Caddisfly Cascade

ENVIRONMENTAL ARTWORK

Artwork Description

Conceptual Description:
The Harbor Wetlands are part of the treatment plant's infrastructure. When the chlorine added to purify the water has evaporated, cleansed water is quietly released into the Santa Clara estuary where it will begin the next stage of its hydrologic journey. Currently, this important and ceremonious process is concealed in a thicket and goes unnoticed.

Located on the southern edge of the site adjacent to the ponds' existing outfall to the Santa Clara River, the Caddisfly Cascade celebrates the release of treated wastewater with a cascade and a series of terraces. An S-shaped pathway descends with the water, twisting through and over the pools, allowing the visitor to travel alongside the movements of natural processes. The Caddisfly Cascade provides an educational and pleasurable demonstration of this important and otherwise unseen event within the city's infrastructure.

Design Specifications:
Type of Amenity – Wastewater Outfall Garden
Size of Amenity – overall: 56' L. x 30' W. x 10' H., path: 100' L. x 5' W.

Selected Sources

ANIMAL ARCHITECTURE

CADDISFLY INSPIRES MOSAIC CONSTRUCTION
Some species of caddisflies construct tubular protective shells by using silk to bind nearby organic material such as sand or vegetal matter.

TREATMENT PLANT, WETLANDS, & RIVER

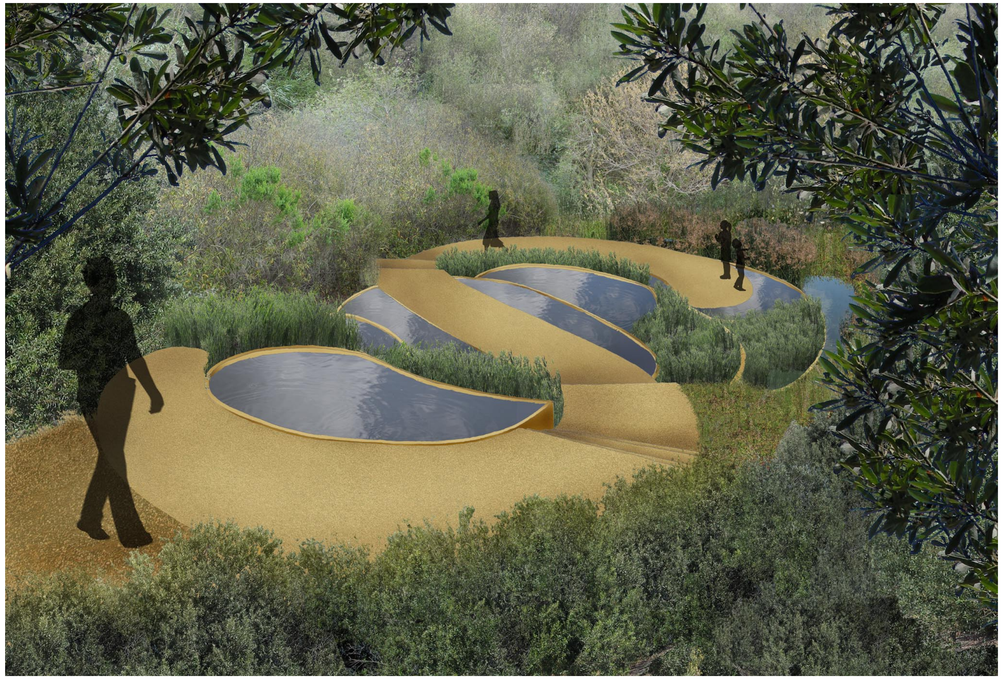
Chlorine is evaporated as the cleansed wastewater moves through the wetlands. The water then enters the Santa Clara estuary after this final stage in the treatment cycle.

COMMUNITY USE

Within the artwork, people experience the passage of water from our human infrastructure to nature's infrastructure. They follow the water's downward flow as it makes its way to the estuary. The sound of the cascades reveals the life-giving aeration of water.

HABITAT ENHANCEMENT

Cleansed water is released through a series of cascades and terraces that aerate it along its way to the Santa Clara estuary. Vegetation surrounding the terraces supports insect communities that, in turn, provide organic matter to the water. This becomes food for many estuary species.



