SITE ASSESSMENT AND DESIGN GUIDELINES

Palo Alto Baylands Nature Preserve

prepared for the
City of Palo Alto
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CATALYST

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A portion of the San Francisco Bay Trail.

The Baylands Preserve is part of the San Francisco Bay Trail system.

The Palo Alto Baylands Nature Preserve contributes a key portion to the necklace of public open space ringing the San Francisco Bay.

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BACKGROUND AND PURPOSE

The Baylands Nature Preserve is a unique natural resource within the City of Palo Alto.

As a recreational and ecological resource, the Palo Alto Baylands Nature Preserve is enjoying unprecedented use and appreciation. Once ignored or used for industrial or commercial activities, the area is now one of the largest protected wetlands in the South San Francisco Bay, and provides habitat for abundant wildlife, including many endangered and protected species. Both local residents and naturalists from distant places visit the Baylands to experience its unique landscape character.

As evidence of this new recognition, the Preserve was recently featured in the New York Times as a "must-see" for tourists to the Silicon Valley area. This increased attention also brings pressure to accommodate the needs of users. Until now, recreational facilities have been designed and installed in an ad-hoc basis, resulting in visual clutter and inconsistency. As the community recognizes the value of the Baylands Nature Preserve, there is an opportunity and responsibility to treat the Baylands with greater attention and care.

This document provides both an assessment of existing conditions and Design Guidelines for site features, such as fences, signs, paving, and other elements. If implemented, these Design Guidelines will provide a consistent approach to design, placement, and construction of common landscape elements that respects the landscape character, establishes a distinctive identity, and sets a standard of quality within the Baylands.

These Guidelines were developed through a site investigation with City of Palo Alto staff and two "mentors": Emily Renzel, Baylands champion, and Gordon Baillie, former Baylands Senior Ranger.

Palo Alto Baylands Trail Map

Palo Alto Baylands Aerial Photograph

USING THE BAYLANDS DESIGN GUIDELINES

The Baylands Design Guidelines were prepared to help implement the Baylands Master Plan and the Baylands-related policies and programs in the Palo Alto Comprehensive Plan. The Design Guidelines should be used in conjunction with these policy documents.

The Baylands Design Guidelines are intended to be used when designing or reviewing projects located in any part of the Baylands. While the more specific guidelines are primarily applicable to the dedicated parkland, the design principles and concepts should also be applied in the service and commercial areas when designing or reviewing projects for compatibility with the special aesthetic qualities and environmental conditions unique to the Baylands.

Project Review

Both public and private projects in the Baylands that include any new construction or installation or changes to existing landscaping, plants, paving, signs, other site features and furnishings, or the exterior of buildings and structures are subject to Site and Design review. (PAMC Section 18.82)

When a project in the Baylands is anticipated, it will be helpful to contact the Planning Division as early as possible to discuss the project and the review process. The Planning review will assist with the interdepartmental coordination, public interest, and consideration of environmental issues that are often involved in Baylands projects. Most minor projects can be reviewed at the staff level without the need for a public hearing, while large projects may require review by the Architectural Review Board or by the Planning Commission and City Council.

This is one of the few original marshes left where the public can get close to the Bay to enjoy the open sweeping stretches of sky, water, and the low rolling expanses of marsh vegetation.

- Helen Norman Proctor,
Palo Alto Landscape Architect, 1973

SITE OVERVIEW AND LANDSCAPE CHARACTER

The City of Palo Alto owns, manages and maintains the Baylands located between Mountain View and East Palo Alto. This 1,700-acre area includes the largest remaining undisturbed marshland in the San Francisco Bay Area as well as about 200 acres of pre-existing service and commercial uses. In the early 1960s, increased public awareness of the need to restore and protect wetland environments resulted in the creation of the Baylands as a nature preserve. Beginning with a modest purchase of 40 acres of marshland in the 1930's, the Preserve gradually expanded to its present size.

The Palo Alto Baylands incorporates:

Wetlands and Riparian Areas

- Harriet Mundy Marsh
- Inner Harbor Marsh
- Sand Point
- Hooks Island
- Mayfield Slough
- Flood Control Basin
- Former ITT Marsh
- Emily Renzel Wetlands
- San Francisquito Creek
- Matadero Creek
- Adobe Creek

Active Recreation

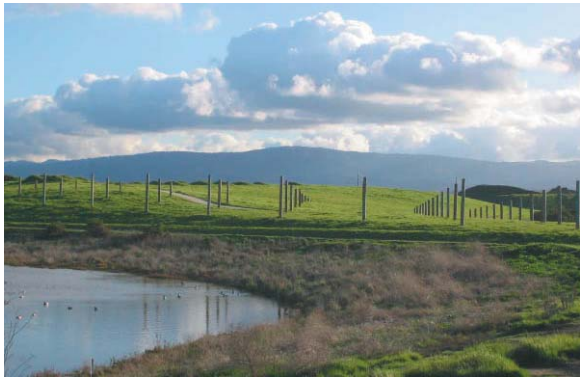
- Palo Alto Municipal Golf Course
- Baylands Athletic Center

Passive Recreation

- Byxbee Park Hills
- Sailing Station
- Sea Scout Building
- Duck Pond
- Harbormaster's House/Ranger Station
- Lucy Evans Baylands Nature Interpretive Center

Commercial and Service Uses

- Palo Alto Airport
- Municipal Services Center
- Palo Alto Animal Shelter
- Regional Water Quality Control Plant
- Recycle Center/Landfill (transition to pastoral park)
- Private commercial development



The San Francisco Bay Trail runs around and through Baylands. The portion of the trail within the Preserve's border connects the Palo Alto Baylands to Shoreline Park to the south, and East Palo Alto city limits to the north. The main vehicular entry to the Preserve is Embarcadero Road which passes the Baylands Athletic Center, Palo Alto Municipal Golf Course, commercial development and the Palo Alto Airport before coming to the Preserve entry where you can go left or right. To the left you pass the Duck Pond, Ranger Station with adjacent picnic facilities, Lucy Evans Baylands Nature Interpretive Center, and Harriet Mundy Marsh, before coming to the parking lot and Sailing Station. To the right you pass the Regional Water Control Plant, Recycling and Refuse area, and then enter the parking lot for Byxbee Park Hills. The Preserve can also be accessed by trails along East Bayshore Road, which parallels Highway 101.

The Baylands Nature Preserve is a distinctive landscape notable for openness and subtlety. Because of the shallow soils, brackish water, and persistent winds, the landscape is flat and treeless, defined by the expansive horizon— a big sky, flat water, and waving grasses. The natural color palette is a study in muted tones. This simple, serene landscape is a dramatic contrast, and a welcome respite, from the more complicated landscapes found in the Peninsula: bustling cities, rolling hills, and restless beaches.

Insert Byxbee Park text here

(see text attached on page 63 at end of document)

GENERAL DESIGN PRINCIPLES

The following design principles are suggested to reflect and preserve the Baylands' unique landscape character.

Use only muted, natural colors. Choose materials and finishes that will weather without degrading.
Avoid bright, reflective colors, including white. Allow wood to weather to gray, allow metals to rust to dark brown. Confine bright colors to small areas where necessary for safety. For example, it is preferred to use a small, low-mounted "No Parking" sign rather than paint extensive red curbs.

The landscape is exposed to constant salt-laden winds. Select materials that will weather well, last a long time, and require little to no maintenance. Cor-ten or mild steel which weathers to dark brown is preferable to galvanized steel which does not weather to a dark color.

Preserve the horizon line with low and horizontal elements.
The dominant landscape feature of the Baylands is the horizon line of the open, treeless landscape and the flat water of the bay. Vertical elements that puncture this line have a large impact on the view. Therefore, keep elements low and horizontal. Preserve an unobstructed view of the horizon line.

Mount fences, enclosures, and identity signs low to the ground.
Posts should not protrude above the sign panel or fence fabric, no finials or decorative post tops should puncture the horizon line.

Reduce the size and mounting heights of regulatory signs.
Urban standards for regulatory signs, such as stop signs (typically 7' mounting height, 36" diameter sign), should be relaxed in recognition of the low traffic volumes and speeds in the Preserve.

Design for practicality.
Maintenance and improvement budgets are tight. Ensure that all improvements are practical, easily maintained and have low life-cycle costs.

SIGNS

Existing signs in the Baylands Nature Preserve can be divided into four general categories:

Identity Signs

Regulatory Signs

Directional and Interpretive Signs

Temporary and Seasonal Signs

There is a variety of old and new signs throughout the Preserve. They vary widely in materials, size, message, and placement. In some instances important destination markers are small and above eye level, in other cases there is a cluster of signs presenting a cacophony of information. There are different style signs for similar functions and the placement of signage is haphazard and random. This document gives general principles and guidelines. A more comprehensive study to develop a detailed sign program is recommended.

DESIGN PRINCIPLES

Consistency

Materials, fonts, colors should be the same for signs of the same use and type.

Identity

Each sign should be clearly recognized as pertaining to the Baylands.

Clarity

Text should be quickly and easily read and understood.

Overall Guidelines for Signs

Placement of signs should be sensitive to location and user.

The original main entrance sign on Harbor Road at the gate is wood with engraved yellow lettering. It identifies the area as "Baylands Preserve."

This recent installation at Byxbee park is silk-screened fiberglass. It welcome visitors to the "Baylands Nature Preserve."

Older auto-oriented Gateway signs at the intersection of Embarcadero Road and Harbor Road help provide direction to various destinations within the Preserve.

ASSESSMENT

Gateway Sign

Gateway signs are generally located at major entrances to the Preserve. These signs often include information about Preserve hours or regulate behavior inside the Preserve. They vary in size, color and materials. Some are on City land, some are in adjacent jurisdictions.

Trailhead-entry signs are silk screened onto fiberglass, mounted on wood posts. It consciously portrays a message of welcome and environmental protection ("Welcome: Please help us to protect this area.") It includes Preserve hours and uses icons to inform visitors not to drive off-road, ride on motor bikes, hunt, collect specimens, litter, or allow their dogs to roam off leash. Icons help to communicate information to non-English readers.

The name of the Preserve differs from sign to sign within Palo Alto. More recent signs identify the area as "Palo Alto Baylands Nature Preserve." Older signs identify the area simply as "Baylands Preserve."

DESIGN GUIDELINE

Gateway Sign

A large Gateway Sign is recommended at the main entrance to the Preserve. The Gateway Sign will establish the image and identity of the Preserve, and welcome visitors. This sign is primarily viewed by users in cars or on bicycles and is sized large enough for easy readability from a distance.

