Design Narrative:

This proposal seeks to create a public sculpture that is visually iconic while simultaneously functions as a renewable energy collector that harnesses both solar and tidal energies. Named the Infinity Pavilion, the 60m X 22m X 11m(h) structure is a public gathering place that hosts various types of functions ranging from morning yoga classes, art shows, charity events, boat watching to small impromptu music shows and wedding receptions. It is a hub that encourages the local residents to meet and engage in social interactions. It is a featured destination that attracts repeat visits from tourists. It will serve as a timeless landmark that is unique to the Santa Monica Pier.

This design also proposes a commercial expansion to the current Santa Monica Pier. A meandering pedestrian boardwalk, starting at the elevation of the existing Santa Monica pier, links 6 ocean viewing platforms/ activity nodes with new waterfront restaurants, cafe, and retail shops. As the meandering boardwalk extends out into the ocean, it slowly descends until it is 2 meters above high tide level. Finally, it culminates at the Infinity Pavilion. The proposed location of the Infinity Pavilion will create significant tourist traffic through the new Santa Monica Pier restaurant/retail expansion.

The shape of the artwork/pavilion is inspired by the infinity symbol that represents limitless and never ending possibilities. The inexhaustible renewable energy harnessed from the sun and the ocean through human technological innovations is a testament to the limitless creative potential of the human mind.

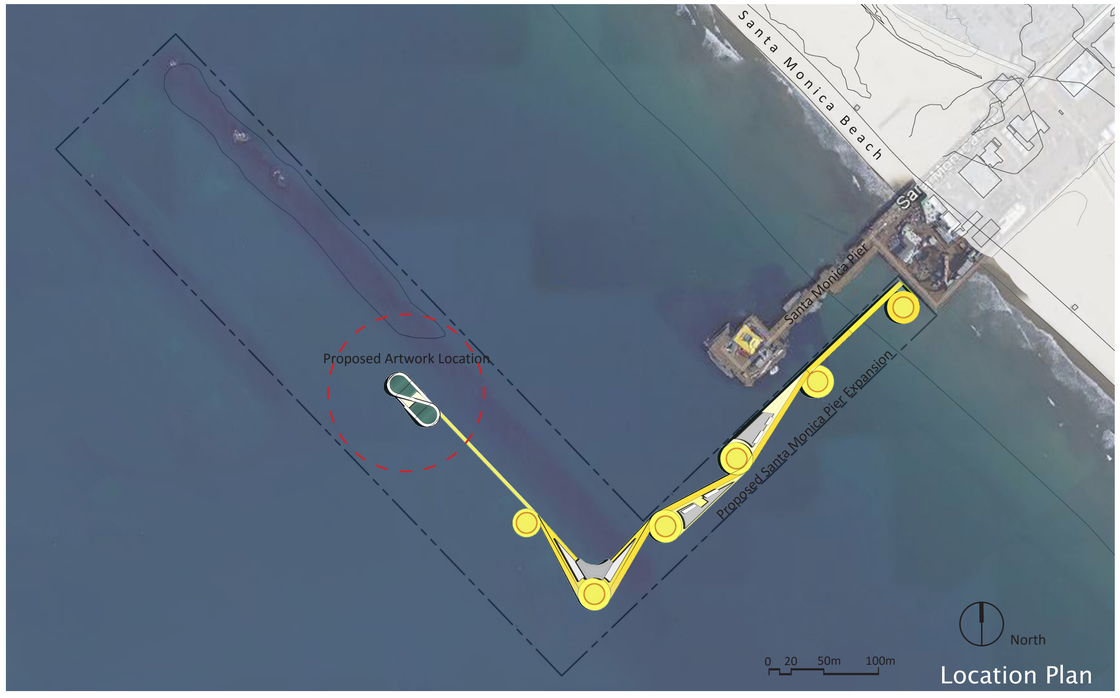
Renewable Energy Generation / Environmental Impact Summary:

The electrical energy generated by the photovoltaic (thin film non-silicon) panels attached to the top surfaces of the Infinity Pavilion arches will be stored in batteries located inside the concrete structural frames. Semi transparent photovoltaic (thin film dye sensitized) panels integrated into the glass canopy system will harness additional solar energy while allowing filtered daylight to fill the pavilion. Piezoelectric generators integrated into the pavilion floor, to harness mechanical energy created by visitor steps, will be another source of energy creation. Renewable energies created from these three combined systems will be used to power the flexible OLED panels (organic light-emitting diode) cladding the facades of the Infinity Pavilion. Excess electrical energy generated will be fed back into the City of Santa Monica's electrical grid. The programmable OLED panels are synchronized to the ocean tides and reach their peak brightness during evening high tide to create the image of a complete infinity symbol through its reflection in the water. During special festivals, the OLED panels can be programmed to change colors and display video images. The primary building material of the pavilion structural frame is recycled concrete. The underwater section of the pavilion will provide suitable surfaces for marine life to colonize.

