TERRABUILT
THE ANSWER TO SUSTAINABLE BUILDING

White Paper

Prevent Terrorism through Pro-active Civil Action

Overview

"Poverty in all its forms is the greatest single threat to peace, security, democracy, human rights and the environment," Michael Moore, the head of the World Trade Organization (WTO), to delegates at the March 2002 meeting.

Peruvian President Alejandro Toledo also linked poverty to violence. "To speak of development is to speak also of a strong and determined fight against terrorism," he said.

Representative of the extent of worldwide poverty is the enormous demand for low and middle-cost housing worldwide. The United Nations estimates that at least 100 million of the world's population has no home at all and another 900 million live in insecure or temporary accommodations. Combat areas such as Afghanistan, Iraq and Palestine create artificial shortages often as the result of destroying extant structures. Exacerbating poverty through the imposition of a combat environment heightens anger and envy at the perpetrators of combat violence.

The worldwide construction industry trying to address this housing shortfall is faced with depleting resources, heightened environmental concerns, high costs and deteriorating product quality. With demand for housing exceeding one billion units worldwide, the conventional and traditional construction industries are unable to adequately address demand.

TerraBuilt® Technology

TerraBuilt Corporation International ("TerraBuilt") has a soil-based building technology that provides a solution that addresses a material percentage of the global housing shortfall. TerraBuilt's patented technology and associated construction system enables construction of high quality, low cost housing — housing made of long lasting materials that save energy during construction, occupancy and demolition at the end of a structure's useful existence.

The GreenMachine

The GreenMachine is a patented, one-ton hydraulic machine powered by a small gasoline, diesel or electric engine. GreenMachine earthen TerraBricks are hydraulically compressed and stabilized with the addition of small amounts of Portland cement or fly ash-cement blends, making them durable and highly weather resistant. The GreenMachine produces TerraBricks rapidly on the building site at a rate of four TerraBricks per minute; the TerraBricks are ready for immediate use or can be set aside for future use.

The GreenMachine is specifically designed to be transportable to virtually all construction environments, especially those inaccessible by large construction machinery, sites including densely populated, over-crowded urban sites to outlying, hard to reach rural sites. Individuals can be trained quickly to operate the GreenMachine. These operators need not be literate. The price point of the GreenMachine is consistent with deployment in economically depressed areas and with the development of small and micro cap building enterprises. It is robust and easy to repair when required.

The TerraBricks produced by the GreenMachine are a modern enhancement of traditional Adobe. Traditional soil block construction known as Adobe employs pure clay blocks that need to be sun-cured for two to three weeks before use. Although Adobe is often associated with American Indian tribes and looked on as "old" technology, thirty percent (30%) of the world's population — over one and one half billion people — live in earth or Adobe buildings today. Furthermore, it is precisely the "age" of Adobe that attests to its usefulness. GreenMachine TerraBricks retain all of the positive aspects of Adobe blocks while eliminating virtually all of the undesirable characteristics such as lengthy production time, vulnerability to water, low compressive strength and irregular size.

The TerraBuilt Construction System

The TerraBuilt Construction System is a new application of centuries' old building techniques. The TerraBuilt Construction System creates wall systems consisting of cement footers, one course of mortared TerraBricks and multiple courses of dry stacked TerraBricks. It is unique in its ability to incorporate dry stack construction due to the dimensionally precise, tongue and groove soil/cement TerraBricks produced by the GreenMachine, and it is readily compatible with conventional roof systems, electric, sewer, etc.

The structures made of these materials are durable, highly resistant to natural disasters and safe, reducing the need for environmentally unsound or dangerous materials dramatically. TerraBuilt houses provide long-term energy and maintenance savings, as well as health and environmental benefits in a house that is superior in quality, durability and strength to almost any comparable house built using conventional building methods. Further, limited private testing show that concentrated AK-47 and heavier caliber Enfield 303 rifle rounds failed to penetrate a TerraBrick wall at 25 yards.

The TerraBuilt Construction System is designed to support construction of low cost housing in all construction environments, especially densely populated, over-crowded urban sites to outlying, hard to reach rural sites. Individuals can be trained quickly to implement the TerraBuilt Construction System, and a majority of the work can be done by unskilled labor that need not be literate. The TerraBuilt Construction System will foster multiple construction related small and micro cap businesses in economically depressed areas.

Economic Development, Pride and Gratitude

Supporting Small Scale, Micro Cap Enterprises

The creation of cost effective, easy to construct, labor intensive housing and other small scale structures to support local communities can be the initial step in developing local, micro-cap, construction related businesses. In addition to the jobs associated with the production of the GreenMachine TerraBricks, the following are representative of other types of businesses that the TerraBuilt Construction System would foster. These jobs would originate and stay in local communities.

- TerraBuilt structures require cement footers and one course of mortared TerraBricks. The excavation of foundation footers, the pouring of the footers and the laying of the first, mortared, level course of TerraBrick could be the basis for an independent small-scale business in areas that require construction of multiple structures over time.

- The laying of the TerraBrick in the walls of the structure could be done by those who create the TerraBrick or by an independent small contractor. Requirements for windows, doors, etc. will require only modest skill and no formal, literature based training.

- The building of simple roof trusses and low-technology roof systems would support another entity.

- Plastering, plumbing, electrical and other trade-related businesses would develop in areas where multiple buildings are constructed.

- Machine maintenance including small engine repair would be required and could be provided locally.

The development of viable economic communities in poverty ridden, war torn environments is extremely difficult. The rewards for having done so are immeasurable. Jobs help eliminate idleness and the frustration and anger idleness begets; the creation of homes and community structures generates pride and a sense of accomplishment; opportunities for current and future generations create hope and gratitude which help diminish hate and envy.

About TerraBuilt Corporation International

TerraBuilt Corporation International is a Virginia-based small company that has developed a soil-based building technology solution that addresses a material percentage of the global housing shortfall. TerraBuilt's patented, automated GreenMachine and associated construction system enable construction of high quality, low cost housing — housing made of long lasting materials that save energy during construction, occupancy and demolition at the end of a structure's useful existence. Additionally, TerraBrick wall systems have prevented penetration by small arms fire at close range.

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