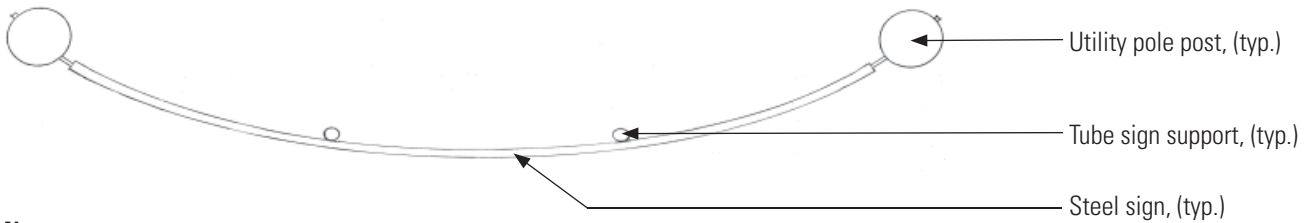
The Gateway Sign could be located in one of two locations, either at the intersection of Embarcadero Road and Harbor Road (Location B), or farther along Harbor Road adjacent to the proposed access control gate (Location A).

A more comprehensive sign study is recommended to determine the location of the Gateway Sign. It has been incorporated into the an illustrated design for the proposed access control gate on Harbor Road (see Special Condition for study of proposed location).

Gateway Sign Location Key Map

DESIGN GUIDELINE

Identity Signs - Large: Gateway



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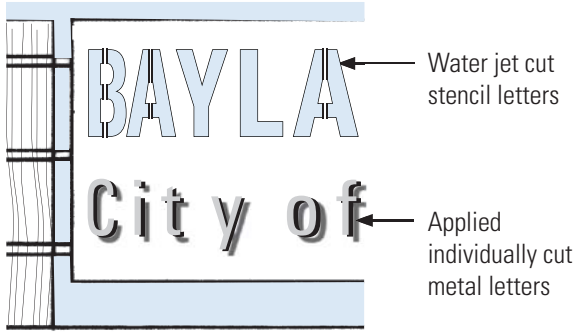
ELEVATION

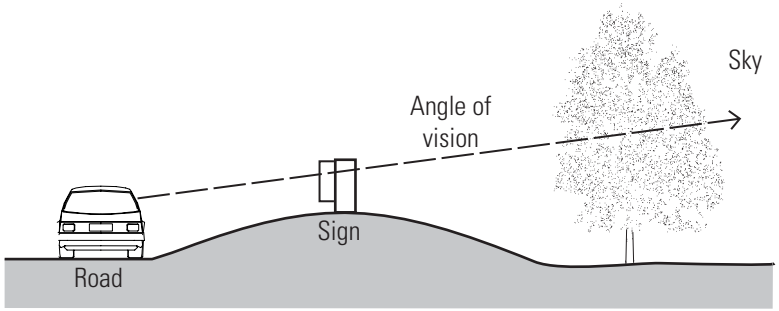


DETAIL OF SIGN LETTERING

Identity Signs - Large: Gateway

Design Intent:
These pages illustrate a concept design for a Gateway Identity Sign. The sign is a large corten steel plate which will rust naturally and needs no finish or maintenance. The words "Baylands Nature Preserve" are water cut stencil out of the steel plate. These cut-out letters allow a view of the horizon and sky through the steel plate– the sign heightens visitors' awareness of the vista and the flatness of the Baylands. The words "City of Palo Alto" are solid individual metal letters mounted on the corten steel plate.

ELEVATION

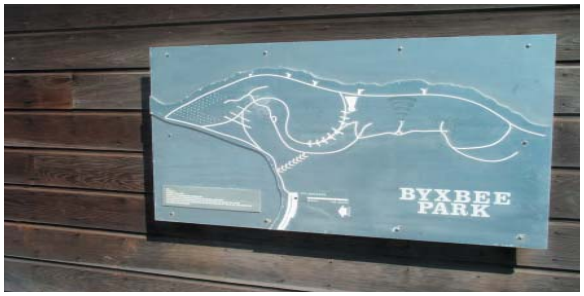


SECTION

Precedents:

Water cut stencil letters on corten steel with white background behind

Individually formed letters, raised attachment



Unique, artistic aluminum map identifies Byxbee Park and projects a thoughtful image.

The wooden gateway sign at the entrance to the Duck Pond includes a whimsical image of a duck.

The only identification of the Lucy Evans Baylands Nature Center– one of the Preserve's most popular destinations is a small sign mounted 8 feet high to the right of the trail gate.

The Sailing Station identification sign and regulations is a tall sign with screened text on a metal sign mounted on tall wood posts.

ASSESSMENT

Identity Signs: Destination

There are a number of important destinations in the Preserve that need to be identified. A variety of signs fill this need today, without consistent messaging or identity.

At one extreme, the sign for Byxbee Art Park is a unique aluminum panel. It identifies the Art Park and features a conceptual trail map. This large sign, mounted on a wooden wall, projects an image of thoughtfulness and design sensitivity. Its unique design and materials reflects the Art Park's unique character in the Baylands Preserve.

At the other extreme, one of the most commonly visited Preserve destinations, Lucy Evans Baylands Nature Center, is identified only by a small brown sign placed high on a tall wooden post. Visitors who are not familiar with the Nature Center would likely have difficulty identifying it without a map or guide.

At the Duck Pond, an older style hand-crafted wooden sign includes a whimsical image of a duck. The Sailing Station is identified by a large metal sign that includes regulations and other messages.

DESIGN GUIDELINE

Identity Signs: Destination

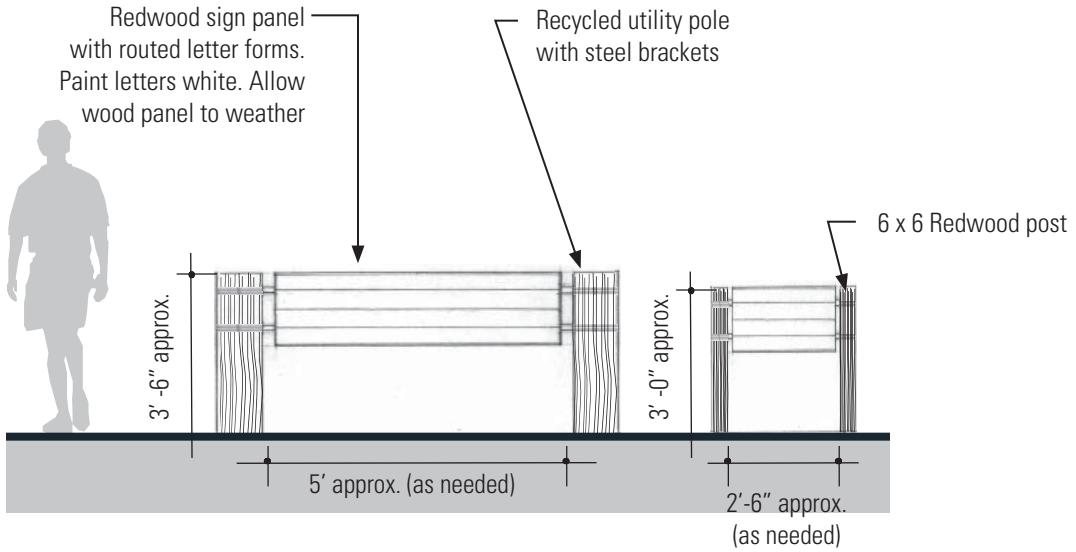
A consistent sign to identify important destinations is recommended for the Preserve. This sign should identify the destination only, and be separate from any interpretive or regulatory information.

The recommended design can be fabricated either by a professional sign maker or by the City's own forces. This ease of fabrication provides flexibility for repair or updating signs.

The materials are natural and readily available, consistent with the values of sustainable design and environmental stewardship.

Two sizes are provided. The larger size is for more auto-oriented applications, the smaller for more pedestrian-oriented.

These signs can be adapted to identify a variety of places: destinations, trailheads, site features, etc.



Destination Signs: medium and small

Directional Pedestrian sign notes mileage to key destinations. Use of both white and yellow text is confusing and inconsistent.

Haphazard installation of Directional Sign adds to visual clutter.

ASSESSMENT

Trail Marker

The nature preserve staff designed and developed the pedestrian-scale trail marker most commonly used in Baylands. The small signs, approximately 6" wide, are mounted on 6" x 6" posts. They are metal with yellow or white lettering on a brown background. The signs display directions and mileage information to popular Baylands destinations such as the Nature Center and the Duck Pond. The design is best suited to hikers, people approaching the sign slowly or coming to a stop. Nature preserve officials report that there are twenty-two directional markers at intersections of trails and roads throughout the Baylands.

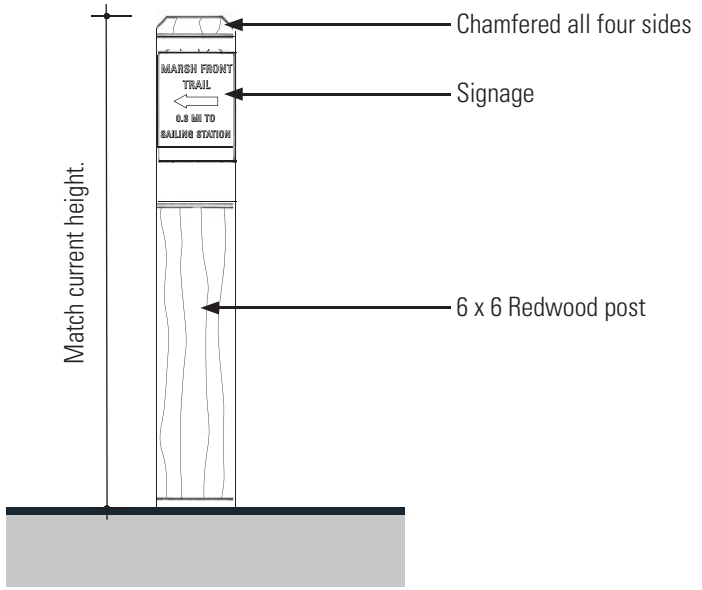
Overall, these trail markers are of appropriate scale and materials, though some installations are poorly attached. Screws on direction posts protrude and the sign is sometimes too wide for the post. Making the metal panels slightly smaller would improve their fit on a standard 6" x 6" post.

As a supplement to these pedestrian scale directional signs, City staff is investigating the use of a Baylands map as a tool to orient visitors at trail heads and major intersections. Trail signage graphically illustrating "You Are Here" would improve orientation.