Cinematic Frames & Progressions

A Public Art Vision Plan for Harbor Wetlands Ecological Reserve

Lorna Jordan
Artist & Project Lead
in association with Winterbottom Design

DECEMBER 14, 2007

Monarch Garden

ENVIRONMENTAL ARTWORK

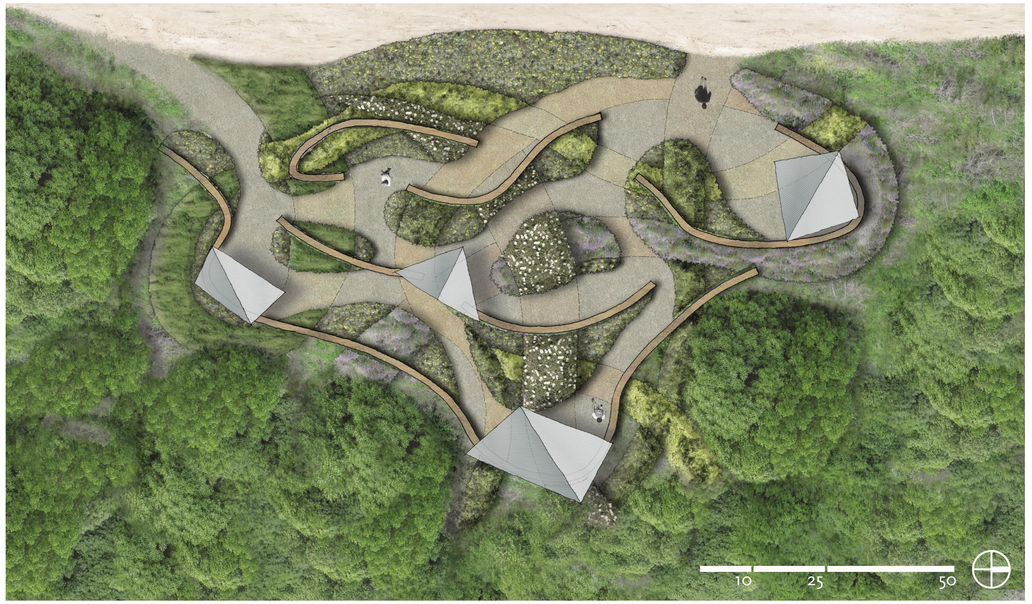
EXISTING SITE

Artwork Description

Conceptual Description:
Located east of the site's middle pond, this artwork's forms are influenced by its location along the Pacific Flyway and by monarch butterflies—their flight paths, life cycles, and migratory patterns. Ribbon-like plantings, pathways, and walls dart, bank, and swerve around to define a series of connected outdoor spaces.

Four small pavilions shaded by butterfly roofs provide ideal spots for educational or social gatherings. More intimate spaces offer respite for individuals. Benches extend from curvilinear rammed earth walls to provide seating in both sun and shade. The walls evoke the prior larval stage of the caterpillar. In addition to providing habitat for the site's many small animals, native plants attract monarch butterflies. During the monarch's migration, the garden will be flooded with their vivid colors and fluttering movements.

Design Specifications:
Type of Amenity – Outdoor Classroom/Gathering Area
Size of Amenity – overall: 140' L. x 90' W. x 16' H., walls: 5' H. max., pavilions: 30' L. x 18' W. x 16' H. max.



Selected Sources & Strategies

ANIMAL ARCHITECTURE

CLIFF SWALLOW INSPIRES EARTH CONSTRUCTION

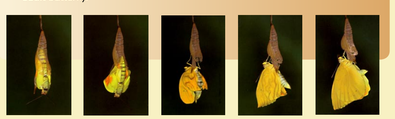
Cliff swallows construct nests using thousands of mud pellets consisting of sand, silt, clay, and organic matter (such as hair or feathers). These become cemented to one other as they dry.

ANIMAL LIFE CYCLE

MONARCH MIGRATION & METAMORPHOSIS

Beginning its life as a caterpillar, the Monarch transforms itself into a spectacular, striped butterfly. It embarks on a months-long migratory journey that will take it thousands of miles from Canada to Mexico and back.

Butterflies begin their lives as clumsy, crawling caterpillars (larvae). Their magnificent transformation into beautiful, fluttering creatures takes place within the chrysalis, a protective shell created by the caterpillar's skin. Inside this cocoon, the larvae's tissues become liquids that form the organs of the adult butterfly.



