PARCO POTENTIA

Parco Potentia [Latin, “the park of potential“) celebrates the technology, culture, and innovation that emanates from San Jose, and unifies these elements with architecture, aesthetics, and energy. Inspired by World’s Fair showcases, Parco Potentia is a world-class destination incorporating cutting-edge developments in sustainability, materials, computation, art, and culture. Visitors ascend 18 stories, cross an exciting pedestrian bridge, rub elbows with passing jets, participate in utility-scale sustainable energy collection, and explore fascinating pavilions. Built with an elegant and beautiful futuristic “Metropolis“ aesthetic and sited in urban parkland, Parco Potentia acknowledges the city’s forward thinking and pioneering technology that runs our world.

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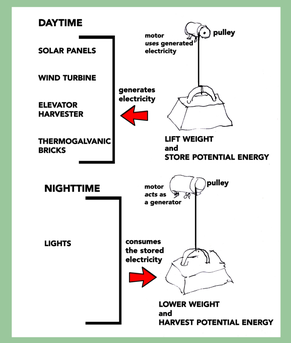
THE PARK OF POTENTIAL

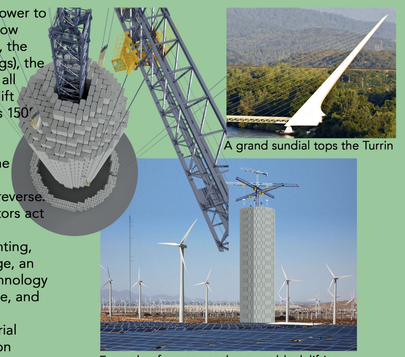
Parco Potentia [Latin, "the park of potential") curates the genius of technology, culture, and innovation emanating from the city of San Jose, and unifies these elements through architecture, aesthetics, and energy. Inspired by the iconic models of World's Fair showcases, what results is a stunning, world-class destination that shines a light on cutting-edge developments in the fields of sustainable energy, architecture, computer technology, art, and culture. Visitors arrive at a pristine urban parkland surrounded by an elegant and beautiful futuristic "Metropolis" aesthetic, a nod to the city's forward thinking and pioneering of technology that now runs our world.

THE TURRIM OF POWER AND MASSIVE POTENTIAL

The ***Turrim of Power*** [Latin, "Tower of Power"] uses its Massive Potential elevator to harvest energy from numerous on-site sources over the course of the day and night, storing it in the form of gravitational potential. During the day, solar panels, egg-beater wind turbines, an elevator harvester for people-power (i.e., take the stairs up and the elevator down, contributing their own potential energy), and thermogalvanic bricks all contribute power to the site. In addition to powering the low daytime energy needs of the site (e.g., the interior lighting of the pavilion buildings), the electricity these sources generate are all combined to run electric motors that lift multi-ton weights up the West Tower's 150' height.



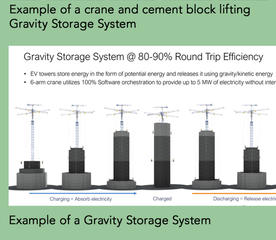
Massive Potential Elevator Gravity Storage System



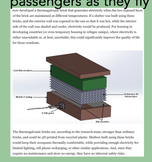
A grand sundial tops the Turrin

When energy is needed for lighting the Towers and Skybridge at night, the gravitational potential system runs in reverse. The weights are lowered, and the motors act as generators, creating electricity that powers efficient LED-based mood lighting, the reactive disco floor of the Flybridge, an hourly light show, and more. This technology has been proven to work at utility scale, and this smaller scale version utilizes componentry from established industrial sectors (e.g., elevators and construction cranes).

A stunning white sundial crests the top of the Turrin of Power, indicating the time to airline passengers as they fly over the Parco.



