The end to a fun filled day at Luna Park Is coming to an end and you decide you want to walk along the water edge as the sun sets over the bay. You emerge from Mr. Moons gate onto the brightly colored corner, traverse across Cavell street and into the new Palais forecourt. It is here that you catch you first glimpse of the St. Kilda Veil, Faintly Glowing in the ever-darkening skyline. The LED’s are green tonight they must have reached their target energy goals for the day. You continue your journey through the courtyard carved between the new cultural center and slopes. The courtyard is filled with People talking and laughing, enjoying the latest art exhibition lining the walls and scattered throughout the plaza. Walking under the sails the Details and structure become clear, you can see the individual solar panels slightly swaying within their larger frame. Every Vibration creating the energy the city needs to function every day. You walk up the steps to the lawn parallel to Jacka boulevard just as the sun dipped below the horizon…

…It’s here that you truly experience St. Kilda.

The solar wind veil of St. Kilda is an energy generating open air pavilion that acts as a versatile framework for any activity or event that requires accommodation. It can also act as a sculptural art piece that engages the public on an individual level as well as in a group. A Small Cultural center is imbedded into the slopes and creates a gradual transition from the most common entry point, The garage, To the Ground Level Directly Below the Veils. The St. Kilda Triangle is one of the last undeveloped sites in the area and a light touch upon the site with user-assigned program is what the city truly needs.

The main Driver for the conditioned spaces was to keep the impact of the building to a minimum but to also embrace the natural fracture that such an interjection has on the landscape. The landscape manipulation is built in a way to emphasize this while still providing a cohesive itinerary. The veils played off the moments created within the landscape but most of its manipulation was guided by the prevailing winds to maximize exposure regardless of the winds directionality on a given day.

It was important for the veil to act as a piece of art while also being adaptable to what the community needs at a given moment. The Veil provides the practical purpose of providing shade and energy for the site while the program is open to the interpretation of the user. while the ground manipulation hints at the possibilities, this elegant sail can house any sort of event from concerts to car shows.

The structure of the veil would consist of numerous lightweight aluminum structure along with tensile cables. This structure is an open cell system, and within each cell exists two types of energy collection strategies. The first being semi-translucent solar panels that fill the void between the structure, providing shade and shelter from the elements. The second system is the flexible piezoelectric mounting system that connects the panels to the structure. The flexibility allows the piezo to be stressed when the panels move from wind currents, and thus create electricity.

The solar panels create 14 watts an hour per square foot and with a surface area of 21,000 ft2 the veil will produce 296 Kw/Hr. The piezoelectric wind collection produces 7 watts an hour per square foot, and produces 148 kw/hr. With an underestimated sun and wind exposure time, the veil will produce 5,032 kw per day which will make an annual output of 1.8 million kw/year. Due to the small cultural center this is enough energy to power the building 6.5 times over and will be able to provide a large amount of energy to the rest of the city.