



Best Practices in Wood Waste Recycling

Use of Concrete Surfaces to Improve Recovery and Prevent Contamination

Material: Wood Waste

Issue: *A priority in recovering wood waste from any source is to minimize additional contaminants in the course of preparing the material for processing. Handling or storing wood waste on bare ground, crushed rock, or asphalt paved surfaces are common practices. However, these practices introduce dirt, grit, rock, and other contaminants into the wood waste material. Even the quality of the cleanest materials are downgraded. This degradation is more detrimental to the cleaner and higher value wood waste than the lower value wood waste. Lower quality wood waste leads to lower market value and greater contamination removal requirements for the facility and end-user.*

Best Practice: This Best Practice recommends using clean concrete surfaces for front-end storage and material handling of wood waste. A well maintained concrete surface minimizes dirt, grit, rock, and other contaminants to downgrade the quality of the material. Consider the following issues when handling and storing wood waste materials on concrete surfaces:

Operational. Concrete surfaces are ideal for wood waste dumping, rough sorting, bulk reduction (by means of rolling stock compaction), and storage because the smooth surface prevents unwanted dirt and rock to mix with the wood waste material. A slight surface slope assists in the drainage and keeps the material clean and dry. A well designed concrete surface allows processing operations to continue even during rainy weather. A concrete surface could also store finished products in chip piles if storage bins are not available.

Maintenance. Concrete surfaces are durable and require minimal maintenance compared to bare ground, crushed rock, or asphalt paved surfaces. Unlike crushed rock and bare ground surfaces, rolling stock traffic does not pit or rut the concrete surfaces. They also deteriorate less than asphalt paved surfaces during heavy use. Another advantage is the ease of returning dropped materials from the conveyor into the process without picking up additional contaminants during equipment overflows or breakdowns. Also, general plant clean-up and maintenance activities are simplified.

Regulatory and Community. A well-drained concrete surface allows direct runoff into appropriate sewer or stormwater collection systems. This level of control facilitates compliance with stormwater permitting requirements. Clean, concrete surfaces improve the aesthetic characteristics of the facility and reduce tracking of dirt and mud from delivery trucks onto the surrounding roadways. As a result, a facility's image is enhanced within the community.

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Cost. The up-front capital costs of concrete surfaces tend to be higher than alternative working surfaces. Therefore, they should be installed in working areas where the benefits contribute to improving the production operations.

Implementation: Identify the working areas where the benefits contribute to improving the production operations. Generally, these areas include:

- Front-end wood waste dumping, rough sorting, bulk reduction, and segregated storage
- Beneath the processing equipment
- Finished product storage (in the absence of storage bins)

Concrete surfaces need to be designed and built to suit the unique dimensional requirements of each wood waste processing facility. The design loading for these surfaces should account for static loads (maximum pile weights), and hauling truck and rolling stock traffic. Steel-reinforced surfaces should be at least four inches thick. Concrete surfaces should be a high priority in new facility designs and existing facility's infrastructure improvements.

Benefits: Concrete surfaces at wood waste processing facilities avoid unnecessary contaminants and improve the quality of the end-products. The product quality control, operational efficiency, facility maintenance, and regulatory compliance benefits of concrete surfaces make them a good investment.

Application Site: Processing Facility.

Contact: For more information about this Best Practice, contact CWC (206) 443-7746, e-mail info@cw.org.

References:

1. International Resources Unlimited, Inc. "*Investigation of Alternative Markets for Recycled Wood.*" Eugene, Oregon.
2. Sargent, Bob. Rainier Wood Recyclers.
3. Unlimited, Inc. for the Portland Metropolitan Service District; 1992.

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