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Solid Waste Disposal in Rural Idaho

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Garbage! What to do with it? Where does it go from your trash can? What effect does disposal have on the environment? How much does it cost?

Every American disposes of nearly 5 pounds of garbage each day. What happens to all of this waste? Garbage takes one of three possible avenues after leaving your home.

Recycling

Recycling has become popular in recent years, more or less corresponding with the increased awareness of environmental problems. We are starting to realize that resources may become scarce in the future. Also, the rising costs of producing various materials has been an important influence. Much of the "garbage pile" can be recycled.

Recycling simply means reprocessing throw-away products such as aluminum cans, glass or newsprint into "new" products. The advantages of recycling are widespread. It saves a portion of our raw materials for future use. The energy required to "reprocess" a product is much less than the energy used in making the original product. Probably the most obvious benefit is that recycling helps to reduce our ever increasing "pile of garbage".

Incineration

Incineration is another route which your garbage may follow. Burning solid waste is a cheap way to reduce waste to manageable quantities. Again, concern for the environment is causing communities to re-evaluate burning practices. Many states have outlawed burning as a means of reducing solid waste. Other recent developments include large high-temperature refuse burners which leave little ash and are smokeless, and another process called pyrolysis which involves high-temperature burning of wastes with a resulting byproduct of crude oil or gas. Many cities are selling their waste to utilities or manufacturing firms for use as supplementary fuel.

Most of these incineration projects are in large cities which have the populations to support them or lack the land required for sanitary landfills. For rural communities, the

costs of incineration through the use of furnaces is probably too high.

Sanitary Landfill

Another avenue which your garbage may take is to the sanitary landfill site. In the past, these sites were known as "dumps" and they were exactly that — a place where people could dump their garbage. Today's landfill process involves spreading and covering solid waste at various depths and intervals according to local or state regulations. In most states, the regulations concerning site locations, allowable cover material and other landfill standards are explicit and are designed to prevent environmental pollution.

Pollution from a landfill can take many forms. Gasses which result from the decomposition of wastes are possible sources of air pollution. Liquids from the waste may percolate through the soil and eventually into the ground water system if the buffer zone between the lowest level of solid wastes and the groundwater is not large enough. Soil types also have a significant effect on this percolation process. Certain soil types are not feasible for landfill use because of their permeability, composition or other factors which relate to drainage.

Rural Idaho presents some items which should be considered in the analysis of solid waste disposal. First, Idaho has a large amount of uninhabited land which could be used for sanitary landfill sites. The use of land for solid waste disposal in rural areas of Idaho appears to be a viable alternative to incineration.

Second, Idaho is largely a rural state, characterized by rural farming, logging or mining communities with populations usually below 10,000 persons. These small communities have many problems trying to upgrade their public services to meet state and federal standards because of the high cost of upgrading a system and limited population bases. Most state and federal laws concerning public service standards are based on areas with much larger populations than most Idaho communities. Limited population also may be viewed as a limited tax base.

Solid waste disposal facilities exhibit a phenomenon

known as economies of size. This means that as the number of tons processed by a solid waste disposal site increases, the cost per ton decreases.

To take advantage of economies of size a rural county or region may want to consider going to a regional sanitary landfill operation. With a regional system, the processing costs would be lower than with each community processing its own waste mainly because a larger quantity of waste would be processed at one site with one bulldozer (or other waste processing equipment) and one work force to operate the landfill. Waste would be covered at more frequent intervals at the regional site, which would be in compliance with state laws which specify certain intervals during which waste would be covered. These laws are a problem for small communities. The more frequent covering of waste will also reduce problems such as rodents, odor and blowing debris usually associated with disposal facilities.

A regional system also would result in more efficient use of land. A county might need only one or two waste disposal sites as opposed to one for each population center.

The main drawback to a regional solid waste system is the increased cost of transporting the waste from population centers to the disposal site. A regional facility will be

economically feasible only when the total cost of the system (transportation cost and processing cost) is less than the cost of each population center processing its own waste. Studies have shown that the increased transportation cost is accompanied by a reduction in processing cost.

Regional solid waste disposal systems also may allow rural areas to have self-sufficient recycling operations. Generally, a population base of from 15,000 to 25,000 persons is required, depending upon the degree of cooperation by the populace. If people agree to sort their waste into the various categories of recyclable materials (paper, aluminum, etc.), a smaller threshold of population is necessary. If people do not sort, the recycling effort must hire person(s) to sort. To pay for the sorting requires larger quantities of waste, which means larger populations.

In summary, a regional solid waste system may be a viable alternative which rural areas should consider when deciding upon a solid waste system. The possibilities of lower processing costs, better environmental quality and the opportunity to recycle most of their solid waste make a regional system appear attractive. The fact that increases in costs of transporting waste may be more than offset by the decrease in processing cost is another item to consider.