporting
- Responsible for inspections and making sure SOPs are implemented

| Required Information |
|----------------------|
| Name |
| Title |
| Phone Number |
| Responsibilities |

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Section 4. Detailed Facility Info

Site Activities

Discuss potential pollutant sources associated with each activity, and measures taken to minimize pollution.

Activities may include:

- Compost production or storage
- Facility or building maintenance
- Fueling operations
- Landscaping
- Chemical handling and storage
- Painting
- Paving
- Sand storage
- Salt storage
- Snow dumps
- Solid waste management
- Tool storage
- Vehicle and equipment storage
- Vehicle and equipment maintenance/repair
- Vehicle and equipment washing
- Waste handling and disposal
- Waste oil storage

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Section 4. Detailed Facility Info

Vehicle and Equipment Inventory

Vehicles and equipment stored and maintained at the facility.

| Vehicle Type | Number on Site |
|---|----------------|
| Highway Division 10-wheeled trucks | 2 |
| Highway Division 6-wheeled trucks (5-ton) | 4 |
| Highway Division Dump Truck (1-ton) | 3 |
| Highway Division Pickup Trucks | 2 |
| DPW Sport Utility Vehicle | 1 |
| Oshkosh loader | 1 |
| DPW Front-end loader | 1 |
| DPW General task tractor | 1 |
| Lawnmowers | 5-8 |

Sample Vehicle Inventory



Section 4. Detailed Facility Info

Significant Materials Inventory

Description of activities and storage areas.

| Material | Activity/Use |
|-------------------------------|--------------------------|
| Diesel Fuel- Tank 1 | Storage (1,000 gal AST) |
| Diesel Fuel- Tank 2 | Storage (1,000 gal AST) |
| Motor oil (5W30) | Storage (55 gal drum) |
| Motor oil (10W30) | Storage (55 gal drum) |
| Hydraulic Fluid | Storage (55 gal drum) |
| Salt- Building | Storage (200 tons max) |
| Salt/Sand Mix - Seasonal Pile | Use (50 tons, max) |
| Waste Oil | Storage (275 gallon AST) |

Sample Material Inventory



Section 4. Detailed Facility Info

Significant Leaks and Chronic Spills

- Document and reportable spill in the last 5 years
- Document any spill or leak that occurs at the facility in the future.

| Date | Spill/Leak | Source | Type of Material | Quantity | Reason | Response Procedures | Reoccurrence Prevention |
|------|------------|--------|------------------|----------|--------|---------------------|-------------------------|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

Location of Leak and Spill Cleanup Materials

List locations and types of leak and spill cleanup materials around the facility.



Section 4. Detailed Facility Info

Spill Prevention, Control, and Countermeasure (SPCC) Plan

Required when:

- Facility has an aboveground oil storage capacity greater than 1,320 gallons
- Capacity includes containers of 55 gallons or more.

The SWPPP table has a place to sum up volume.

Appendix D= Tier I Facility SPCC Template



Section 4. Detailed Facility Info

Allowable Non-Stormwater Discharges

1. Fire-fighting activities
2. Potable water sources
3. Uncontaminated A/C or compressor condensate
4. Landscape watering or irrigation drainage (all pesticides and fertilizers were applied properly- **SOP 12**)
5. Pavement or street washwater (no detergents are used, no spills/leaks have occurred)
6. Routine external building washdown (no detergents are used)
7. Uncontaminated groundwater
8. Diverted stream flows
9. Flows from riparian habitats and wetlands
10. Foundation or footing drains



Section 4. Detailed Facility Info

Existing Stormwater Monitoring Data

Historical data, including location and type of monitoring.

| Building or Area | Location | Type of Monitoring |
|------------------|----------|--------------------|
| | | |
| | | |
| | | |



Image Source: Benchmark Water



Section 4. Detailed Facility Info

Structural BMPs

Pretreatment BMPs: Deep sump catch basins, Oil/grit separators, Sediment forebays, Vegetated filter strips

Treatment BMPs: Rain gardens/bioretention areas, Constructed wetlands, Vegetated swales, Infiltration berms and retentive grading

Other: Riparian buffer restoration

SOP 3: Catch Basin Inspection & Cleaning

SOP 9: Constructed BMPs Inspection & Maintenance



Section 4. Detailed Facility Info

Annual Site Inspections

1. Conducted by a member of the Pollution Prevention Team
2. Document evidence of pollution
3. Evaluate Non-structural Controls (ex: are spill kits stocked?)
4. Inspect Equipment
5. Document Inspection (copy to binder), including:
 - Date of Inspection
 - Name of Person Conducting Inspection
 - Observations and Assessment of BMP's
 - Corrective Action Taken
6. Note Inspections in MS4 Annual Report
7. Inspection does not need to be submitted to USEPA. Include in binder and make available during inspections