DESIGN GUIDELINE

Trail Marker

The recommended Trail Marker is similar to the Trail Marker already in use: a small metal plate screwed on to a 6" x 6" redwood post. Use yellow letters on brown background with 1 1/2" green band below.



DIRECTIONAL SIGNS

This sign uses icons to convey park rules. The respectful language sends a message of enjoyment and civility ("please help us to protect... thank you for your cooperation").

This sign near the airport runway carries a message of warning or hazard that distracts from the naturalistic and recreational experience Preserve visitors seek. Since the gate is always open on this trail, are the gate and sign really necessary?

This sign sends a respectful message, but would be better if the design of the sign was as sensitive as the language.

ASSESSMENT

Regulatory Sign - Park Regulations

Regulatory and Warning signs are found throughout the Preserve. These signs, because of their size, color, and abundance have a pronounced visual impact in the Preserve. In addition, their language projects messages of warning or prohibition having a subtle, jarring influence negative to the experience of nature that Preserve visitors seek.

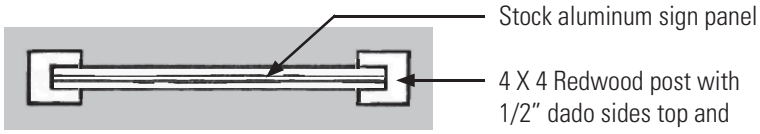
Park regulations and other information can be communicated in ways that support the goals of the Preserve while enhancing visitor's appreciation of nature. Color, typography and language all contribute to the communication impact.

It is recommended that existing signs be assessed to determine if they are necessary, and if they convey not only the correct regulations, but the appropriate message. Unnecessary or inappropriate signs should be removed.

DESIGN GUIDELINE

Regulatory Sign - Park Regulations

The recommended sign for park regulations is a small stock aluminum sign panel with dark letters on a light field. The panel is mounted in a redwood frame set low to the ground. A typical installation is shown at right. Width can be adjusted to suit the message, but the height of 4' or lower should be held constant throughout the Preserve.



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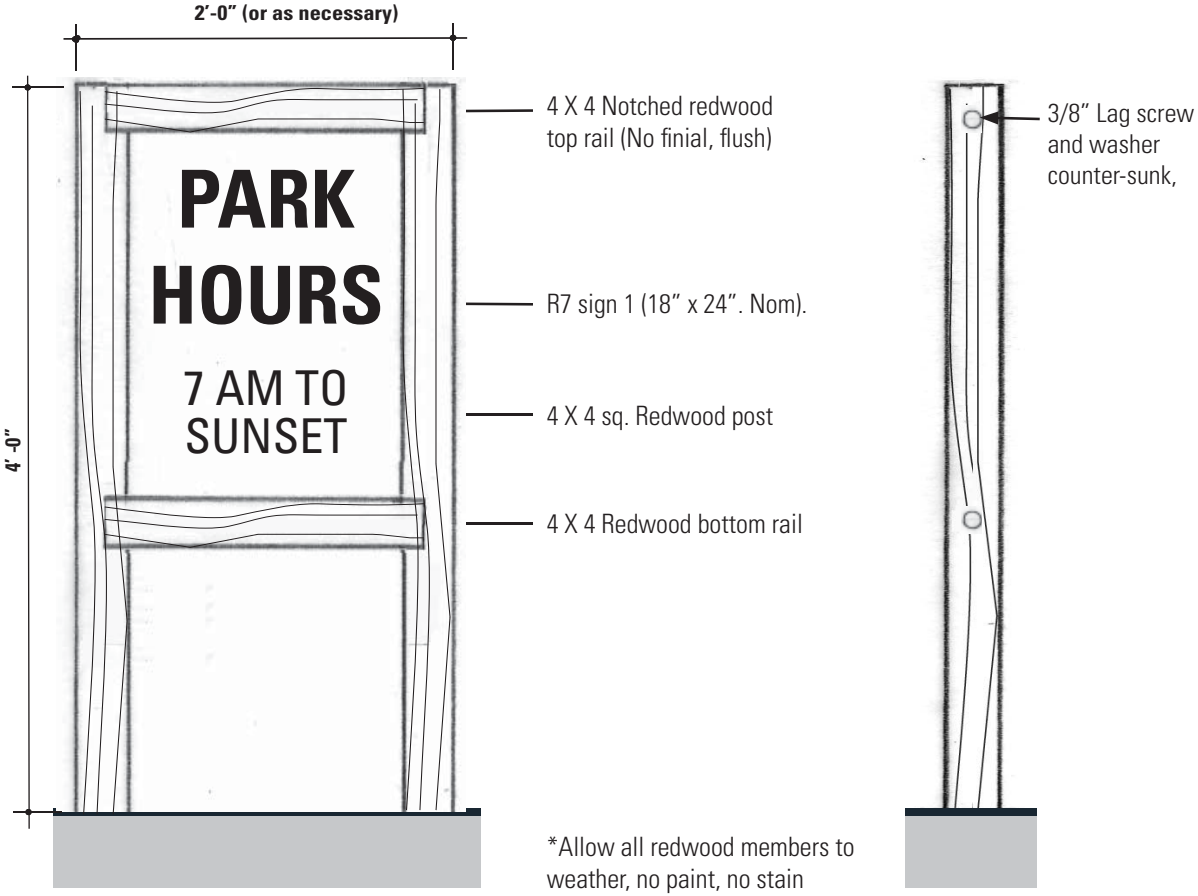


FRONT ELEVATION

SIDE ELEVATION

Regulatory signs have a strong visual impact. Their size and color is often subject to traffic engineering standards more appropriate for urban settings. The example is mounted higher than is needed in the flat, treeless Baylands environment.

This regulatory sign on Harbor Road demonstrates feasibility of context-sensitive size and detailing.

This stop sign installation at Coyote Point in San Mateo County shows that exceptions to urban standards for regulatory signs can be appropriate in park or preserve settings.

ASSESSMENT

Regulatory Sign - Traffic Regulation

Regulatory traffic signs, such as speed limit and stop signs, are used throughout the Preserve for traffic control. They are often the brightest color in the landscape, and often the largest object above the horizon in the near view. For these reasons, their design and placement is especially important.

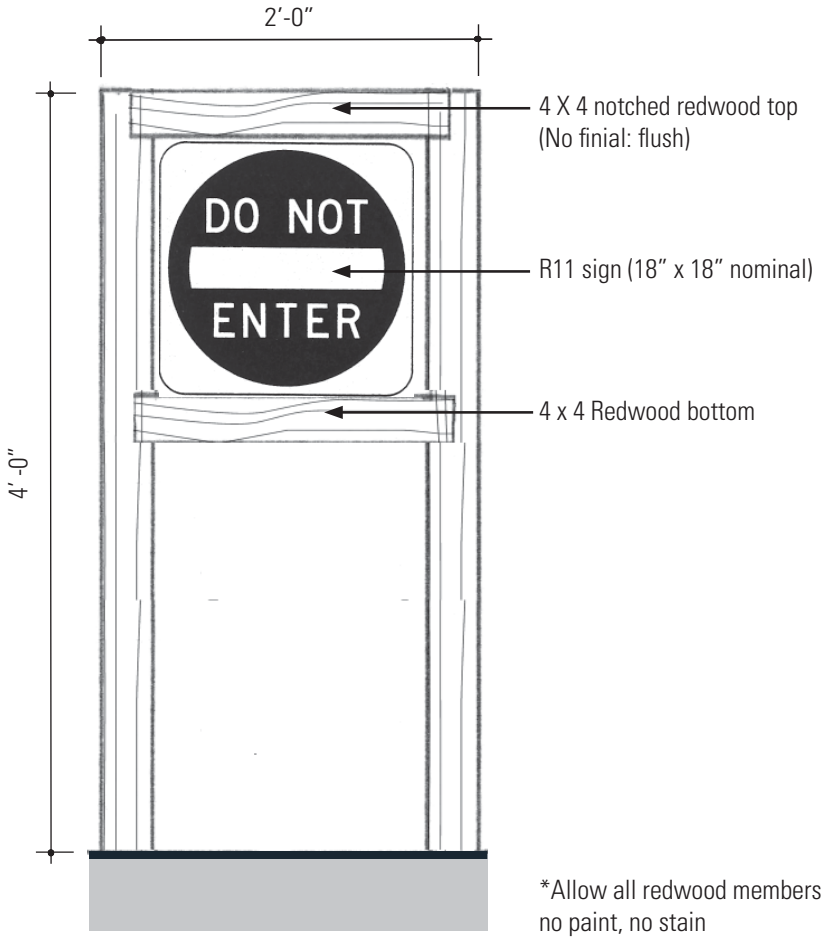
Usually these regulatory signs are installed in the Preserve according to urban standards without recognition of the park context. Typically this means a 7'-0" mounting height and sign panels of at least 36" per side. In an urban setting, with trees, buildings, and other tall elements, these signs appear in scale within their context. At the level, treeless, open Baylands, however, these signs appear oversized.

It is possible, however, to provide Regulatory and Warning signs with less visual intrusion by minimizing their size, being sensitive to their placement, and attending to their installation detailing. One example of a context-sensitive installation of a regulatory sign is the Speed Limit sign found along Harbor Road.

DESIGN GUIDELINE

Regulatory Sign - Traffic Regulation

A similar mounting style is recommended for regulatory traffic signs as for other regulatory signs in the Preserve. Note that even the stop sign is mounted in this way.



REGULATORY SIGNS

This sign provides a map and interpretive information, but the tall, vertical mounting punctures the horizon line.

This interpretive sign preserves the horizon line unbroken.

Duck Pond Kiosk, with its bright colors and isolated placement, appears awkward. Its roof punctures the horizon line.

