

	Bowling Green, Kentucky Stormwater Best Management Practices (BMPs) Erosion Prevention Practices (EPPs)	EPP-02															
PLANNING CONSIDERATIONS: Design Life: 2 yrs Acreage Needed: Variable Estimated Unit Cost: Medium Monthly Maintenance: Negligible			== CRS == CRS ==														
	<p style="text-align: center;">Target Pollutants</p> <table border="0" style="width: 100%; text-align: center;"> <tr> <td>Significant ♦</td> <td>Partial ♦</td> <td>Low or Unknown ♦</td> </tr> <tr> <td>Sediment ♦</td> <td>Heavy Metals ♦</td> <td>Nutrients ♦</td> </tr> <tr> <td>Oil & Grease ♦</td> <td>Bacteria & Viruses ♦</td> <td>Floatable Materials ♦</td> </tr> <tr> <td></td> <td>Oxygen Demanding Substances ♦</td> <td>Toxic Materials ♦</td> </tr> <tr> <td></td> <td></td> <td>Construction Waste ♦</td> </tr> </table>	Significant ♦	Partial ♦	Low or Unknown ♦	Sediment ♦	Heavy Metals ♦	Nutrients ♦	Oil & Grease ♦	Bacteria & Viruses ♦	Floatable Materials ♦		Oxygen Demanding Substances ♦	Toxic Materials ♦			Construction Waste ♦	<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;"> CRS </div>
Significant ♦	Partial ♦	Low or Unknown ♦															
Sediment ♦	Heavy Metals ♦	Nutrients ♦															
Oil & Grease ♦	Bacteria & Viruses ♦	Floatable Materials ♦															
	Oxygen Demanding Substances ♦	Toxic Materials ♦															
		Construction Waste ♦															
Description Suitable Applications Approach	<p>Construction vehicles frequently use access roads, subdivision roads, parking areas and other on-site transportation routes that are not accessible to the public. Construction specifications and drawings should demonstrate methods and practices to stabilize these routes to reduce erosion between the time of initial grading and final stabilization.</p> <ul style="list-style-type: none"> ➤ Temporary construction traffic routes, phased construction projects and off-site road access. ➤ Detour roads for local or temporary construction traffic. ➤ Construction during wet weather. ➤ Construction roads utilizing a temporary stream crossing must be indicated and approved. <ul style="list-style-type: none"> ➤ Road should follow topographic contours to reduce erosion of the roadway. ➤ Gravel roads should be of sufficient thickness to support construction traffic. ➤ Chemical stabilizers or water are usually required on gravel or dirt roads to prevent dust. No additional costs for dust control on construction roads should be required above that needed to meet local air quality requirements. 																

Design Considerations for Construction Road Stabilization

- All existing vegetation (trees, bushes, ground cover) shall be retained as long as feasibly practicable to reduce the exposure of disturbed grounds. Removal of vegetation should be phased in concurrence with relative construction activities within the vicinity.
- The implementation of this BMP depends largely on climate and weather conditions. Alternative routes should be established to incorporate these measures to account for conditions such as dry areas, wet conditions and other circumstances that would inhabit a safe and stable route for construction traffic. Permanent roads and parking areas should be paved as soon as possible after grading. The early application of gravel or chemical stabilization may solve potential erosion and stability problems where construction will be phased. Temporary gravel roadways should be considered during the wet weather seasons and on slopes greater than 5 percent.
- When gravel roads are needed, a minimum 6-in. course of 2 to 3-in. crushed rock, gravel base, or crushed surfacing base course should be applied immediately after grading or the completion of utility installation within the right-of-way. Chemical stabilization may also be used upon compacted native sub-grade. These chemical controls should be applied per the manufacturer's directions.
- Roadways should be carefully graded to drain transversely. Provide drainage swales on each side of the roadway in the case of a crowned section, or one side in the case of super-elevated section. Simple gravel berms without a trench can also be used.
- Installed inlets should be protected to prevent sediment-laden water from entering the storm sewer system.

Temporary Roads and Parking Areas

- **Grade**
 - The gradient and vertical-horizontal alignment should be designed according to the intended traffic patterns.
 - Grades for temporary roads should not exceed 10% for lengths less than 200 LF.
 - Frequent grade changes can reduce erosion and improve sediment control.
 - Grades for parking areas should not exceed 4%.
- **Width**
 - The radius for temporary roads should not be less than 35-feet for standard construction vehicles, and 50-feet for tractor trailers.
 - Temporary road widths should not be less than 14-feet for one-way traffic, 20-feet for two-way traffic.
 - Temporary roads should include two shoulders with a minimum width of two feet on each side.
- **Side Slopes**
 - All cuts and/or fills should be graded at a slope of 2:1 whenever possible.
 - A slope of 3:1 should be used whenever machined mowing will be used to maintain ground cover.
- **Drainage**
 - The design and capacity of all drainage structures should be consistent with sound engineering principles and suitable for the type of road that will be eventually permanent.
 - Structures should withstand flows from a 25-year, 24-hour storm event.

Design Considerations (cont'd)

- **Stabilization**
 - Install a 6-inch layer of coarse aggregate immediately after grading or utility installation within the right-of-way.
 - For added stability, a geotextile should be installed beneath the base stone.
 - All adjacent drainage swales, cuts, and fills shall be properly seeded or sodded.
- **Permanent Roads and Parking Areas**
 - Permanent roads and parking areas should be designed to the codes and standards of the local authority and the Kentucky Transportation Cabinet.
 - Permanent roads should have an initial base coarse of gravel immediately after site grading.

Maintenance

- Periodically apply additional aggregate on gravel roads.
- Active dirt construction roads are commonly watered three or more times per day during the dry season.
- Remove silt and debris from road side ditches and swales to prevent clogging or damming.
- Inspect weekly, and after each rain event and repair any eroded areas immediately.

Inspection Checklist

- Gravel roads are preventing mud and dirt from leaving project area.
- Dirt and gravel roads do not show signs of erosion, including but not limited to, rill and gully erosion.
- All stream crossings are maintained as mandated by the appropriate general or individual permit.