Sample Inspection Report

City of Phoenix, Phoenix Metropolitan Water Wastewater Division

Document Number: 00000000000000000000

Stormwater Industrial/Residential Facility Inspection Report

| General Information | |
|------------------------------|---|
| Location/Name | 1234 Main St |
| Inspection Date/Time | 10/26/2018 10:00 AM |
| Inspector Name | John Doe |
| Inspector Title | Inspector |
| Facility Name | ABC Manufacturing |
| Facility Address | 1234 Main St, Phoenix, AZ 85001 |
| Facility Phone | (602) 123-4567 |
| Facility Email | info@abc.com |
| Facility Website | www.abc.com |
| Facility Description | Manufacturing facility with 50,000 sq ft of roof area and 100,000 sq ft of paved area. |
| Facility Type | Industrial |
| Facility Status | Active |
| Facility Owner | ABC Manufacturing |
| Facility Contact | John Doe, (602) 123-4567 |
| Facility Inspection Date | 10/26/2018 |
| Facility Inspection Time | 10:00 AM |
| Facility Inspection Duration | 1 hour |
| Facility Inspection Results | Pass |
| Facility Inspection Comments | Facility is in good condition. All BMPs are properly installed and maintained. No violations were observed. |
| Facility Inspection Notes | Facility is in good condition. All BMPs are properly installed and maintained. No violations were observed. |



4. Detailed Facility Narrative (cont)

Recordkeeping

- Keep records on site for five years, minimum.
- Records to maintain:
 - Inspections
 - Monitoring
 - BMP maintenance, catch basin cleaning
 - Spill kit orders
 - Employee training records. (Also helps fill in Annual Report information.)
 - Copies of waste oil manifests
 - Copies of OWS pumpouts (**SOP 11**)



4. Detailed Facility Narrative (cont)

SWPPP shall be reviewed annually to determine if updates or revisions are required.

Triggers for SWPPP Revisions

1. An increase in the quantity of potential pollutants stored at the facility.
2. The edition of new potential pollutant to the list of materials used or stored at the facility.
3. Physical changes to the facility that expose potential pollutants to stormwater.
4. Presence of new unauthorized stormwater discharge at the facility.
5. Addition of an activity that introduces a new potential pollutant.



Section 5. Non-Structural Controls

Actions that can be taken to prevent pollution.

- Good Housekeeping
- Preventative Maintenance
- Best Management Practices
- Spill Prevention and Response
- Employee Training
- Recordkeeping



Image Source: Filtration Systems

**Following the SOP's =
a Non-Structural Control!**



Section 5. Non-Structural Controls

Examples of Good Housekeeping Measures

1. All washing of vehicles is performed within the designated vehicle wash bay. (SOP 14)
2. All fluid products and wastes are kept indoors and have containment.
3. All floor drains present within garage bays drain to an oil/water separator and sanitary sewer (SOP 11). Spills are cleaned up promptly.
4. All materials, waste oil storage containers, and gas cans are properly labeled.
5. Work areas are clean and organized.
6. Obtain only the amount of materials required to complete a job.
7. Materials are recycled when possible.



Section 5. Non-Structural Controls

Training and Awareness

1. All staff members are **aware** of spill prevention and response procedures.
2. All staff members have received formal spill prevention and response procedure **training**.
3. All equipment fueling procedures are **completed** by qualified personnel trained in spill response procedures.
4. All material and bulk deliveries are **monitored** by facility employees.



5. SWPPP Non-Structural Controls

Preventative Maintenance and Inspection

1. Hydraulic equipment is kept in good **repair** to prevent leaks.
2. Vehicle storage areas are **inspected** frequently for evidence of leaking oil.
3. Material storage tanks and containers are regularly **inspected** for leaks.
4. All waste oil is fully contained, and the containers are **inspected** regularly.



5. SWPPP Non-Structural Controls

Best Management Practices

Prevent or reduce petroleum pollutants in stormwater runoff.

BMPs for Petroleum Products:

1. Follow **SOP 7** during delivery of waste oil to equipment/waste oil storage location.
2. Follow **SOP 7** during delivery of bulk petroleum to emergency generator, fuel dispensing areas.
3. Minimize the volume of petroleum stored.
4. Clean up any oil spills observed in the parking lot, garages, and other surfaces in a timely manner. (**SOP 4**)
5. Monitor all material deliveries.
6. Inspect all storage tanks prior to filling activities for spills, leaks, and corrosion.



5. SWPPP Non-Structural Controls

Spill Prevention and Response (SOP 4)

1. All personnel are **instructed** in the location, use, and disposal of spill response equipment and supplies.
2. The Pollution Prevention Team leader will be **advised** immediately of all spills of hazardous or regulated materials, regardless of quantity.
3. Spills will be **evaluated** to determine the necessary response.
 - Health hazard, fire or explosion potential, call 911.
 - Spill exceeds 5 gallons or threatens surface waters, call state or federal emergency response agencies.
4. Spills will be **contained** as close to the source as possible with oil-absorbent materials.
 - Additional materials will be utilized to protect catch basins.



Questions and Contact Information

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