

We approached this design challenge with the need to create something monumental, while promoting ecologically integrated architecture. To mitigate the noise from air and car traffic we enclosed much of the structure, while still connecting the interior spaces to the park and surroundings. Two sites meant the need for a unification, hence a strong symbol links the two. The need for animal sensitive lighting led us down a path towards bioluminescence as a light source which became a key design feature.

To create a sense of permanence, our structures are very monumental, appearing as ruins rising out of the landscape. By illuminating the building and the bike path with bioluminescent and phosphorous materials, we reduce the need for electricity and respect the needs of animals on the site. At night, the building lights can be turned off, and all that remains is the soft, ever changing twinkle of bioluminescent organisms. We have been in talks with leading experts in the field including a botanist, a bio-tech engineer and a lighting designer. We are confident this is the opportunity to bring these emerging technologies to a commercial scale.

Our sustainability engineer proposes covering the SAP parking with a solar canopy. We can place approximately 10,000 panels, generating in excess of 6,000,000 kWh/yr. Enough to power the energy needs of the proposed project and offset a portion of the SAP's energy usage. This can be funded through Solar Leases or Power Purchase Agreements. It would defer construction costs, remove over 2000 tons of CO2 per year being emitted into our atmosphere from power plants, and improve the local environmental conditions by reducing the urban heat island effect currently caused by the exposed pavement. There are also solar arrays on our roofs. The depth of the structure allows for passive shading from peak solar gains while providing ample opportunities for daylight.

Our structural engineers can reduce environmental impacts by optimizing a steel structure. At the end of a building's life, 98% of all structural steel is recycled back into new steel products. Structural steel is not just recycled but "multi-cycled," as it can be recycled over and over. We are also using mass timber as a diagrid structure, an environmentally friendly alternative to aluminum systems. Concrete for the foundations can be sourced with emerging technology from BluePlanet, in San Jose. They focus their material research on reducing carbon and cement in concrete.

