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CITYSPACE

Green Design: An Urban Fit



Catch Up with Nature: The John Heinz National Park, in Southwest Philly, highlights the benefits of open space.

Photo By: Michael T. Regan

Being environmentally sensitive in the city.

by Joe Matje and Todd Woodward

The terms "green building," "sustainable design" and "environmental responsibility" conjure images that may not call to mind an urban setting. But are ideas of green building relevant in urban environments? They are not only relevant but especially appropriate.

Locating a project in an urban area is in itself an act of green design. The urban infrastructure already exists, allowing cities to accommodate innovative ideas and uses. Urban land is already set aside for human occupancy while alternatives -- siting a project within a suburban or rural setting -- decrease the land available for wildlife and natural resources. Previously undisturbed areas are being inhabited while a substantial portion of urban land is not being used to its full potential.

After the decision to develop an urban location has been made, a domino effect of green design benefits follow. Building inhabitants will have the option to commute by public transportation, decreasing the amount of cars on streets and highways. When individuals living or working in the urban center go to lunch or run an errand, this is also done without driving (while benefiting small business owners).

Limiting paved areas in suburban locations decreases rainwater runoff and creates less solar heat gain. Undeveloped urban space, however, already contributes to runoff and the heat island effect; developing these sites can actually help mitigate these conditions. The use and reuse of existing structures is a significant way to conserve resources.

In cities, older buildings are continually reinhabited, rehabilitated and creatively reused. Of course, there are still countless buildings in Philadelphia that are unused or underused. Reinvigorating an existing building is perhaps the most sustainable design decision. The rehabilitation and reuse of urban buildings can incorporate green technologies.

Roof gardens and vegetated, or "green," roofs provide cool surfaces that help minimize urban heat islands. Flat roofs provide ample space for the unobtrusive installation of solar-energy collectors. Efficient water use and appropriate storm water control are significant in urban areas in watershed regions that greatly affect water used by communities located downstream.

Green design opportunities are waiting to be revealed from within the existing fabric of the city.

Although it may seem to be a small thing, the decision to buy an existing house rather than build new on undisturbed land is a decision that benefits the environment. Sustainable design is more than decisions made by architects and designers; it is also more than the application of particular technologies. The impact that buildings have on our environment is greatly affected by the many small choices that can be made by individuals.

Design professionals can, however, create the framework for and provide an indication of appropriate action with the designs of their buildings. We can create buildings that teach about the environment. One such building is the Cusano Environmental Education Center (CEEC) at the John Heinz National Wildlife Refuge. The refuge, located near the airport, is the most urban of the refuges that make up the National Wildlife Refuge system. By virtue of its location and mission, the CEEC had to be an environmentally appropriate structure. It strives to go further than that and to teach about the relationships between people, buildings and the natural environment.

Sustainable decisions made during the design are evident throughout the structure: The building is raised on piles to allow natural processes and water flow to continue under the building; salvaged heavy timbers were used in the structure; a "marsh machine" treats wastewater from the plumbing fixtures and recycles that water; and a variety of

recycled materials were selected. The exhibit design is integrated with the building design and includes exhibits describing the materials that comprise the center.

Sustainable projects must be well-designed, but they must also be well-inhabited. To be truly sustainable, a building must become a place that people come to know, a place that is enjoyed by its users and inhabitants. Urban areas, and the structures therein, have endured for a reason; they were not constructed in a time that valued speed, disposability and consumerism in the way that our society currently does. Buildings were constructed to last, and many of the best of them were constructed to be flexible and open to future uses. Buildings that are built today and seeking to be called "sustainable" could learn a lot from older urban structures.

The principles of sustainable design are as relevant, and perhaps more so, in urban areas as they are in less dense and less developed regions. An ethic of environmental responsibility does not have to hinder development; it is, in fact, the perfect complement to development in an urban setting.

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