

WEDG® Sets New Standard for Ecologically Sound Shoreline Design

By Jackson Wandres, RLA, Director of Landscape Architecture and Urban Planning, NV5

Leonardo da Vinci once described water as “the driving force of all nature.” People are drawn to lakes, rivers, seas and oceans because water has historically facilitated commerce, industry, travel, recreation and habitation. In short, the history of human development can be traced to the world’s coastlines and waterways, a trend that continues to this day and shows no signs of slowing down.

One-seventh of our world’s population lives at or near coastal waterfronts.

In an era of increasing coastal urbanization, technical design standards tied to a system of rewards and accountability can help to guide development projects located along our fragile shorelines to be more ecologically sustainable and resilient.

The Waterfront Alliance has tailored a unique solution to meet such a need. Its WEDG® (Waterfront Edge Design Guidelines) program functions as a set of design guidelines and associated point-scoring system that rewards the incorporation of resilient, accessible and ecologically sustainable designs into qualifying waterfront development projects. WEDG aims to do for waterfronts what the U.S. Green Building Council’s LEED® initiative has done for buildings: elevate process and practice through certification, education and engagement.

WEDG Is for the Edge

What the Waterfront Alliance started in New York City in 2015 has evolved into a nationwide movement to improve the quality of waterfront development projects of all types. WEDG is a free, open-source tool that provides technical guidance useful to public- and private-sector architects, landscape

architects, engineers and environmental professionals. Its guiding principles are designed to complement and enhance zoning and building codes, and the program can both ease and speed up the permitting process. There is even potential for future insurance breaks on WEDG-certified projects, and for professionals to become certified through the program. During the certification process, projects are scored in six major categories that encourage a multidisciplinary approach to waterfront design: site assessment and planning; responsible siting and coastal risk reduction; community access and connections; edge resilience; natural resources; and innovation.



Since the program’s debut, half a dozen projects have received WEDG certification, including the Starlight Park project for New York City and the state of New York. NV5 has served as a lead design consultant in this collaborative development effort since its conception in 2007. On the WEDG credit-based rating system, the Starlight Park project received its highest marks in habitat restoration, operations and maintenance and public open space design innovation. The project also won a coveted design excellence award from New York City’s discriminating Public Design Commission.

Starlight Park: A Model Project for WEDG Certification

WEDG is the product of collaboration from hundreds of industry professionals. Ecologists, coastal and marine engineers, landscape architects, sustainability consultants and others have volunteered their expertise for this initiative, which they believe will be an industry game changer. NV5 was part of this collective, volunteering hundreds of hours to provide the drawings, specifications, ecological analysis and descriptive narratives needed for the Waterfront Alliance and its volunteer expert evaluators to score Starlight Park for WEDG certification.

WEDG objectives aligned well with NV5's project goals, which included: a) restoring public access to what had historically been an isolated and inaccessible waterfront, b) reclaiming and remediating contaminated waterfront land, c) restoring river and upland ecology, and d) providing local communities with new public park facilities.



In the WEDG-certified Starlight Park project, a continuous 12-foot-wide, shared-use greenway path winds along both sides of the Bronx river and is connected by four new bicycle/pedestrian bridges.

Starlight Park is the result of a decades-long, community-driven planning effort to reclaim the Bronx River as a community asset. This \$65 million, 25-acre park closes an important mile-long gap in the 25-mile-long Bronx River Greenway and provides the local community with much-needed active and passive recreational assets, including a multi-sport synthetic turf athletic field, two playgrounds, a canoe/kayak launch, walking and biking paths and picnic facilities. Habitat restoration includes replacement of hardened shorelines with restored mud flats, tidal marsh and riparian forest.

NV5's guidance on the submission of Starlight Park for WEDG certification helped the Waterfront Alliance clarify program objectives for public open space improvement projects. In turn, WEDG helped NV5 and the design team maximize available project opportunities. Everybody was aligned in their desire to transform what had been an unusable piece of public real estate into something productive, useful and beautiful.

Sound Ecological Design Ensures Sustainability

When we redesign and reconstruct the physical world around us, we have a responsibility to future generations to do so in a way that does not undermine long-term sustainability. In a 2012 article titled, "Ecological Design for Dynamic Systems: Landscape Architecture's Conjunction with Complexity Theory," researchers assert that sound ecological designs must resolve current social-environmental problems to ensure

sustainability and the long-term survival of all species. Well-meaning land design professionals have attempted to do this in an ad-hoc fashion since the 1970s, to the extent that client-imposed project constraints would allow. The advent of WEDG represents—for the first time ever—the systematizing of applying measurably good design to the reconstruction of waterfront properties that have been historically degraded by short-sighted development, lack of maintenance or mismanagement.

THOUGHT LEADERSHIP

Breaking Down Barriers to Community Engagement

Complex networks of ecosystems, regulatory jurisdictions and stakeholder groups challenge even the most seasoned waterfront design professionals. For local communities, this complexity can be a barrier to having a voice in decisions that affect people's daily lives and well-being.

From small neighborhoods to burgeoning metropolitan centers, WEDG principles benefit communities of all sizes by providing an accessible framework and resources to improve waterfront decision-making. The program enhances engagement among residents, small landowners, businesses, local organizations, elected leaders and other groups and even empowers grassroots advocates to demand better waterfronts.



Evidence abounds of the negative ecological impact that humans have had, and are having, on the planet—especially in areas where rapid and unplanned urban growth threatens ecological sustainability. Just over half of the global populace lives in urban areas, a proportion that is expected to increase to 66 percent by 2050, according to the United Nations' World Urbanization Prospects report published in 2014. Responsible growth management of urban areas is one of the biggest developmental challenges of our time. WEDG is an additional tool that urban planners and designers can employ to mitigate the harmful effects of unchecked, unregulated urban sprawl along the waterfront.

Taking WEDG to the Next Level

One important goal of the Waterfront Alliance is the formal adoption of WEDG as a government-imposed design requirement, similar to how certain municipal governments require new buildings built and paid for with public funds be designed to qualify for LEED Silver rating at minimum. This would critically impact today's trends of rapid development and urbanization. This goal will not, however, be achieved unless more projects are WEDG certified voluntarily to start.

You may ask, "Why should design professionals endorse and advocate for the codification of WEDG as a regulatory requirement, which could potentially curtail economic growth?" Because designing resilient, healthy and equitable public spaces along the waterfront needs to become the norm, not the exception. WEDG is an invaluable asset for design professionals looking to take waterfront development to the next level. If you'd like guidance on getting your project WEDG certified, contact NV5 at 954-495-2112.

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