

# Closed Landfills: Assets in Disguise

By Mike McLaughlin

For years, conventional wisdom has held that the only suitable uses for a closed landfill were passive recreation and managed open space.

Times have changed.

In the last 20 years, astute developers have successfully completed scores of landfill redevelopment projects. All indications suggest that the trend will continue and accelerate as more developers, tenants, attorneys, and regulators gain a comfort level with the unique challenges and opportunities these projects present.

Everyone knows that landfills are unstable, subject to unpredictable settlement, and that they produce large quantities of dangerous decomposition gas containing explosive methane. As a result, some engineers and regulatory agencies discourage construction over closed landfills.

For example, Wisconsin has published a guidance recommending that no enclosed structure of any kind be built on a site where soil gas contains as little as 1.25 percent methane (25 percent of the Lower Explosive Limit, or LEL). Landfill gas often contains 50 percent or more methane, so, as a practical matter, the guidance discourages any redevelopment of closed landfill sites. For that matter, many other organic materials (e.g., buried topsoil) can produce soil gas containing more than 1.25 percent methane. The Wisconsin guidance is not binding, and appears as a part of that state's program to regulate redevelopment of closed landfills by granting exemptions to the prohibition.

Florida's published guidance is a little less restrictive, as it "strongly discourages" construction of residential structures over old waste-filled areas. The Florida guidance also is typical of conventional wisdom in its recommendation for "the creation of recreational facilities."

However, there is precedence for the safe construction of single- and multi-family homes, hotels, correc-

tional facilities, and other types of residential structures. For example, the New Jersey Building Industry Association gave its 2003 Environmental Quality Award to The Tides at Seaboard Point in North Wildwood, a mid-rise residential development constructed over a former municipal landfill.

Several factors have contributed to the growing market for redeveloped, closed landfills. First, while all forms of construction are more expensive, the incremental costs associated with constructing buildings on a landfill—dealing with regulatory requirements, and incorporating special foundations and decomposition gas mitigation measures—have become relatively smaller as a part of the overall project cost. In addition, new technologies have emerged to help reduce costs and improve performance of building protection.

Second, available land is scarce, and land costs are high in many developing areas. Closed landfills often can be purchased (or the ground leased) for attractive prices, even when the aforementioned additional construction costs are considered. In recent years, special public/private partnership financing, such as tax increment financing (TIF), has become available to curtail a certain portion of development costs.

Third, regulatory agencies are gaining experience with landfill redevelopment projects in many parts of the country. Some recognize that an intense use of a closed landfill can provide more rigorous environmental controls than traditional landfill closures.

Finally, the federal brownfield amendments of 2002, and similar state programs, have resulted in a more predictable liability scheme for developers of closed landfills. By taking reasonable steps with respect to releases of hazardous substances (such as the mitigation measures typ-

ically included in landfill redevelopment projects), developers reduce the likelihood that they could be legally required to remediate the whole landfill. Specialized insurance products like Pollution Legal Liability policies are available to manage the remaining risk in many cases.

The U.S. Environmental Protection Agency estimates that more than 6,300 landfills closed between 1988 and 2005. Most of these are located near population centers. According to one industry source, some 150 to 200 closed landfills have been successfully redeveloped for commercial, retail or residential land uses, and at least 30 to 50 such projects are under way. Several national retail developers (e.g., Home Depot, Target, Costco) have more than one store on top of a closed landfill.

The future of landfill redevelopment projects is bright. From a relatively modest beginning 30 years ago in California, landfill redevelopment has spread to most parts of the country, and scores of such projects are under way. These projects often represent "smart growth" at its finest—enhanced environmental protection for an urban or suburban infill site served by existing infrastructure. **BFN**

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