
DESIGN GUIDELINES

Design Guidelines Introduction

Rarely does a city have the potential to provide its citizens with an open space that encompasses recreational spaces and a transportation corridor, active and passive uses, and the opportunity to celebrate, educate and integrate the entire community. El Cerrito has the good fortune to have the Ohlone Greenway, which due to the fact that it runs from North city limit to the South city limit, is literally in every neighborhood’s backyard, providing the people of El Cerrito with a distinctive amenity that everyone can be proud of. Community groups might be organized to name each segment of the Greenway, further identifying portions of the site as distinct parts of the whole.

The Design Guidelines strive to adhere to a set of standards that, through numerous public workshops, community input and internal city meetings, have been identified as crucial elements to integrate into the overall Master Plan Concept as the city moves forward into the next phases of developing the site to its full potential:

- Create a Unique “El Cerrito” Experience
 - Create memorable spaces
 - Celebrate historical and cultural aspects of the community
 - Take advantage of unique site ambiance and features
 - Incorporate local materials and resources
- Increase Use of the Greenway
 - Provide activity areas to attract users
 - Strengthen relationships to adjacent uses
 - Buffer incompatible uses from each other, make sure that primary and secondary uses do not conflict
 - Provide support amenities (drinking fountains, trash receptacles, restrooms, etc.)
- Support a Healthy Community
 - Create areas for recreation and exercise
 - Nurture opportunities for community interaction, education and learning
 - Insure a safe, inviting, attractive space to encourage walking, jogging, biking, skating, etc.
- Create a Comfortable Place for a Diversity of Users
 - Improve security (signage, lighting, visibility)
 - Provide a variety of passive and active areas
 - Provide both sunny, open areas and shady, wind protected areas
 - Implement universal design concepts
- Integrate Sustainable Concepts
 - Minimize maintenance
 - Facilitate future use of solar power, integrated water management, and other alternative and renewable resources
 - Thoughtfully site activities to take advantage of sun and wind corridors
 - Implement sustainable landscape and planting design practices



The Ohlone Greenway, like many other trails including the Silver Strand Trail in San Diego, is a Rails-to-Trails site built on the gradual, smooth grade of the old Atcheson-Topeka Santa Fe railroad ballast.



Art and history can be combined in many ways to bring interest and purpose to a site.



User groups on the Ohlone Greenway are many and diverse. Care should be taken to make sure the needs of all are appropriately met, like giving joggers a surface to run on.



It is vital that the vast opportunity to provide a range of amenities such as educational programs on the Greenway site be nurtured.



Sustainably practical design, such as drainage bioswales, can be combined with the urban landscape in exciting ways while still preserving plant and animal habitats.



Not only should the Greenway provide a safe, comfortable and efficient transportation corridor, it should also provide places to stop, rest and watch the world go by.



Landscaping should reflect the native plant and wildlife habitats, while also allowing for beautiful, safe, sustainable spaces as well as providing infrastructure like water fountains.



A blend of native and water-wise plant palettes will give variety to the landscape while celebrating the diversity of choices available in the local climate.



Exploration is another type of journey that can be taken on the site if the right kinds of environmental encouragement are supplied.

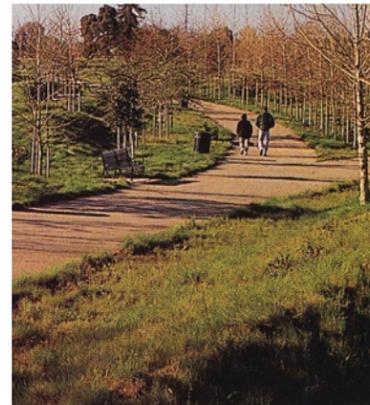
GUIDELINES OVERVIEW



Trail Orientation

The Ohlone Greenway, which is located beneath the aerial trackway of BART’s “R” line, is the only existing designated Class I bicycle and pedestrian facility in El Cerrito, used by a high percentage of the population of the city for both recreational and utilitarian trips. (City of El Cerrito Circulation Plan for Bicyclists and Pedestrians, see Bibliography, Sec. G pg. 83) Its uniqueness in this respect and the fact that it extends through the entire city make it a critical transportation corridor for many people in a wide range of user groups, from cyclists to pedestrians, wheelchair users and other physically challenged community members, skaters, walkers, joggers, and just about everyone else. Due to many factors, the number of users of the Greenway is expected to increase in the future. The existing trail does not meet Caltrans guidelines for a highly-used Class I multi-use trail.

Public Workshops were held to determine the needs of the community for an updated trail alignment standard and a list of criteria was developed in order to move forward with the trail alignment design quickly enough to incorporate it into the BART seismic improvements to the elevated structure, which is scheduled to break ground in 2009 and will take two to four years to complete. The list of criteria is as follows:



- Consolidate Pedestrian and Bicycle trails into a single primary multi-use trail where possible; ideal configuration is a 14’-0” asphaltic concrete paved path with a 2’-0” decomposed granite shoulder on each side.
- The trail alignment may be narrowed or otherwise adjusted to accommodate special environmental considerations, such as mature trees, grading or drainage issues, etc.
- Keep the trail as straight as possible. Slow bicycle traffic at intersections with streets with a slight bend (“wiggle” configuration) as opposed to an extreme bend (“kinked” configuration) or straight alignment.
- Where there is not enough room for a single consolidated trail, the split trail will be two equal multi-use trails.
- Minimize demarcations on trail, generally favoring a single stripe in the middle separating traffic directionally as opposed to separating types of user groups from each other.
- Align trail a minimum of 8’-0” away from BART aerial trackway supports if at all possible for visibility and safety, with a smaller distance allowable if required by site conditions.
- It is of utmost importance to maintain the park-like “green” character of the Greenway. Paving must be offset with well-maintained landscape improvements.

An additional secondary pathway system may be developed to provide a more park-like experience in certain locations, or in areas where an off-trail amenity will require access. The primary trail shall be designed with Universal Design principles in mind and must be accessible to all users. Any newly constructed secondary paths shall also be designed with these principles in mind and must be accessible to all users if they provide access to an off-trail amenity.

Existing Conditions



8-9 ft. wide portion of Ohlone Trail between Eureka Avenue and Stockton Avenue



8-9 ft. wide portion of Ohlone Trail just north of Waldo Avenue



8-9 ft. wide portion of Ohlone Trail south of Moeser Lane



8-9 ft. wide portion of Ohlone Trail between Schmidt Lane and Manila Avenue



8-9 ft. wide portion of Ohlone Trail between Waldo Avenue and Moeser Lane



8-9 ft. wide portion of Ohlone Trail at Hill Street, south of El Cerrito Del Norte BART



