




TO: City of Tacoma Staff and City of Tacoma Website

FROM: Michael P. Slevin III, P.E., Environmental Services Director 

SUBJECT: Use of Reclaimed Asphalt Pavement Millings and Recycled Concrete Aggregate
Environmental Services Directive ESD16-1

DATE: August 15, 2016

BACKGROUND:

In an effort to encourage the use of recycled products and ensure these products do not cause harm to the environment, the City of Tacoma (City) Environmental Services Department has developed this guidance document to establish the City's policy on the use of reclaimed asphalt pavement (RAP) millings and recycled concrete aggregate.

RAP is a term used for removed and/or reprocessed asphalt pavement materials containing petroleum-derived asphalt and possibly the underlying mineral aggregates. RAP is generated from old roads, parking lots, and driveways. RAP can be large asphalt chunks or small asphalt grindings (also known as asphalt millings). Asphalt grindings are generally less than one inch in size and are produced from grinding asphalt surfaces.

Recycled concrete aggregate, also called recycled crushed concrete, is a term used for removed and reprocessed concrete materials and crushed in place concrete materials. Recycled concrete aggregate is typically generated from old roads, parking lots, driveways, and buildings.

Asphalt grindings may pose a risk to the environment and public health because the newly exposed asphalt binders which, when allowed to come in contact with stormwater or groundwater, can leach polycyclic aromatic hydrocarbons (PAHs) and heavy metals in stormwater runoff.

Recycled concrete aggregate may pose a risk to the environment because the newly crushed concrete will increase the pH of stormwater that comes in contact with the aggregate.

USE OF RECLAIMED ASPHALT PAVEMENT

Reclaimed asphalt pavement may be used:

- as a feedstock in the manufacturing of new hot or cold mix asphalt;
- as subgrade under an impervious surface, or
- as a driving or pedestrian surface if compacted using standard compaction techniques such as weight rolling equipment or vibratory plate compactors (compaction by vehicle traffic is not a sufficient method of compaction).

The use of loose, unbound asphalt millings as a "gravel type" surface is prohibited. The millings must be compacted as outlined above or overlaid with a paved top surface. When asphalt

millings are placed on top of existing gravel surfaces or other pervious surfaces and compacted, the newly compacted surface will be considered a new impervious surface and as an upgrade from gravel to asphalt per the City's Stormwater Management Manual (SWMM) and may require compliance with Minimum Requirements. See www.cityoftacoma.org/stormwatermanual for additional information.

USE OF RECYCLED CONCRETE AGGREGATE

Recycled concrete aggregate may be used:

- as a feedstock in the manufacturing of new concrete,
- as a subgrade under an impervious surface, or
- as gravel backfill for foundations, walls, pipe zone bedding, and drains.*

The use of loose concrete aggregate as a "gravel type" surface is prohibited. The concrete aggregate shall be overlaid with a paved top surface or used as bedding with appropriate surface covering specific to the project.

*Recycled concrete aggregate shall not be used as gravel backfill where stormwater or groundwater may come into contact with the concrete aggregate, be collected and discharged to the stormwater system or receiving waterbody (such as underdrain systems).

OTHER CONDITIONS:

Recycled material production, storage, and use shall meet all applicable requirements of WAC 173-350, all requirements of the Tacoma-Pierce County Health Department, and shall not cause a violation of the Clean Water Act. Recycled materials used as subgrade or backfill for roadway projects within the City shall meet any City's Specifications or WSDOT specifications as appropriate for the given project. Recycled materials used shall meet the requirements of all applicable local, state, and federal regulations such as the City's SWMM, City's Right-of-Way Design Manual, and Tacoma Municipal Code as applicable to the given application.