



Fact Sheet #4

Biosolids Management

Spokane County Wastewater Facilities Plan

What Are Biosolids? Biosolids are the residuals left over from wastewater treatment. Biosolids contain organic matter, as well as plant nutrients, such as nitrogen and phosphorus, and make a good soil amendment. The quality of biosolids must be carefully managed to minimize the presence of trace toxic materials and disease-causing organisms.

What Happens to the Biosolids Now? Nearly all County wastewater is treated at the City of Spokane's wastewater treatment plant. The biosolids produced are digested in large, heated tanks that 1) destroy most of the disease-causing microorganisms, and 2) reduce the organic content of the material. The digested biosolids are then dewatered to reduce moisture and volume, trucked from the treatment plant, and applied to agricultural lands west of Spokane. If the County continues to send all of its wastewater to the City plant, this biosolids management practice will continue, at least for the near future.

What's the Difference Between Class A and Class B Biosolids? The classification difference primarily refers to the pathogenic (disease-causing) organism content of the biosolids. The City plant currently produces Class B biosolids, in which the majority of the pathogenic organisms have been destroyed. Because some pathogens remain in the biosolids, public access must be restricted in areas where Class B biosolids have been applied. With a Class A material, the biosolids are usually heated longer, or at higher temperatures, to achieve further destruction of pathogenic organisms. As a consequence, Class A biosolids can be used for a wider range of uses and there are fewer restrictions on public access to the application sites. However, it is considerably more expensive to generate a Class A product.

What Options Are Currently Being Considered for Biosolids Management, if the County Builds Its Own Treatment Plant?

- 1. *Class B Treatment and Land Application*** - This approach matches the current City practice. The solids would be digested, dewatered, hauled, and land-applied. Methane gas generated during digestion would be burned for tank heating. Application sites could include agriculture land or disturbed mining areas, such as the region around Kellogg, Idaho. The advantages of this approach are beneficial reuse, relatively-low operational cost, well-established technology, and good demand by local agricultural users. The disadvantages of this approach are high initial cost, limited end-uses for the biosolids, and the potential that future regulations may require higher levels of treatment than Class B.
- 2. *Class A Treatment and Land Application*** - Class A treatment involves use of a high-temperature solids treatment process prior to dewatering and hauling to an application site. Methane gas may be used for heating. The advantages of Class A biosolids production are greater opportunities for end use, greater acceptance by potential users, less space requirements for treatment facilities, and less susceptibility to future regulatory change. Key disadvantages include much higher energy costs, operation of a more complex, less stable treatment process, and a greater need for odor control.
- 3. *Composting*** - In composting, the biosolids is first digested (to Class B standards) and dewatered. The material is then mixed with wood chips or some other amendment, and spread over a covered pad. The piles are aerated through the composting period, which may last as long as a month. Finished compost is a Class A material. The advantages of composting are that it produces a Class A Product that is well accepted by end users, even for use in home gardens. Also, the compost facilities are low-technology and fairly easy to operate. The disadvantages of composting are that it is relatively

expensive, requires a large area that may be difficult to site, requires a higher level of dewatering than land application, and requires significant odor control measures.

4. **Treatment at City of Spokane Facility** - Under this option, no biosolids treatment facilities would be provided at the new treatment plant sites. Instead, all biosolids produced would be conveyed to the City of Spokane facility for treatment. Conveyance could be provided by returning the biosolids to the interceptor pipe system or by building a separate pipeline to the City plant. The key advantages of this approach are reduced space requirements for new treatment plants, simplified siting of these facilities, and consolidation of all biosolids handling in one location, which would reduce operating costs. If the solids are returned to the interceptor, disadvantages would include increased liquid treatment costs at the City plant and possible spillage of solids during CSO events. If dedicated biosolids pipelines were built, the cost of conveyance would be high. In either case, the County would be dependent on the City for treatment and disposal of biosolids.
5. **Co-Incineration with Solid Waste** – In this option, biosolids would be dewatered and hauled to the regional solid waste incinerator for processing. Advantages include the highest level of volume reduction and multiple use of a regional waste management facility. Disadvantages include air quality concerns and permitting issues, high energy costs, potential compatibility issues with the solid waste system and failure to beneficially use the biosolids.
6. **Privatized Management** - With this approach, the County would contract with a private vendor to manage the biosolids. The vendor would haul the material to a processing site. An example of this approach is ECO composting in Missoula, Montana. The advantages of this approach are minimal capital cost, reduced space requirements for treatment facilities, and simpler siting of new treatment plants. The disadvantages of this approach are high transportation costs, potentially higher operating costs, and increased risk due to dependency on a private entity.

We Need Your Input! Please consider the following questions, discuss the issues with the planning team representatives, and fill out the public meeting questionnaire to ensure that the planning team understands and can consider your concerns, issues, and opinions.

- ? Which of the proposed alternatives do you prefer and/or support?
- ? Would you be willing to pay an additional \$2 to \$6 per month in sewer fees to have Class A biosolids produced?
- ? Do you have any preferences about land applications sites?
- ? Would you be interested in using composted biosolids in home gardening projects?
- ? What are your views on incinerating the biosolids?
- ? Do you have any preferences as to whether the County, the City, or a private contractor manages biosolids?