

Land Disturbance & Stormwater Management

Erosion & Sediment Control Requirements for Construction Sites

Builders do have a responsibility to provide pollution controls at the job site that help assure pollutants do not enter our waterways.

This publication outlines pollution control measures necessary with any land disturbance activity. The City of Festus requires that land disturbance activity provide adequate control of erosion and sedimentation at the construction site.

Erosion Control means keeping the dirt in place. Sediment Control means protection after the dirt has become dislodged.

Erosion control measures such as mulch, blankets, mats, and vegetative cover protect the soil surface and prevent soil particles from being dislodged and carried away by wind or water.

Sediment control measures remove soil particles after they have been detached by rain, flowing water or wind. Erosion Control measures should be used in conjunction with sedimentation control measures.

Erosion Control:

All disturbed areas of soil must be protected from eroding, especially steep slopes and large exposed areas. Soil should be stabilized so it does not invade neighboring property or wash into storm drains, streams or rivers.

- Construct soil binders, or silt fencing and straw bales to hold disturbed soil.
- Establish earth dikes and drainage swales.
- Install check dams, slope drains
- For steep slopes, use rip rap to prevent erosion
- Multiple forms of erosion control must be utilized in highly concentrated water flow areas.

Sediment Control:

- All storm drains or other means of transporting storm water both natural and man-made must be protected at all times during construction. For example, provide curb inlet protection and provide stream bank or natural water flow area protection from pollutants. Stormwater sewers must be free of siltation and debris at all times.

Sediment Control continued:

- Install linear sediment barriers such as silt fence, sandbag barrier or straw bale barrier. Straw bales must be interlocked. Silt fencing must be properly joined and J-hooked into the ground.
- On steeper banks, place fiber rolls or gravel bag berms
- Construct check dams to break up slope length or flow. Check dams must be properly maintained and free of sediment
- Construct a sediment trap or sediment basin.
- Wind barriers should be utilized if needed along with other dust control methods.
- Sweep or vacuum sediment that has reached the street so it does not enter storm drains.
- To drain water from a site, direct the water through hay bales and filter fabric or use sediment filters or taps to remove the sediment.
- All erosion and sediment controls must remain in place until vegetation has a good growth.

Excavations

Excavation and construction sites can generate or accumulate a considerable volume of pollutants including erosion, sediment, trash, metals, hydrocarbons, rubble/debris and other pollutants that can be carried away by storm water. It is necessary that any material that is dug up or scraped up remain on-site until it can be disposed of properly.

- Do not use herbicides to kill vegetation. Use mechanical means to clear the area.
- Put in place proper erosion control practices before excavation.
- Temporarily block off adjacent storm water inlets with sandbags.
- Only clean fill may be used. Fill containing wood, plastic or metal materials is not permitted.
- Provide temporary soil stabilization if site will remain dormant for longer than 30 days. Soil stabilization includes seeding, mulches, blankets or mats and soil binders. If the site is to remain dormant for more than one year, use permanent stabilization such as permanent seeding and planting, sodding, channel stabilization and vegetative buffer strips.

Protect Storm Drains:

- Set up a barrier such as berms when runoff cannot be prevented. Use a storm drain cover, filter fabric if dust, grit, wash water, or other pollutants may escape the work area and enter a catch basin.
- Label storm drains with “No Dumping” signs to deter disposal of waste, paint, oils, etc., and wash water in the drain.
- Use a wet vacuum and brooms and dustpans to collect accumulations of dirty runoff.

Cover/Store Construction Materials:

- Store construction materials and toxic material under cover (tarp or storage building) and in covered containers when they are not in use or overnight where they are protected from rainfall and runoff and vandalism.
- All hazardous material including fuel must be bermed to the appropriate height. The containment area shall be lined to be leak proof and have the ability to contain the entire contents during a spill.
- Store and maintain appropriate spill cleanup materials in a location known to all; and ensure that employees are familiar with proper spill cleanup procedures.
- Dispose of used cleanup materials, contaminated materials in covered containers or bags as hazardous waste.
- Cover and berm stockpiles. If dirt stockpiles are not being used, apply temporary seeding to avoid erosion.

Catch Splatters/ Debris:

- Lay tarps on outside of buildings to collect fallen debris and splatters.
- Use a ground cloth or oversized tub for activities such as paint mixing and tool cleaning.
- Use ground cloths or drop cloths underneath outdoor painting, scraping, and sandblasting work, and properly dispose of collected material daily.

Catch Splatters/ Debris continued:

- Secure bags of cement after they are opened, and keep windblown cement powder away from gutters and storm drains.
- Do not bury or wash spills with water. Use absorbent material such as litter or mulch to absorb spills and dispose of properly.
- For severe leaks due to gasoline or diesel spill, use an off-site cleaning facility.

