



Beneficial Use of Solid Waste Determination Evaluation Form

Contact: Heather Kuoppamaki
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Applicant: ODOT	
BUD#: 20181204	
Solid Waste: Highway shoulder soil	
Summary of proposed beneficial use: Non-residential construction fill and/or mine reclamation fill (location dependent).	
Reviewer: Heather Kuoppamaki	Date: 12/4/2018 and updated 7/1/2019
Tier: <input type="checkbox"/> One <input type="checkbox"/> Two <input checked="" type="checkbox"/> Three	

Beneficial use of solid waste

Beneficial use of solid waste is a sustainability practice that may involve using an industrial waste in a manufacturing process to make another product or using a waste as a substitute for construction materials.

The environmental benefits of substituting industrial waste materials for virgin materials includes conserving energy, reducing the need to extract natural resources and reducing demand for disposal facilities.

Oregon Administrative Rules (OAR) 340-093-0280 - 0290 establish standing beneficial uses and a process for DEQ review of case-specific beneficial use proposals. Under these rules, DEQ may issue a beneficial use determination as an alternative to a disposal permit for proposals that meet the rule criteria. If approved, once a beneficial use determination is issued, DEQ no longer regulates the waste as a solid waste as long as the waste is used in accordance with the approved beneficial use determination.

Beneficial use determination evaluation summary

- Yes, the beneficial use of this solid waste meets all the case-specific performance criteria listed below and is approved.
- No, the beneficial use of this solid waste does not meet all the case-specific performance criteria listed below and is not approved.

Notes: *ODOT generates an estimated 100,000 to 200,000 cubic yards of soil every year through road maintenance and improvement projects. Much of this soil is above DEQ's clean fill criteria but below risk screening levels for certain uses.*

Case-specific beneficial use performance criteria:

DEQ may approve an application for a case-specific beneficial use of solid waste only if all the following performance criteria are addressed:

1. Characterization of the Solid Waste;
2. Productive Beneficial Use of the Solid Waste; and,
3. The effect of the Proposed Beneficial Use on Public Health, Safety, Welfare and/or the Environment.

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1. Characterization of the solid waste

Did the applicant characterize the solid waste and proposed beneficial use sufficiently to demonstrate compliance with the rules for case-specific beneficial use determinations (OAR 340-093-0280) by submitting required information for the appropriate tier? (See tier sections below for detailed characterization information.)

Yes No

Notes: *ODOT has completed sampling and analysis of shoulder soil from projects around the state.*

Was the following information submitted for DEQ review and how adequate was it?

Tier 1: **Applicable** **Not applicable**

- Did the applicant provide an adequate description of the material proposed for beneficial use, the manner of generation and the estimated quantity to be used beneficially each year?

Yes No

Notes: *Based on historic data, approximately 100,000 to 200,000 cubic yards per year is generated from ODOT projects; however, this may vary in the future.*

- Did the applicant provide an adequate description of the proposed beneficial use and justify how the proposed use is beneficial?

Yes No

Notes: *Non-residential fill or mine reclamation fill, depending on source location.*

- Did the applicant provide a sufficient comparison of the chemical and physical characteristics of the material proposed for beneficial use with the material it will replace?

Yes No

Notes:

- Did the applicant successfully demonstrate compliance of the proposed beneficial use with the performance criteria in OAR 340-093-0280 based on knowledge of the process that generated the material, properties of the finished product, or testing?

Yes No

Notes:

- If required, did the applicant provide any other DEQ required information to evaluate the proposal?

Yes No

Notes: *Not required.*

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Tier 2: Applicable Not applicable

- Did the applicant submit all the information required for a Tier 1 application?

Yes No

Notes: *The material (soil) is being used for its intended purpose. The BUD is to provide limited approved uses of the slightly contaminated soil, where the contamination is below the applicable risk screening levels.*

- Did the applicant submit adequate sampling and analysis to make a determination of suitability for beneficial use? (Note: The analysis must provide chemical, physical, and biological characterization of the material proposed for beneficial use and identify potential contaminants in the material or the end product, as applicable.)

Yes No

Notes: *Historic data along with statewide investigations.*

- When applicable, did the applicant provide a risk screening comparing the concentration of hazardous substances in the material to existing, DEQ approved, risk-based screening level values, and demonstrate compliance with acceptable risk levels?

Yes No

Notes: *Comparisons performed per physiographic province, depth, and distance from pavement.*

- When applicable, did the applicant supply the location or type of land use where the material will be applied, consistent with the risk scenarios used to evaluate risk?

Yes No

Notes: *Precise locations to be determined but types of locations were identified.*

- When applicable, did the applicant supply contact information of property owner(s) if this is a site-specific land application proposal, including name, address, phone number, email, site address and site coordinates (latitude and longitude)?

Yes No

Notes: *N/A*

- Did the applicant supply an adequate description of how the material will be managed to minimize potential adverse impacts to public health, safety, welfare, or the environment?