6 ft. wide section of Ohlone Trail between Donal Avenue and Gladys Avenue

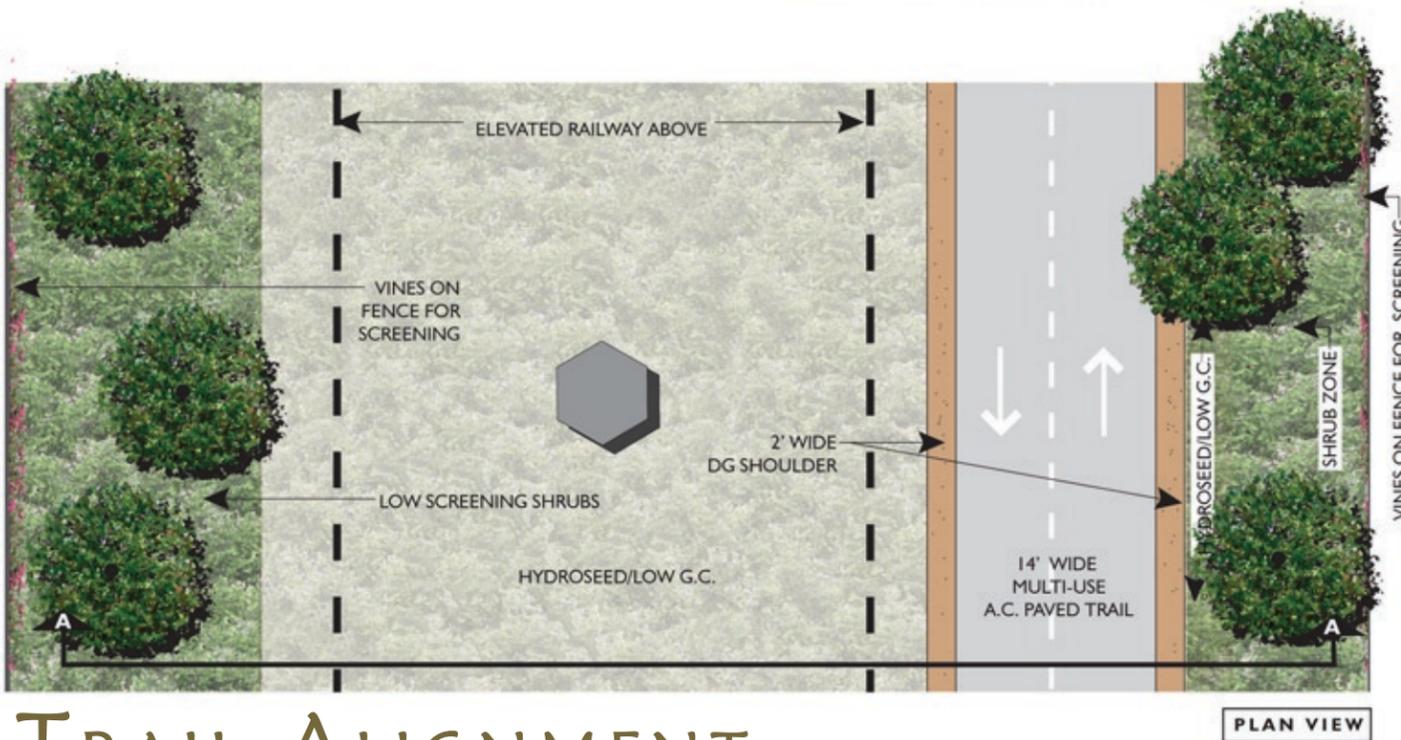
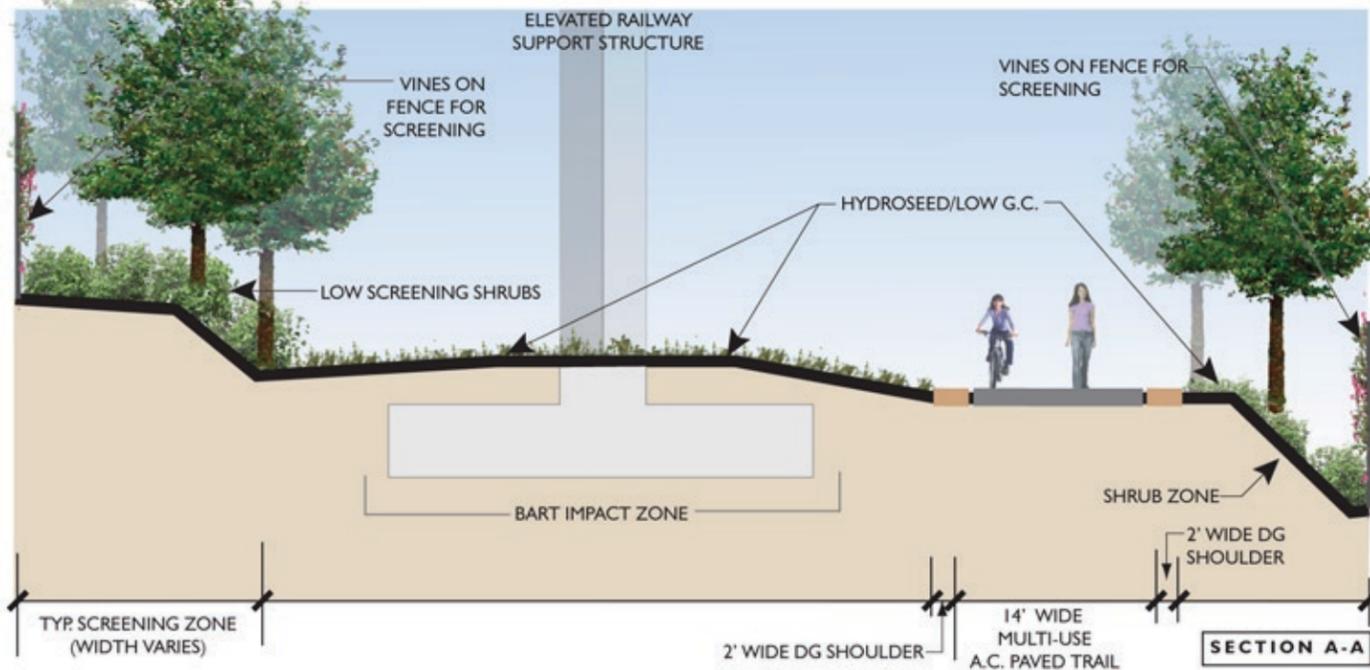


12 ft. wide paved portion of Ohlone Trail north of Knott Avenue

TRAIL ALIGNMENT



Trail Configuration — Typical Condition



TRAIL ALIGNMENT

The Typical Condition configuration applies to approximately 80% of the length of the trail. The few portions of the trail which do not fall into the Typical or Alternative Conditions are designed on a case by case basis unique to the specific site condition.

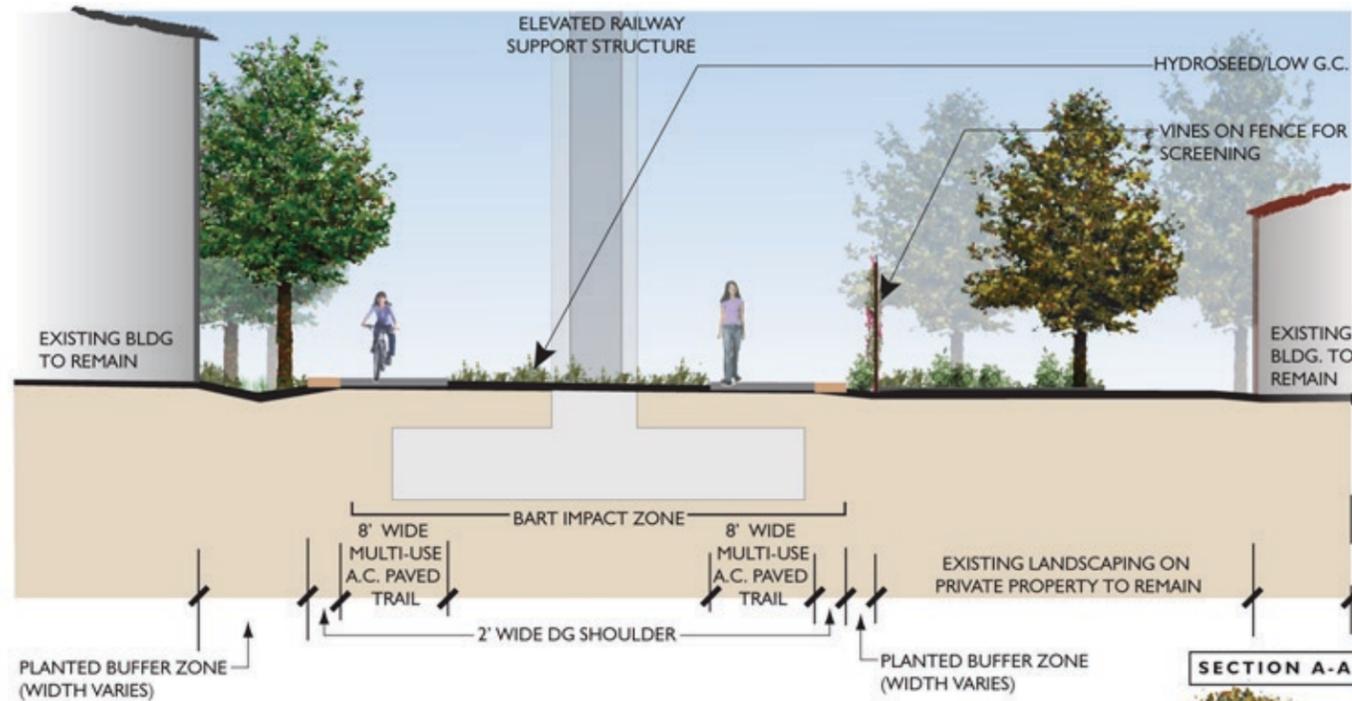
- A single, multi-use trail on the east side of the BART aerial trackway support columns provides the main access and pathway through the site. Total width is 14'-0" of asphalt (A.C.) paving with a 2'-0" shoulder of decomposed granite (D.G.) at each side to reduce degradation of the paving edges and to give walkers and joggers a softer surface to travel upon.
- A stripe down the middle of the paved trail indicates direction of travel to users but does not attempt to separate different types of users from each other.
- Signage along the path provides guidance as to trail etiquette and lets people know that this trail is appropriate for all users to enjoy.
- Locating this path as far away from the BART columns as the site conditions will allow for an increased sense of safety to users as well as an opportunity to keep the planted portions of the site close to the path, maximizing the "green" experience of the trail.

Photo Simulation of Proposed Trail Configuration



Existing typical condition just south of Lincoln Avenue

Trail Configuration — Alternative Condition



The Alternative Condition configuration applies to most of the remaining length of the trail, and is the preferred way to compensate for areas where the width of the site narrows to the extent that a single trail of at least 14' total width cannot be aligned to one side or the other of the columns without the distance between trail and BART columns becoming uncomfortably close.

- A “couplet” type trail provides two equally accessible pathways through the site, one on each side of the BART columns with the idea that user traffic will travel to the right side. Total width of each trail would be 8'-0" of asphalt paving with a 2'-0" shoulder of decomposed granite at the outside to reduce degradation of the paving edges and to give walkers and joggers a softer surface to travel upon in each direction.

