**Best Management Practice**

**Outlet Protection/Energy Dissipation**

<table>
<thead>
<tr>
<th>Pollutants of Concern:</th>
<th>All pollutants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purpose:</td>
<td>Physical devices placed at pipe outlets and in channels to reduce the velocity and energy of concentrated storm water flows. Outlet protection helps to prevent scour and minimize the potentials for downstream erosion.</td>
</tr>
</tbody>
</table>
| Application:           | • Outlets of pipes, drains, culverts, conduits or channels  
                          • Outlet of channels that carry continuous flow of water  
                          • Outlet located at the bottom of mild to steep slopes  
                          • Where lined conveyances discharge to unlined conveyances |
| Limitations:           | • Loosen or wash rock or stones during high flows  
                          • Slow flows many result in an increase in hydrostatic pressure around the device resulting in erosion of the grout which connects the pipe to the device |
| Inspection & Maintenance: | • Requires maintenance to prevent blockage resulting in possible health hazards due to pests  
                          • Maintain and monitor blockages |
| References:            | 1, 2, 3, 4, 5 |

**Comments And Other Information:**