

Check Dams

DESCRIPTION
Check dams are small barriers consisting of straw bales, rock, or earth berms placed across a drainage swale or ditch. They reduce the velocity of small concentrated flows, provide a limited barrier for sediment and help disperse concentrated flows, reducing potential erosion.

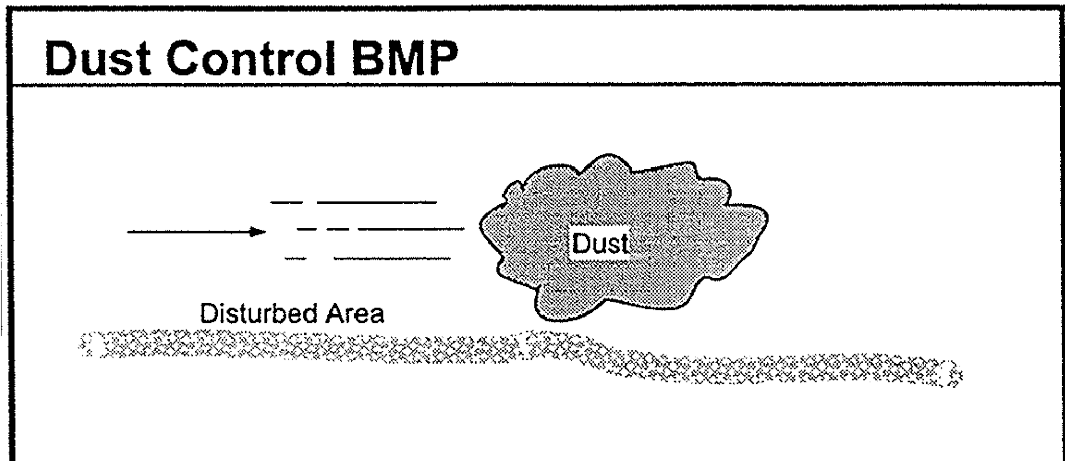
PRIMARY USE
Check dams are used for long drainage swales or ditches in which permanent vegetation may not be established and erosive velocities are present. They are typically used in conjunction with other techniques such as inlet protection, rip rap or other sediment reduction techniques. Check dams provide limited treatment. They are more useful in reducing flow to acceptable levels for other techniques.

APPLICATIONS
Check dams are typically used early in construction in swales for long linear projects such as roadways. They can also be used in short swales with a steep slope to reduce unacceptable velocities.

DESIGN CRITERIA

- Check dams should be placed at a distance and height to allow small pools to form between each one. Typically, dam height should be between 18" and 36". Dams should be spaced such that the top of the downstream dam should be at the same elevation as the toe of the upstream dam.
- See design criteria for straw bales, sand bag berms, etc. for specific criteria. Maximum allowable flow shall be based on the specific technique utilized and the velocity of flow.
- Major flows (greater than 2 year design storm) must pass the check dam without causing excessive upstream flooding.
- Check dams should be used in conjunction with other sediment reduction techniques prior to releasing flow offsite.

Applications
Perimeter Control
Slope Protection
Sediment Trapping
Channel Protection
Temporary Stabilization
Permanent Stabilization
Waste Management
Housekeeping Practices
Targeted Constituents
● Sediment
○ Nutrients
○ Toxic Materials
○ Oil & Grease
○ Floatable Materials
○ Other Construction Wastes
Implementation Requirements
● Capital Costs
● Maintenance
○ Training
○ Suitability for Slopes >5%
Legend
● Significant Impact
● Medium Impact
○ Low Impact
? Unknown or Questionable Impact
BMP
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City of Baton Rouge Parish of East Baton Rouge
Department of Public Works



Dust Control BMP

DESCRIPTION
Dust control measures are used to stabilize soil from wind erosion, and reduce dust generated by construction activities. Dust which settles on surfaces both on-site and off-site may be washed by storm water into waterways.