- This trail condition will not be striped, as the pathway is technically “one way” and signage along the path provides guidance as to trail etiquette as well as directional travel, as well as letting users know that this trail is multi-use and appropriate for all.

- The width of the trail in these alternative areas is constricted by the nature of the condition. The minimum distance of 8'-0" may not be possible; however, as much distance as is available will be maintained, and the landscape design will strive to preserve the “green” experience as much as it can given the limitations, while still providing clear visibility of the surroundings for safety.

Photo Simulation of Proposed Alternate Trail Configuration



TRAIL ALIGNMENT



Security Guidelines

The Ohlone Greenway currently has both real and perceived issues regarding security for users. The isolation of mid-block areas, lack of visibility from the street, and proximity of the existing trails to the elevated BART railway support columns make the site difficult for police to patrol and monitor. Additionally, the existing planting is dense and enhances the perception of unsafe conditions for users. Future conditions along the Greenway will:

- Increase Visibility Along the Trail
 - A single multi-use trail will be entirely visible from street crossings
 - Visual obstructions along the trail will be removed
 - Landscape plantings will be low to the ground, or pruned high
 - Potential hiding places will be minimized or eliminated
 - The new trail alignment will maintain a distance between the BART columns and the path (minimum 8'-0" typical distance)
- Increase "Eyes on the Greenway"
 - Added amenities will attract user groups to increase usage, making the path feel safer
 - Activity nodes will be created
 - Connections to future development will be provided, ensuring that it does not "turn its back on the Greenway"
- Improve Lighting
 - A single, well lit pathway will avoid glare and dark spots (see Lighting Guidelines, Sec. D pg. 38)
- Install Security Devices, Call Boxes, and Signage at Selected Locations
 - Surveillance cameras will facilitate improved emergency response
 - Blue Phone call boxes in key locations will provide additional feeling of safety for Greenway users
 - Warning-type signage will let potential perpetrators of crime know the Greenway is not a "no-man's-land"
- Design Site Using Crime Prevention Through Environmental Design Practices (CPTED) (see Bibliography Sec. G pg. 83)
 - Natural Surveillance – "See and be seen"
 - Natural Access Control – Clearly differentiate between public and private space, control the flow of people
 - Territorial Reinforcement – Create a "sphere of influence" to develop a sense of proprietorship
 - Maintenance – Well maintained public spaces make for safer places. (see Maintenance Guidelines, Sec. D pg. 28)

Existing Conditions



Mid-block areas are isolated and suffer from a lack of visibility.



Overgrown shrubs and a pair of narrow pathways make visibility from the street crossings difficult.

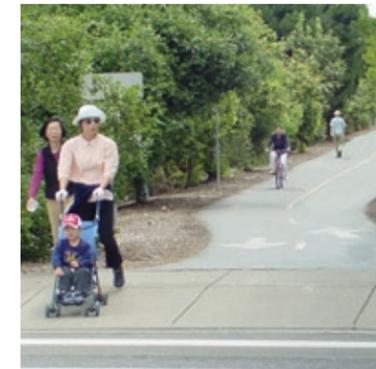


BART columns directly adjacent to the paths in some places provide potential hiding places.

Proposed Security Elements

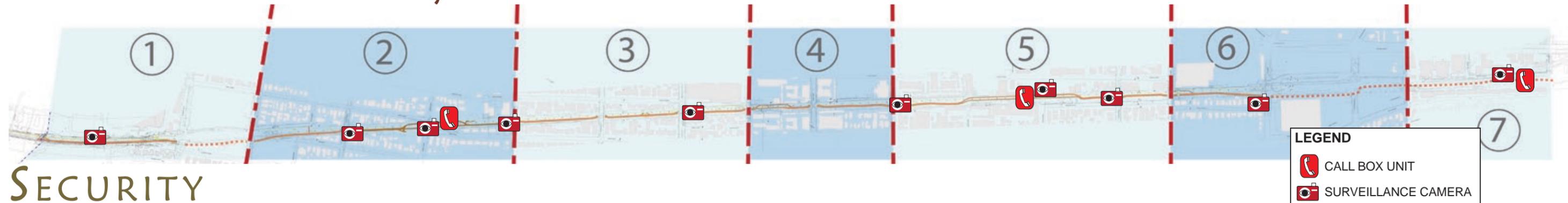


Plenty of visibility and landscape kept low and high reduces the potential for security issues along this Greenway trail.



Increasing usage along the trail through more activity nodes, a wider trail with fewer visual obstructions, or a shared community interest and sense of pride and proprietorship in the site makes for a more usable, pleasant space for all.

Potential Locations for Security Devices



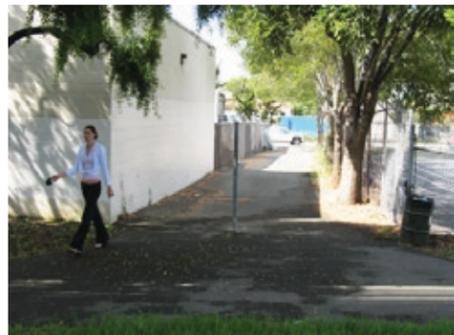
SECURITY

Safety Guidelines

Quite separate from issues of security are issues of safety for trail users. Areas needing improvements are as follows: navigation at intersections where the trail and streets or pedestrian and non-motorized vehicles meet are difficult to navigate, lighting for night time or early morning use, narrow width and alignment for easy passing, and the condition of the pavement. While the pavement condition and alignment of the Ohlone Greenway trail will be improved by the restoration completed during BART's seismic retrofit, there are a number of Guidelines related to safety that will be adhered to as the development of other areas is considered:

- Clear navigational cues at crossings, including improved visibility, clear signage/demarcations, lighting, and pavement alignment to accommodate ease of passing
- Increased lighting for safe early morning and night time navigation of the primary trail, especially important for commuters
- Regular maintenance of trail to provide smooth, level surface for walking and other activities

Existing Conditions



Intersections where trails come together are potential locations for user conflict.



Existing worn pavement.



Existing trails are too narrow for comfortable passing.

Proposed Elements



Signage, lighting, and practical design will minimize user conflict at intersections.



Adequate lighting will allow for more use of the trail and fewer conflicts.



A new wider trail will provide room for everyone.

Accessibility Guidelines

Universal Design is the concept that designed environments should be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design. It has evolved from the principles of the federal Americans with Disabilities Act, which dictates that designed spaces must be accessible to all people, including those whose mobility is limited in some way. As sites along the Greenway are developed or improved, those with limited access issues will be brought up to compliance with ADA accessibility requirements, including but not limited to:

- Grading of paved areas to discourage flooding and promote ease of travel
- Accessibility to all amenity areas, such as playgrounds and plazas
- Conditions at crossings will be improved with truncated domes and lighted crosswalk indicators
- Widths and grading of primary trails shall comply with ADA requirements.
- Adequate landscape clearances will be maintained to avoid interference with trail users.

Additionally, the path will be brought up to ADA accessibility requirements to make navigation and travel easier for those with mobility limitations, and the City of El Cerrito will seek to incorporate Universal Design principles where possible when proceeding with development of specific sites along the Ohlone Greenway.

Existing Conditions

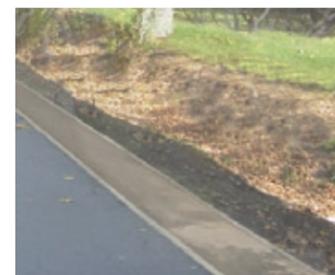


Edges without decomposed granite shoulders are less than optimal, especially to visually- or mobility-impaired trail users.



Grading issues on secondary trails are difficult to navigate for those with impaired mobility.

Proposed Elements



A decomposed granite shoulder bordered with edging will prevent crumbling trail edges



Truncated domes will be installed at street intersections.



Wide, smooth paving surfaces are easier to travel upon.



Accessible sandboxes accommodate all users

SAFETY AND ACCESS



Maintenance Guidelines

Maintenance concerns are among the most important issues on the Ohlone Greenway. There is a theory put forth by the Crime Prevention Through Environmental Design (CPTED) guidelines that maintenance is evidence of ownership of a site. When a public site is not well maintained, it encourages further destructive actions. The more quickly an instance of vandalism or graffiti is fixed, the less likely another instance of such behavior will happen again. While abatement of vandalism, as well as other ongoing maintenance requirements such as trash removal, landscape maintenance, and maintenance of site amenities do cost the city some money annually, the value that is returned by a site that is well-used and well loved by the community is priceless. There are a number of guidelines that, when implemented, will increase the usability of the Greenway and correspondingly, its value to the community:

- Accommodate trash and recycling on the site
 - Trash and recycling containers will be placed consistently and emptied regularly
 - Creek channels will be cleaned regularly
- Use low maintenance planting palette
 - Plantings shall be chosen to reduce pruning and other maintenance as well as water usage
 - Appropriate planting will reduce weed growth
- Maintenance of site amenities
 - Replace old, broken or outdated equipment such as play structures, riparian/creek observation decks and bridges, and site furnishings
 - Prompt repair of these amenities when an act of vandalism occurs will reduce repeat occurrences
- Provide for community involvement in maintaining the site
 - Organize community work days to pick up trash
 - “You-Clean-It” stations will provide users with gloves, trash bags and other cleaning supplies
 - More dog waste baggie receptacles will be provided along the trail
 - Territorial Reinforcement – Create a “sphere of influence” to develop a sense of proprietorship
- Reduce opportunities for graffiti
 - Art on BART support columns (upon approval from BART) and murals on walls increase aesthetic appeal, which has been shown to discourage graffiti in public places
 - Shrub plantings or use of “Green Screen” products to screen walls and fences will limit access for vandals and taggers
 - New site furnishings and signage shall be chosen with durability and resistance to vandalism in mind

Existing Conditions



Replacing broken or obsolete amenities will help reduce vandalism, and increase the opportunity for more positive active uses.



