# International Association of Structural Movers Seeks Nationwide Relocation vs Demolition Policy

***International Association of Structural Movers (IASM) will undertake a nationwide effort to encourage each of the 49 remaining states to enact a program patterned after the Iowa Solid Waste Alternative Program.***

**IASM Board of Directors, October 10, 2008, Sandestin, Florida**

*An ever-increasing and costly challenge to America's environmental future is waste management, particularly in the construction industry. While local, state and federal regulations seek to control and manage the problem, primarily through landfill and recycling regulations,* ***one solution that offers both economic and environmental advantages is being overlooked: relocation.***

According to the U.S. Environmental Protection Agency, construction and demolition (C&D) debris is a complex waste stream generated during building construction, renovation and demolition projects. While some local waste haulers have made an effort to remove valuable materials for recycling, most waste ends up in landfills. Such materials include concrete, steel, wood and shingles. In addition to these wastes, hazardous materials, such as asbestos, lead and mercury may also be generated.

Some statistics of the growing problem from the Deconstruction Institute of Florida reveal the magnitude of the problem in four categories: Green House Gas, Energy, Economics, and Land Use:

## 1. Green House Gas

The United States Environmental Protection Agency has estimated that US companies generate 136 million tons of building related and construction demolition (C&D) waste per year. Of that total, 92 percent comes from renovation and demolition. That's enough to construct a wall 30 feet high and 30 feet thick around the entire coast of the continental United States. That's 4,993 miles.

Thirty-three million tons of this debris ends up in landfills. As anaerobic microorganisms decompose the wood, it will release about five million tons of carbon equivalent in the form of methane gas. This is equivalent to the yearly emissions of 3,736,000 passenger cars.

The average single-family structure contains 5,174 pounds of steel and 1,830 pounds of plastics. Net green house gas reduction from recycling this material is 2,956 pounds, a benefit equivalent to the annual $CO_2$ absorption of 114 trees. Every ton of wood preserved and/or reused avoids the creation of 60 pounds of green house gases that would have been created to harvest and mill new lumber.

Landfills generate air emissions from two sources: (1) the working face of the landfill where crushed or punctured items, such as fluorescent tubes, may release mercury and punctured aerosols may release hazardous household chemicals, and (2) other gases that generate as wastes decompose. [Uncontrolled methane emissions and carbon dioxide release when controlled methane emissions are burned, contribute to global warming.

## 2. Energy

Every building represents a significant investment in energy. For example, energies consumed at each stage of its creation; during the original extraction of raw materials, the manufacturing of the raw materials into useable building materials, transportation of the building materials to the site and by the equipment and tools used to assemble the materials into the final form of the building.

The average house contains 892 million Btu's of embodied energy (the total expenditure of energy involved in the creation of the building and its constituent materials), an amount of energy equal to 7,826 gallons of gasoline, or enough to drive an SUV 5-1/2 times around the earth.

With only a minimum expenditure of energy to clean and transport a structure to a new site, the lifespan (and therefore the original investment of energy to create the materials) is extended.

## 3. Economics

The demolition of a typical 2,000-square-foot home can be expected to produce 127 tons of debris. While disposal fees can vary widely depending upon local conditions, at an average rate of $25 per ton disposal costs for a residential demolition would come to $3,175. Beyond this initial cost are the residual costs related to green house gases and landfill maintenance.

## 4. Land Use

On a national level, the timber industry is the single largest user of our country's land. Timber production exceeds even agriculture in terms of sheer acreage. Reducing the consumption of new lumber reduces the amount of land needed by this industry to meet demand. Relocating a typical 2,000 square foot wood frame structure can yield 6,000 board feet of reusable lumber. This is equivalent to 33 mature trees, or the yearly output of 10 acres of planted pine (7 football fields).

Conversely, although difficult to grasp, the volume of debris at the national level of this same 2,000-square-foot house, if demolished, would produce about 10,000 cubic feet. Relocating the same structure at a minimal cost would retain its taxing revenue and avoid the multiple costs and causes of pollution, energy savings and land use.

The need for growth and economic development will only increase in the future. Barriers to such growth include environmental, health, safety and social barriers must be resolved to ensure a profitable and safe future for all.

## A Model Program

The Energy and Waste Management Bureau of the Iowa Department of Natural resources has developed a model Solid Waste Alternatives Program (SWAP). Its mission is to educate and assist Iowans to protect, conserve and enhance natural resources and the environment for all generations through the sustainable practices of pollution prevention, energy efficiency, and responsible waste management.

The program is intended to reduce the amount of solid waste generated and the amount of solid waste transported to landfills in Iowa. The mechanism to accomplish this is by providing financial assistance to aid in implementing various pollution prevention and solid waste management projects, including source reduction, recycling and education.

