


## Beneficial Use of Solid Waste Determination Evaluation Form

 State of Oregon Department of Environmental Quality	<b>Applicant:</b>		American Gypsum Recycling, Inc.		
	<b>BUD#:</b>		BUD-20180205		
	<b>Solid Waste:</b>		Waste new construction wallboard and waste demolition wallboard.		
	<b>Summary of Proposed Beneficial Use:</b>				
	Soil amendment, concrete feedstock, wallboard feedstock, animal bedding and compost feedstock.				
	<b>Reviewer:</b>		Esch, David	<b>Date:</b>	2/7/2018
	<b>Tier:</b>		<input type="checkbox"/> One <input checked="" type="checkbox"/> Two <input 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 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.

**Summary:** AGR, Inc. provided suitable characterization of the waste material to include pertinent analytical data. Used in accordance with the BUD approval conditions, and currently acceptable agricultural and manufacturing techniques associated with the use of materials this beneficial use will replace, the environment as well as human health and safety will be adequately safeguarded. AGR, Inc. will provide appropriate use/management information to those receiving/using the material and will track the uses/location/amounts of the material that is beneficially used. Having several viable options for beneficial use, AGR, Inc. and downstream users will likely not speculatively accumulate the material.

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**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.

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

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

The material consists of two separate waste streams: "clean" new construction waste wallboard (un-painted, un-textured, uncontaminated), and "used" reclaimed demolition wallboard (textured and/or painted and potentially containing fasteners, caulks and other standard construction materials). AGR, Inc. estimates maximum of 2000 total tons unprocessed material, 30 cubic yards of paper wallboard backing, and 2000 tons reclaimed gypsum powder to be on-site at any given time. AGR, Inc. estimates annual thru-put at 30,000 tons.

- Did the applicant provide an adequate description of the proposed beneficial use and justify how the proposed use is beneficial?  Yes  No

Applicant proposes the following uses for reclaimed "clean" material: soil amendment in agricultural environments, and gypsum feedstock for concrete and wallboard manufacturing. Reclaimed paper backing will be used as animal bedding and/or compost feedstock.

Applicant proposes the following uses for reclaimed "used" material: gypsum feedstock for concrete and wallboard manufacturing. Reclaimed paper backing from "used" material will be properly disposed (landfilled).

- 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

Suitable demonstrations were made showing that reclaimed gypsum from wallboard is equivalent to feedstocks used in manufacturing wallboard and concrete, and that reclaimed gypsum is equivalent to gypsum produced from raw natural materials.

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- 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

Analytical lab data for reclaimed material was provided for comparison.

- If required, did the applicant provide any other DEQ required information to evaluate the proposal?  Yes  No

No other information was required.

**Tier 2**      Applicable      Not applicable

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

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

There are no biological characteristics to evaluate. Suitable demonstrations were made showing that reclaimed gypsum from wallboard is equivalent to feedstocks used in manufacturing wallboard and concrete, and that reclaimed gypsum is equivalent to gypsum produced from raw natural materials. SDS's and lab results were provided for comparison.

- 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

Concentrations of hazardous substances were below or similar to those of conventional raw materials.

- 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

Not applicable. The proposed uses are not site-specific.

- 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, e-mail, site address and site coordinates (latitude and longitude)?      Yes      No

Not applicable. The proposed use is not site-specific.

- 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

Adoption of industry standard practices applicable to conventional raw materials and their use will minimize potential adverse impacts. DEQ, through the "Conditions of Use" noted in the BUD, have further bolstered those safeguards.

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Tier 3     Applicable     Not applicable

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

- Did the applicant successfully identify or demonstrate a reasonably likely proposed beneficial use for the material that is not speculative?     Yes     No

This criterion consists of three parts.

1. Identified Use:

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

- 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

- Is the use in accordance with applicable engineering standards, commercial standards, and agricultural or horticultural practices?     Yes     No

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

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- Has the applicant demonstrated that the material is not a hazardous waste under ORS 466.00?  Yes  No
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- 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
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- 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.
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- 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
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- Has the applicant demonstrated that the proposed beneficial use will not create objectionable odors, dust, unsightliness, fire, or other nuisance conditions?  Yes  No
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- 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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- Is public notice and participation being recommended for this application?  Yes  No