

WATER TREATMENT RESIDUALS RECYCLING

Good for the environment, the community and the company



During the water treatment process, sediment and suspended matter that is removed from the raw and treated water is referred to as residual waste. This waste, which can be in the form of a liquid or solid, is generally sent to landfills, which can be costly.

To reduce the amount of waste hauled to landfills, Pennsylvania American Water developed an alternative solution and now recycles the majority of its residuals. On a dry weight basis, 95 percent of the water treatment residuals are beneficially used.

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Pennsylvania American Water found that its solid-like, dewatered residual waste from 11 of its facilities could be used as topsoil and topsoil blend for earthwork, pipeline construction restoration, landscaping and tree nursery applications. This material has also been used for brownfield application and landfill caps. In addition, liquid residuals from 21 plants are used to improve agricultural lands.

These methods have been permitted by the PA Department of Environmental Protection and meet guidelines for how the material is used. As a result, the company now has a long-lasting, environmentally sound way to utilize its water treatment residuals across Pennsylvania.

Advantages of Beneficial Use

- **Environmental Benefits and Corporate Responsibility:** Saves valuable landfill space, helps reduce nutrient runoff to rivers, lakes and streams, and enhances environmental education programs by using residuals in community and school projects.
- **Financial Benefits:** Saves on costs related to landfilling residual material. The cost to landfill this material is approximately \$50 per ton. Through beneficial use, we've achieved pricing as low as \$7 per ton.
- **Third-Party Recognition:** Received the Governor's Award for Environmental Excellence and the Allegheny County Enviro Star Award.



Saves valuable landfill space

Recycling residual material saves valuable landfill space. Last year alone, 10,000 tons (dry weight basis) of residual material from Pennsylvania American Water's treatment facilities were beneficially used and not hauled to a landfill.

Good for the Environment

As a "residual" benefit, when land applied, this material could help to reduce nutrient runoff. A pilot study was conducted on a dairy farm to determine if the residual material could be used to bind phosphorus in the soil, resulting from manure applications.

Initial results indicate that land applying the residual material to farm fields could result in reducing phosphorus levels in runoff by as much as 20 percent. As a result, land applying this material could be used to help protect our rivers, lakes, streams and other drinking water sources.

Benefits the Community

In recent years, Pennsylvania American Water partnered with local conservancy groups, schools and the Eagle Scouts to provide residual material for community and school gardening projects.

Applications for Residuals



Used as a topsoil blend or soil conditioner



Land applied on brownfield sites



Strip mine cover and landfill cap to enhance plant growth



Soil conditioner for a tree farm and community gardens