COMMUNITY USE

In contrast to the sequestered nature of the Heron Blind and Bridge, this place allows people to become part of the active landscape. They weave through the drifts of plants and walls, observe fluttering butterflies, learn in an outdoor classroom, and chat with each other in the shade.

HABITAT ENHANCEMENT

The Monarch Garden is located in a disturbed area. It enhances habitat to support the butterfly life cycle. The pavilions' roofs direct water to small pools. Rocks provide sites where butterflies can warm their flight muscles. Wild patches of plants provide butterflies with shelter and food.

Cinematic Frames & Progressions

A Public Art Vision Plan for Harbor Wetlands Ecological Reserve

Lorna Jordan
Artist & Project Lead
in association with Winterbottom Design

DECEMBER 14, 2007

Heron Blind & Bridge

ENVIRONMENTAL ARTWORK

EXISTING SITE

Artwork Description

Conceptual Description:
The Heron Blind and Bridge is inspired by the animal architecture of the marsh wren. The male marsh wren uses a construction technique called entanglement to weave a nest of interlocking vegetal matter. The artwork's bridge and nest are draped with a crisscrossing canopy of wood slats that obscure the viewer from nearby birds.

Spanning a narrow channel of the site's central pond, the covered, curvilinear bridge provides shelter, connection, and a concealed vantage point. From here, the visitor has unique, uninterrupted glimpses of water habitat and wildlife. Benches inside the bridge allow people to sit and view the wetlands, the adjacent island, and blind. The undulating roof echoes the subtle movement of the adjacent pond's ripples.

Past the bridge, the pathway leads to the Heron Blind. This camouflaged viewing sanctuary appears to rise naturally out of the surrounding upland landscape. The blind, like the bridge, is cloaked in an entangled wood screen, but is less ordered and is open to the sky. The network of crisscrossed slats emerges from a low rammed earth wall. Benches within the blind provide a place to watch, wait, rest, and relax.

Design Specifications:
Type of Amenity – Bird Blind, Bridge
Size of Amenity – Bird Blind: 75' L. x 25' W. x 17' H., Bridge: 70' L. x 15' W. x 14' H.

Selected Sources & Strategies

ANIMAL ARCHITECTURE

MARSH WREN INSPIRES WOOD CONSTRUCTION

The marsh wren uses a technique known as entanglement to weave a nest of interlocking vegetal matter. Many nests in their territory are left unused to ensure concealment of their eggs.

RIPPLING PONDS

Winds blow across the reflective surface of the wetlands, creating delicate patterns that scatter light throughout the surrounding landscape and obscure views into the water's depths.

COMMUNITY USE

Hidden from view within the artworks, people find unique opportunities to observe wildlife. The Heron Blind and Bridge allows people to observe animals in their native habitat and to experience the rich diversity of life in the Harbor Wetlands.

HABITAT ENHANCEMENT

The Heron Blind and Bridge includes improved pond edges of the wetlands to provide food, shelter and building materials for wildlife.

Cinematic Frames & Progressions

A Public Art Vision Plan for Harbor Wetlands Ecological Reserve

Lorna Jordan
Artist & Project Lead
in association with Winterbottom Design

DECEMBER 14, 2007

Killdeer Passage

ENVIRONMENTAL ARTWORK

EXISTING SITE

Artwork Description

Conceptual Description:
As one enters the Harbor Wetlands site from Angler Court, a mounded, sculptural form appears on the horizon. Inspired by the "piling" techniques killdeer use to build their nests, the mound consists of stacked stone, boulders, soil, and plantings. The entry pathway bisects the mound, splitting it into two distinct forms, and revealing its layered composition of materials. The undulating, stone/earthwork acts as a gateway, marking the entrance and funneling people into the site.

After passing through the mound the pathway leads to a gathering space framed by seat walls that provide a place to meet friends, rest, or enjoy a break from the city. The space doubles as an outdoor classroom, providing a convenient spot to begin educational tours or hold small community meetings. Ponds frame this area and are funded by ground water. They also reference slips in the nearby harbor. They also reference slips in the nearby harbor. The plantings, earthworks, and pools in this area provide habitat—food, shelter, water, and space—for local fauna. From here, the pathway ascends, leading the visitor to the Harbor Wetlands.

Design Specifications:
Type of Amenity – Entryway, Benches, Native Plantings
Size of Amenity – overall: 170' L. x 101' W. x 6' H., mounds: 5' H. max., benches: 150' L. x 18" H., pools: 50' L. x 20' W. max.

