

## Standard Operating Procedure (SOP) Storage and Use of Fertilizers, Herbicides and Pesticides

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Review Frequency: Annual

### Reasons for Procedure

Radford University (RU) is subject to a General Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems (MS4). The permit requires RU to develop, implement, and enforce a MS4 Program designed to reduce the discharge of pollutants to the maximum extent practicable, to protect water quality, to ensure compliance with water quality standards, and to satisfy the appropriate water quality requirements of the Clean Water Act and its attendant regulations. This permit authorizes RU to discharge stormwater pursuant to the Virginia Stormwater Management Program and the Virginia Stormwater Management Act.

#### 1.0 Purpose

The purpose of this procedure is to describe the proper means for storing and using fertilizers, herbicides and pesticides at RU. Improper storage and use of fertilizers, herbicides, and pesticides can contribute to nutrient and toxic compound loading to surface waters and ground water. Discharge of these contaminants into a storm drain is considered an “Illicit Discharge.” Illicit discharges can result in significant fines from regulatory agencies. This SOP has been developed to minimize or prevent pollutant discharges from these activities.

#### 2.0 Scope

This procedure applies to those department at RU that use and/or store fertilizers, herbicides, and pesticides.

#### 3.0 Procedures

##### 3.1 Storage of Fertilizers, Herbicides and Pesticides

Procedures for the storage of fertilizers, herbicides and pesticides shall include the following:

- Follow all manufacturer’s recommendation for storage.
- Store indoors in high and dry locations.
- Store in cool, well-ventilated, and insulated areas to protect against temperature extremes.
- Store in a secured building to prevent unauthorized access.
- Store in locked cabinet where possible.
- Store within a secondary containment structure where possible.
- Keep materials properly covered and contained in tight fitting containers.
- Properly label all materials.

- Keep materials as far away as possible from doors or other places where

spills could reach an outside area.

- Flammable products shall be stored separately from non-flammable products, preferably in a fire-proof cabinet.
- Provide warning signs of the existence and dangers of herbicides and pesticides.
- Do not store pesticides in the same place as ammonium nitrate fertilizer.
- Separate fertilizers, herbicides and pesticides and other chemical storage.
- Maintain a written inventory of all materials.
- Order for delivery as close to the time of use as possible to reduce the amount of materials and chemicals stored.
- Regularly inspect storage area for spills and leaks.
- Provide absorbent spill kits in all liquid storage areas.
- Provide emergency eyewash and emergency drench showers within or near the storage area.
- Dispose of waste, excess or obsolete materials and chemicals in accordance with manufacturer's recommendation and in accordance with state law.

### 3.2 Use and Application of Fertilizers

- Fertilizers shall be applied by properly trained personnel.
- Type and amount of fertilizer to be used shall comply with the Virginia Department of Environmental Quality (DEQ) approved nutrient management plan.
- Calibrate application equipment regularly to ensure proper application and loading rates.
- Never apply fertilizers in quantities exceeding manufacturer's instructions.
- Check labels prior to application.
- Time fertilizer application periods from maximum plant uptake.
- Do not fertilize during a drought or when the soil is dry.
- Never apply fertilizer to frozen ground.
- Never apply fertilizer when heavy rain is anticipated.
- Clean up spills immediately.
- Sweep impervious surfaces where fertilizer has fallen.
- Mix fertilizers in clean application equipment under cover in an area where spills will not come into contact with rainwater or stormwater runoff.
- Where applicable till fertilizers into the soil.
- Use alternatives to chemical fertilizers such as compost or organic fertilizer when possible.
- Use slow release fertilizers for turf grass.
- Dispose of waste, excess or obsolete materials and chemicals in accordance with manufacturer's recommendation and in accordance with state law.

### 3.3 Use and Application of Herbicides and Pesticides

- Herbicides and pesticides shall only be applied by licensed or certified personnel.

- Calibrate application equipment regularly to ensure proper application and loading rates.
- Mix only the amount of material needed for the immediate job.
- Ensure equipment is capable of immediate shutoff in case of an emergency.
- Conduct spray applications according to specific label directions and application regulations.
- Never apply herbicides or pesticides in quantities exceeding manufacturer's instructions.
- Apply pesticides at the life stage when the pest is most vulnerable.
- Never apply herbicides or pesticides if it is raining or immediately before expected rain.
- Do not apply within 100 feet of open water or drainage channels.
- Do not apply when wind conditions could result in spray drift to waterbodies or areas not targeted for application.
- Spot treat infected areas instead of treating the entire location.
- Mix herbicides or pesticides in clean application equipment under cover in an area where spills will not come into contact with rainwater or stormwater runoff.
- Check labels prior to mixing and application.
- Recycle rinse water from equipment back into product.
- Clean up spills immediately.
- Triple rinse all herbicide and pesticide containers prior to disposal.
- Application equipment shall be washed in a fully contained area that drains to a holding tank or sanitary sewer.
- Dispose of waste, excess or obsolete materials and chemicals in accordance with manufacturer's recommendation and in accordance with state law.

#### 3.4 Unexpected Spills and leaks

- Spills and leaks should be cleaned up immediately.
- Dry clean-up methods should be used to clean up spilled material. This includes the use of absorbent pads, granular absorbent, booms and similar measures.
- Waste sorbent material must be disposed of properly.
- Do not use water to clean up spills.
- Wash down of impervious surfaces should not occur until all spills and leaks have been cleaned up.

#### 4.0 Annual Review of Procedure/ Training

All managers and personnel who store or use fertilizers, herbicides or pesticides are responsible for reviewing this procedure with all employees who have these job duties at least once each year. Any project managers who hire contractors to perform these job duties are required to convey the requirements of this procedure to the contractors.