STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
PO Box 47600 • Olympia, WA 98504-7600 • 360-407-6000
711 for Washington Relay Service • Persons with a speech disability can call 877-833-6341

February 3, 2017

Bobby Everson
Project Manager
Inland Washington
120 W Cataldo, Suite 100
Spokane, WA 99201

RE: Soaker Tire-Wash Functionally Equivalent (BMP C106)

Dear Mr. Nelson:

The Washington State Department of Ecology (Ecology) finds the Soaker Tire-Wash system is functionally equivalent to BMP C106 Wheel Wash.

The Soaker system must adhere to the guidelines in the enclosed specifications.

Contractors may use the Soaker system at project sites without seeking additional Ecology approval, though Ecology cannot endorse this product or its manufacturer.

For more information, please contact me at douglas.howie@ecy.wa.gov or (360) 407-6444.

Sincerely,

Douglas C. Howie, P.E.
Program Development Services
Water Quality Program

Enclosure

cc: Carla Milesi, TAPE Technical Lead, Washington Stormwater Center

BMP C-106 Functional Equal: Soaker Tire Wash Systems

Purpose: Wheel washes reduce the amount of sediment transported onto paved roads by motor vehicles.

Conditions of use: When a stabilized construction entrance (BMP C-105) is not preventing tracking of sediment onto a paved surface.

Description: The Soaker Tire wash systems features a high capacity main tank of 4,000 gallons and a reserve tank of 2,000 gallons. It has adjustable spray heads that provide a low pressure/high volume water stream of up to 1,000 gpm. Motion sensors detect the vehicles on approach and turn on the pumps so the water spray is at full power by the time the vehicles go through the wheel wash. The Soaker is manufactured to provide solutions to problems such a portability, road pollution, costly cleaning processes, fines, and violation for depositing debris onto public highways.

Specifications:

- Construction Material: Aluminum and Stainless Steel
- Spray Heads: 6 or 8, Adjustable
- Water Tanks: Two, One Main (4,000 gallons) and one Reserve (2,000 gallons)
- Mud and Debris Collection: Setting Pans beneath grates
- Water Pump Turn-on: Automatic via Motion Sensors
- Water Pump Turn-off: Adjustable Timers
- Installed Size: 24-feet Wide x 24-feet Long x 5-feet High
- Vehicle Ramp Width 12-feet

Construct the approach to the wheel wash of clean quarry spalls or pavement. Keep the approach free of any accumulated sediments by sweeping, washing, or refreshing of quarry spalls. You can significantly improve the effectiveness of the wash systems by combining construction entrance rumble plates both before and after the wheel wash system. Additional actions to improve effectiveness include incorporating optional additional pumps and higher volume jets on the spray deck.

Wheel wash unit should be located in a position that will allow the longest expected vehicle to approach and exit the spray deck in a direct line. You should verify the volume and pressure of wash water at spray deck if distance between the reservoir and spray deck exceeds 50 ft. To ensure proper function, additional pumps may be required.

The exit should be graded to allow any overspray and any water falling off washed vehicles to return to a collection sump, typically near the spray deck, where it can be returned to the reservoir by low volume sump pump.

Use licensed and qualified electricians to connect the power supply. Consult with local

regulatory agencies, and comply with all local codes, before energizing machine.

The length of time for each wash cycle (the time taken by a vehicle to pass through the spray deck) is very important to effective cleaning. Cycle time on the wheel wash is completely adjustable and should be set appropriately to allow the longest expected vehicle sufficient time on the wash deck to remove soils. Longer vehicles, more cohesive soils, and higher soil loads require longer cycle times. Instruct the vehicle operators to slow their vehicle to allow the required cycle time.

Use an appropriate polymer flocculent to ensure the clarity of the wash water. Deliver the flocculent into the wash water at a point of turbulence using a metered, adjustable auger system. Adjust the amount of flocculent metered into wash water to maintain an acceptable wash water clarity level, typically 20 – 100 NTU. The application rate of the flocculent required for acceptable clarity varies based on the soil type, soil load, and reservoir size. Reference the manufacturer's information to determine application rates.

Maintenance Standards: Inspect the wheel wash system at the start of each workday for any damage and/or maintenance.

Inspect and top off the level of wash water in reservoir as required. If you have connected the reservoir fill port to a potable water source, be certain you installed the appropriate meter and backflow prevention check valve. Consult your local water supply department for details. If not connected to a water source, top off reservoir with water truck or other equipment. Potable water is not a requirement for proper operation of the wheel wash.

Wash water clarity should be inspected and the amount of flocculent should be adjusted (+/-) as appropriate. Inspect and fill, if necessary, the Level of flocculent in hopper/auger.

Inspect the spray to see that you have properly aimed all jets and free of any blockage.

Inspect recovery boxes, if used, and remove any excessive retained sediments. Inspect and adjust floating switches for recovery pumps as required.

Periodically inspect the wheel wash during operations to see that the system is continuing to function properly, vehicles are attaining a satisfactory level of cleaning, and water level is at a satisfactory level.

If vehicles exiting the wheel wash are retaining soils and trackout is occurring, try the following things to improve effectiveness:

- Increase the cycle time of the wash and instruct drivers to slow appropriately to utilize the full, longer cycle time.

- Remove any accumulated sediments from the approach to the wheel wash, or install additional rumble plates.

It may become necessary to either to empty the reservoir tank at end of operations or to perform routine maintenance of tank and scraper conveyor. Discharge wash water from the system to a separate onsite treatment system or to the sanitary sewer. Obtain proper approval from the local sewer district.