ASSESSMENT

Interpretive Signs

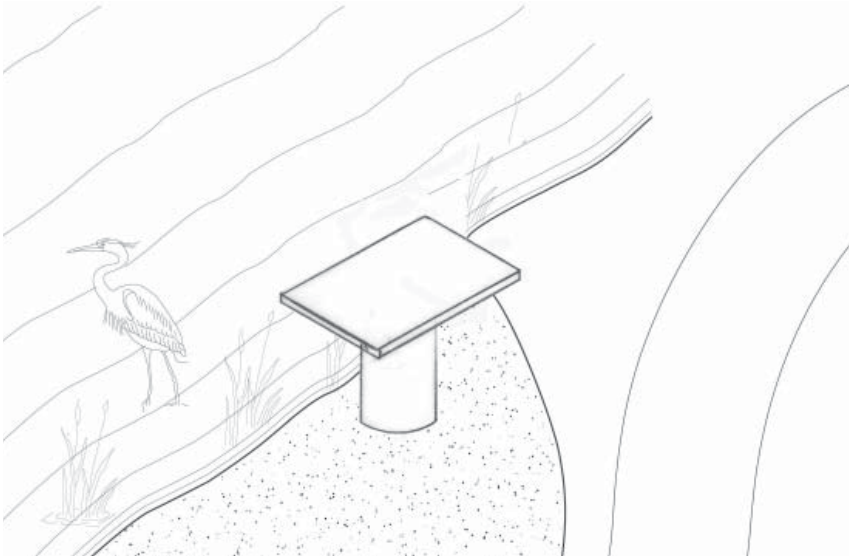
Interpretive signs can greatly enhance visitors' experience and understanding of the Preserve. A number of interpretive signs are found in the Baylands, representing a variety of styles and approaches. They include a three-sided wood kiosk with a cedar shake roof, at the Duck Pond and a variety of interpretive maps and displays.

In general, it would be more in keeping with the general design principles if interpretive signs are mounted low to the ground on slanted panels rather than high and vertically. This will preserve the key feature of the Baylands landscape– the unbroken horizon line.

DESIGN GUIDELINE

Interpretive Signs

The recommended method of presenting interpretive information is to mount uniformly designed sloping panels low to the ground. This preserves the horizon line and makes information easily readable by all visitors, including children.

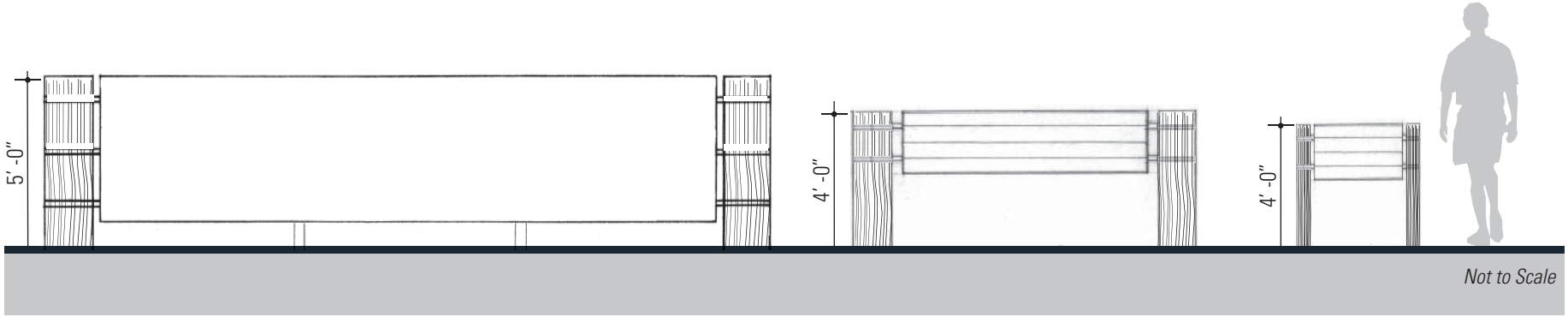


Signs Summary

The recommended family of signs for the Baylands are low and horizontal, made of natural materials and muted colors. A key recommendation is to reduce mounting heights so that the information can be presented while preserving the Baylands' dominant natural feature: an unbroken horizon.

Another recommendation is to reduce clutter by removing all unnecessary or outdated signs and sign posts.

A further study is recommended to undertake a more comprehensive assessment of sign messages, locations, fabrication and detailing.



Gateway

Destination (medium)

Destination (small)

Park Regulation

Traffic Regulation

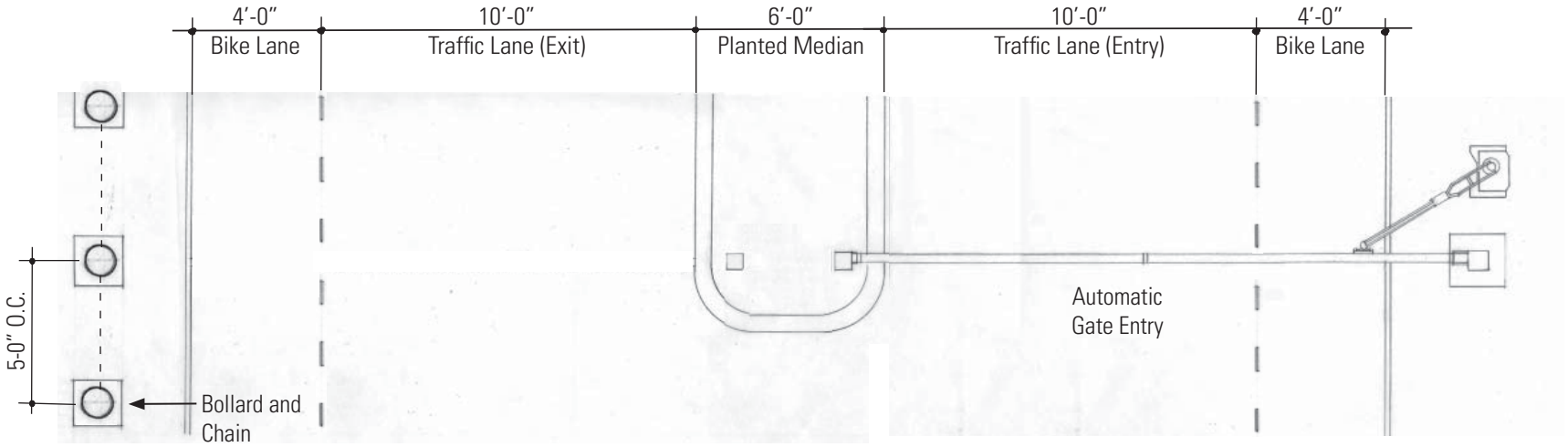
Trail Marker

Interpretive Sign

MAXIMUM HEIGHTS

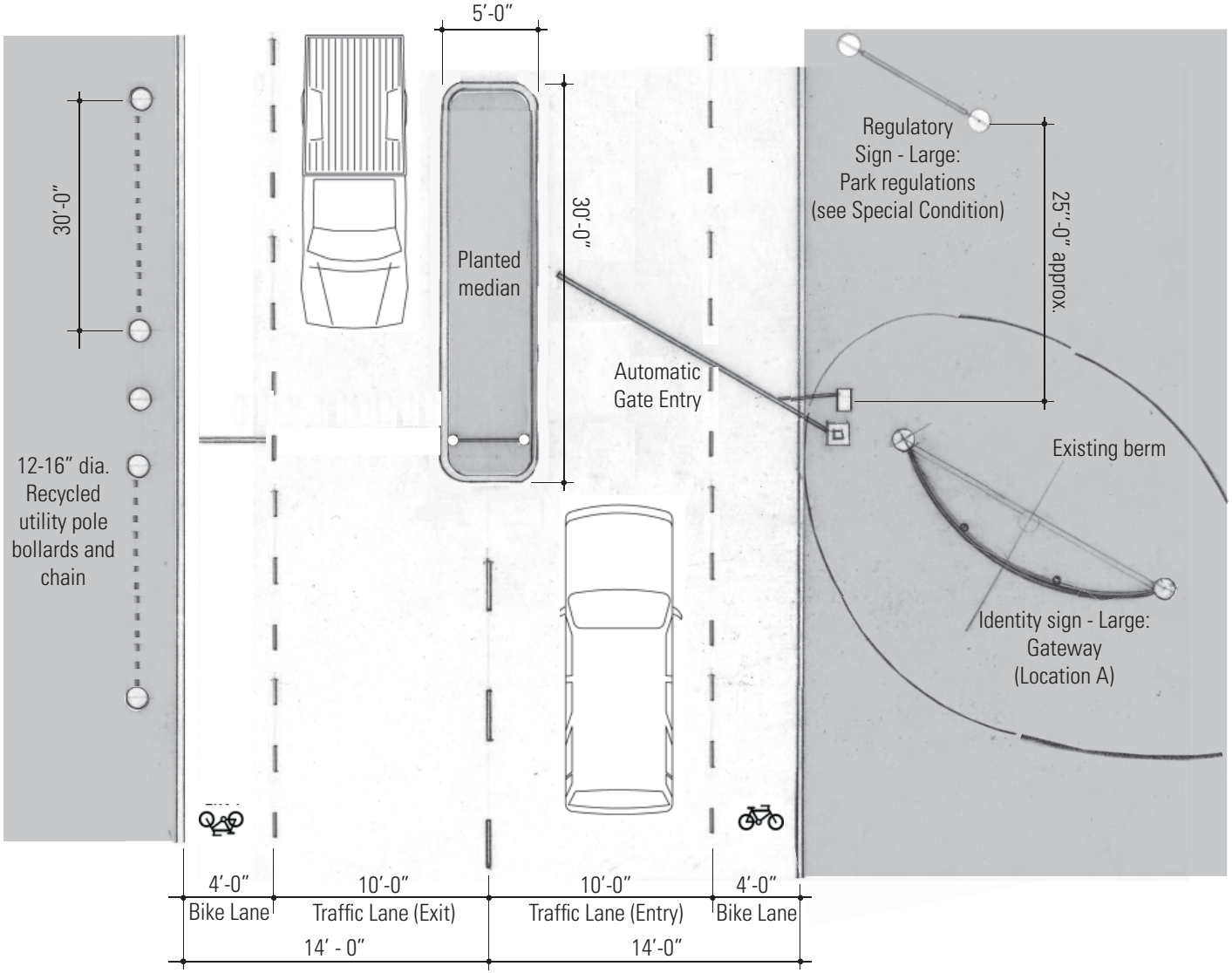
HARBOR ROAD ENTRY GATE: SPECIAL CONDITION

Improvements being made to Harbor Road present a special condition. These drawings suggest a way to integrate signs and regulatory information into the proposed gate installation within the general guideline principles described on previous pages.

