

Sustainable Landscape Strategies For The 21st Century Suburb

Authors : William Batson, Yunsik Song, Abel Simie

Abstract : Recent trends in suburban design and planning have centered on economic efficiency in construction and completion. In doing so, developers, builders, and architects have bypassed free and reliable sustainable solutions to minimize the carbon footprint and improve the environment. Often, suburban areas are designed without landscape features, sidewalks, parks, adequate lighting, or walking space. Much of the design concern involves minimizing construction costs and streamlining streets and utilities. A new development in creating retention ponds to mitigate flooding and slow runoff is one step in the positive direction. However, "if you build them (suburbs), they (fauna) will come." The inevitable flora and fauna that soon propagate and take refuge within these artificial retention ponds create an additional dilemma. Architects, planners, and developers know the requirements and current strategies to provide residents and wildlife with a viable and sustainable environment. This includes habitat for hibernating animals and facilitating opportunities, especially for cold-blooded mammals. Many species that migrate to these artificial ponds struggle to survive, especially during flooding and when the water table drains below the artificial rim, preventing aquatic mammals from climbing on land. This flooding often results from large areas of impervious asphalt and concrete. These impervious surfaces retain and dispense large amounts of rainwater and contaminants that carry industrial pollutants, oil, plastics, animal waste, and fertilizers into storm drains and then deposited in these retention ponds. This paper will identify and show how simple and logical solutions are used to create a sustainable suburb and reduce the carbon footprint using landscape architectural strategies and cost-free design solutions. We will also demonstrate simple changes in the present suburban design model to provide a viable and sustainable suburb for the 21st century.

Keywords : sustainability, suburban, flora, fauna, carbon footprint

Conference Title : ICACE 2024 : International Conference on Architectural and Civil Engineering

Conference Location : Osaka, Japan

Conference Dates : October 28-29, 2024