

## Lesson Plan

Lesson/Workshop Title	: Stormwater Management at Your Public Works Facility: Employee Training (Taking a Dip in your SWPPP)
Developed By	: K Stuart
Audience	: Maintenance Facility Supervisors
Objectives	: Students will be able to <ul style="list-style-type: none"><li>○ Train their employees in Phase II requirements</li><li>○ Keep records of implementation</li></ul>
References	: MS4 General Permit, Industrial Facilities General Permit, Scituate Facility SWPPP and SPP
Training Aids	: PP modules, handouts
Special Arrangements	:
Total Time Needed	: 3 hours?
Notes	:

### *Introduction:*

*How many of you have heard of a SWPPP? If you're here today, it's because your facility has a SWPPP, and you have responsibility to implement that SWPPP. Don't worry if you have no idea what a SWPPP is; you'll know by the end of the day. But the real focus of today is to provide you with tools so you can train your employees in their SWPPP responsibilities.*

*I'm going to start with a review of your responsibilities to implement the SWPPP, then run through the five training modules we've put together for your use. We'll wrap up with a review of the record keeping you'll need to do as you implement the SWPPP and provide training to your staff. If we've done our job, you should realize what a SWPPP is somewhere through module 2!*

### *Explanation:*

#### *1. Review of facility supervisor's SWPPP responsibilities*

- a. Coordinate development, implementation, & inspection of all pollution prevention activities at specific facility

- b. Coordinate employee training programs
- c. Keep records, ensure reports are submitted
- d. Implement preventative maintenance program
- e. Oversee good housekeeping activities
- f. Serve as spill response coordinator
- g. Conduct/assist inspections & training program
- h. Conduct sampling if necessary

## ***2. Introduction to training modules***

- a. Equipment requirements
- b. Time requirements
- c. Who should participate – everyone!

## ***3. Module 1: What is a watershed/what's the concern?***

- a. What is a watershed?
  - i. Definition
  - ii. Schematic
- b. Impacts of impervious cover
  - i. Water quantity
  - ii. Water quality
  - iii. Habitat quality
- c. Typical runoff pollutants
  - i. Bacteria
  - ii. Nutrients, pesticides
  - iii. Sediment
  - iv. Oil & grease
  - v. Heavy metals
- d. Exercise: Follow the flow
  - i. Find watershed address of your facility
  - ii. Mock up flow patterns
    - 1. on site
    - 2. from facility to water of concern

## ***4. Module 2: What is a SWPPP?***

- a. Clean Water Act & RIPDES Phase II in 2 minutes or less
- b. Contents of site-specific SWPPP
  - i. Who responsible for implementing
  - ii. Description of facility
  - iii. Activities exposed to precipitation or runoff
  - iv. Site map
    - 1. location of activities
    - 2. location of drainage system
  - v. Materials that could be exposed
  - vi. Practices to control pollutants

1. good housekeeping
  2. preventive maintenance
  3. existing & planned BMPs for activities
  4. how vehicle water/wastewater is handled
  5. how salt/sand piles are stored
  6. standard operating procedures re. fuels
  7. vehicle maintenance operations
  8. erosion controls
  9. other runoff management practices
  10. spill prevention & response procedures
  11. employee training
- vii.* Procedures for evaluation of compliance
- c.* Exercise: What do we do outdoors?
- i.* Employees brainstorm on what activities are performed outdoors
  - ii.* Locate on a rough map of the facility
    1. what's "left behind"?
    2. what's the relationship to the flow patterns noted in module 1?
    3. compare to facility's SWPPP map

### ***5. Module 3: Spill prevention & response***

- a.* What materials might spill & how concerned to be in terms of water quality impact
  - i.* Petroleum products
    1. Types
      - a. fuel
      - b. lubricants
      - c. waste products
    2. Regulated – 40 CFR 112 – Oil Pollution Prevention
  - ii.* Other chemicals
    1. antifreeze
    2. solvents
      - a. paints
      - b. paint thinners
    3. brake fluid
    4. battery acid
  - iii.* Fertilizers/pesticides
  - iv.* Sand/salt
  - v.* Dumpster contents
- b.* Preventing spills
  - i.* Reduce use/use safer alternatives

