Proposed Dane County Ordinance Amendment to Prohibit the Sale or Use of Coal Tar Sealcoat Products

Overview

Recent studies show that coal tar sealcoat products used as a means to protect asphalt pavement is a significant source of Polycyclic Aromatic Hydrocarbon (PAH) contamination in our lakes and streams. Studies in Austin, TX and Puget Sound near Olympia, WA demonstrate that the PAH compounds run off into lakes and streams and are toxic to fish. Dane County Executive Kathleen Falk asked the Lakes & Watershed Commission to examine the issue and take the necessary steps to protect our waterways from this threat.

In the summer of 2006, the Lakes and Watershed Commission formed a task force to examine the issue. Task force members included two LWC commissioners, Carl Sinderbrand and Patrick Miles, Roger Bannerman, DNR expert on urban runoff and Genesis Bichanich, City of Madison Engineering. Bannerman had already found elevated levels of PAH in storm sewers that empty into our lakes. The task force researched the prevalence of coal tar products in Dane County and reviewed existing research that demonstrates adverse environmental impacts.

The task force found that, due to various market conditions, coal tar sealcoat availability is low at the present time. State and local governments, including Dane County, do not use coal tar products. However, until recently, as much as 300,000 gallons of coal tar product were applied to parking lots in Dane County each year or enough material to apply two coats to about 330 acres of parking lot.

Given research that shows coal tar sealcoat to be a significant source of PAHs appearing in water resources, the prevalence of use historically in the county and that there are safer alternative products, the task force recommended to the Lakes & Watershed Commission an ordinance amendment prohibiting the sale or use of coal tar sealcoat products in Dane County.

Quick Facts

Polycyclic Aromatic Hydrocarbon Compounds Are Harmful to Aquatic Life
- Austin biological studies revealed a loss of species and decreased number of organisms.
- Puget Sound Ambient Monitoring Program found the following related to the presence of PAHs:
  - Liver lesions and tumors in fish.
  - Liver problems led to reproductive impairment.
  - Malformations in fish embryos and embryonic cardiac dysfunction.
  - Reduction in aquatic plants (Eelgrass) that provide fish habitat.

Coal Tar Sealcoat a Significant Source of PAHs
- Coal Tar Sealcoat products contain as much as 30% coal tar by weight.
- Coal tar contains 50% or more PAHs by weight
- Friction of automobile tires causes sealcoat to flake off. Precipitation running off surfaces carries the particles into storm sewers that empty into lakes and streams.
- City of Ausitn, TX and USGS collaborated on study: Parking lots with coal-tar sealcoat yielded 65 times more PAH than unsealed lots in simulated rain events.

Coal Tar & PAHs Prevalent in Dane County
- It takes about 450 gallons of sealcoat to apply a single coat to one acre of parking lot. Typically two coats are applied. In Madison, there are about 4,000 acres of parking lots.
- Applicators suggest reapplication of sealcoat every two to three years.
- Four out of five private applicators interviewed by the task force use coal tar sealcoat when available.
- Three out of four suppliers interviewed by the task force sell coal tar sealcoat (or a blend with asphalt sealcoat) when available.
- Historically, as much as 300,000 gallons of coal tar sealcoat applied to parking lots in Dane County annually.
- Concentrations of PAHs found in Madison storm sewers that empty into lakes and streams

Alternative Products Available
- Asphalt sealcoat
- Latex modified asphalt sealer (Master Guard®)

Resources on the Web
- http://pubs.usgs.gov/fs/2005/3147
- www.ci.austin.tx.us/watershed/coaltar_main.htm
- http://wdfw.wa.gov/conservation/research/projects/marine_toxics/study_design.html
- http://wdfw.wa.gov/conservation/research/projects/marine_toxics/contaminants.html
- http://www.nwfsc.noaa.gov/research/divisions/ec/ecotox/fishneurobiology/cardio.cfm