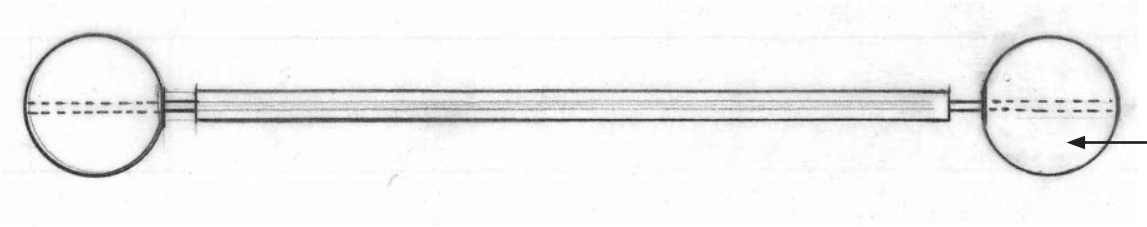


Harbor Road Entry Gate: Enlarged Plan View

(Based on drawings prepared by DES Architects)
Not to scale



Harbor Road Entry Gate: Plan View
(Based on drawings prepared by DES Architects)
Not to scale



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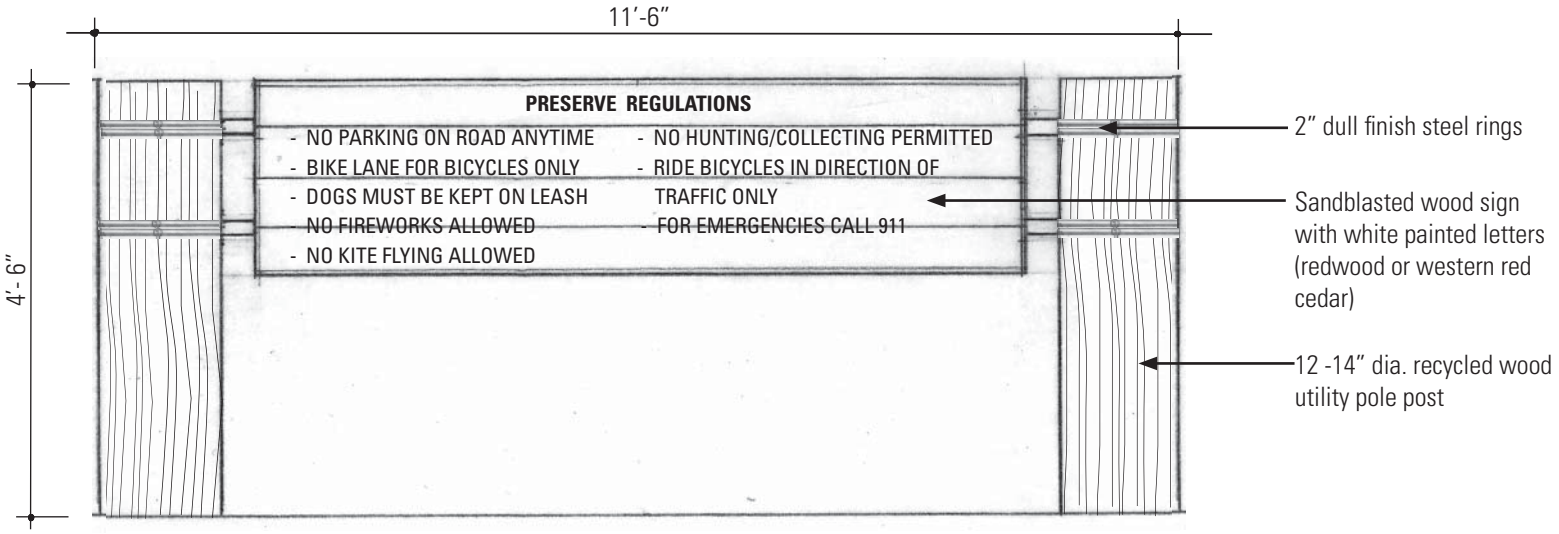


ELEVATION

Harbor Road Entry Gate: Regulatory Sign

VEHICLE CONTROL

There is a need to keep wheeled vehicles on appropriate paths and roads, and a variety of vehicle control methods are used in the Baylands. These include:

- bollard and chain
- asphalt berm
- concrete curbs

In general, each of these vehicle control methods can be appropriate depending on particular circumstances. However, their detailing, placement, and finish are important factors impacting their appropriateness for the Baylands environment.

Bollards from re-used utility poles and galvanized chain

Bollard from 8" peeler core and plastic-coated cable

ASSESSMENT

Bollard and Chain

Bollard and chain is an economical, aesthetically appropriate method of providing vehicle control in natural and rural areas. Its advantages are flexibility, transparency, low cost, easy maintenance, longevity, and rural character. Bollards can be used with or without chain to provide vehicle control while allowing pedestrian or bicycle access. Used alone, bollards must be spaced relatively closely (approx. 36"-48" apart) to keep out vehicles. This is a costly strategy, and visually intrusive. Bollards attached to a continuous chain can be spaced much farther apart (8 to 10') while still preventing vehicle trespass. Yet the chain also makes pedestrian access difficult. For these reasons, bollards alone are usually recommended at trail heads or pedestrian/bicycle access points. Bollard and chain is recommended along roadways and other linear areas that require protection from vehicles.

Several varieties of bollard and chain are found in the Preserve. Bollards found include painted metal posts (usually 4" diameter), recycled utility poles (diameter varies), and purchased wood bollards (usually 8" or 10" diameter). Chain found includes galvanized, ungalvanized and vinyl coated cable. A consistent bollard and chain type would make this vehicle control method more harmonious with the Baylands environment.

DESIGN GUIDELINE

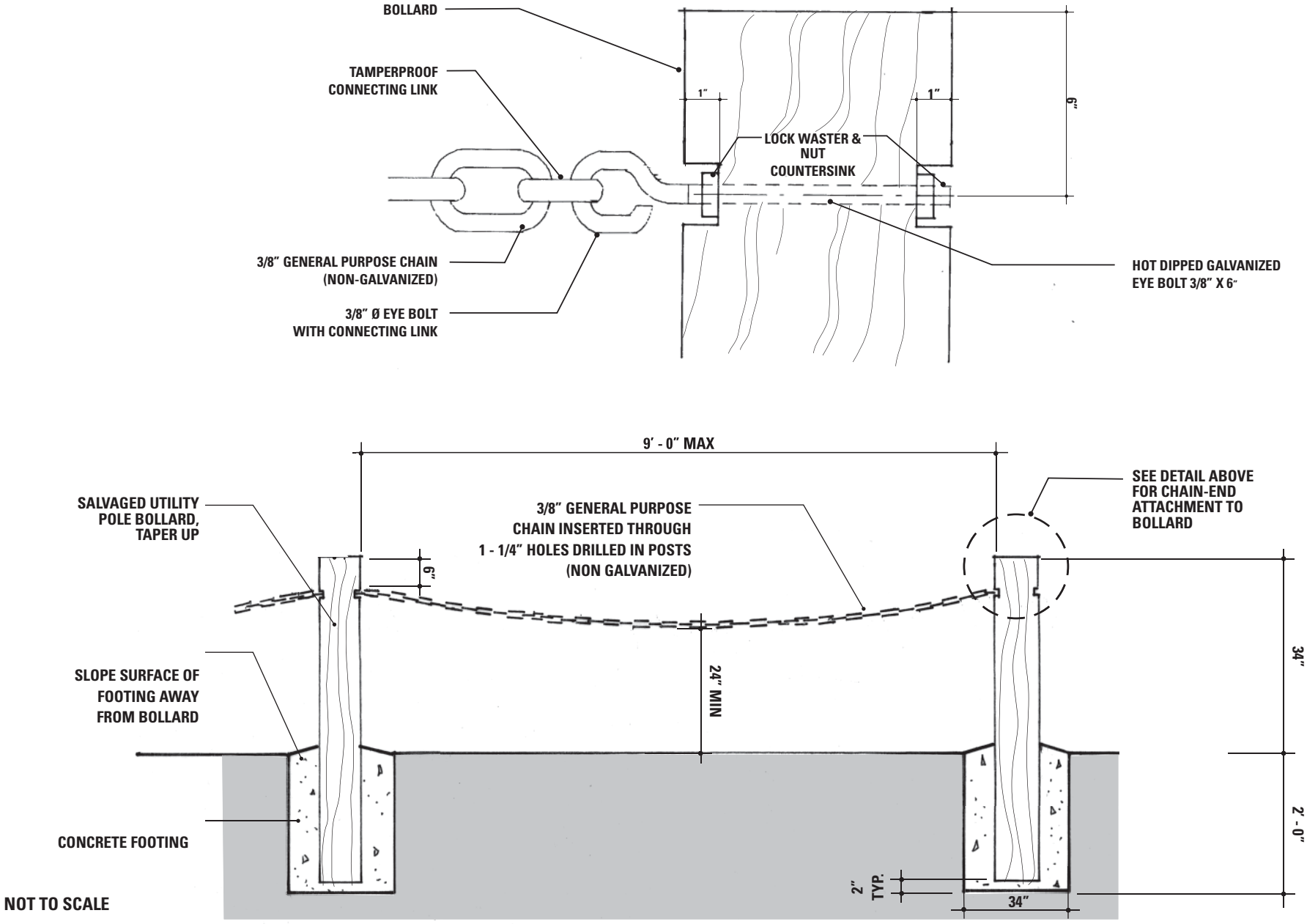
Bollard and Chain

The recommended bollard is a salvaged utility pole sawn into lengths of approximately 5'-0". These poles have an informal appearance and their diameters vary, because the original pole tapers towards the top. The bollard should be installed with the taper pointing up. Salvaged utility poles are an environmentally friendly and economical material. *

The recommended chain is a 3/8" general purpose chain, not galvanized. This chain will rust to a warm brown color in the Baylands environment.

Where absolutely necessary, white reflective tape or circular reflectors may be attached to the bollards for night visibility.

Note: Environmental impact of salvaged utility poles. Pentachlorophenol (penta) is the dominant preservative used for the treatment of utility poles during the last 25 years. At the end of its useful service life a utility pole must either be reused, recycled, or disposed of in accordance with applicable laws and regulations. EPA testing indicates that, by the time a pole is salvaged for reuse, average penta levels are below the prescribed toxicity thresholds of 100 ppm. Reusing poles for landscape purposes is an acceptable practice under present EPA regulation. This would suggest that reusing salvaged poles is sound environmental practice, as it reuses material that would otherwise be sent to the landfill.



Bollard and Chain

Ducklings pass through these barriers between the slots.

Wooden fire lane delineators

Wooden curb

Cement wheel stop

Yellow metal poles, red curbs, striping and green wooden telephone poles clutter the landscape.

SITE ASSESSMENT

Asphalt or Concrete Curbs and Wheel Stops

Curbs are an effective method of providing vehicle control, especially where a wheel stop is required. Several kinds of curbs are used in the Baylands, including:
– asphalt berm
– concrete curb
– wood curb

Asphalt berms and concrete curbs are appropriate in higher use areas or where the edge of pavement must be protected from water or raveling. Wood curbs, while more economical, tend to disintegrate and splinter.

