



## Best Practices in Wood Waste Recycling

### **Strategies for Segregating Wood at Landclearing Sites**

#### **Material: Wood Waste**

**Issue:** *During community growth, adjacent forests become candidates for purchase and development; otherwise, they typically do not generate profit. To accommodate developments, developers remove trees, soil, and other materials from construction sites. In some regions, they use crawling bulldozers to knock down trees and pull up root balls for on-site burning.*

*However, a sufficient quantity of wood upon a site makes it practicable to cut tree stems and ship logs to local markets. The roots and branches usually remain as landclearing waste. Traditionally, developers burned or buried this wood waste on-site. Wood waste could also be shipped off-site, either for disposal or, increasingly, for centralized wood processing. Furthermore, on-site processing is increasingly being used to recycle wood waste, often using a mobile tub grinder.*

*Most professional development and landclearing contractors know the options available in their region for the wood waste they generate. Some may not, however, and it is wise to check with trade associations, recycling organizations, and local solid waste utilities to get a list of wood recyclers that can provide wood waste services.*

**Best Practice:** Urbanization, which develops vegetated land for homes, commerce, or industry, generates landclearing debris. Developers could profit when they remove vegetation that includes trees.

Trees, which were removed from cleared lots and alongside streets, and that are destined for sawmills must measure at least 6 feet tall. And, at 4½ feet from the ground, the street tree should measure at least 8 inches in diameter, which meets the smallest dimensions allowed for saw logs.

Normally, the most value in tree trunks is from the bottom 8 to 16 feet because tree-trunk bases have the greatest volume of wood.

Branch-wood and the root-wood are quite different and might require unique processing for different end-user markets.

**Implementation:** The marketability of segregated wood varieties influences purchasers. Different regional resources, which could require significantly different approaches and equipment, affect this market value. Consider a site's proximity to forests, the size of the landclearing site, its terrain, and the equipment available to clear the site. For example, expanding and developing a highway in the urbanized East Coast has different landclearing requirements than clearing land for a similarly sized development in the Pacific Northwest mountains.

Most importantly, before deciding how to harvest and process a landclearing operation, investigate the expected quantity and profit the wood and wood waste from the site could generate. Specifications vary significantly depending upon the timber's end-use merchandising.

Large tracts of land with plenty of trees on-site use a mobile saw attachment that has a rotary, horizontal high-speed disc, which cuts tree stems close to the ground. Combined with a *buncher*, an operator can use this saw to grab an entire tree, cut it at ground level, then transfer it to a nearby reclamation area for further on-site processing. However, metal contaminants could cause serious saw blade damage. Staff safety is a

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concern with such equipment. Therefore, scan the trees before they enter the sawing process. A standard log truck can legally transport from about 2,500 to 3,500 board feet of logs. Following an international rule of measure, the quarter-inch log scale, one board foot equals a piece of wood that measures 12 inches wide by 12 inches long by 1 inch thick.

Decide which method is best for processing the wood waste generated from individual landclearing sites. Consider which type of wood-waste the site generates, how much mobile processing equipment is locally available, and what local regulations are regarding the waste wood's disposal, on-site burning, processing and reuse.

Some local regulations allow on-site open burning or burying landclearing waste. However, many communities discourage or prohibit on-site burning because residents dislike heavy smoke. These residents voice their concerns directly to the development companies and elected officials. Increasingly, suburban residents preclude open burning by invoking community pressure and burn bans. Moreover, the federal provisions in the Clean Air Act also prohibit open burning in many communities; thus, increasing prohibitions continue to eliminate possibilities of on-site burning.

Also diminishing is the practice of burying wood waste on-site. This practice increasingly conflicts with disposal regulations; in addition, it becomes uneconomical because of high-labor and machinery costs combined with the land's decreased value when used for burial. Considering these restrictions, sufficient quantity of wood waste justifies hauling it to an intermediate processing center. Moreover, a suitable volume of wood waste could justify establishing a portable system that fully processes it on-site for subsequent shipment to end-use markets.

Consider the following details to determine waste wood quality and marketability: chip size and kind; screening type and ability; incoming wood size; bark and twig volume; annual volume, seasonal and long-term output capability. Chipping wood waste on-site reduces its bulk; therefore, chipped wood is easier to transport. The on-site wood-chipping equipment and sorting operation influences the production quality and use potential, thus determining marketability of the wood chip. Debarked wood and larger diameter barked wood produce clean and higher-quality chip. Bark and twigs produce a darker and dirtier *brush* chip, which has lower value.

**Benefits:** Recovery and reuse of roots and branches at landclearing sites, as opposed to the traditional burning, will conserve landfill space and reduce air pollution.

**Application Site:** This Best Practice applies to wood-waste generation sites.

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

### References:

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