Graffiti is a common occurrence along the Greenway that could be deterred.



More appropriate planting choices will minimize weeds and invasive plant species, as well as making trash cleanup easier.

Proposed Maintenance Elements



This “You Clean It” station is used by the City of Oakland to assist community members in keeping their public spaces free of litter. Similar stations could be located along the Ohlone Greenway.



Opportunities for artistic expression are numerous on the Greenway site; not only is public art beautiful, it also indicates a sense of pride of place that lessens the possibilities for graffiti and vandalism.



The integration of drought tolerant and native plants into the landscape will not only cut down on pruning and weeding maintenance issues, they will also minimize the need for fertilizer and pesticide application, and require less watering.

MAINTENANCE

Signage Guidelines

The Ohlone Greenway supports a wide range of uses within its limits, ranging from a travel corridor to a place for reflection; from a corridor connecting “here” to “there” to an opportunity to stop and appreciate one’s surroundings, in both active and passive ways. These varied uses instill the need for clear, functional signage that fulfills several tasks:

- Directional/Wayfinding
 - Directs users to adjacent locations
 - Indicates distances to various local amenities
- Geographical/Identity
 - Street-type signs at intersections of multi-use trail with streets or crossing pedestrian paths
- Recreational
 - Distance markers set near or into the path for joggers, cyclists, walkers, etc.
- Safety
 - Warning signs indicating upcoming traffic conflict areas between user groups
 - “Rules of the Road” signs detailing appropriate behavior on multi-use trail
- Interpretive
 - Educational, historical, habitat or other interpretive signage relevant to the site, specifically or generally

Proposed Examples of Signage



Interpretive



Safety - Trail etiquette



Geographical



Directional and Wayfinding



Directional and Wayfinding



Recreational

Infrastructure

Underlying all of the functions, guidelines and issues of this Master Plan is the absolutely crucial need for infrastructure to support the various requirements that a site of this importance demands. This behind-the-scenes framework must be considered when the design of each individual site is designed, and care must be taken to realize that while the Ohlone Greenway may be improved gradually, the components of a strong and long-lasting infrastructure must be considered as a whole. One category of infrastructure is site-specific amenities:

- Toilet/Restroom facilities
 - There are a variety of restroom facility options available to consider for the sites where such a facility has been recommended. In addition to budgetary considerations, one main criteria should be whether running water is desired or whether a chemical or compost type of facility is more appropriate. Maintenance is also an issue and may in fact decide whether such facilities are even feasible to include on the Greenway at all.
- Water Fountains
 - Water fountains are highly desirable at regular intervals along a path which is used for recreational and exercise purposes. An effort should be made to provide water lines to support such an amenity, which would benefit not only trail users of the human persuasion but dogs whose owners bring them to sites along the Greenway, such as potential Dog Park sites, as well.
- Par Course facilities
 - The current Par Course along the Ohlone Greenway is obsolete and in poor condition. Many, if not all, of the installations will be removed during the BART seismic project, and will not be replaced at that time. Input from the community should be undertaken to determine whether such an amenity is desirable to trail users, and if the feedback shows that it is, research will be conducted to decide what kind of exercise equipment would be most useful to all users of the trail. Any equipment installed will be safe and durable, as well as being maintainable to a high extent.

Perhaps more integral to the overall structure of the Greenway and its various sites is the overall internal infrastructure, that which trail users never even see:

- Irrigation
 - Although plantings will primarily be drought tolerant, an efficient irrigation system is still required to establish a healthy landscape and to provide water to more active use areas, such as turf. The City has designed a backbone irrigation system which may be installed as a part of the BART Earthquake Safety Program Greenway restoration program to irrigate replacement plantings and added on to as future plantings or special areas are developed.
- Electrical Connections
 - Electrical supply is needed to support additional lighting as well as for proposed security elements such as cameras and phones and future desired technological components such as electronic informational kiosks, wayfinding stations and wireless Internet connections which were all brought up at community meetings. Existing electrical connections can provide supply power for the overhead pathway lighting system currently in place and the existing irrigation system controllers located in the pedestal cabinets along the Greenway. Additional power requirements would require upgrades to the electrical service points by PG&E.

SIGNAGE AND INFRASTRUCTURE



Planting Guidelines Introduction

As a result of many community workshops and meetings with El Cerrito staff, a list of landscape goals was created for the Ohlone Greenway. The goals provide a guideline for future planting schemes for the Ohlone Greenway. The intent is to provide users with a sense of ownership, safety, and pride in the Greenway.

- Protect and enhance environmentally sensitive areas
 - Protect and enhance existing creek watersheds, animal habitats, significant trees and native plants
- Celebrate special character areas
 - Urban Forest Demonstration Garden, Wildflower Area, Itaya Plaza
 - Create a local identity by providing historical ties to the Greenway
- Use plants that provide variety, seasonal interest and habitat
 - Seasonal color, foliage color and form, and flowering plants
 - Indigenous plants that provide habitat for local wildlife
- Maintain visibility for safety
 - Keep plantings low, especially near paths or limb trees up high, and screen with tall plantings appropriately to avoid creating unsafe edges and/or spaces
- Minimize maintenance requirements
 - Choose plants that are well adapted to El Cerrito's climate and soils, so as to be able to minimize pruning and use of synthetic fertilizers and inorganic pest control
 - Reduce manicured turf areas
- Reduce water usage
 - Design with drought tolerance in mind
 - Provide on-site stormwater management such as bioswales
 - Design an efficient irrigation system

Additionally, a selection of appropriate plant species was organized into four planting palettes (see Sec. D pg. 32-33) to support the landscape goals and offer a way to provide a cohesive look to the Greenway while also celebrating variety on the site. These palettes would be keyed to appropriate existing or proposed areas on the site:

- Meadow
- Oak Woodland
- Riparian / Swale
- Cultural

Existing Conditions



Restore or create riparian areas where possible.



Protect and enhance existing frog habitat.



Enhance potential swale plantings/habitat.



Underutilized existing sites have the potential to be improved upon, creating a much greater benefit to the community.



Culturally significant areas need enhancement with shrub and perennial plantings and more educational signage.



Plantings lack diversity. Monochromatic; little seasonal interest. High maintenance, invasive exotic species.



Isolated areas create opportunities for dumping and homeless camps.



Protect existing native plantings and reduce maintenance requirements by planting native species adapted to El Cerrito climate and soil.



Turf requires unnecessary high water use for areas which are not used. Therefore turf should not be used as an ornamental groundcover, but is acceptable where it supports public use.

PLANTING GUIDELINES OVERVIEW



Protect Environmental Areas

The Ohlone Greenway offers a variety of ecological oases for new and existing wildlife. From the Pacific Chorus Frog habitat to the California Native Wildlife or Wildflower gardens to the Oak Woodland, areas like these will be protected and enhanced along the trail. These areas will not only provide much needed habitat for Bay Area wildlife, but also offer interpretive opportunities for current and potential Ohlone Trail users.



Existing frog habitat area along Greenway between Lincoln and Stockton.



Education is an important form of protection for wildlife habitat.

Maintain Visibility for Safety

The more people that use a piece of open space, the more “eyes” there are on the park. This translates into more security, which typically leads to a reduction in crime. New and enhanced zones along the Greenway will attract more trail users who will linger longer thereby creating an informal, community-driven security program. In addition, by planting low plants near the trails and keeping trees pruned up high, visibility will be maintained and the trail will feel safer.



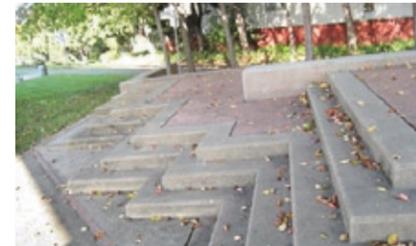
A narrow trail and overgrown planting impedes visibility.



Low or high plantings provide a sense of physical safety to users.

Celebrate Special Areas

On the Ohlone Greenway there exist many special areas that call for celebration. New plantings and minor renovations to hardscape elements will open these areas to the public and increase the possibilities for recreation, education, and relaxation. One example is the Itaya Plaza. This area currently is sparsely planted and features an outdated hardscape space. Incorporating improved planting and designing a more user friendly hardscape would enliven this special area.