The practice of painting curbs red introduces a bright color into the subdued Baylands color palette, and is not recommended.

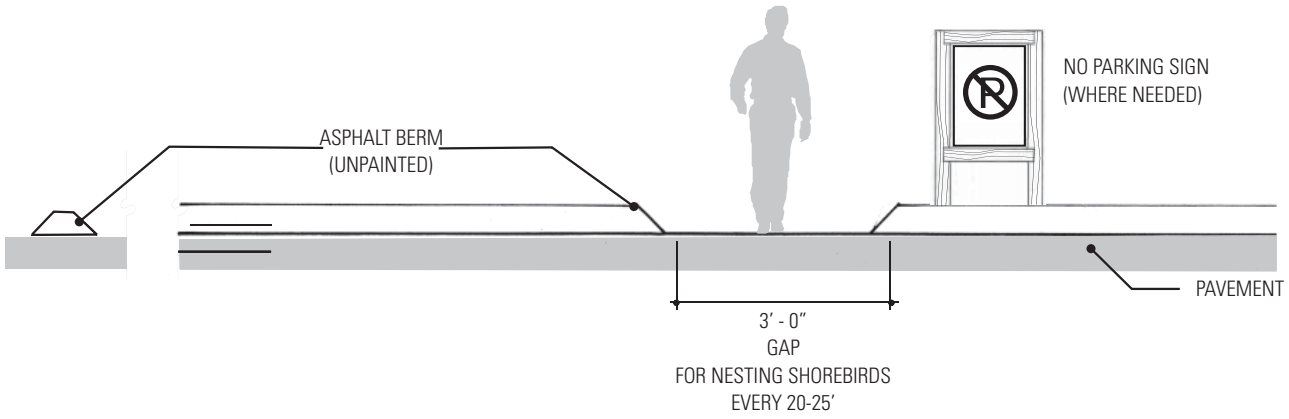
DESIGN GUIDELINE

Asphalt or Concrete Curbs and Wheel Stops

Small regulatory signs are the preferred method of delineating “no parking” areas. “No parking” may be painted on curbs with white, black or green lettering.

In all cases a periodic gap in the curb should be provided for nesting shore birds. This gap enables young chicks to travel overland from nesting locations to water and forage areas.

Use of recycled utility poles is not recommended for curbs due to disintegration and splintering.



Asphalt Berm

PAVING

Pavement is required in the Baylands to facilitate both vehicular and pedestrian circulation. Generally vehicular roads are paved in asphalt. Other pavement can be divided into two categories:

Trails

Parking Areas

A variety of pavement materials have been used in the Baylands. Trails are either asphalt, decomposed granite, or oyster shells. Recently, two parking areas were paved with a new product known as NaturalPave, a crushed stone material with a non-petroleum based binder.

Crushed stone trail along the levee near San Francisquito Creek. Note how stone is contained by plastic edging. Because the trail is above the earth level, the plastic edge is uneven.

Older asphalt trail remains usable after years of neglect.

Newly constructed asphalt trail with bright yellow center line and white sidelines.

ASSESSMENT

Paving: Trails

Quality of materials and striping features vary significantly along pedestrian and bicycle trails in Baylands park. Some trails are asphalt, others are crushed stone, and some are crushed oyster shell. Each of these materials are acceptable, depending on application.

Asphalt trails are generally inexpensive to install and require little if any maintenance. Asphalt trails are the most "road-like" material. This makes them comfortable for cyclists, but less gentle on runners. Asphalt trails can be painted with lane markings for clarity, but bright yellow and white lines can be visually obtrusive in the Baylands environment. Striping is not recommended unless absolutely required for safety.

Crushed stone trails (decomposed granite) are the most common trail found in the Baylands. Installed properly, this material is firm enough for cyclists, yet somewhat giving for runners. It has a more rural appearance than asphalt, but requires periodic maintenance and is less durable than asphalt. Crushed stone trails are more stable if built with some kind of constructed edge to contain the granular stone material. This edge material can be wood, recycled plastic, steel, concrete or similar material.

The Marsh Front Trail, near the Recycling Center, is constructed using white oyster shell. The material is aesthetically appealing, is forgiving for runners, acts as a natural weed repellent, and helps birds with their digestion. However, it is a more costly paving material than asphalt or crushed stone.

DESIGN GUIDELINE

Trails

The trail design guidelines below are adapted from "San Francisco Bay Trail Design Guidelines." Because the Baylands trail network is part of the San Francisco Bay Trail system, it is appropriate to follow the system-wide guidelines.

Item	High-use facilities	Multi-use paths	Bicycle-only paths	Hiking-only paths	Natural trails
	(separate paths for bikes/peds)*				
Min. width (one-way)	8-10'	10'	8'	4'	3-5' **
Min. width (two-way)	10-12'	10-12'	10-12'	4'	5'
Surface	asphalt	asphalt ¶	asphalt ¶	hardened^	natural/boardwalks***
Horizontal clearance (incl. shoulders)	12-16'	14-16'	10'	9-12'	7-9'
Shoulder (both sides of the trail)	2'	2'	2'	2'	unspecified
Vertical clearance	10'	10'	10'	10'	unspecified
Cross slope	2% max	2% max	2% max	2% max	unspecified
Maximum grades	5%	5%	5%	5%	unspecified

* Meets Caltrans Class I bikeway standards

^ Hardened paths may be of cement stabilized decomposed granite or oyster shell

** Minimum widths that are less than 5' will be required to have 5' x 5' turnouts at intervals to meet accessibility standards

*** Natural surfaces may require surface hardening to provide accessibility

¶ To reduce visual clutter, minimize lane striping.

NaturalPave, an alternative resin pavement installed at the Harbor Point Parking Lot is being evaluated.

DESIGN GUIDELINE

Paving: Parking Areas

Conventional asphalt is the most commonly used parking lot paving material. It is inexpensive, long lasting, easily maintained, and readily available. However, there is an interest to find alternatives for the Baylands that are more attractive and environmentally sustainable.

Asphalt is now available in integral colors, mostly in the brown and earth tones. This is one potential incremental improvement in parking lot paving for the Baylands.

NaturalPave is an impermeable pavement similar to asphalt but made without petrochemicals. NaturalPave was recently installed at the Byxbee Park Hills and Sailing Station parking lots at the Palo Alto Baylands as a pilot project. This installation has had mixed results.

Granular materials, such as crushed rock, are another potential parking lot paving surface. Granular materials are more permeable and more rural than asphalt or NaturalPave. However, because they are loose, they have the disadvantage of being movable or allowing weed growth. A variety of recycled plastic ring products with integral filter fabric, such as GravelPave^2 are available to help mitigate these disadvantages.

A third alternative material is permeable concrete. This material is gaining acceptance in California because, like asphalt, it is low maintenance, but can have a more attractive appearance and also permits percolation.

No specific recommendation for parking lot paving is made in these Guidelines at this time. Further study is recommended to determine which material or materials are best for the Baylands.

A key design element for parking lot paving is to experiment with less visually intrusive parking stall striping. Conventional stall striping is a 4" wide band of white paint or thermoplastic. One suggestion is to experiment with narrower stripes (2" or 3" wide) of alternative colors (brown or tan). In granular paving, small stones, bollards or other devices can be integrated into the parking lot design to allocate parking stalls.

SITE FURNITURE

A fairly simple palette of site furniture is used in the Baylands. Site furniture elements include:

–benches and Pause Points
–trash receptacles
–bicycle racks

Because of the open nature of the Baylands, this small family of elements has a large visual impact. The serene nature of the Baylands environment is enhanced if these elements are of appropriate and consistent materials and design.

No lighting is provided in the Baylands Nature Preserve, so no lighting guidelines are included. Because night light is potentially very harmful to wildlife, no exterior light should be used in any part of the Baylands unless absolutely necessary. If any lights are used, the fixtures must be fully shielded and the light level and intensity limited so that no light goes beyond intended area.

Custom bench designed by landscape architect, Helen Proctor, in the 1970's, is built of robust materials and has a strong presence.

Standard wood slat contour bench is less distinctive than the Helen Proctor bench but still appropriate and comfortable. .

Pause point with an unfortunate design. The uncomfortable benches face away from the view– and the view is blocked by the interpretive panel.

ASSESSMENT

Benches and Pause Points

A variety of benches are found throughout the Preserve. They are typically constructed of wood, but vary in style and design. All of the benches are fixed in the ground– their orientation and placement is a key component of their utility.

Some of the original benches designed by Helen Proctor in the 1970's are still in service. These robust benches are constructed of hefty 3" thick redwood slabs with utility post legs set in a concrete base. These hand-crafted benches have a rustic character. Their large wood members give them a strong presence. The slanted angle of the backrest makes them comfortable.

In other locations manufactured wood slat benches are less successful because of the thinness of the wood slabs and the lightness of their steel framing members.

City-standard 13-slat contour oak bench with metal frame embedded in a concrete footing are also found in the Baylands. These benches are less distinctive than the Helen Proctor bench, but are acceptable for comfort and appearance. This bench style is used throughout the City for sponsored memorials. Many are found in the Baylands.

The orientation of a bench is as important as the design and material of the bench itself. Benches with backs, fixed in the ground, enforce a perspective and point of view. Therefore, it is essential to install them facing the way that people want to look. Or, alternatively, to face them towards a compelling view that they might otherwise not see.

A "Pause Point" is a paved area off the trail at some vista point or landscape feature, usually accompanied by an interpretive sign, and a bench or pair of benches. Several Pause Points are found within the preserve. The most essential feature of these pause points is the orientation and configuration of the elements. In at least one instance the benches are inappropriately facing away from the view, and the view is blocked by the interpretive sign.