- ii. Standard operating procedures to prevent overfilling
    - iii. Potential leaks confined
      1. potentially leaky equipment, materials away from inlets & concentrated flows
      2. drip pans/drain idle equipment
      3. berms/dikes/dead end sumps
      4. roofing
  - c. Responding to spills
    - i. Know where your response plan is & what it says
      1. Who to notify
      2. Evaluating severity/appropriate response
      3. Location/use of spill response kit
      4. Reporting
    - ii. General policies
      1. Supervise all material transfers with personnel trained in spill response
      2. Locate spill response equipment at all potential spill areas
        - a. Personal protective equipment
        - b. Absorbent materials
        - c. Brooms, shovels (dry cleanup)
        - d. Drain covers, sand bags
      3. Notify supervisor/spill coordinator immediately
      4. Contain spill as close to source as possible
      5. Dispose of cleanup materials properly

## ***6. Module 4: Good Housekeeping***

- a. Operations
  - i. Move indoors/under roof whenever possible
    1. vehicle maintenance & repair (RCRA-Hazardous Waste)
    2. close cover on dumpster
  - ii. Vehicle washing needs separate RIPDES permit if discharges to waterway, wetland or municipal storm drain
  - iii. Sweep/vacuum paved surfaces to remove accumulated pollutants
  - iv. Pick up litter & debris on a regular basis
  - v. Dispose of waste materials properly in appropriate locations
    1. recycle when possible
- b. Runoff Management



3. brainstorm ideas for reducing runoff, pollutant exposure
- e. Alternate exercise: ME NEMO Jeopardy game

## ***7. Module 5: Materials management***

- a. Purchasing
  - i. Order in appropriate amounts to avoid expiration
  - ii. Inspect immediately upon delivery for leaks/damage
  - iii. Purchase multi-purpose products to reduce # of hazardous chemicals
  - iv. Ask for least hazardous materials suitable for the job
  - v. Review Material Safety Data Sheets (MSDSs) prior to purchase
- b. Storage
  - i. Inspect storage area for points where spilled products could migrate out
    1. floor drains, doorways, loading docks, catch basins, cracked floors
    2. avoid storing, dispensing or mixing products near those points
  - ii. Organize area and keep an inventory
  - iii. Keep unused products in their original containers
  - iv. Plainly label all containers; indicate hazard (i.e. flammable)
  - v. Store flammables in area approved by local fire department
  - vi. Label waste containers with date when contents were first added
  - vii. All fluid products & wastes indoors
  - viii. Proper storage of waste oil & antifreeze
  - ix. Batteries stored in single layer on pallets with non-corrosive base, properly recycled
  - x. Locate outdoor stockpiles away from concentrated flows, drain inlets, water bodies
  - xi. Salt & salt/sand piles enclosed or covered by resistant shelter
  - xii. Bulk materials & tires under roofs or tarps
  - xiii. If bagged/boxed products stored outdoors, put on pallets & cover prior to rain
  - xiv. Dumpsters with lids for waste materials & garbage
  - xv. Berms/dikes for containment

- xvi. Routinely check for leaks
- c. Usage
  - i. Keep containers closed except briefly while in use
  - ii. Use self-closing spigots & nozzles for dispensing fluids from bulk containers
  - iii. Return empty containers before using new supplies
  - iv. Pour & mix products in well-ventilated area over a spill pallet
  - v. Use as few spray cans at a time of brake or carburetor cleaners, lubricants, etc as feasible
  - vi. Avoid accumulating multiple partly-used cans in every work area
  - vii. Use dry cleanup methods
  - viii. Seal drums & containers prior to transport

### ***8. Record keeping & reporting***

- a. Spills
- b. Inspections
- c. Plan implementation, inspection follow-up, maintenance
- d. Employee training

### ***Wrap-Up***

*And there you have it, 5 modules ready for you to present to your staff. You'll probably want to go over them a couple times to become thoroughly familiar with the material, and maybe even add some details specific to your site.*

*We've tried to make this as painless as possible, but you **MUST** provide training at least once a year in order to be in compliance with RIPDES. Any suggestions on making it more interesting and fun are more than welcome! Thanks for your time.*