



Press release - January 23, 2013

Klyde Warren Park / Dallas, Texas

solarap[™] solar panel system

Smart-wrap solar highlights new downtown Dallas park

Project Context

Klyde Warren Park is a new public park and gathering space that has completely transformed the downtown Dallas landscape. The 5.2-acre deck park is an urban green space built over a section of the existing Woodall Rodgers Freeway in downtown Dallas. When the freeway opened in 1983, it was set below grade into a large trench that separated the city's downtown from its developing uptown neighborhood.

The \$100 million park removes the Woodall Rogers highway barrier and seamlessly joins uptown and downtown Dallas, through a modern park that includes an abundance of trees and pathways, a performance stage, a children's playground, a dog park and other public amenities including a new restaurant. The resulting project uniquely integrates bridge, park, and tunnel construction with a structural deck that supports the park and all its functions with an innovative below-grade system for plant root management and water drainage.

Since the park's grand opening in October 2012, it quickly became a highly active destination space for Dallas residents and visitors, providing free daily programming for the public ranging from tours, yoga to book signings and outdoor concerts and films. The park is privately operated and managed by the Woodall Rodgers Park Foundation.

solartonic's Solution – *solarap*[™]

Among the many unique amenities and features within the park, are vertically mounted, grid-connected solar panels that seamlessly wrap around the light poles and make a visible yet subtle statement about how green technology can be integrated aesthetically into street architecture. The lead lighting consultant and supplier for the project, Architectural Lighting Associates (ala), commissioned solartonic[™] to develop and supply a unique solution that could also be supplied as a mass customized product to the mainstream market.

The solar panel system had to meet the technical specifications and aesthetic considerations of several stakeholders including the architectural design firm, the lead electrical consulting and contracting firms, and a public-private board overseeing the project and the patron who was funding the project.

solartonic's unique solution, *solarap*[™], is a vertical, 360 degree wrap-around, solar panel system based on solartonic's proprietary solar module, electrical design and mounting mechanism which is a more viable alternative to off-set, single fixed-angle rectangular flat-plate solar collectors on light poles. *solarap*[™] panels utilize a "360 degree passive tracking" system that optimally absorbs



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both direct sun and diffuse sky radiation, all hours of the day and during all seasons. It also resolves the complexity of lighting patterns created within the urban context such as shadowing from tall buildings and adjacent trees. solarap™ provides a *consistent power curve output* throughout the year compared to existing fixed, single south facing systems.

The solarap™ product is an aesthetic *slimline* solution that minimizes aerodynamic forces, allowing for more PV modules to be provided on a pole compared to existing single flat-plate solar collectors. solarap™ provides much higher total power output per pole on much taller poles, without attracting additional wind loads.

The Klyde Warren Park project deploys solarap™ systems on two different types of pole – 15feet high, 7inch x 3.5inch rectangular poles, and 25feet high 5inch diameter circular poles, each with a nominal nameplate power of 130 Watts. solartonic's proprietary "*cell strip*", provides customized power for flexible mass customized geometric configurations.

The solarap™ modules form a network of solar arrays that seamlessly integrate with the broader electrical infrastructure of the park. solartonic™ developed the power inverter specifications, wiring schematics, and site drawings, as well as led the job site installation of the panels, including testing and commissioning the system in coordination with JMEG, the electrical contractors.

The solarap™ modules meet international standards testing according to the procedures and requirements of UL 1703.

solartonic, llc, *develops new wave, building integrated solar products and systems, combining design, engineering, and manufacturing to deliver unique valued added mass customized solutions through a range of solar technologies tailored to specific applications.*

Contact

Harry Giles

Phone: 734-834-1292

Email: harry@solartonic.com

info@solartonic.com

Landscape architects - The Office of James Burnett

Lamp pole and luminaires - Architectural Lighting Associates

Engineering consultant – Jacobs Engineering Group

Electrical contractor - JMEG Electrical Contractors

Park amenities contractor - McCarthy Building Companies

Klyde Warren Park - www.klydewarrenpark.org