APPLICATIONS

- Clearing and grading activities
- Construction vehicles traffic on unpaved roads
- Drilling and blasting activities
- Sediment tracking onto paved roads
- Soil and debris storage piles
- Batch drop from front end loaders
- Areas with unstabilized soil

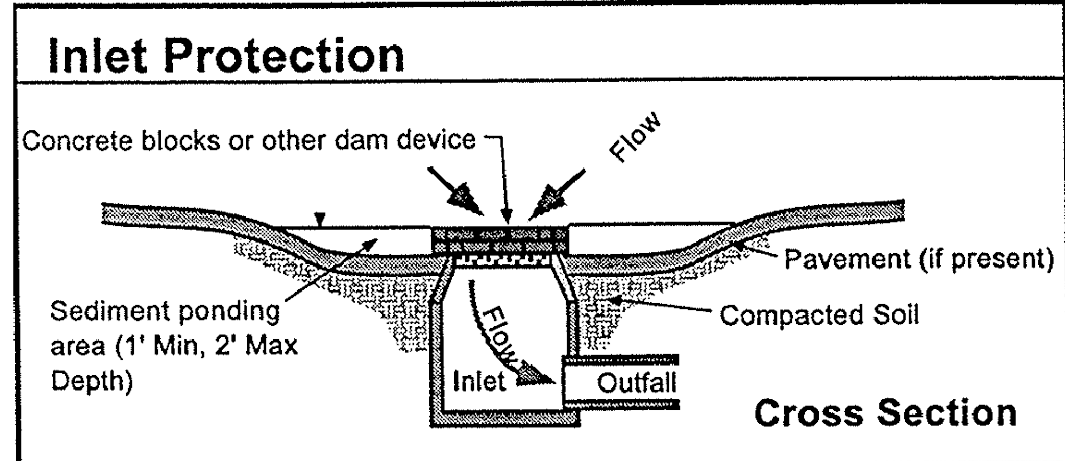
DESIGN CRITERIA

- Schedule construction activities to minimize the area where, and time period when soils are exposed.
- Quickly stabilize exposed soils using vegetation, mulching, spray-on adhesives, calcium chloride, sprinkling, and stone/gravel layering.
- Identify and stabilize key access points prior to commencement of construction.
- Minimizing the impact of dust by anticipating the direction of prevailing winds.
- Direct most construction traffic to stabilize roadways within the project site.

LIMITATIONS

- Watering prevents dust only for a short period and should be applied daily (or more often) to be effective. Overwatering may cause a contaminated erosion.
- Oils should not be used for dust control because it may migrate into drainage way and/or seep into the soil.
- Certain chemically-treated subgrades may make soil water repellent, increasing runoff.

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Inlet Protection

DESCRIPTION
Inlet protection consists of a variety of methods of intercepting sediment at low point inlets through the use of stone, filter fabric and other materials. This is normally located at the inlet, providing either detention or filtration to reduce sediment and floatable materials in storm water.

PRIMARY USE
Inlet protection is normally used as a secondary defense in site erosion control. It is normally used in new developments that include new inlets or roads with new curb inlets or during major repairs to existing roadways. Inlet protection has limited use in developed areas due to the potential for flooding, traffic safety and pedestrian safety and maintenance problems. Inlet protection can reduce sediment in storm sewer system by serving as a back up system to onsite controls or by reducing sediment loads from controls with limited effectiveness such as straw bale dikes.

APPLICATIONS
Different variations are used for different conditions as follows:

- Filter barrier protection (similar to a silt fence barrier around the inlet) is appropriate when the drainage area is less than one acre and the basin slope is less than five (5) percent. This type of protection is not applicable in paved areas.
- Block and gravel (crushed stone, recycled concrete is also appropriate) protection is used when flows exceed 0.5 c.f.s. and it is necessary to allow for overtopping to prevent flooding.
- Wire mesh and gravel protection (crushed stone, recycled concrete is also appropriate) is used when flows exceed 0.5 c.f.s. and construction traffic may occur over the inlet. This form of protection may be used with both curb and drop inlets.