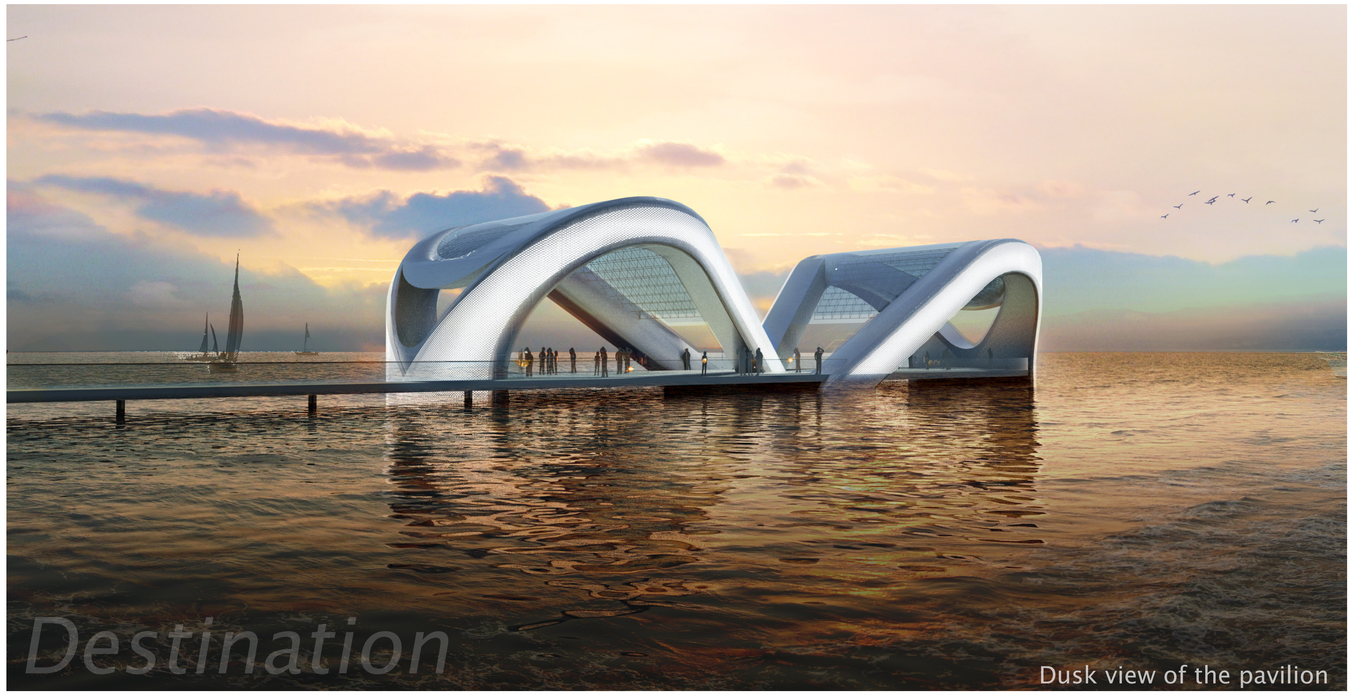
For the proposed new Santa Monica Pier expansion, tidal turbine generators will be installed below the meandering boardwalk to harness tidal energy from the incoming and outgoing ocean tides. Rooftop photovoltaic panels will be installed to harvest solar energy. Electrical energy generated by these systems will not only power the restaurants and retail shops, but similar to the Infinity Pavilion, excess electrical energy generated will be fed back into the City of Santa Monica's electrical grid.

The ultimate goal is to make the Infinity Pavilion and the new Santa Monica Pier expansion a self-sustaining/ carbon neutral waterfront development that not only generates all it's energy production on-site through photovoltaic panels and tidal turbine generators, but also creates surplus electrical energy that can be used to help supplement energy needs of the surrounding neighborhoods.

the Infinity Pavilion



Location Plan


Destination

Dusk view of the pavilion