

# Research Proposal

## Underevaluated Pollutants

**Problem Title.** Are there any unconventional, unevaluated, or under-evaluated pollutants or characteristics of highway runoff that may directly or indirectly affect highway runoff quality toxicity or may influence effective treatment designs?

**Problem Statement.** When faced with technical uncertainty, regulators routinely assume the worst and act accordingly because of risk adverseness due to potential litigation. Also typical of some regulators and environmental advocates is the viewpoint that environmental regulations should be implemented regardless of their economic and sociologic impacts. Occasionally a technical paper is published that correlates some degree of environmental impairment with specific contaminants or changes in land use. This can lead to speculation on whether there may be “hidden” impacts of highway runoff caused by exotic chemicals.

Associated questions that could be addressed by this proposal:

- How well do conventional stormwater treatment systems remove identified “exotic” pollutants? Some examples may include fine particulates (from exhaust, tire wear, etc.), phthalates (from soft plastics), polynuclear aromatic hydrocarbons (PAHs, combustion products), platinum group elements (contained in catalytic converters), or deicers (through direct toxicity, oxygen demand, or by increasing the solubility of metals).
- Does effective capture of suspended solids in stormwater BMPs also result in the capture of exotic constituents?

**Literature Search.** The City and Ports of Tacoma are initiating investigations of runoff characteristics and treatment effectiveness for the traditionally exotic parameters phthalates and PAHs. Tacoma has provided the use of their environmental laboratory for analysis of phthalates and PAHs for Stormfilter® tests that are to be conducted at the SR 5 Lake Union Ship Canal BMP test facility starting in late summer 2003.

**Research Methods.** Promote the use of the Lake Union Ship Canal BMP test facility to local governments, ports, industry, and other interested parties to evaluate new technologies and fully characterize the runoff entering the facility until the facility is decommissioned. Continue implementing the partnerships/agreements with the Cities of Seattle and Tacoma on this issue. Being that WSDOT and others will need most if not all of their resources to solve *identified* stormwater problems, putting a lot of effort into investigating other arcane effects and constituents may not be warranted at this time.

**Partnering Opportunities.** High. WSDOT already has a partnership with Tacoma and Seattle, as described above.

**Estimate of Costs and Research Duration.** Estimated costs not developed, but expected to be greater than \$100,000.

**Urgency, Payoff Potential, and Implementation.** Results could affect *Highway Runoff Manual* guidance for BMP selection and design.

**Research Proposer**

- Name
- Office
- Phone Number
- Email Address

**Research Monitor (to be assigned, as needed, by the research program administrator)**

- Name
- Office
- Phone Number
- Email Address