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Check Dams
LIMITATIONS
Minor ponding will occur upstream of the check dams.
For heavy flows or high velocity flows, extensive maintenance or replacement of the dams will be required.
Check dams are not a total treatment technique.
MAINTENANCE REQUIREMENTS
Maintenance of the dams should adhere to the maintenance requirements of the management practice used for the dam.
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Dust Control BMP
MAINTENANCE REQUIREMENTS
Most dust control measures require frequent, often daily, attention.
ADDITIONAL INFORMATION
Dust control BMPs generally stabilize exposed dust particles. For heavily traveled and disturbed areas, wet suppression (watering), chemical dust suppression, gravel or asphalt surfacing, temporary gravel construction entrances, equipment wash-out areas, and haul truck covers can be employed as dust control applications. Permanent or temporary vegetation and mulching and fences can be employed for areas of occasional or no construction traffic. Preventive measures would include minimizing surface areas to be disturbed.
Many of the reasonably available control measures for controlling dust from construction sites can also be implemented as BMPs for storm water pollution prevention. Those BMPs include:
- Pave, vegetate, or chemically stabilize access points where unpaved traffic surfaces adjoin paved roads.
- Provide covers for haul truck transporting materials that contribute to dust.
- Provide suppression or chemical stabilization of exposed soils.
- Provide for rapid clean-up of sediments deposited on paved roads. Furnish stabilized construction road entrances and vehicle wash down areas.
- Stabilize unpaved haul roads, parking and staging areas. Reduce speed and trips on unpaved roads.
- Implement dust control measures for material stockpiles.
- Prevent drainage of sediment laden storm water onto paved surfaces.
- Stabilize abandoned construction sites using vegetation or chemical stabilization methods.
- Limit the amount of areas disturbed by clearing and earth moving operations by scheduling these activities in phases.
For the chemical stabilization, there are many products available as dust palliatives for chemically stabilizing gravel roadways and stockpiles.
In addition, there are many other BMPs identified in this
- Seeding and Plantings
- Stabilized Construction Entrances
- Construction Road Stabilization
- Mulching
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Inlet Protection
- Excavated impoundment protection around a drop inlet may be used for protection against sediment entering a storm drain system. With this method, it is necessary to install weep holes to allow the impoundment to drain completely. The impoundment shall be sized such that the volume of excavation shall be equal to 1600 to 3600 cubic feet per acre of contributing drainage area entering the inlet for full effectiveness. Smaller volumes can be used for reduced effectiveness.
DESIGN CRITERIA
- Filter fabric protection shall be designed and maintained in a manner similar to silt fence.
- Maximum depth of flow shall be eight (8) inches or less depending on vehicular and pedestrian traffic.
- Positive drainage is critical in the design of inlet protection. If overflow is not provided for at the inlet, flows which exceed the capacity of the inlet protection system shall be routed through established swales, streets or other watercourses to minimize damage due to ponding and to provide for public safety.
LIMITATIONS
Ponding will occur at the inlet with possible flooding as a result.
Inlet protection is only viable at low point inlets. Inlets which are on a slope cannot be effectively protected because stormwater will bypass the inlet and continue downstream, causing an overflow condition at inlets beyond.
MAINTENANCE REQUIREMENTS
Inspections should be made on a weekly basis, especially after large (> 0.5 inches) storm events. When silt fence is used and the fabric becomes clogged, it should be cleaned or if necessary, replaced. Also, sediment should be removed when it reaches approximately one-half the height of the fence. If a sump is used, sediment should be removed when the volume of the basin is reduced by 50%.
For systems using stone filters, when the stone filter becomes clogged with sediment, the stones must be pulled away from the inlet and cleaned or replaced. Since cleaning of gravel at a construction site may be difficult, an alternative approach would be to use the clogged stone as fill material and put new stone around the inlet.
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DATE	DESCRIPTION	BY
	REVISIONS	



STANDARD PLAN NO. 903-01	DATED FEBRUARY 25, 2008	SHEET NO. 4 OF 11
STORM WATER POLLUTION PREVENTION PLAN BEST MANAGEMENT PRACTICES		
ENGINEERING DIVISION DEPARTMENT OF PUBLIC WORKS CITY OF BATON ROUGE & PARISH OF EAST BATON ROUGE		
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