



STATE OF NEW HAMPSHIRE
INTRA-DEPARTMENT COMMUNICATION

DATE January 26, 2017

FROM: William J. Cass 
Assistant Commissioner

AT (OFFICE) Executive Office

Christopher M. Waszozuk 
Deputy Commissioner

SUBJECT: **Limited Reuse Soils**
Project Development Policy Directive

TO: Project Managers
Lead People
Bureau Administrators

MEMORANDUM

Limited Reuse Soils (LRS) includes roadside soils, as well as “street wastes” (defined as ditching materials, catch basin cleanouts, and street sweepings). Based on information collected by the Division of Operations (Operations), the Bureau of Environment (BOE), and data identified from other state departments of transportation, roadside soils are known to typically contain concentrations of regulated compounds above naturally-occurring background concentrations, and therefore, have limited reuse potential. One such regulated compound is polycyclic aromatic hydrocarbons (PAHs), for which there are no allowable background concentrations in NH. LRS meet the definition of “contaminated” under the provisions of the NH Solid Waste Rules (Env-Sw 100-2100) and the Contaminated Site Rules (Env-Or 600).

While DOT is concerned with the presence of all PAHs in roadside soils, to date, the primary PAHs of concern (because they are considered probable human carcinogens) include benz[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, and dibenz[a,h]anthracene. PAHs can be found in a variety of sources resulting from the incomplete combustion of organic material. The presence of PAHs in LRS along transportation corridors is suspected to primarily result from the mechanical breakdown and pulverization of petroleum-based products (asphalt) over time, and to a lesser degree from automobile exhaust fumes, and other general human activities. The transport and mobility of PAHs in the environment depends on the properties of both the chemical and the environment to which they have been released. Some PAHs tend to adsorb (“stick”) to the organic matter in soils, while others can easily evaporate into the air, or even break down by reacting with sunlight and other chemicals in the air. In general, however, the carcinogenic PAHs tend to be relatively immobile and do not readily dissolve in water or evaporate into the air. Limited testing completed by the Bureau of Environment (5 samples) in October 2016 showed that PAHs were detected in 4 out of 5 samples at a depth that ranged from 0-6” (3 samples), and 0-12” (1 sample) at varying distances from the edge-of-pavement. Each sample generally included topsoil-type material.

Based on analytical data from Operations sampling efforts, generic Work Instructions, and coordination between the NH Department of Transportation (DOT) and the Department of Environmental Services (DES), Operations received a rules waiver for maintenance activities to manage street waste under institutional controls within the limits of right-of-way and DOT-owned properties, subject to restrictions adjacent to sensitive environmental

receptors/resources. The BOE is currently in the process of securing a rules waiver as well for the Division of Project Development (Project Development), allowing management of LRS under similar restrictions on construction projects. The future waiver submittal will not specify which roadside soils DOT must manage as LRS, but places that burden on DOT to determine based on the best available information and data.

The preliminary working definition of LRS over the last year or so has included LRS in a wedge of soil that is eighteen inches (18") thick and twenty-five feet (25') wide, beginning at the edge of pavement. Based on the limited NH-specific data DOT has obtained to date, and the implications and cost of segregating and managing such a volume of material, this wedge dimension is considered to be overly conservative. The DOT policy-based approach to management of LRS in contracted construction projects will be based on the NH-specific data collected to date, reflective of the waiver parameters for Operations, and will be sensitive to DOT schedules and budgets. As such, the following interim limits of LRS/expectations shall be managed accordingly in all contracted construction projects that advertise for bids after April 30, 2017:

1. LRS includes street waste (catch basin cleanouts, street sweepings, and ditching material).
2. **Heretofore LRS will include all topsoil within the limits of the existing right-of-way, regardless of its depth. In those instances where there is no measurable topsoil, LRS will be measured from the top of ground to a depth of six inches (6").** In this way DOT is managing soil that, based on current understanding, is most at risk to include carcinogenic PAHs.
3. All LRS that is required to be managed during construction is expected to be reused on the project, subject to the development and implementation of a Soils Management Plan (SMP) in most cases.
4. If LRS is not being increased, moved or relocated from its current location within a project, or if the project is *de minimis* in nature (i.e. a guardrail replacement project) a SMP may not be necessary. Coordination with BOE will be required.
5. As a management option, LRS can still be tested and sent to a receiving facility (landfill), or reused elsewhere within the State right-of-way, as required.
6. Individuals throughout the DOT will continue to meet to respond to questions, develop additional guidance, and frame future LRS decisions.
7. Project Managers still have the option to apply to the Director of Project Development for project-specific LRS exemptions.

The Bureau of Highway Design will be leading the effort to incorporate LRS provisions/direction detailed above into construction contracts. The BOE will provide support and guidance to facilitate the implementation.

This directive is interim. First, to support the lateral limits identified above, BOE will immediately begin undertaking additional research to confirm that PAHs are, in fact, present in topsoil at various distances from the roadway, within the limits of right-of-way, and along various roadways/highways in NH. Second, once evaluated, DOT may then begin to investigate roadside soils at depths greater than six inches (6") for the potential presence of PAHs, as appropriate. As DOT broadens its understanding of typical PAH limits along our roadways (generator knowledge), and continues to coordinate with DES on this issue, we will modify our approach to LRS management, as appropriate.

Thank you.

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