

STORMWATER BMPS: LANDSCAPING AND LAWN MAINTENANCE

AFFECTED FACILITIES

These Best Management Practices (BMPs) apply at all municipal and county facilities where pesticides or fertilizers are stored, mixed, applied, recycled or disposed. It also applies at any municipal or county properties where lawns or vegetation are cut, mowed, trimmed or removed.

BACKGROUND

Landscape management activities include vegetation removal, pesticide application, fertilizer application, watering, and other gardening and lawn care activities. Vegetation control typically involves a combination of chemical (herbicide) application and mechanical methods. These practices may contribute pollutants to the storm drain system. Landscape chemicals and wastes can pollute storm water with sediments and toxics that can kill fish and wildlife and can harm humans. Fertilizers can contribute to algae blooms and deplete oxygen from receiving waters. The major objectives of these BMPs are to minimize or prevent the discharge of pesticides, fertilizers, and landscape wastes to storm water and receiving waters.

BEST MANAGEMENT PRACTICES

Landscaping and Lawn Maintenance

- Control soil erosion by seeding, sod, mats, mulching, terracing or other effective methods.
- Mulch-mow grasses whenever possible.
- Sweep grass clippings from sidewalks or streets back on to grassy areas.
- Dispose of organic wastes by composting whenever possible. When composting is not possible, dispose of organic wastes in an approved disposal facility. Do not wash down or dispose of lawn clippings, leaves, tree trimmings, or other landscape waste in or near a storm drain, drainage ditch, or open body of water.
- Use mulch or other erosion control methods to prevent erosion of exposed soils and flowerbeds.
- Do not apply bark on top of plastic sheeting unless the area is enclosed by a barrier-like lawn edging or it is far away from a storm drain inlet. Bark on plastic is easily washed off by heavy rainfall.
- Only irrigate as much water as needed. Never water at rates that exceed the infiltration rate of the soil.
- Till fertilizers into the soil rather than broadcasting them wherever feasible.

Pesticide & Fertilizer Application

- Develop and implement an Integrated Pest Management (IPM) Plan. Use manual and/or mechanical methods for weed/pest control and vegetation removal wherever possible rather than chemical methods. When chemicals are required, use the least toxic method to control animal and plant pests. Pheromone-based traps and sticky paper are often more effective than chemicals. Beneficial organisms should be promoted.
- When chemicals are used, use the most biodegradable pesticide that will accomplish the desired vector control.
- Sweep pavements or sidewalks where fertilizers or other solid chemicals have fallen. Sweep the chemicals back onto grassy areas.

- Follow all federal and state regulations governing use, storage and disposal of pesticides, herbicides and fertilizers and training of pesticide applicators (“Read the Label”).
- Follow all manufacturers’ recommendations for mixing, applying, cleaning-up, storage and handling of pesticides and fertilizers. Never over-apply or apply at times or under conditions contrary to the manufacturer’s recommendations.
- Time the application of pesticides and fertilizers to coincide with the manufacturer’s recommendation for best results. Do not apply fertilizers during a heavy rainfall or if a heavy rainfall is expected. Do not apply a pesticide immediately before an irrigation cycle.
- Store and mix pesticides inside a protected area with impervious secondary containment (preferably indoors) so that spills or leaks will not contact soils.
- Make sure all containers are clearly labeled.
- Mix only the minimum amount of pesticide that will be needed for the immediate job.
- Dispose of triple rinsate from empty containers and rinsate from sprayer cleaning properly. Do not pour onto ground or into any drainage system. Use the rinsate as diluent for the next batch if possible.
- Clean up any spills or leaks of pesticides and fertilizers promptly. See *BMP: Spill Clean-Up* for details.
- Use rinse water from cleaning of containers and application equipment as a diluent for the next batch of that pesticide wherever possible,
- Dispose of excess or leftover chemicals and empty expired pesticide containers according to instructions on the label –preferably on the target pest or vegetated area.
- Do not dispose of excess, expired or waste pesticides or fertilizers in storm sewers, drainage ditches or any surface waters.
- Avoid broadcast spraying of pesticides. Choose an appropriate method of application such that application does not exceed the problem area. (Fertilizer may be broadcast sprayed.)
- Avoid spraying pesticides or fertilizers within 50 feet of any surface water or storm drainage structure (unless stricter limits apply).
- Designate “no spray zones” and/or buffer areas around water features (ponds, lakes or streams).
- Do not apply fertilizers or pesticides in or near any drainage ditch.
- Spot spray pesticides on infested areas whenever possible rather than treat a larger area. Do not use pesticides on a regular (preventive) basis. Apply only when there is an actual pest problem.
- Use granular pesticides whenever possible since they result in lower application losses.

REQUIRED STRUCTURES AND EQUIPMENT

- All pesticide application equipment must be capable of immediate shut-off in the event of an emergency.
- Use automatic timers on all irrigation equipment to minimize run-off.

INSTALLATIONS REQUIRED FOR NEW CONSTRUCTION OR RENOVATIONS

- Design new or re-landscaped areas using xeriscape techniques to the maximum extent possible. Use hardy plant materials appropriate to the climate. (See *“Storm Water Protection – It’s Part of the Landscaping Plan”* published by KICP.)

REQUIRED EMPLOYEE AND CONTRACTOR TRAINING

- Train all current employees and contractors who conduct grass mowing or landscaping activity on this BMP.
- Train all new employees and job transferees who conduct grass mowing or landscaping activity on this BMP.
- Conduct refresher training on this BMP for all employees and contractors who do grass mowing or landscaping activities as needed.
- Pesticide application should be done only under the supervision of a “certified pesticide applicator”.
- All employees who handle or apply pesticides or herbicides should be trained on the most recent Material Safety Data Sheet(s).
- Train employees on the proper methods for cleaning up spills or leaks of pesticides, herbicides and fertilizers. See *BMP: Spill Clean Up*.
- Contracts should stipulate that all contracted employees have been trained in proper stormwater management BMPs.

REQUIRED MAINTENANCE

- Maintain all irrigation systems so that irrigation water is applied evenly and where it is needed, and so that a minimum amount of water falls on impervious surfaces or runs off from the target property.
- Repair broken or leaking sprinkler heads quickly.
- Regularly inspect, maintain and calibrate all pesticide and fertilizer application equipment so that it can be set at the correct application rates.

RECORDS

- Keep records of employees and contractors trained.
- Keep records of fertilizer and pesticide purchases, amounts and locations used.
- Keep an inventory of fertilizers and pesticides including expiration dates.

REFERENCES

1. Colorado’s Phase II Municipal Guidance, October 2001
2. *California Stormwater BMP Handbook*, January 2003
3. *Knoxville (TN) BMP Manual, Activities & Methods*, January 2001
4. *City of Tacoma: Surface Water Management Manual (Vol. IV Source Control BMPs)*, January 2003
5. *Municipal Facility Runoff Control Plan* (City of Lakewood, CO)
6. *Best Management Practices for Industrial Storm Water Pollution Control* (Santa Clara Valley, CA)
7. *Storm Water Protection – It’s Part of the Landscaping Plan*, WASH Project, Boulder County