Disposal of Waste:

- Make sure adequate dumpster capacity is available on-site to store rubble and construction debris.
- Segregate hazardous materials (lights, HVAC equipment, and electrical equipment, asbestos) from construction debris and dispose of in leak-proof bags or containers.
- Liquid residues of oil-based paints, thinners, solvents, glues and cleaning fluids are considered hazardous wastes, and must be disposed of according to label directions. Do not dump any toxic substance or liquid waste on the pavement, ground or toward a storm drain.
- Recycle and reuse left-over products such as paints, solvents and building materials.
- Contain, collect and filter wash water from concrete operations or let water evaporate from wash water and pick up.

Disposal continued:

- Wash concrete mixers out in designated wash-out areas in the company yard, where wash water can flow to containment ponds. At construction sites, recycle washout water by pumping it back into mixers for re-use. Recycle and properly dispose of concrete remaining in the chute. Never dispose of washout into streets, storm drains or ditches.
- Properly dispose of hazardous waste and other material that cannot be recycled. Do not dump in any storm water conveyance—man-made or natural.
- No construction material can be buried. It must go into an approved containment device.
- Stumps or limbs or other forms of debris must be disposed of properly. They cannot remain on-site.

Clean Up

- Police the site at the end of each day to pick up litter and make sure construction materials are stored under cover.
- Sweep or shovel construction area and street to collect loose particles and dirt. Wipe up spills with absorbent material. Do not hose down the area to a storm drain. Sweep driveways and sidewalks to collect dirt, waste and debris and dispose of collected debris in the garbage.
- Do not use soaps and detergents to wash down driveways or sidewalks. Spot clean to remove stains.
- Sweep or scoop up, do not hose the concrete pouring area to collect loose aggregate chunks and dust.
- Never clean brushes or rinse paint or drywall containers into a street, gutter, storm drain or a stream. Collect rinse water and solvents in portable containers for proper disposal.
- Wash vehicles and equipment in a designated, contained area located away from storm drain inlets and drainage facilities.
- Routinely inspect site for potential sources of storm water contamination.

Sanitary/Septic Waste

- Untreated raw wastewater should never be discharged or buried.
- Temporary sanitary facilities that discharge to the sanitary sewer system should be properly connected to avoid illicit discharges.
- Regular waste collection by a licensed hauler should be arranged before facilities overflow.
- If high winds are expected, portable sanitary facilities must be secured with spikes or weighted down to prevent overturning.

Storage of Solid Waste

- Store construction waste such as tar paper, asphalt shingles, metal, etc., in garbage dumpsters or other waste containers. Cover containers with leak-proof lids or cover waste piles with tarps when not in use.
- Use a drip pan or absorbed materials or leak-proof container when transferring grease or oil products.
- Check storage containers weekly for leaks and to ensure lids are on tightly.
- Sweep and clean the storage area monthly and dispose of debris in a dumpster.
- Do not hose down the containment area to a storm drain. Sweep the area and dispose of sweepings properly.

Finishing Up

- All lots must be returned to an approved grade and all storm water issues addressed per the original plans of the site.
- Any borrow pits must be closed out. All old wells and cisterns must be closed out in accordance with the Building Department, Stormwater Program and the Missouri DNR regulations.
- Bare areas on the lot must be stabilized within 10 days of the final grading with permanent vegetation or a protective ground cover suitable for the time of the year. In the winter months of November through February use the acceptable seeding such as ryegrass, tall fescue, Kentucky bluegrass or crested wheatgrass.

Additional measures may be required depending on the site-specific conditions.

Why Water Pollution Prevention Is Important

As population increases it becomes increasingly important to participate in activities that help keep our waterways clean and healthy.

Changes in land use, partially due to housing developments and construction, affect the quality of water that drains through the watersheds and into rivers. The increase in impervious surfaces (rooftops, sidewalks, parking lots, driveways) cause an increase in runoff volume and velocity resulting in more flooding and erosion because impervious surfaces prevent water from soaking into the ground and replenishing groundwater.

As runoff increases, more human-made pollution is picked up as it flows across streets, parking lots, lawns and agricultural areas. In fact, anything found on the ground or on impervious surfaces can wind up in storm water runoff.

How Pollution Affects You

Polluted runoff begins a chain of events that causes many problems in our rivers and streams. Aquatic life and animals feeding from rivers become seriously ill and die. Recreational swimming, fishing and boating becomes unpleasant or unsafe due to odor, taste and aesthetic problems. Maintenance costs increase because uncontrolled sediment causes erosion and flooding problems. Our drinking water supplies and, therefore, our health is affected by polluted storm water runoff.

This publication provides some common sense practices for builders at construction sites that can help prevent pollution from entering storm water runoff and, ultimately, protect the well-being of our rivers and streams.