A legislative task force developed a hierarchy of management options, including burning structures, landfill disposal and recycling. Topping the list of preferences was rehabilitating the building at the current site. Coming in second was moving the structure to a different location.

The task force concluded that relocation or moving buildings could be a cost-effective solution. In fact, the Department of Transportation often provides bidders opportunities to purchase building for relocation that will be affected by transportation projects.

Iowa's SWAP is available to businesses, government agencies, public and private groups and individuals to help fund programs resulting in landfill diversion through waste reduction, reuse and recycling-based projects.

Since its inception in 1988, SWAP has provided support to hundreds of projects across the state that continue to save money, create jobs, increase revenue and preserve Iowa's land, air and water resources. SWAP has assisted in diverting millions of tons of solid waste from Iowa landfills. This diversion represents real and significant improvements to the lives of Iowans through:

- Conservation of natural resources
- Protection of water quality
- Reduction in greenhouse gas emissions
- Strengthening the economy through job creation, cost savings, provision of production materials and business expansion.

## Relocation Benefits Are Many and Varied

The benefits of relocating a structure are numerous and varied, according to Barb Budelier of Durant, Iowa. The procedure is better for the environment: trees are saved, landfill space is not used and the structure not burned, therefore not emitting harmful smoke into the atmosphere.

Communities also benefit from added property tax dollars; vacant lots being filled and creating more

homes for families. This, in turn, brings in more children to schools, which means more money for the school districts. Electricity, water, sewer and garbage revenues come from homes that did not previously exist on the location.

Houses selected for relocation are quality structures, which will then have new basements and numerous improvements such as a new roof, siding and windows that will enhance the community. Many of these houses are filled with quality craftsmanship that is no longer being built in new homes, such as oak trim, etched glass in doors and windows, oak floors, solid wood doors — all elements that should be preserved not destroyed.

Additionally, job opportunities are created for excavators, concrete contractors, roofers, electricians, plumbers, furnace technicians and carpenters.

## Win-win Scenario

Moving houses was a win-win scenario for Louisa/ Muscatine counties following the floods of 1993 in Iowa. The Reggie Meyers Housing addition of 120 homes in the flood plan was flooded. After the waters receded, FEMA decided to offer a voluntary buy-out to the owners. More than 100 of the owners sold out. Louisa County was then contracted to oversee the demolition of the homes.

Mark Patton, Executive Director of Muscatine's Center for Strategic Action in Iowa City, sought and received permission from the Board of Supervisors to sell and move the homes rather than demolish them. Over a two-year period, 98 of the homes were moved with the following economic benefits:

- Saved FEMA more than $450,000 in demolition and landfill fees
- Preserved the tax base of a rural school district and actually increased taxes due to the improvements on the moved homes
- Stimulated borrowing of more than $4.8 million in home mortgages at local banks
- Benefited an estimated 400 individuals with newly renovated homes.

In Raleigh, North Carolina eight historic homes were spared demolition and growth in the region was allowed to continue simply by moving the structures. Not only did it preserve historical buildings, it conserved resources from landfills. According to D. Michael Blake, Chairman, Legal/Utilities Committee of the North Carolina House Movers Association, members saved an estimated 800,000 tons of debris, mostly building materials, from landfills in 2007.

Statistics, comparisons and examples overwhelmingly support the benefits to the environment of relocation as being greater than demolition, or even recycling. Relocation also maintains tax revenue to local and state government entities, prevents unnecessary material being added to landfills, prevents destruction of natural materials, and reduces the use of existing natural resources. Such overwhelming evidence merits, through private and public policies, a "first consideration" to the relocation of structures prior to alternative methods of removal. Such policies would include a cost and environmental damage analysis.

The International Association of Structural Movers (IASM), in cooperation with the Iowa House Movers Association, is seeking a national policy, both private and public, that would establish a "Consider Relocation First" prior to alternative methods of removal of structures. "It is the position of the structural moving industry that the same criteria and conditions that exits in the Solid Waste Alternatives Program (SWAP), developed by the Energy and Waste Management Bureau of the Iowa Department of Natural Resources, exist in all 50 United States," according to Wayne Overton, President of IASM. N. Eugene Brymer, Staff Executive for IASM, has been coordinating with officials of the Iowa House Movers Association (IHMA) to enlarge the scope of research originated by IHMA Vice President Rick Goodwin, Goodwin House Moving, Inc., Washington, Iowa, and a member of IASM, to encourage IASM members in the other 49 states to bring to the attention of elected officials, executives of financial institutions, businessmen in general and local housing authorities to factor "first" relocation benefits of structures."

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