



JEFFERSON COUNTY

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Construction Stormwater Pollution Prevention

Best Management Practices (BMPs) Packet

For “small” projects (as determined through the **Stormwater Calculation Worksheet**), the applicant shall consider the twelve Construction Stormwater Pollution Prevention elements and implement applicable BMPs. A set of useful BMPs for typical rural residential construction is attached. There is no additional submittal required as part of the permit application.

For “medium” and “large” projects, the Construction Stormwater Pollution Prevention Plan (SWPPP) is part of the overall Stormwater Site Plan required as part of the permit application. Refer to the **Stormwater Management Information Sheet** for guidance.

The following twelve elements must be considered for Construction Stormwater Pollution Prevention before and during the construction phase of the project:

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|----------------------------------|--|
| 1. Mark Clearing Limits | 7. Protect Drain Inlets |
| 2. Establish Construction Access | 8. Stabilize Channels and Outlets |
| 3. Control Flow Rates | 9. Control Pollutants |
| 4. Install Sediment Controls | 10. Control De-Watering |
| 5. Stabilize Soils | 11. Maintain Best Management Practices |
| 6. Protect Slopes | 12. Manage The Project |

Each of the twelve elements is described in more detail below:

1. **Mark Clearing Limits**

By minimizing the limits of clearing on the site, a builder can minimize stormwater runoff and provide effective control of pollution.

2. **Establish Construction Access**

Much of the sediment that leaves a construction site does so on the wheels of delivery and construction vehicles that drive off a project site. Construction access must be limited to a single location and a properly constructed Stabilized Construction Entrance (BMP C105) should be included on the site.

3. **Control Flow Rates**

Stormwater that leaves a project site unimpeded may exceed the capacity of the existing stormwater control facilities downstream and may contain sediment that may be deposited as the velocity of the runoff decreases. Stormwater protection on a construction site should include measures to control the flow rate of runoff from the site. This can be done by installing a Sediment Trap (BMP C240) or other measure that will impede the flow of water off a construction site.

4. **Install Sediment Controls**

In addition to limiting the rate of stormwater flow off a construction site, measures should be put in place to treat the runoff and remove sediment. Limiting of the cleared area (Element 1) will assist in this effort, but there will be exposed soils that may move with the runoff. Suggested BMPs for controlling sediment include Straw Bale Barriers (BMPC230), Brush Barrier (BMP C231), Gravel Filter Berm (BMP C232), and Silt Fence (BMP C233). Installation of a Sediment Trap (Element 3) is an additional sediment control feature.

5. **Stabilize Soils**

An additional measure that can minimize sediment transport in runoff is to stabilize soils on the site with mulch or some other covering. This will limit the amount of soil that is exposed to rainfall, thus limiting the sediment that could potentially leave the site. BMPs that could be used for this include Mulching (BMP C121), Nets and Blankets (BMP C122), and Plastic Covering (BMP C123). During periods of dry weather dust can become a problem and sediment could be transported from the site in high winds. BMP C140 Dust Control should be followed to limit loss of soils in windy conditions.

6. **Protect Slopes**

If the cleared area includes slopes of 3:1 (Horizontal: Vertical) or steeper, the slopes should be protected to limit runoff. If the slopes are not protected, rills and gullies may form, transporting sediment to the lower elevations and potentially off the construction site. The slopes should be graded to minimize erosion and runoff at the downstream end of the slopes, and runoff should be collected and treated. The following BMPs could be used Surface Roughening (BMP C130), Interceptor Dike and Swale (BMP C200), and Pipe Slope Drains (BMP C204).

7. **Protect Drain Inlets**

Runoff from urban construction sites often discharges into existing stormwater collection systems. Water enters the collection system through drain inlets. If there are drain inlets downstream of a construction site, they should be protected using BMP C220 Storm Drain Inlet Protection.

8. **Stabilize Channels and Outlets**

Any temporary on-site channels or ditches that are used to control runoff should be stabilized to prevent erosion in the channel. BMP C202 Channel Lining and BMP C209 Outlet Protection should be used.

9. **Control Pollutants**

The best way to control pollution is to limit the source of pollution. Construction debris should be maintained in a safe location. Vehicle maintenance on the construction site should be minimized and any spill should be promptly cleaned up. Concrete spillage should be kept to a minimum and cleaning of the concrete trucks after they have unloaded should be done in an area that will not drain off site (see BMP C151 Concrete Handling).

10. **Control Dewatering**

In some cases, excavation for the foundation or below ground structures will encounter ground water. This water must be removed (dewatered) from the excavation. Discharge of this ground water must be treated in a manner that will not cause damage downstream due to flow rates or added pollution. There are no specific BMP identified for this activity, but the water should be handled with care to assure that soils or other pollutants are not added to this flow.

11. **Maintain BMPs**

Installation of the appropriate BMPs is not adequate to completely control stormwater runoff. The BMPs that have been installed on the project must be inspected and maintained during the duration of the construction project. In addition, the temporary controls that were installed for construction should be removed within 30 days of completion of the work. Typically, once construction has been completed, the temporary facilities are not maintained, and by removing the facilities, it will ensure that these won't fail and discharge water or sediment that had been previously trapped or contained.

12. **Manage the Project**

Management of a project has four aspects:

1. Phasing construction to prevent transportation of runoff and sediment,
2. Limiting the work during seasons where large amounts of rainfall could be anticipated,
3. Coordination with Utilities and other Contractors, and
4. Inspection and Monitoring.

All of these for aspects are important and must be followed to ensure a project that will have minimal impact on the environment. Volume II of the Manual contains additional BMPs that could be used on-site. The applicant is encouraged to review the Manual to see if other BMPs may be applicable to, or more useful on, a particular site.

Attachments:
Best Management Practices from
2001 Ecology *Stormwater Management Manual*

The following BMPs for Construction Stormwater Pollution Prevention are sediment and erosion control measures for the construction phase of typical rural residential development. Some projects may not require implementation of all of these BMPs; others may require additional measures not listed here.

- C105 – Stabilized Construction Entrance
- C121 – Mulching
- C122 – Nets and Blankets
- C123 – Plastic Covering
- C130 – Surface Roughening
- C140 – Dust Control
- C151 – Concrete Handling
- C200 – Runoff Conveyance and Treatment BMPs
- C202 – Channel Lining
- C204 – Pipe Slope Drains
- C209 – Outlet Protection
- C220 – Storm Drain Inlet Protection
- C230 – Straw Bale Barrier
- C231 – Brush Barrier
- C232 – Gravel Filter Berm
- C233 – Silt Fence
- C240 – Sediment Trap