Currently Robert Itaya Plaza is dated and unused. Many of the trees will be removed during BART’s seismic project.



An improved hardscape and simple, effective plant plan will enliven the space.

Minimize Maintenance

Public space can be difficult to maintain, and the Ohlone Greenway is no different. Maintenance visits will be more productive and costs reduced by planting Mediterranean climate native plants, mulching heavily with bark chips, and fertilizing with leaf litter and/or lawn clippings already present on the site. Small turf strips will transform into grassy meadows, native plants will attract beneficial insects, and creative plantings will help reduce graffiti opportunities.



Thirsty turf is not the ideal choice for a low maintenance landscape.



Low maintenance plantings can be both beautiful and efficient.

Provide Variety and Interest

One of the most popular times of year on the United States East Coast is fall due to the spectacular array of leaf colors. Much more subtle but no less compelling are the seasonal changes here in California. Through inventive planting palettes, the Ohlone Greenway can easily be enhanced by providing trail users with a diverse and colorful variety of tree and shrub foliage colors, plant forms, fall color, and prolific, seasonal blossoms.



A homogenous plant palette is the typical existing condition along the site.



Using plants to define specific areas within the site can only make the Greenway that much more special to the community.

Reduce Water Usage

Many people are feeling the effects of the California drought. Just look up at the East Bay Hills and one can see our dry, brown grasslands dominating the landscape. Now more than ever public landscapes need to set an example for beautiful, drought-tolerant home gardening. The Ohlone Greenway can lead the way! Large turf areas will be reduced or replaced with Mediterranean climate natives and an efficient irrigation system installed. In addition, bioswales will be installed to reduce surface run-off to the Bay.



Reducing water usage is often accomplished by having no landscaping at all.



Bioswale plantings can efficiently use existing water on the site, as well as reducing stormwater runoff to the Bay.

PLANTING GUIDELINES - GOALS



Meadow

The meadow landscape will provide habitat for insects and birds while preserving visibility and defensibility for trail users. By designing with California native grasses and perennials, the meadow landscape will reduce the need for maintenance: little to no mowing of turf areas, little to no water use, and less weed management through the reduced need for pesticides and fertilizers.



Example Plant List for Meadow Palette:

- | | |
|------------------------------------|-------------------------|
| <i>Carex pansa</i> | California Meadow Sedge |
| <i>Cistus hybridus</i> | Rockrose |
| <i>Erigeron glaucus</i> | Seaside Daisy |
| <i>Eschscholzia californica</i> | California Poppy |
| <i>Festuca glauca</i> | Blue Fescue |
| <i>Helictotrichon sempervirens</i> | Oat Grass |
| <i>Lupinus spp.</i> | Lupine |
| <i>Mimulus spp.</i> | Sticky Monkey Flower |
| <i>Pennisetum spp.</i> | Fountain Grass |
| <i>Penstemon heterophylla</i> | Beardtongue |
| <i>Salvia spp.</i> | Sage |
| <i>Santolina spp.</i> | Lavender Cotton |



Mimulus 'Miranda'



Lupinus chamissonis



Erigeron glaucus



Penstemon heterophylla



Festuca glauca



Salvia leucophylla

Oak Woodland

To evoke a feeling of the East Bay, oak woodlands will be created at various points throughout the Greenway. Not only do the woodlands represent the historic Bay Area landscape, they will provide interpretive and cultural opportunities for residents to learn about everything from Native American uses of acorns to the natural life cycle of an oak. Oak woodlands are very drought tolerant and will reduce water usage and maintenance needs.

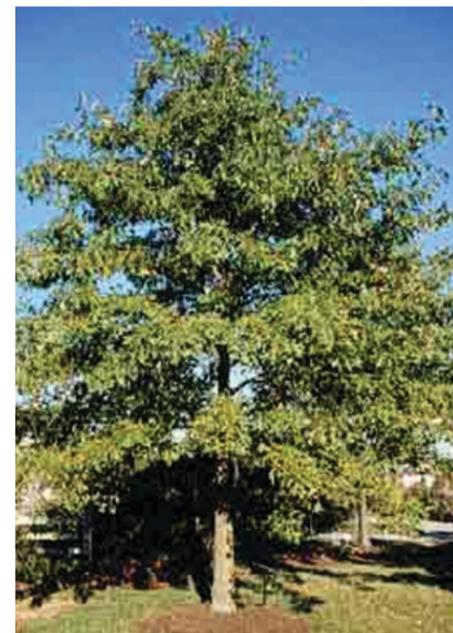


Example Plant List for Oak Woodland Palette:

- | | |
|--------------------------------|-----------------------------|
| <i>Arbutus spp.</i> | Strawberry Tree, Madrone |
| <i>Arctostaphylos spp.</i> | Manzanita |
| <i>Baccharis pilularis</i> | Dwarf Coyote Brush |
| <i>Carpinteria californica</i> | Bush Anemone |
| <i>Ceanothus spp.</i> | Wild Lilac |
| <i>Cercis occidentalis</i> | Western Redbud |
| <i>Garrya elliptica</i> | Silktassel |
| <i>Heteromeles arbutifolia</i> | Toyon |
| <i>Ribes spp.</i> | Gooseberry, Currant |
| <i>Quercus spp.</i> | Oak, various native species |



Ribes speciosum



Quercus coccinea



Cercis occidentalis



Ceanothus griseus horizontalis



Carpinteria californica

PLANTING GUIDELINES - PALETTE

Riparian / Swale

Warm winters, cool summers. Thanks to the marine influence of the San Francisco Bay we are blessed with a mild climate, few botanical allergens, and a diverse population of people, plants, and animals. The riparian and swale areas within the Greenway present an opportunity for us to continue to respect the local watershed and clean site irrigation and storm water before it drains to the Bay. By collecting storm water in bioswales, infrastructure costs are reduced while creating habitat for frogs, beneficial insects, and birds. Due to the uniqueness of the riparian and swale habitat, plants tend to have varied seasonal interest which will provide interpretive and educational opportunities year-round.



Example Plant List for Riparian/Swale Palette:

- | | |
|---------------------------------|--------------------|
| <i>Acer macrophyllum</i> | Big-leaf Maple |
| <i>Alnus rhombifolia</i> | White Alder |
| <i>Calycanthus occidentalis</i> | Western Spice Bush |
| <i>Carex spp.</i> | Sedge |
| <i>Chondropetalum tectorum</i> | Cape Rush |
| <i>Cornus stolonifera</i> | Dogwood |
| <i>Heuchera spp.</i> | Coral Bells |
| <i>Isolepis cernua</i> | Fiber Optics Plant |
| <i>Polystichum munitum</i> | Western Sword Fern |
| <i>Populus fremontii</i> | Western Cottonwood |
| <i>Umbellularia californica</i> | California Laurel |
| <i>Woodwardia fimbriata</i> | Giant Chain Fern |



Acer macrophyllum



Chondropetalum tectorum



Calycanthus occidentalis



Heuchera micrantha 'Purple Palace'

Cultural

The cultural landscape palette celebrates the uniqueness of El Cerrito: its local talent, residents, and geography. For example, the local artist and horticulturalist Harland Hand (1922-1998) "painted with plants", using his flair for color and texture combined with a vast knowledge of climate-appropriate planting to create landscapes rich with evocative beauty. Using a selection of aesthetic yet appropriate plant species, local gathering spots along the Ohlone Greenway will come to life with flowering trees, shrubs, and perennials. Picnic and seating areas, an informal amphitheater, strolling areas and active use areas will be designed to serve the community in a variety of ways, providing many examples of the ways that the appeal of dramatic design can intersect with environmentally mindful landscape practices.



