The curving steel arches of the Radiant Link reflect the duality at play within the site. On one hand there is the need to reunite St Kilda Triangle that is divided by Jacka Boulevard. On the other, the desire to stimulate public contemplation through a sculptural form. These two requirements provide the opportunity for a link that reclaims the overlooked airspace above the road.

The Link is composed of three fundamental parts: the ‘rock’ ramp/plinth housing the energy storage, the pedestrian bridge and the solar arrays integrated into the arches, supporting the sculptural form. Utilising the overlooked airspace identifies and optimises land development in an area that has otherwise been overlooked. Primarily, the placement of the link above the road exposes the element of the solar arrays to car and pedestrian traffic. Placing the solar arrays and the link also releases the ground plane of the Triangle from the responsibility of hosting the arrays, and they are instead taken over by public uses, for example, a cafe. This also includes functionally the link becoming a ‘street’ by unifying needs and development goals of the council, outlined in the St Kilda Master Plan.

The abundant sunlight available makes using photovoltaic panels ideal. Expressing solar panels as part of the sculptural design is intended to celebrate PV cell technology in a public way and demonstrate that PV cells are not limited to ‘panels’. By cladding the steel arches in flexible plastic (ETFE) PV film, the solar array can be manipulated into the sculpted form of the link, promoting this developing technology.

The abstracted leaf form is inspired by technology from nature. Much like a leaf, the arches of the link address the sun, maximising northern solar exposure onto the PV array. Structurally, the link is further inspired by the voronoi structure of a leaf. A pattern generated from plotting the optimal path across a surface, voronoi patterns are an example of the duality that can exist between architecture/manmade structures and nature. This duality is further enhanced by the intersecting form of the leaf. The aesthetic, functional and structural inspirations of the leaf support the overall goals of generating public discussion for appreciating and conserving nature through sustainable design.

The ‘rock’ plinth/ramp element of the link intervention into the site acts as an intermediary between the land and constructed form. Sitting below the leaf, this ‘rock’ acts as the anchor of the link design, much like a tree would sit on the land. The electricity storage system is housed within this ‘rock’ that ramps up towards the link from the beach – transparent windows along the ramp allowing the viewing of technology within. The storage system secures the energy requirements of the link when energy isn’t immediately required. This ‘securing’ relationship reflects that of the rock securing the leaf.

RESIDUAL SPACE

The St Kilda Triangle is segregated by Jacka Boulevard. It separates the space through it’s introduced activity and physical presence. While the road occupies the ground plane, the overlooked airspace above offers an opportunity to reclaim and occupy this residual zone.

In addition to reuniting the land, building above creates a zone for solar panels to be mounted. Placed in this exposed location, the ground plane is freed from responding to the energy brief and can instead focus on reacting to public spatial needs. Essentially, reclaiming this residual space will assist public circulation in aiding the ground plane, and provides a place for solar panels to go, which subsequently would improve the occupation of land within the Triangle.