

BMP C106: Wheel Wash

<i>Purpose</i>	Wheel washes reduce the amount of sediment transported onto paved roads by motor vehicles.
<i>Conditions of Use</i>	<p>When a stabilized construction entrance (see BMP C105) is not preventing sediment from being tracked onto pavement.</p> <ul style="list-style-type: none">• Wheel washing is generally an effective BMP when installed with careful attention to topography. For example, a wheel wash can be detrimental if installed at the top of a slope abutting a right-of-way where the water from the dripping truck can run unimpeded into the street.• Pressure washing combined with an adequately sized and surfaced pad with direct drainage to a large 10-foot x 10-foot sump can be very effective.
<i>Design and Installation Specifications</i>	<p>Suggested details are shown in Figure 4.3. The Local Permitting Authority may allow other designs. A minimum of 6 inches of asphalt treated base (ATB) over crushed base material or 8 inches over a good subgrade is recommended to pave the wheel wash.</p> <p>Use a low clearance truck to test the wheel wash before paving. Either a belly dump or lowboy will work well to test clearance.</p> <p>Keep the water level from 12 to 14 inches deep to avoid damage to truck hubs and filling the truck tongues with water.</p> <p>Midpoint spray nozzles are only needed in extremely muddy conditions.</p> <p>Wheel wash systems should be designed with a small grade change, 6 to 12 inches for a 10-foot-wide pond, to allow sediment to flow to the low side of pond to help prevent re-suspension of sediment. A drainpipe with a 2- to 3-foot riser should be installed on the low side of the pond to allow for easy cleaning and refilling. Polymers may be used to promote coagulation and flocculation in a closed-loop system. Polyacrylamide (PAM) added to the wheel wash water at a rate of 0.25 - 0.5 pounds per 1,000 gallons of water increases effectiveness and reduces cleanup time. If PAM is already being used for dust or erosion control and is being applied by a water truck, the same truck can be used to change the wash water.</p>
<i>Maintenance Standards</i>	<p>The wheel wash should start out the day with fresh water.</p> <p>The wash water should be changed a minimum of once per day. On large earthwork jobs where more than 10-20 trucks per hour are expected, the wash water will need to be changed more often.</p> <p>Wheel wash or tire bath wastewater shall be discharged to a separate on-site treatment system, such as closed-loop recirculation or land application, or to the sanitary sewer with proper local sewer district approval.</p>

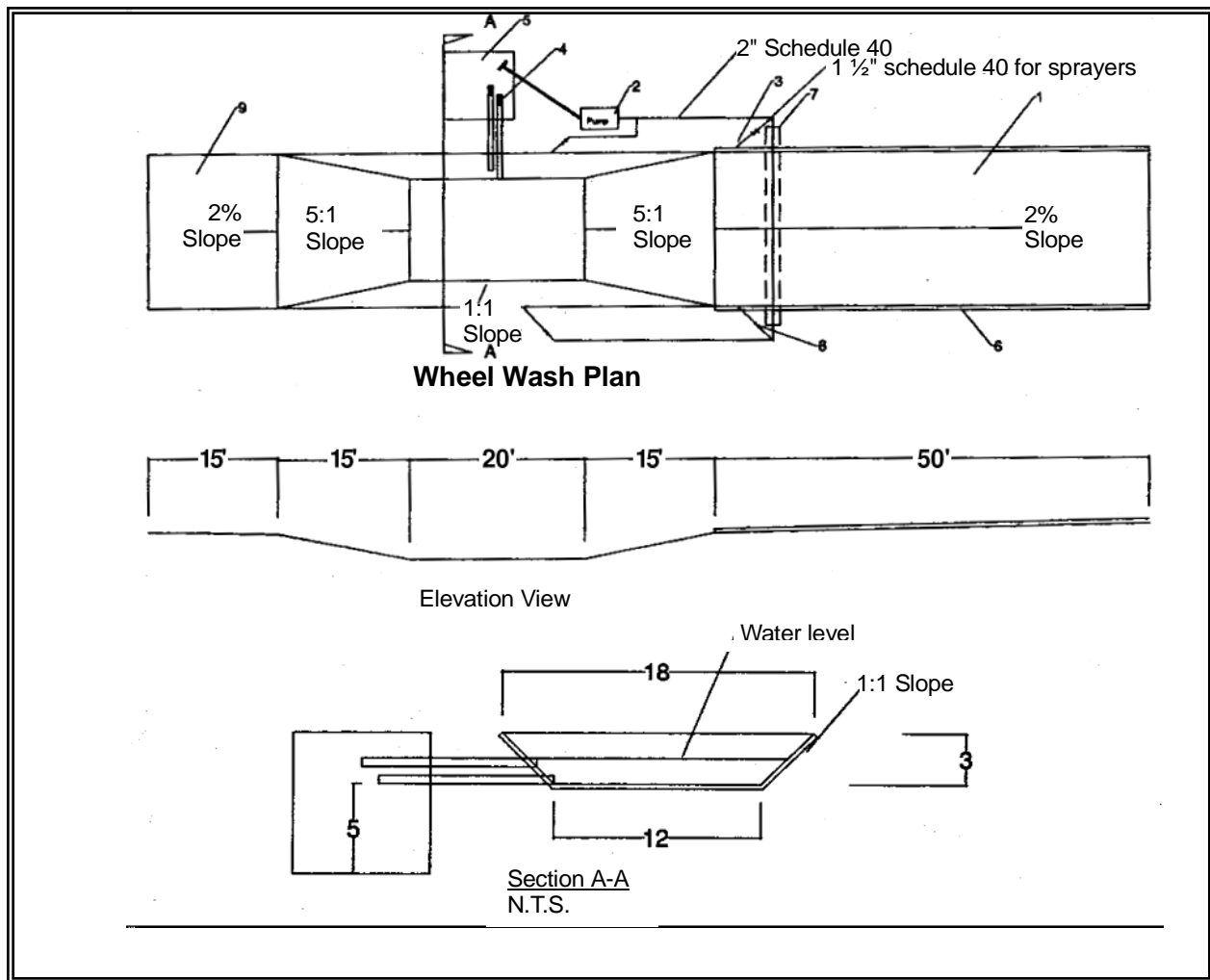


Figure 4.3 Wheel Wash

Notes:

1. Asphalt construction entrance 6 in. asphalt treated base (ATB).
2. 3-inch trash pump with floats on the suction hose.
3. Midpoint spray nozzles, if needed.
4. 6-inch sewer pipe with butterfly valves. Bottom one is a drain. Locate top pipe's invert 1 foot above bottom of wheel wash.
5. 8 foot x 8 foot sump with 5 feet of catch. Build so can be cleaned with trackhoe.
6. Asphalt curb on the low road side to direct water back to pond.
7. 6-inch sleeve under road.
8. Ball valves.
9. 15 foot. ATB apron to protect ground from splashing water.