Green demolition and remediation

A tidy practice

By Agnes Miczynska

LEED certification from the Canadian Green Building Council (CaGBC) gives credits to projects for promoting environmentally sustainable construction and offers compelling proof to you, your clients, your peers and the public at large that you have achieved your environmental goals.

Certification also allows you to take advantage of a growing number of federal and local government incentives and can help boost press interest in your project. One practice that helps clients in achieving LEED certification is the concept of green demolition.

Green demolition is the diversion of waste generated from the demolition process. In order to prevent demolition waste from being sent to a landfill, materials are recycled and/or reused wherever possible.

This type of practice is not only a benefit to individuals, but also to the community and environment as a whole. Obvious benefits include effective waste management and increased safety.

However, in most cases, diverting demolition waste is also the most cost-effective solution as clients save on landfill charges and may receive tax benefits. Prior to implementing green demolition practices, all designated substances must be removed from the building and property to be demolished and/or decommissioned.

Designated substances include asbestos, lead, mercury-filled bulbs, mercury switches, PCBs (ballasts, capacitors, and transformers), refrigerant, as well as any underground storage tanks that may be present on site. These substances must be disposed of at licensed receiving facilities.

Following the removal of these substances, demolition and simultaneous segregation can begin. Clean wood, metal and concrete are all separated into bins, which can be sent to recycling facilities. Interior wood components are usually clean.

Diverting demolition waste is the most cost-effective solution

Any useable equipment or fixtures such as chairs and tables is usually donated to schools or charities or other institutions and organizations. Other metals such as aluminum, copper and stainless steel are also recyclable. Concrete is crushed on-site and recycled as Granular A or B.

Challenges abound

Apart from the benefits of diverting demolition waste, there are a few challenges, particularly when dealing with small-scale demolition work. The majority of the buildings that are demolished are older and hence so is the technology of the materials within that building. Items such as light fixtures and windows are outdated and few places are willing to accept such items.

Another challenge is the feasibility of recycling small amounts of waste generated from smaller demolition jobs. Metal-framed windows for example, can be separated into metal and glass, but again, it is difficult to find a facility that will accept one pail of glass and even if they will, the transportation costs might not make that a feasible option.

Painted and treated wood is also a challenge. This cannot be recycled because it is contaminated and the labour required to strip the wood of its paint would outweigh the cost savings.

Despite these challenges, the fact remains that it is feasible to recycle up to 80 per cent of the waste generated from a demolition site.

Apart from waste diversion during the demolition process, there are also ways to reduce the amount of contaminated soil taken to landfills. It is common practice to excavate contaminated soil and dispose of it at a landfill.

However, emerging technologies in recent years have shown that there are other, viable remedial options. Some of these include in-situ treatment options such as chemical oxidation, bioremediation, stabilization, etc.

These technologies treat soil in place and remove contamination, thereby alleviating the increasing burden on landfills. However, as with any remedial option, there are factors to consider as limitations apply to all.

Considering factors such as contaminant of concern, time restrictions, soil composition, cost implications, availability of space, etc. is key to choosing the best possible solution. BS&S

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