

Stormwater Friendly Driveways: Problem Prevention

Coal-Tar Based Sealants

When asphalt driveways crack, sealants are often touted as a cheap and easy fix. Traditionally, sealants have been made with coal tar, which contains high levels of polycyclic aromatic hydrocarbons (PAHs) that can wash off and pollute air, soil, and water. PAHs are toxic to mammals (including humans), birds, fish, amphibians, and plants—and PAH levels can be 60-80 times higher in particles washed off of coal-tar sealed surfaces as compared to unsealed surfaces.

Asphalt-based seal coats present an option with much lower PAH concentrations (up to 1000 times less) than coal-tar sealants. A 2012 survey found that asphalt-based sealants cost an average of \$20 per five-gallon bucket, about 20% more than coal tar-based sealants. There are other environmentally friendly sealant products available on the market, including Gilsonite-based and acrylic-based products, but they can be much more expensive (\$40+ per five-gallon bucket). Finally, utilizing pavers, a plastic grid system, or other permeable driveway options eliminates the need for sealants.

Gravel Driveways

While gravel driveways may start off permeable, compaction eventually makes them just as impermeable as regular asphalt. Many driveways slope down to the street, so gravel can migrate into the roadway during significant rain events. When this happens, the homeowner has to replace the gravel, and it can cause problems for bicyclists and other vehicles using the street, stormwater infrastructure, and Lake Champlain.

In some cases the negative impacts of gravel driveways can be mitigated by shaping or crowning the driveway to get water and sediment to shed to the sides. However, the City of Burlington Stormwater Management Program recommends that gravel **not** be used as a driveway surface on slopes greater than 2%. Driveways that discharge sediment to the right-of-way may be cited for violation of the City's Chapter 26 Ordinance on Wastewater, Stormwater, and Pollution Control [26-112(b)(1-2)]. Homeowners with steeper driveways should actively look for alternatives to gravel.

Coal-Tar Sealant Alternatives

- ENVIROSEAL LAS-320™ asphalt sealer is not petroleum based, and is EPA approved
- AFM DynoSeal Driveway/ Asphalt Sealer
- INTEGRA-SEAL by UNIQUE Paving Materials, asphalt-based, zero VOCs, no PAHs
- Eco-Seal Brand Sealer
- Latex-ite® Blacktop Driveway Sealers
- Black Jack® Asphalt Sealers



A Burlington gravel driveway without proper slope and drainage. Gravel and oils are washing into the street.



A Burlington gravel driveway with clean gravel and no wash-out.