Yes No

Notes: *Highway shoulder soil, regardless of which beneficial use is determined to be the most appropriate, will not be placed in wetlands or other waters of the state unless approved under an Army Corps of Engineers and Department of State Lands permit. If excavated highway shoulder soil is to be stockpiled for future use, stockpiles will be managed to minimize airborne dust and erosion of soil into stormwater conveyance systems in compliance with ODOT's EMS.*

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Tier 3: **Applicable** **Not applicable**

- Did the applicant submit all the information required for a Tier 1 and Tier 2 application?
 Yes No

Notes: *ODOT proposed sufficient plans to continue to evaluate the use.*

- Did the applicant provide an adequate discussion of the justification for the proposal?
 Yes No

Notes:

- Is there an estimated length of time that would be required to complete the project, if it is a demonstration?
 Yes No

Notes: *Ongoing. 5-year re-evaluation period.*

- If it is a demonstration project, are their methods proposed to ensure safe and proper management of the material?
 Yes No

Notes:

2. Productive beneficial use of the solid waste

Has the applicant demonstrated that the proposed beneficial use is a productive use of the material by providing information substantiating the criteria listed below?

- Yes No

Notes: *The material is soil excavated from highway shoulders that will be reused in place of clean fill. This will reduce impacts due to excavation of the clean fill and limits better uses of the clean fill.*

- Did the applicant successfully identify or demonstrate a reasonably likely proposed beneficial use for the material that is not speculative?

- Yes No

- The applicant is a port district and has demonstrated the proposed use is upland placement of dredged material in accordance with Senate Bill 412.

- Yes No

This criterion consists of three parts.

1. Identified use:

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Has the applicant clearly stated what the waste is going to be used for, that the waste is compatible with that use and the proposed quantity is necessary?

Yes No

2. Reasonably likely use:

Has the applicant identified, with supporting documentation, the timeframe within which this use is likely to occur (e.g., zoning info, master plan for development, letters from local jurisdictions, etc)?

Yes No

3. Not speculative:

For land application - has this material been used at other sites for the same purpose, is the material feasible for use at this site for this purpose, or has the applicant identified a known potential for this use at this site?

Yes No N/A

For uses other than land application - has the material been used in a product before, is the material feasible for use in a product, or has the applicant identified a known potential for use in this product?

Yes No N/A

Notes: *The applicant provided a number of proposed uses.*

- Is the use a valuable part of a manufacturing process, an effective substitute for a valuable raw material or commercial product, or otherwise authorized by the Department and does not constitute disposal?

Yes No

Notes:

- Is the use in accordance with applicable engineering standards, commercial standards, and agricultural or horticultural practices?

Yes No

Notes:

3. Effect of proposed beneficial use on public health, safety, welfare and/or the environment

Has the applicant demonstrated the proposed beneficial use will not create an adverse impact to public health, safety, welfare, or the environment, by providing information substantiating compliance with the criteria listed in the bullet list below?

Yes No

Notes: *The proposed uses are below the applicable screening levels.*

- Has the applicant demonstrated that the material is not a hazardous waste under ORS 466.00?

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Yes No

Notes:

- Has the applicant demonstrated that until the time this material is used according to a beneficial use determination, the material will be managed, including any storage, transportation, or processing, to prevent releases to the environment or nuisance conditions?

Yes No

Notes: *The material will be stored in accordance with ODOT environmental management system (EMS).*

- Has the applicant demonstrated that hazardous substances in the material, if any, meet one of the criteria in the bulleted list below?

Yes No

- Hazardous substances do not significantly exceed the concentration in a comparable raw material or commercial product;
- Hazardous substances do not exceed naturally occurring background concentrations; or
- Hazardous substances will not exceed acceptable risk levels, including persistence and potential bioaccumulation, when the material is managed according to a beneficial use determination.

Notes: *Some maximum lead concentrations exceeded 100 mg/kg, which could mean that leachable lead could exceed the hazardous waste limit of 5 mg/L, assuming the "Rule of 20." This rule of thumb is based on the fact that the Toxicity Characteristic Leaching Procedure (TCLP) involves passing an acidic solution through the soil sample. Because the test method specifies that the weight of the solution must be 20 times the weight of the soil sample, it is conservatively assumed that, if all the lead leaches out of the soil sample, then a lead concentration in soil of 100 mg/kg could result in a leachate concentration of 5 mg/L, which is the hazardous waste limit defined in 40 CFR 261. Note that the maximum soil concentrations were all below applicable risk based concentrations.*

- Has the applicant demonstrated that the proposed beneficial use will not result in the increase of a hazardous substance in a sensitive environment, such as a park, wildlife refuge or wetland?

Yes No

Notes: *Use in sensitive environments will not be authorized.*

- Has the applicant demonstrated that the proposed beneficial use will not create objectionable odors, dust, unsightliness, fire, or other nuisance conditions?

Yes No

Notes: *The proposed material is soil. Any materials with indications of contamination, including staining or odors, are not covered in the approved beneficial uses.*

- Has the applicant indicated that the proposed beneficial use will comply with any other applicable federal, state, and local regulations?

Yes No

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4. Public Involvement Evaluation (Note: this is not a Beneficial Use evaluation criterion)

Determine a public involvement recommendation using the current, Guidance to DEQ Solid Waste Program Staff and Managers on Public Notice and Participation.

- Is public notice and participation being recommended for this application?

Yes No

Notes: DEQ issued a public notice on March 12, 2019 requesting public comment on the draft DEQ beneficial use determination for reusing highway shoulder soil. DEQ provided public notice through email and placing the public notice document on DEQ's Public Notices website. The comment period closed at 5 p.m. on April 12, 2019.

DEQ received five comments from two individual during the public notice period. DEQ inadvertently prepared a response to comments from one individual and neglected to respond to the other commenter. DEQ has revised the response to comments to address all comments received and has updated and reissued the beneficial use determination. DEQ did not modify the beneficial use determination in response to the comments received.