Harland Hand Memorial Garden, photo courtesy of Ted Kipping

Example Plant List for Cultural Palette:

- | | |
|-------------------------------|-------------------|
| <i>Acer rubrum</i> | Red Maple |
| <i>Carpinus betulus</i> | European Hornbeam |
| <i>Dietes vegeta</i> | Fortnight Lily |
| <i>Echinacea purpurea</i> | Coneflower |
| <i>Euryops pectinatus</i> | Yellow Marguerite |
| <i>Fraxinus angustifolia</i> | Raywood Ash |
| <i>Hemerocallis hybrids</i> | Daylily |
| <i>Lantana spp.</i> | Lantana |
| <i>Lavandula spp.</i> | Lavender |
| <i>Liriope muscari</i> | Lily Turf |
| <i>Magnolia x soulangeana</i> | Saucer Magnolia |
| <i>Malus spp.</i> | Crabapple |
| <i>Phormium hybrids</i> | New Zealand Flax |
| <i>Quercus rubra</i> | Red Oak |
| <i>Rosa 'Meidiland'</i> | Carpet Rose |
| <i>Sophora japonica</i> | Pagoda Tree |



Magnolia soulangeana



Hemerocallis 'Stella D'Oro'



Lantana camara 'Confetti'



Liriope muscari 'Variegata'

PLANTING GUIDELINES - PALETTE



Typical Street / Trail Crossing Treatments



Pole lights at Baxter Creek Interpretive Area



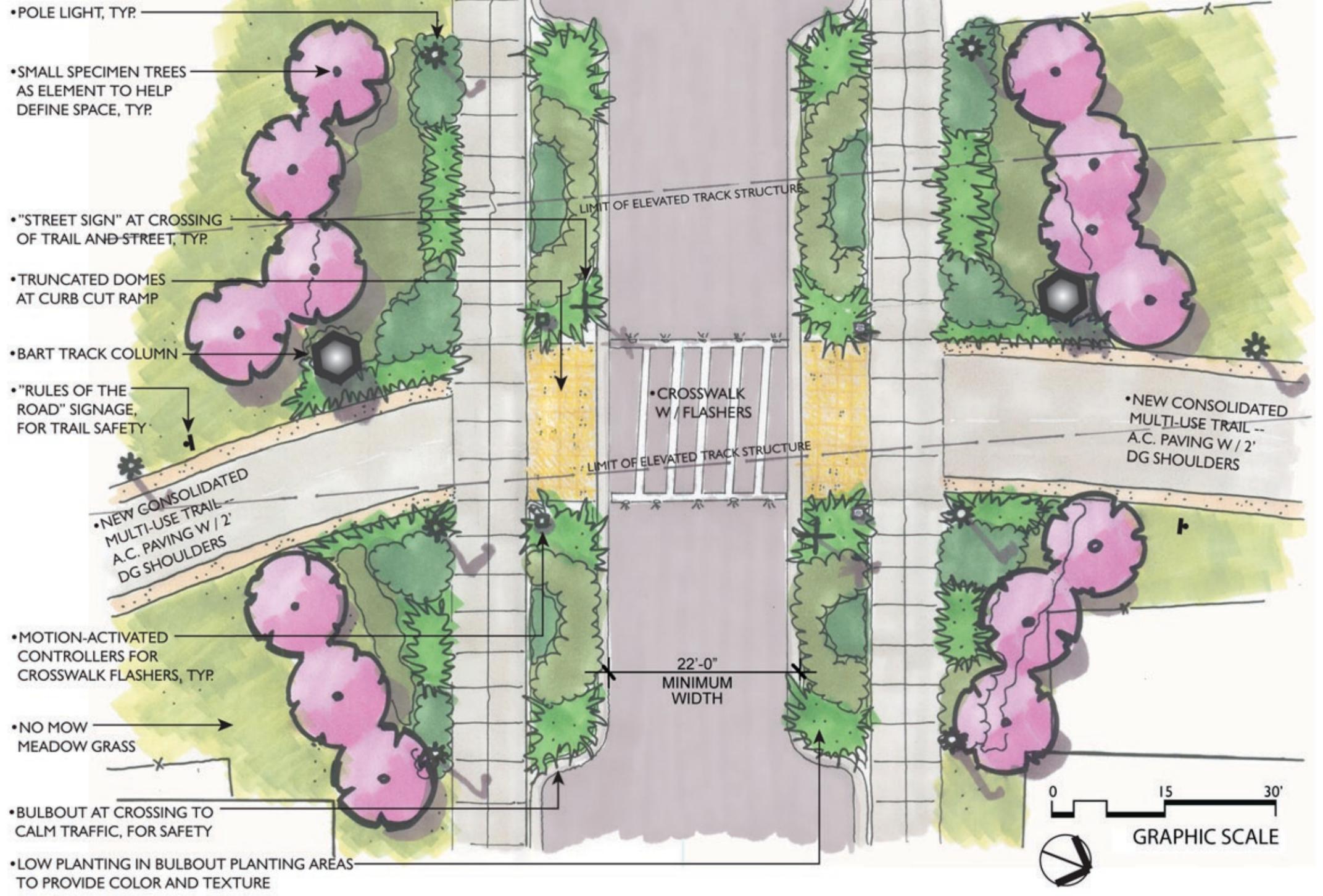
Western redbud trees, an example of a small specimen tree



Motion activated controllers for crosswalk flashers

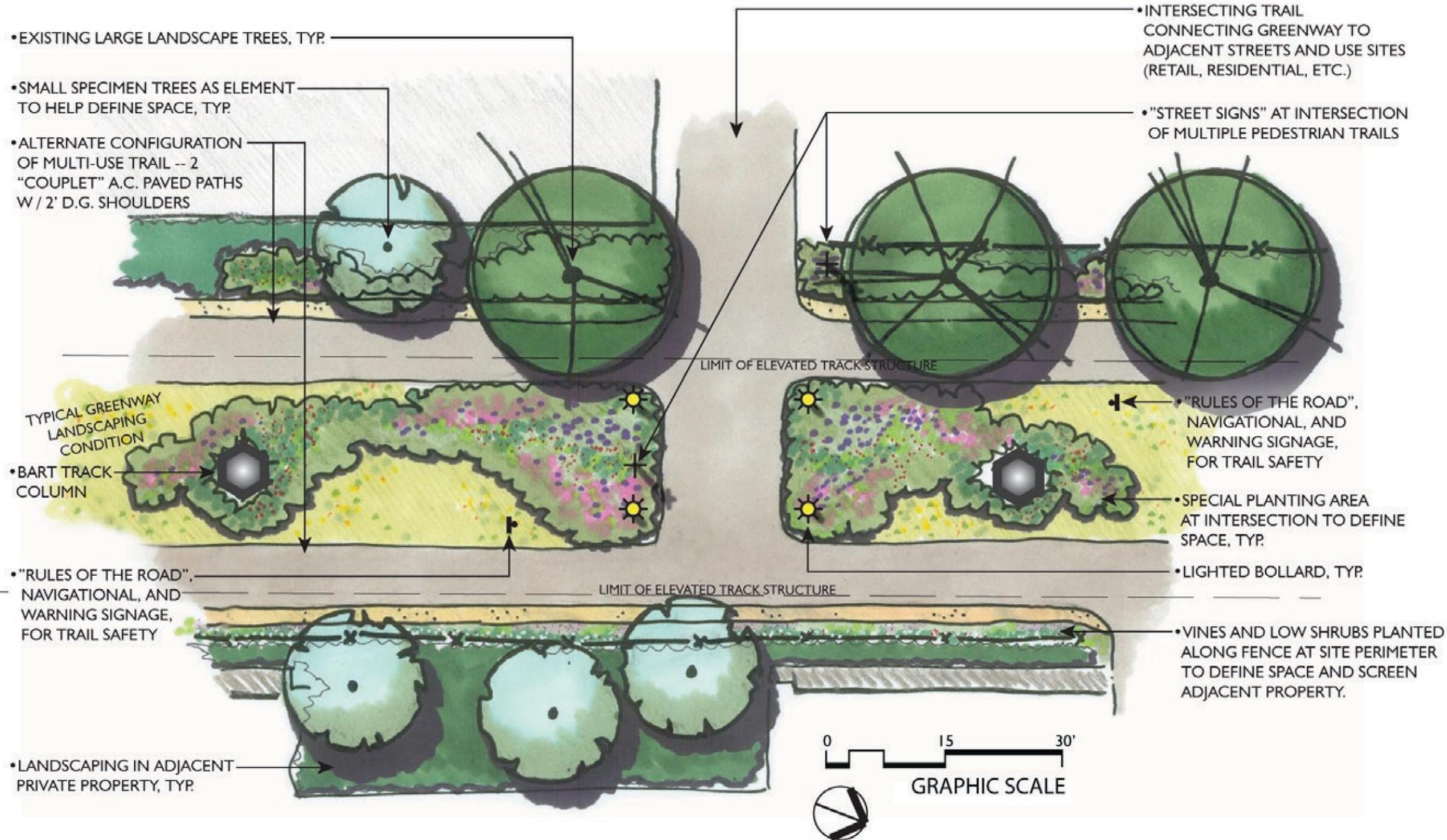


Crossing street sign at street / trail crossings



CROSSINGS

Typical Trail / Trail Crossing Treatments



Small landscape trees, such as 'Swan Hill' olives, define vertical space and give special character to "important" zones, like pedestrian crossings, along the Greenway.



The use of various types of signage at crossing sites will help users navigate and promote safety.



Lighted bollards at intersections between pedestrian trails improve visibility and safety, during the day as well as after dark.

