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One Gifford Pinchot Drive • Madison, WI 53726-2398 • Web site: www.fpl.fs.fed.us

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Contact: George Couch, (608) 231-9295
E-mail: gcouch@fs.fed.us

Preliminary Guidelines Available for Installing Wheelchair-Friendly Playground Surface

Madison, Wis.— Many local governments, school and park districts, and other agencies across the country seek a low-cost way to make playgrounds more accessible to people with disabilities.

Easy-to-follow guidelines for modifying standard wood chips to make playground areas accessible to people who use wheelchairs or other mobility aids are now available from the USDA Forest Service Forest Products Laboratory (FPL) here. Interest in the surfacing material has become widespread because of the need to comply with the Americans with Disabilities Act and the low cost ($2 to $3 per square foot) for stabilized engineered wood fiber (SEWF) compared to most existing systems ($10 to $20 per square foot).

The preliminary "how-to" guidelines are included in two illustrated technical reports that can be downloaded at no charge from the FPL's SEWF Web page: http://www.fpl.fs.fed.us/notices/highlights/playground_materials/playground_materials.html.

The technique for stabilizing wood chips, called engineered wood fiber, with a polyurethane or latex binder was developed by FPL researchers to provide an affordable method for making recreational and playground facilities accessible to people using wheelchairs or other mobility aids.

The reports containing the guidelines are: Stabilized Engineered Wood Fiber for Accessible Playground Surfaces (FPL-GTR-154), and Stabilized Engineered Wood Fiber for Accessible Trails (FPL-GTR-155). They can viewed online at the above site or by going to FPL's home page (www.fpl.fs.fed.us/) and clicking on "Wheelchair-friendly playground using cost-effective wood chips" under the "Research that Serves and Protects" heading. Printed copies of the reports are also available by e-mail request to: mailroom_forest_products_laboratory@fs.fed.us, or phone: 608-231-9200.

The U.S. Access Board (a federal agency focused on making public facilities more accessible) asked FPL to work on this problem because the areas around playground equipment, such as swings and slides, need to be soft enough to minimize injuries when children fall. But most commonly used materials,

such as loose wood chips, pea gravel or sand, permit a wheelchair tire or the foot of a walker or cane to sink in, causing the chair or walker to get stuck or even tip over.

FPL researchers began by looking at ways to stabilize the engineered wood fiber already in use on many playgrounds, often in a layer 10 to 12 inches thick. Engineered wood fiber (EWF) is the technical name for a loose, mulch-like mixture of hardwood chips that meets certain specifications regarding size and shape of the chips, consistency, drainage, impact attenuation and other qualities. An ASTM standard has been developed for EWF to assure consistency nationwide.

Following experiments with numerous formulations and field trials at two Wisconsin state parks, lead researcher Ted Laufenberg determined that using polyurethane adhesive mixed with the top 1½ to 2½ inches of wood chips resulted in a surface with both the desired stability and shock absorbency.

Besides the Access Board, the research involved a number of "partners" including the Wisconsin Dept. of Natural Resources, an accessibility-testing company called Beneficial Designs, and private manufacturers of EWF and playground surfacing systems.

In October, 2004, the first commercial installation of SEWF was demonstrated at a Prince George's County (Md.) Public Schools playground. School district maintenance staff prepared the surface under the guidance of FPL's Laufenberg and representatives of Zeager Bros. of Middletown, Pa., who supplied the EWF and had worked with FPL in measuring resilience characteristics of earlier trial surfaces.

FPL plans to host a workshop for playground designers at the Maryland school later this year, and it will become a "demonstration site" for showing representatives from other school districts and local governments how the surface performs. A second demonstration site is planned for a playground in Berkeley, Cal. Because the EWF and polyurethane adhesive are commercially available, volunteers or playground maintenance staff would be able to install the surface by following fairly simple instructions.

The USDA Forest Service Forest Products Laboratory was established in 1910 in Madison, Wis., with the mission to conserve and extend the country's wood resources. Today, FPL's research scientists work with academic and industrial researchers and other government agencies in exploring ways to promote healthy forests and clean water, and improve papermaking and recycling processes. Information is available at FPL's Web site: www.fpl.fs.fed.us. Through FPL's Advanced Housing Research Center, (www.fpl.fs.fed.us/ahrc/), researchers also work to improve homebuilding technologies and materials.

NOTE TO EDITORS: Photos of SEWF being installed and used are available.

For photos or additional information, contact:

George N. Couch
Public Affairs Specialist
Forest Products Laboratory
gcouch@fs.fed.us
608-231-9295
or
Ted Laufenberg
Research Engineer
Forest Products Laboratory
tlaufenberg@fs.fed.us

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