DESIGN GUIDELINE

Benches and Pause Points

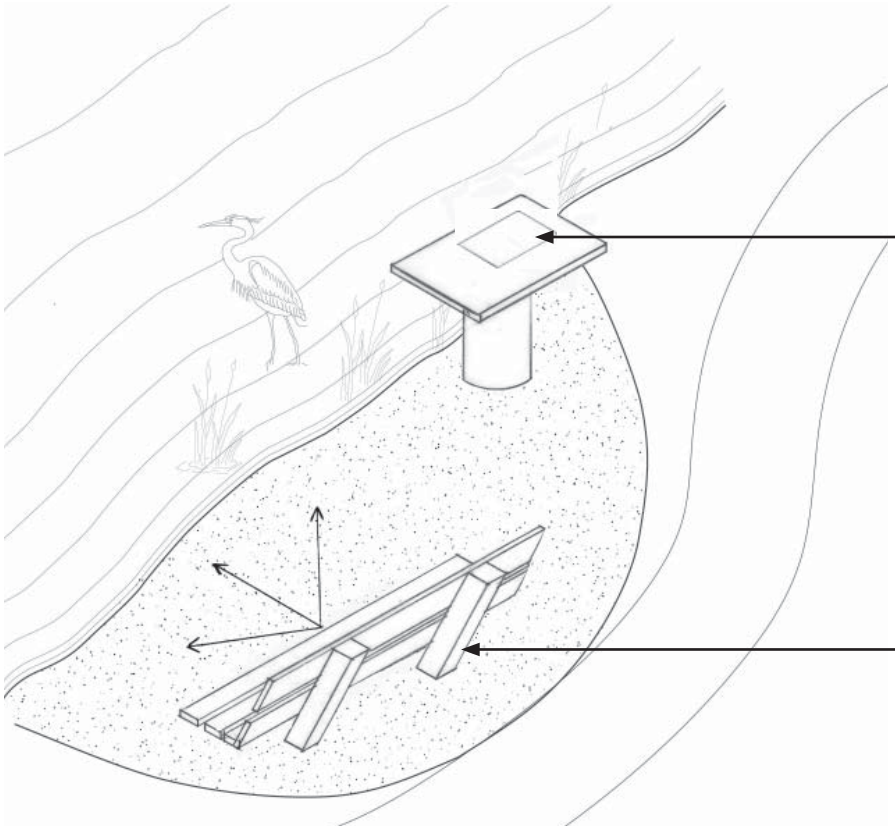
The recommended bench for the Baylands is the original Helen Proctor design. It is unique to Palo Alto, comfortable, and appropriate to the Baylands. Where feasible, it would be preferable to construct it from salvaged, as opposed to newly milled, redwood.

The city standard 13-slat contour oak bench is an acceptable alternative.

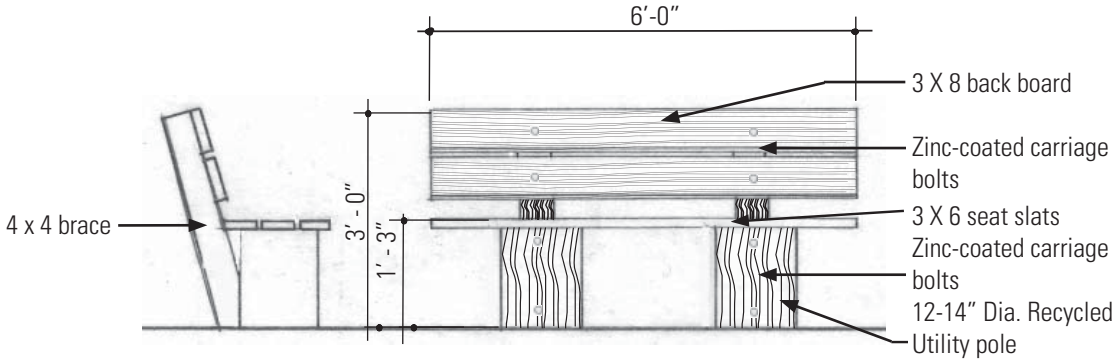
Benches should be sited towards the principal view.

Pause Points should be designed so that the interpretive elements do not block the view of the feature being interpreted.

Benches and Pause Points



Pause Point



"Helen Proctor" Bench

Exposed aggregate trash can salvaged from University Avenue.

Combined trash and recycling receptacle made of recycled plastic members near the Nature Center.

ASSESSMENT

Trash and Recycling Receptacles

Trash and recycling receptacles are located throughout the Preserve. Their placement has been determined by Preserve staff in response to areas of litter or high use, and where they are accessible for trash collection and pick-up.

According to Preserve staff, metal trash receptacles or 55-gallon drums were used for many years. Recently Rangers salvaged exposed aggregate concrete receptacles previously used on University Avenue in downtown Palo Alto for use in the parking areas.

A manufactured trash and recycling container made of recycled plastic members was recently installed near the Nature Center.

Thus there are several types of trash receptacles throughout the Baylands, accumulated over time depending on need and availability.

DESIGN GUIDELINE

Trash and Recycling Receptacles

It is preferable to have a single type of receptacle within the Preserve, rather than an assortment collected over time.

Recycled plastic-wood products are a viable alternative to conventional concrete or metal receptacles. They are affordable, long-lasting, and visually unobtrusive. Dark grey color is recommended.

Receptacles with combined recycling and trash bins are preferable to trash only, though in cases where recycling may not be necessary or practical single purpose trash bins are acceptable.

Any receptacle selected must be designed to prevent animals from entering or knocking it over.

Locate trash and recycling receptacles according to need and ease of collection. Take care to place the receptacles where they will be accessible but not visually prominent.

Creative Pipe

Bear Saver

A variety of trash receptacles are available in the marketplace. They are very similar in design and construction, and any of the types illustrated would be acceptable in the Baylands.

ASSESSMENT

Bicycle Racks

The City of Palo Alto has a strong commitment to supporting cycling in the Baylands. In May 2003, it was designated a Bicycle Friendly Community by the League of American Bicyclists. The Baylands is easily accessed by bicycle from a number of designated bicycle paths and routes.

Facilities for securely locking and organizing parked bicycles are necessary to encourage and promote this transportation mode.

Bicycle parking in the Baylands can be accommodated by careful siting of day-use bicycle racks. The number and location of racks needed is probably best determined by observation. According to the Palo Alto Bicycle Transportation Plan, adopted by the City Council in November 2003, the number of bicycle spaces required is 10% or 25% of the automobile parking space requirement for a particular use. Yet, in the Baylands, with its high proportion of bicycle users, this standard may not be adequate.

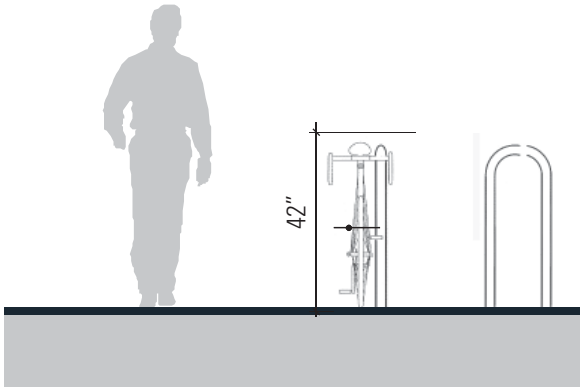
Because the Preserve is closed during the night, and because cyclists are generally close to their parked bicycles, fully-enclosed bicycle lockers are not needed. Furthermore, unless incorporated into a larger facility, bicycle lockers would have a detrimental visual effect on the openness and rural character of the Baylands.

DESIGN GUIDELINE

Bicycle Racks

The City has a comprehensive program for promoting bicycle use. The City standard is a U-shaped black vinyl coated bicycle rack. This standard is efficient, economical and visually consistent with the Baylands.

More information on the City's bicycle program can be obtained from the City's Transportation Division.



Bicycle Racks

FENCES AND ENCLOSURES

Though the Baylands is a visually open landscape, some enclosures and fences are needed to screen objectionable uses or to prevent visitors from entering restricted areas.

Thus there are two distinct functions: visual screening and securing restricted areas. It is important to differentiate these functions, because they provoke different design responses. Enclosures for screening views must of necessity be opaque. Fences can be visually open while still preventing visitors from entering restricted areas. By careful attention to these functional requirements fences and enclosures can be employed that maintain the openness and horizontal character of the Baylands landscape to the greatest extent possible.

Airport: black vinyl-coated chain link fence– no top rail.

Golf Course: black vinyl-coated chain link fence– with top rail.

Airport: 4" gap allows wildlife to slip under the fence

ASSESSMENT

Chain Link Fences

Chain link fences are found in two principal locations in the Baylands: at the airport and the Golf Course. In both cases standard size black vinyl-coated chain link fabric is attached to black metal posts.

This type of chain link fence is an appropriate method of securing restricted areas from unauthorized access for the protection of Baylands visitors and to ensure secure operation of these facilities.

Black vinyl coating both extends the life of the fence and also makes it more visually recessive. Unlike silver galvanizing which reflects light, the black matte finish vinyl is virtually invisible from a distance.

Chain link fence without a top rail is more visually recessive than with a metal top rail, and is preferred.

In addition, a small gap between the bottom of the fence and the ground (4 to 6 inches) enables migration of small animals such as rabbits and ground squirrels.

DESIGN GUIDELINE

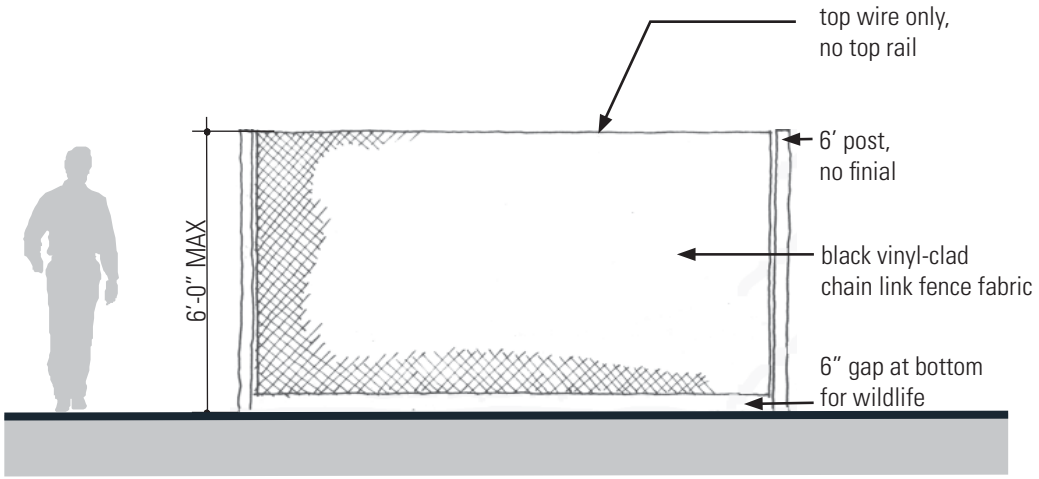
Chain Link Fence

Chain link fence is the recommended method of securing areas from unauthorized access. Unless required for a higher level of security, six foot tall fencing is the recommended maximum height, but lower is preferred.

Black vinyl coated chain link fabric, with plain black posts and black hardware is recommended to extend the life of the fence and reduce its visual impact.

Top rail is not recommended.

A small gap (4 to 6 inches) is required between the bottom of the fabric and the ground to enable migration of small animals.