CROSSINGS



Active Use Area Guidelines

The Ohlone Greenway provides a great deal of public open space to the City of El Cerrito. Identified within this Master Plan are numerous active use nodes which will be developed to enhance the useability of the site. Though this document proposes conceptual possibilities for individual sites in the Public Improvements Section E, the final design will be decided upon at the time the site is developed, and while it may not incorporate all the elements of the conceptual designs contained in this Master Plan, certain guidelines will drive the design, such as:

- Appropriate scale to the surroundings
 - Site larger scale use areas, such as open turf or meadow areas for group activities, where there is space available.
 - Locate smaller use nodes such as bocce or horseshoe courts or par course/exercise equipment in more modestly sized areas
- Provide activities for all user groups
 - Seniors, adults, teenagers, and children are all entitled to use activity areas that fulfill discrete needs for each group
- Awareness of multiple functions on the site
 - Active use areas may not conflict with the Greenway's use as a transit corridor
 - Active use nodes may require buffering from areas with more passive or quieter uses
- Sensitivity to surrounding areas
 - Adjacent residential areas or community centers will be considered when siting active use areas so that potential noise, lighting, and other sensory features do not negatively impact them

Active Use Areas - Character Images



Frisbee players in meadow



Soccer on turf



Par course equipment



Skateboard features - grindrail and pipe edged seatwall



Basketball



Bocce court

Passive Use Area Guidelines

One of the ways the Greenway is most valuable to the City of El Cerrito is as a transportation corridor. Compatible with this function is the opportunity for passive use that does not interfere with the multi-use trail. Seating areas, shaded areas, secondary strolling paths, and locations for low-intensity activities such as chess, educational gathering areas or picnicking are important to include in a site that, among its many other functions, provides the residents and workers within El Cerrito with the ability to identify and connect with the environment outside their doors and walls. These passive areas should be designed to be:

- Safe
- Accessible
- Durable
- Attractive
- Functional

Passive Use Areas - Character Images



Picnic Area



Shade structure



Tree allée planting along path



Lunch break along the Greenway



Pathside bench provides a resting spot



Chess tables and giant chess set

SPECIAL ACTIVITY AREAS



Community Building Area Guidelines

Due to its central location and the current and future high density development areas located nearby, the Ohlone Greenway has the potential to be a powerful community building center. A wide variety of group activity areas could be situated within the site, including but not limited to:

- Dog Parks
 - Locate to serve high-density multi-family areas, but do not site too close to residential
 - Use Guidelines for successful off-leash dog parks when implementing specific sites (see Bibliography Sec. G, pg. 83 for reference to one such relevant Guideline). Design each dog park at an appropriate scale to the specific location
- Community Art sites
 - Identify and implement appropriate ephemeral and permanent locations for community art projects. Work with the City of El Cerrito Arts & Culture Commission to promote art opportunities on the Ohlone Greenway
- Community Gardens
 - Encourage community groups to come together and “take ownership” of suggested sites along the Greenway appropriate for Community Garden use
 - Provide special planting areas along the Greenway where groups can gather and enjoy the environment, such as Rose Gardens or Sensory Gardens
- Group Gathering areas
 - Provide open space area where larger recreational or entertainment oriented groups can form
 - Promote possibility of Greenway as community meeting point in crisis/emergency situations

Community Building - Character Images



Group Gathering Areas



Community Art Event Opportunity



Dog Promenade Off- Leash Area



Community Garden Site



Rose Garden



Enclosed Dog Park

Play Area Guidelines

The existing play area sites along the Ohlone Greenway have historically been well used and should be enhanced to provide the local residents, many of whom have children, safe places for play that are consistent with current standards and requirements. With the high density zones in nearby areas growing rapidly, additional sites have been identified in the Master Plan for the site. Whether a new site or an existing site is being designed, the following Guidelines should be considered and incorporated into any potential play area:

- Safety
 - Equipment must comply with current safety, accessibility, and Universal Design standards
 - Play areas should be age-appropriate, consistent with the needs of the specific location
- Integration with overall Design Vision
 - Materials will be durable and forward-thinking, sustainable materials will be considered
 - Discourage “traditional” play equipment that does not blend into the natural design vision of the site. Where possible opt for alternative structures and activities that fulfill multiple functions, such as sculptural, recycling, or educational uses
 - Fitting play areas into the natural topography of the site is highly desirable
- Appropriateness of location
 - Play areas will be located close to high-density or multi-family neighborhoods
 - Encourage multi-generational interaction by locating play areas near Senior Center and retirement residences

Play Areas - Character Images



Topographically appropriate play area



Boat structure inspires imaginative play



Semi-traditional design uses natural colors



Swings using durable, recycled materials



Accessible sandbox accommodates all users



Sculpted rock provides multiple functions

SPECIAL ACTIVITY AREAS



Lighting Guidelines

Improved lighting along the Ohlone Greenway is of the most critical importance. Increased maintenance, safety, and security are all issues that every user group without exception has expressed a desire to experience along the Ohlone corridor; these factors will all be affected positively by implementing a well designed lighting plan. A more subtle but equally valuable benefit of the addition of lighting elements to the Greenway corridor is the aesthetic appeal of a group of elements that bring the overall site into unity. Another opportunity that should be taken advantage of is to incorporate environmentally responsible and more energy conscious fixtures into the future design, utilizing solar technology and other types of “green” lighting as it becomes available and affordable enough to be practical.

Although there is existing lighting, it does not fulfill the requirements of a cohesive lighting design because it does not place light where it can be used. The existing unfocused lighting elements cause a light “splash” island effect in a sea of darkness, making night travel through the site even more difficult. Random and occasional freestanding elements do not match each other and are not properly located. This document recommends that a complete lighting plan be designed by a qualified source, taking the new trail design as well as current and future photometric needs into account. The lighting requirements of the site can be satisfied by a combination of the following elements:

- “Box”-type lighting
 - Mount to elevated BART trackway in place of existing fixtures, adjusting spacing if necessary to provide appropriate footcandles to the primary pathway.
- Pole-mounted pedestrian scale light fixtures
 - Use at Trail / Street intersections, as well as in locations where box lights would provide insufficient illumination, such as at use nodes or in places where the trail is located further than 15’-0” from the trackway.
- Lighted bollards
 - Effective as wayfinding devices at trail/trail intersections, bollard lighting can also be used at street crossings or in conjunction with signage along the trail.
- “Alternative” lighting sources
 - Use elements which combine light and other uses such as art, site furnishings or ground plane features, perhaps using low voltage lighting or solar power as an exciting way to add ambient light as focal points, gathering monuments, or neighborhood destinations to higher use areas on the Greenway.



A possible overhead (track mounted) fixture



Proposed pole light fixture



Proposed lighted bollard fixture



Solar art element

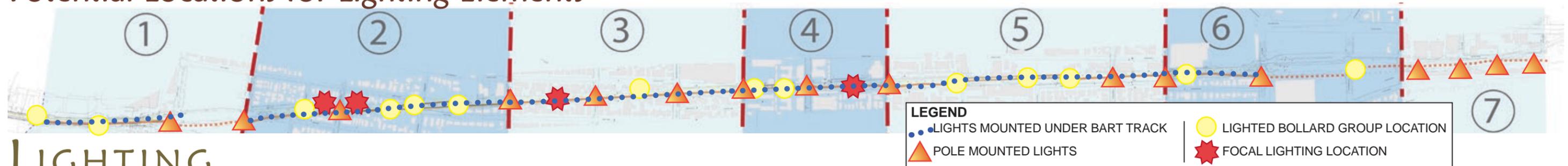


Solar powered fixture



Lighted bench as focal element

Potential Locations for Lighting Elements



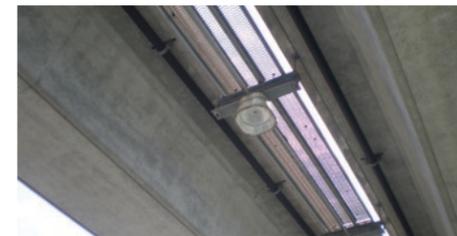
Existing Lighting Elements



Existing “box” type lighting fixtures are mounted on elevated BART trackway. New fixtures can be used with existing conduit infrastructure to provide better focused, less glaring, more energy efficient lighting.



Freestanding pole mounted lighting along Baxter Creek provides additional illumination simply and elegantly where an overhead structure such as the BART trackway is not available to affix fixtures upon.



Due to the location of the new path alignment, existing catwalk-hung lights will not provide the most useful light, as their illumination is focused directly downward under the BART trackway.



Lighted bollards are currently placed at limited locations along the Greenway (here at Wall Avenue).



These are but two of a multitude of different styles of freestanding pole lights along the Greenway, in varying stages of operability.



Site Furnishing Guidelines

Site furnishings along the Greenway should reflect the overall design vision, incorporating a natural feel within the context of an urban environment. An overall family of site furnishings should be used for the general condition, with the opportunity to use special or unique options at specific sites to accentuate a particular theme. All site furnishings should be durable and practical, first and foremost, with a timeless quality that will allow them to be in use for an extended period without appearing dated. The selection of elements has been, in part, drawn from the site furnishings of the adjacent sites of Baxter Creek Gateway Park and San Pablo Avenue, to lend a consistency to the site.

The possibilities for recycled or reclaimed materials should also be considered when choosing specific components of the site furnishings family. Below is a suite of proposed site furnishing images; the selection of specific elements should be finalized at the time of design, adhering at least in intent to these proposed elements.

