FRA Award Submission

Category: Out of the Box **Submission:** Broward County's First Semi-Permeable Parking Lot

Description:

The Hallandale Beach Community Redevelopment Agency (HBCRA) solved three problems for the City by constructing Broward County's first semi-permeable parking lot in its burgeoning Food, Fashion, Art, and Design District. Parking is essential for any neighborhood planning for new restaurants and entertainment; however, the HBCRA addressed the equally critical challenges of flooding and environmental sustainability in the design and materials for the lot at 203/207 NE 3rd St. The semi-permeable lot mitigates water overflow and provides space for approximately 50 vehicles. Also, the structure is impermanent and can be dismantled to accommodate alternative parking structures to meet future demand.

Innovation - How the project used new ideas to solve problems or to carry out the project or program*

Unlike asphalt and concrete surfaces, both of which easily succumb to the stresses of weather. Permeable lots utilize a porous, gravel surface, which allows rainfall to naturally drain through to the subsurface. In this way, the parking lot will not flood during heavy downpours. The porous surface also produces less runoff which often erodes surface materials and carries water and pollutants to nearby soil and gardens. The porous surface allows the water to refill local aquifers more slowly and naturally and require minimal maintenance as opposed to conventional drain systems. The porous surface also costs significantly less to install and maintain. With no permanent footprint or fixtures, they can be removed quickly and inexpensively as needed.

Community Impact – How the project improved economic, social, design, cultural assets of the community.

The semi-permeable lot improved the design of the FFADD neighborhood in Hallandale Beach by addressing water issues. It has improved both the driving and pedestrian experience for visitors and residents alike. The parking lot has also improved the social viability of the neighborhood due to its strategic, central location at 203/207 NE 3rd St., which places it almost squarely within the boundaries of the FFADD. As a result, it will also provide a convenient shuttle stop for Hallandale Beach's free electric vehicle transportation service that will allow visitors to park and then hop-on, hop-off as they enjoy bars, restaurants, and other stops around the neighborhood.

Funding - How the project leveraged funding and in-kind assistance.

The total cost of the semi-permeable parking lot was \$481,980.60. This encompassed construction of a sustainable parking lot with pervious surfaces, bio-swales and native plantings on a 0.51 acre vacant lot. The parking lot's low impact design (LID) consists of a dust free permeable paving system, sidewalks, concrete curb, parking lot lighting, swale construction, landscaping, and irrigation improvements. A new concrete sidewalk, curb and gutter, and reconstruction of the swale on NE 2nd Avenue are also included.

Problem Solving - How the project used problem-solving to address unique local issues*

The semi-permeable parking lot addressed several problems in Hallandale Beach. The obvious problem was space – it created 50 new parking spaces to accommodate the inflex of visitors expected to visit the FFADD in the coming two – three years. But equally important in the City is the ongoing issue of flooding. Hallandale Beach is not only on the Atlantic Ocean, it is geographically situated in South Florida, a climate known for heavy raining seasons. The fact that South Florida is increasingly saturated with concrete and asphalt developments, the water from heavy downpours and storms has fewer places to adequately drain. This lot will mitigate the presence of large puddles and impassable side streets in such conditions. It will save the City costs in maintenance for its duration. Finally, the lot is impermanent, which makes it conveniently future-ready for removal should an alternative and much larger parking structure be required to accommodate increased demand (e.g. a multi-story garage).

Applicability to Other Communities - Why this project or program could be transferred to other communities.

The costs to construct semi permeable parking lots are comparable with traditional asphalt and concrete designs. The long-term advantages lie in less maintenance, environmental sustainability, and impermanence. Cities should strongly consider this approach based upon weather conditions and flooding issues. In addition, the semi-permeable lot is an excellent solution for parking in situations where the same land may take on different uses in the future. In this sense, the semi-permeable lot can be easily dismantled and removed. These lots can fit into just about any type of spatial requirement from small to large and irregularly shaped.

Other Things to Tell the Judges – The semi-permeable parking lot at 203/207 NE 3rd St in Hallandale Beach is the first of its kind for public use in Broward County to the best of our knowledge.