Chain Link Fence

Acceptable bathroom enclosure at Sailing Station parking lot. Wood has been stained or painted gray to fit in with landscape.

Insufficient enclosure at Duck Pond parking lot. Wood stakes are not tall enough to fully screen portable rest room. The design, material selection and construction detailing appear improvisational and of marginal quality.

ASSESSMENT

Enclosures

A variety of functions in the Baylands must be enclosed by opaque materials or screened from view. A principal function requiring screening are port a-potties located at the Duck Pond or Sailing Station.

Wood has been used to screen these port a-potty facilities. At the Sailing Station, the enclosure is well constructed and carefully designed. Wood boards painted gray fully screen the porta potties and are securely attached to strong posts. At the Duck Pond, however, a grape stake enclosure isn't tall enough to cover the entire height of the port a potty, and the construction is a bit flimsy.

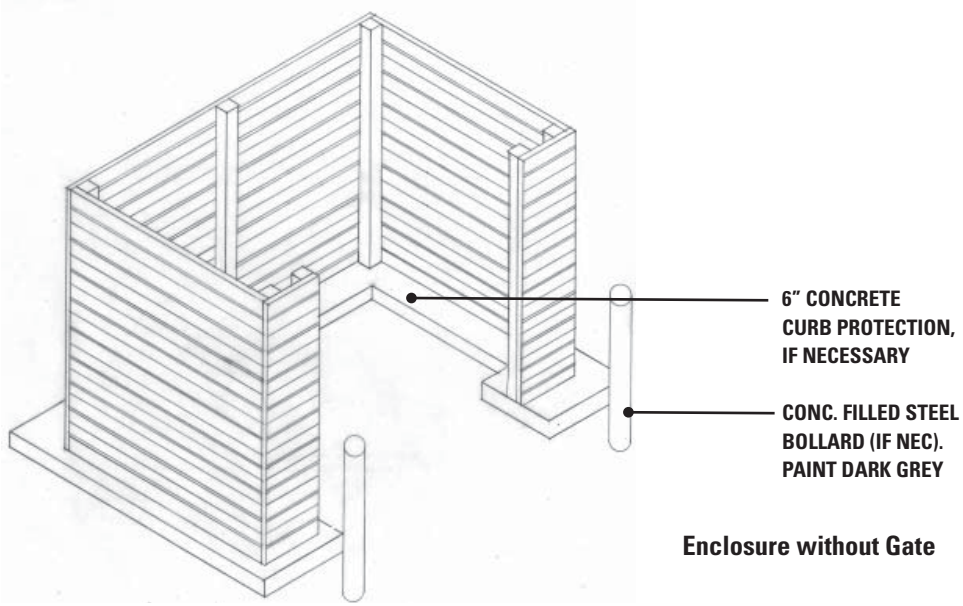
Over time other enclosures may be required to screen other uses, such as utility boxes. Standard materials and design will enhance the coherence of the Baylands Preserve.

DESIGN GUIDELINE

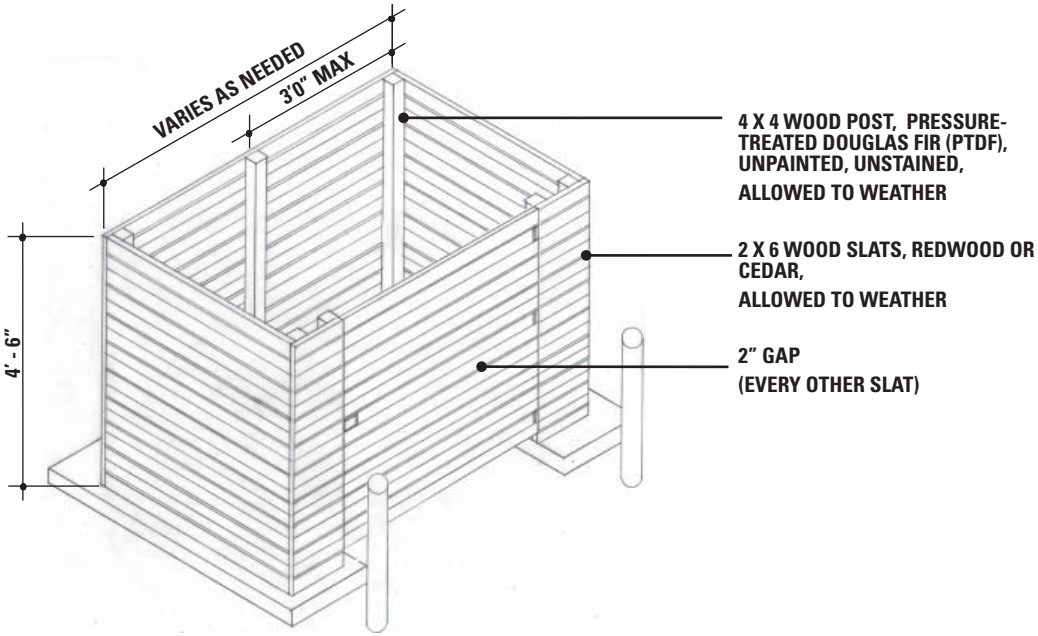
Enclosures

A simple wood structure is recommended for enclosures in the Baylands. The structure uses 2 x 6" wood boards set horizontally to reinforce the horizontality of the Baylands environment. Two boards are laid adjacent to each other with a 2" gap between each pair of horizontal boards. This gap will reinforce the horizon line and reduce the mass of the enclosure.

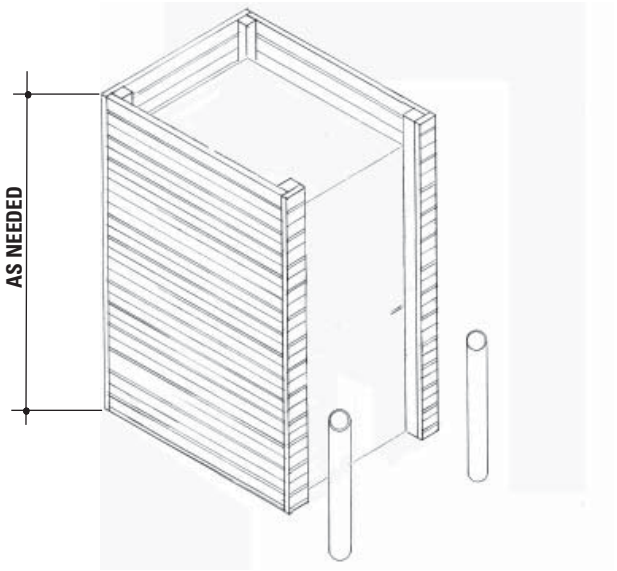
Unpainted, untreated redwood or cedar is recommended, which will weather to a soft grey. A natural preservative or grey stain may be used to extend the life of the wood.



Enclosure without Gate



Enclosure with Gate



Port-a-potty Enclosure

Here two kinds of bollards are used– the removable bollard has orange and white reflective tape. White tape alone would probably be sufficient for safety and less visually jarring.

Here metal bollards and a steel enclosure are of different colors. One muted color for all the elements would be better.

Sailing Station Pier: interior of fence is painted white, exterior is unpainted. Note how the unpainted side blends with the natural environment while the white painted side stands out.

COLORS AND FINISHES

ASSESSMENT

Colors and Finishes

A variety of colors and finishes are found in the Baylands on metal, wood, and other surfaces. Because the Baylands is a subtle environment with a very muted, limited color palette of natural materials, bright colors stand out much more than in an urban setting.

The integrity and coherence of the Baylands experience is enhanced by a consistent approach to color, using neutral and recessive colors that do not compete with the subtle beauty of the natural landscape.

Even white paint can be visually jarring, as seen on the fence at the Sailing Station. There a fence has one painted and one unpainted side. The painted white side is much more visually intrusive than the unpainted side that has weathered to a natural gray.

DESIGN GUIDELINE

Colors and Finishes

Paint all metal: Benjamin Moore Sandy Hook Gray HC-108

All wood elements should be allowed to weather to gray or stained with Olympic 911 natural gray color.

If wood is to be painted (e.g. for grafitti abatement, or over previously painted wood), use Benjamin Moore Sandy Hook Gray HC-108

Apply primer, paint and stains according to manufacturer's recommendation.

Reflective tape: white only.

CONCLUSION

The Palo Alto Baylands Preserve is a unique and varied landscape that is increasingly valuable as a recreational and environmental resource.

The Preserve is becoming increasingly valuable and popular as a public open space for contemplation, recreation, observation of nature, and for education about the environment. At the same time, there is increasing pressure to site new uses in the Preserve such as parking facilities and active recreation fields.

As more people use the Baylands Nature Preserve, and as there is more pressure to install additional elements into the natural setting, it becomes increasingly important to establish a set of guidelines for their design, selection and installation. These Design Guidelines will ensure that improvements to the Preserve are consistent with its overall environmental character and will direct City resources in an efficient way.

The central focus of these Guidelines, from a design perspective, is to preserve and accentuate the horizontality of the Baylands environment and the horizon line. For urban dwellers seeking an experience of nature, the restorative power of the Baylands is largely derived from the feeling of being in a wide-open, flat, expansive natural environment, and attuning to its dynamic natural systems.

BYXBEE PARK

Byxbee Park, known as Byxbee Park Hills, is located on several large "hills" created from the City's landfill.

The park design and landscape plan by George Hargreaves has achieved international recognition as a model land reclamation project, both for its natural beauty and as an ecological and technical achievement. Phase I, at the north end of the park, was designed as an art park in collaboration with artists, Peter Richards and Michael Oppenheimer.

Located in the heart of the Baylands, Byxbee Park is composed of naturalistic land contours and a covering of rough grasses designed to blend with the forms, colors and textures of the surrounding marshlands and foothills, providing a quiet, intimate setting for exploring the unique qualities and wild life of the Baylands. Oyster shell trails lead from simple wooden viewing platforms at the waters edge for close observation of the great populations of migrating birds that pass through the Baylands to high points with sweeping views of the marshlands and the foothills ringing the south Bay. In the upland areas, small hillocks reminiscent of Ohlone shellmounds provide shelter from the wind. When the park is complete, a viewing platform marked with cardinal points will be located at the highest and most secluded point in the Park.

DESIGN GUIDELINES

The City Council approved landscape plan for Byxbee Park, dated April 1991, includes the topography and layout for park development of the entire landfill area, as well as construction details for Phase I that was completed in the early 1990's.

Maintain all site features in the completed Phase I area according to the approved landscape plan.

When the remaining landfill is closed, implement the approved landscape plan to complete Byxbee Park.