Example of a crane and cement block lifting Gravity Storage System

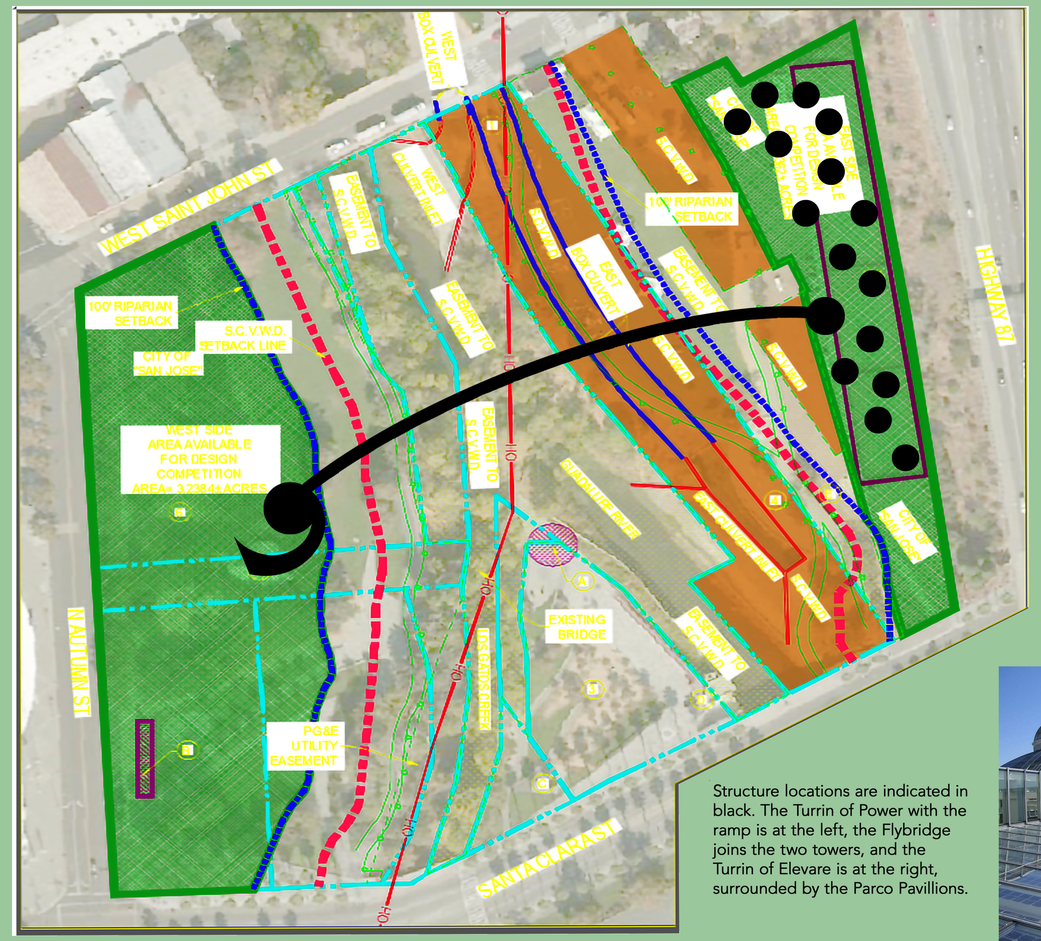


Thermogalvanic bricks and artistic solar panels

Example of a Gravity Storage System

PARCO PAVILIONS

The overall site has a World's Fair configuration, with the striking Turrim of Elevare grand staircase, the vistas from the Flybridge (as well as the playful lighting), and the Turrim of Power (which incorporates the Massive Potential energy storage system). The two towers and bridge unify the site and bring people over to the futuristic solar-power crested pavilions, which may include cultural and educational attractions (e.g., displays from the nearby Tech Museum, the San Jose Museum, ICA San Jose and other galleries and museums), intriguing shops, culinary offerings (such as local ice cream shops or an Eggo stand, as Eggos were invented in San Jose), and perhaps demonstrations of cutting-edge technologies sponsored by Silicon Valley innovators.



Structure locations are indicated in black. The Turrin of Power with the ramp is at the left, the Flybridge joins the two towers, and the Turrin of Elevare is at the right, surrounded by the Parco Pavillions.

PARCO POTENTIA'S NET ZERO ENERGY CONSUMPTION SYSTEM

This project will achieve Net Zero energy consumption through a combination of solar cells being built into various surfaces, an energy harvesting elevator system where visitors are encouraged to "walk up and ride down" to get to the Flybridge, egg-beater wind power at the peak of the stairway tower, which compliments the spiral stairway structure, and thermogalvanic bricks in both towers. These energy generating mechanisms will easily cover the daytime consumption, and nighttime coverage will be achieved by a unique (but proven) energy storage system based on stored potential energy in lofted masses that are raised to store energy and lowered to harvest it. Thinking of this as an integrated construction crane…raising and lowering multi-ton masses the height of the tower allows us to store sufficient energy to illuminate the tower throughout the night, as well as do special light shows at timed intervals. Of course, the building will be on the grid, selling back surplus energy during the long Summer days and probably drawing grid power during stormy spells during the depths of our winter months.

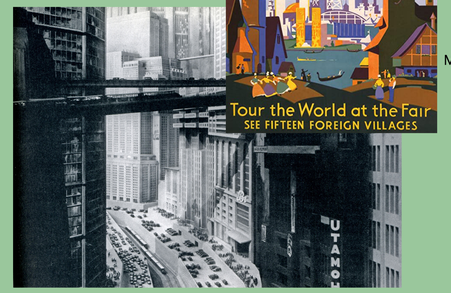
Rough calculations have been performed that show that the solar cells in the stair treads, the Flybridge, and on other site surfaces that will not detract from the aesthetics of the project can, by themselves, generate a surplus. Scaling the mass-based potential energy system is capital intensive, especially without compromising aesthetics. Our on-site potential energy storage system, while likely an expensive element of our project, creates a highly visible and innovative contribution to the project's overall narrative. Surplus energy sold onto the grid can be employed to limit the required capacity of the mass-based crane/winch system to control costs, if desired.

TURRIM OF ELEVARE

The Turrim of Elevare (Latin, "tower to lift up") is the grand spiral staircase circumnavigating a pristine white tower, and capturing energy from the people. A 180-foot climb offers visitors 360-degree vistas of San Jose during the ascent. At the top, they reach the Flybridge, which offers a crossing with front row views of the aviation ascending and descending from the Mineta San Jose International Airport. The stairs have an airy feel, like flying around the column if navigated at the perimeter, but are more solid near the core of the tower to be less confrontational for those with vertigo. The treads of the Grand Staircase incorporate solar cells to contribute to the project's energy budget.

THE FLYBRIDGE

The Flybridge brings visitors to a unique position with respect to the planes leaving and approaching nearby Mineta San Jose International Airport. Even at ground level, the planes are a powerful experience, and being closer to their level will heighten the impact. The clear span of the Flyway, which could exceed 400' (depending on final siting), can be accommodated by a truss design, but incorporating some suspension cables/rods from one or both towers may be aesthetically desirable. The yway floor will incorporate interactive LED lighting elements that create an engaging experience for those crossing it, while keeping the energy budget manageable.



FUTURISTIC AESTHETIC

The project utilizes a Futuristic Aesthetic that brings visitors along on a fun and involving experience. While drawing on classic sources of visions of the future, like Metropolis and The Jetsons, the project has a fresh look that incorporates modern materials and forms that were beyond the imaginations of those references. Experientially, the project will stay fresh with new restaurants and attractions occupying the pavilion huts on a regular rotation.