Selected Sources & Strategies

ANIMAL ARCHITECTURE

KILLDEER INSPIRES MASONRY CONSTRUCTION
Within its often low, scrubby habitat the killdeer looks for small depressions to lay its eggs in. It then surrounds its eggs with piles of small rocks to camouflage them from predators.

HARBOR SLIPS

The harbor is home to 2,200 boat slips and sees a large number of people coming and going from various parts of the world. Its active waters serve a number of boating activities.

COMMUNITY USE

This artwork offers a transitional space from city street to Harbor Wetlands. Sheltered by berms and planted mounds, people slow down as they enter the meanders, stopping for social encounters, educational gatherings, or wildlife observation.

HABITAT ENHANCEMENT

Plantings, earthworks, and pools provide habitat for a wide variety of local fauna. Native terrestrial and wetland plants attract insects on which birds feed. They also provide nest-building materials and shelter. Pools provide water for birds to drink and bathe in.

Cinematic Frames & Progressions

A Public Art Vision Plan for Harbor Wetlands Ecological Reserve

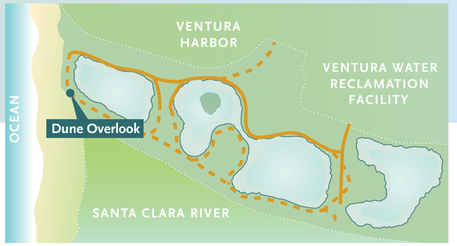
Lorna Jordan
Artist & Project Lead
in association with Winterbottom Design

DECEMBER 14, 2007

Dune Overlook & Drifts

ENVIRONMENTAL ARTWORK

EXISTING SITE



Artwork Description

Conceptual Description:
The Dune Overlook is perched at the west end of the site. Rising over the dunes, it offers rare, simultaneous views of the dunes, ocean, and Harbor Wetlands. A series of curving canopies of stainless steel tube and mesh shade the perimeter of the overlook. Arranged in an animated progression of heights and positions, these provide sequential snapshots of breaking waves. Benches tucked within the waves' curves provide places to sit, view, and relax. The concrete surface of the overlook's platform is embedded with local shells to add texture and to blend with the shoreline landscape.

Vertical mulch fencing is arranged along the ocean edge of the site. Over time they accumulate wind-blown sand, forming the Dune Drifts—an important step in the enhancement of the inland dune zone. These earthworks have a participatory relationship with the processes of dune migration.

Design Specifications:
Type of Amenity – Overlook, Dune Enhancement
Size of Amenity – Overlook: 75' L. x 32' W. x 17' H., platforms: 20' L. x 14' W. max., canopies (24 total): 8' L. x 2' W. x 11' H. max. – Vertical Mulch: 500' L. x 3' H.

Selected Sources & Strategies

ANIMAL ARCHITECTURE

SPIDERS INSPIRE STEEL CONSTRUCTION
Web-spinning spiders excrete silk to trap insects. Spider webs are suspended from trees and other existing forms, adapting to diverse circumstances.

INTERLOCKING & WEAVING
Each deceivingly delicate silk strand gains structural integrity through its woven interaction with other strands. As the spider increases the web's density, the composite interlocking structure achieves high tensile strength relative to its weight.

DUNE ENHANCEMENT

VERTICAL MULCH
Dunes are enhanced using vertical mulch. The mulch causes wind to slow down and drop sand particles. This establishes a relationship between humans and the natural processes of dune formation.

CRASHING WAVES

Arcing walls of water crash along the shore, carving and etching patterns in the beach sands and bringing new life and materials to the shoreline.

COMMUNITY USE

This artwork allows people to experience the changing, dynamic nature of the California coast through sculptural form and natural processes. People play an active role in maintaining the health of this landscape by managing invasive species and monitoring native plant establishment.

HABITAT ENHANCEMENT

The formation of new dunes is encouraged along the entire length of the western edge of the site. Dune formation and the establishment of native plants adjacent to the pathways heightens people's experience of the shifting, dynamic dune habitat.

Cinematic Frames & Progressions

A Public Art Vision Plan for Harbor Wetlands Ecological Reserve

Lorna Jordan
Artist & Project Lead
in association with Winterbottom Design

DECEMBER 14, 2007