Existing Site Furnishings



Benches are dated in appearance, though widely used, and should be of a consistent and more attractive style



There are a number of trash can styles existing on site, including these steel drums



Existing bollards are difficult to see. Bollards should be avoided on the path right-of-way and any bollards that are implemented should be more substantial

Site Furnishing Character Concepts



This bench comes in a recycled plastic and an ipe (sustainable tropical hardwood) version. Either is extremely durable as well as naturally good looking



An alternative shape to the wave-loop style bike rack, this shape is easy to use and sculptural as well



Durable and casual, the trash receptacle used at Baxter Creek would also fit well with the design vision of the Greenway, provided that it accommodates recycling



The same water fountain used at Baxter Creek could be used to good effect along the Ohlone Greenway



Two alternative light source possibilities to consider as trackway mounted lighting for overhead illumination along the length of the trail



Seatpads and seatwalls should be simple in design, but should incorporate detail such as a chamfered edge or a reveal. Seatwalls can also incorporate anti-skateboard elements, shown, or incorporate pipe-rail edges to allow skateboard use if desired



An all metal version of the same bench is also available for certain applications



This bicycle rack is successfully used already at Baxter Creek Interpretive Area



A simple cast concrete bollard would fit well with other furnishings and would be more effective in limiting certain types of traffic where necessary



Lighted bollards provide illumination at a pedestrian scale to provide additional indicators at conflict zones, such as trail to trail crossings



The same pole lighting fixture used at Baxter Creek should be continued along the Greenway where such fixtures are appropriate

SITE FURNISHINGS



Art Opportunities Guidelines

In collecting data and community input for the Ohlone Greenway Master Plan, it is determined that one amenity that is extremely important to many El Cerrito residents was to expand the Greenway’s potential as a display area for public art. The generous amount of space, central location, and proximity to the civic center, community centers, and local schools make it a perfect location for many different types of artistic expression which might range from ephemeral art events, such as sidewalk chalk art, literary readings, or dance events, to permanent visual installations by school groups, community groups, and local artists.

Additionally, in 2005, the El Cerrito City Council adopted an Art in Public Places Ordinance, which establishes guidelines for the integration of public art into new private and public development and redevelopment projects. Qualifying projects will be required to devote a percentage of development costs toward the installation of public art. With so much future development happening adjacent to the Greenway, there is certainly an opportunity to enhance this important open space with the addition of art elements. The El Cerrito Arts and Culture Commission will be a valuable resource in determining appropriate cultural programs on the site. (See Bibliography, Sec. G pg. 83)



This tile mural, *Viridian Suite, No. 4*, was the first Art in Public Places Program Public Art Project in El Cerrito. It was installed in spring of 2008 at Montessori Family School.

Although several locations have been specifically indicated within the conceptual design for art installations, any site would be appropriate provided that the installation fits spatially within the location and does not conflict with other uses of the Greenway.

A live music performance at the Baxter Creek area.

Art Elements - Character Images



Vertical art elements add dimension to the surrounding site



Sculpture garden



Murals on support columns



Bicycle racks as functional art



A school project produced these tiles for an installation at a nearby park



Public performance



A mosaiced drinking fountain adds color and texture to the landscape



There is ample room along the Greenway for all kinds of expression



An art event brings out artists of all ages

ART OPPORTUNITIES

Interpretive Element Guidelines

The Ohlone Greenway site contains within its limits a multitude of natural and historical sites of significance. There is an untapped opportunity to use the Greenway to further the education of residents and visitors to the area through the use of Interpretive signage and elements:

- Educational
 - Provide educational information along primary and secondary trails for use of school groups
- Historical/ Cultural
 - Provide signage or other monumentation at sites along the Greenway of cultural or historical significance
 - Install memorial plaques, such as the one currently at Robert Itaya Plaza, at appropriate locations
- Habitat/Environmental
 - Indicate areas where native habitats of plants or wildlife exist or have been rehabilitated, such as the Fluvius Innominatus area or the Pacific Chorus Frog habitat area
 - Provide signage or other informational monumentation at environmentally or sustainably relevant sites, such as Rain Garden areas
- Art
 - Incorporate artistic features into interpretive elements wherever feasible and appropriate. (See Art Opportunity guidelines Sec. E, pg. 40)

Interpretive elements will often be in the form of signage, although they could easily take many other forms, from monument type structures to plaques or tiles set into the ground plane, to the creative use of materials to delineate a space of significance within the site. All interpretive elements should be carefully considered and designed to enhance and enliven the overall experience of the Greenway.



A simulation of potential interpretive signage element at the Fluvius Innominatus Creek Habitat between Portola Avenue and Schmidt Lane.

Interpretive and Educational Elements



"Dinosaur bones" are ready to be discovered in this play area



An interpretive structure delineates the spatial proportions of a ship's hull at the Rosie the Riveter monument in Richmond



Inlaid granite tiles tell a story on this seating element



Ground level interpretive feature



Interpretive elements can be informative, interactive and whimsical



Interpretive signage at Baxter Creek is easy to absorb and beautiful to look at



Interpretive monoliths line a path



An example of effective, but non-traditional, signage incorporating an artistic aspect

INTERPRETIVE AND EDUCATIONAL ELEMENTS



Ecological Approach Guidelines

Integrating an ecological approach into a historic train corridor and highly used urban site such as the Ohlone Greenway offers a unique challenge and opportunity. While the site will always have an urban feel, that feel can be enhanced by the addition of a landscape that supports wildlife or provides other ecological functions. For example, the Greenway has numerous creek crossings and drainage swales which can be expanded and incorporated into habitat sites, as well as areas where community groups have worked to preserve habitats for local flora and fauna. These areas should be recognized as important community amenities, and built upon as the Greenway develops. Possible elements could include:

- Stormwater and drainage elements
 - Raingardens
 - Creek crossings and the creek environment at Fluvius Innominatus, between Portola and Schmidt
 - Existing drainage swales, which divert runoff to the storm sewer system, could be designed to retain some runoff on site
- Local Plant Habitats
 - Native plant habitat areas
 - Retaining existing healthy native trees and other plants on site where possible
- Encouraging native habitat for animal species
 - Existing Pacific Chorus Frog habitat
 - Planting designed to encourage local fauna such as butterflies, birds, and other animals

Effort should be taken to incorporate these elements into specific site designs as they are begun. While it may not be possible to duplicate a natural environment in such an urban location, it is possible to create an ecology that is moderately self-sustaining and requires less maintenance.



A retention basin is designed to store runoff on site; plants are selected that can take advantage of occasional saturation but survive with little water during the dry season.

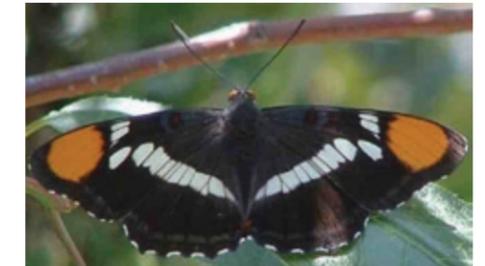
Proposed Elements



Swales can appear natural or designed like this one; all do the job of reducing the water that runs off a site into the storm drains, and the chemicals and environmental toxins that run off along with it



A number of native grasses are beautiful, require little maintenance, and can be planted in a drainage swale



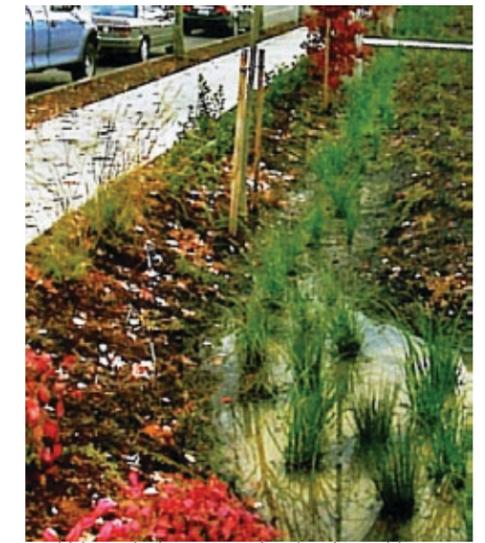
The California Sister butterfly is one of many beneficial native insects whose main plant of sustenance, the Coast Live Oak, already grows along the Greenway



Shown here is a rain garden that takes advantage of occasional water



Community naturalist Jim McKissock educates a group of young people near the existing Pacific Chorus Frog habitat on the Ohlone Greenway at Eureka Avenue



Urban drainage swale planting with trees, grasses and flowering plants



Providing habitats for wildlife, such as hummingbirds and other birds, can be done with a thoughtful selection of native and drought-tolerant plant selections



Native gardens can provide many benefits, even in a confined space



Bulb-outs at trail and street intersections can intercept stormwater and reduce runoff

ECOLOGICAL APPROACH



Sustainability Guidelines

Sustainability is a term that sees much use, but is difficult to define. It has been expressed as “meeting the needs of the present without compromising the ability of future generations to meet their own needs” [1]. Other contemporary terms such as “climate change” and “carbon footprint” illustrate the growing need for an evolution toward a sustainable approach, which encompasses social, economic, and environmental considerations. However it is defined, sustainable elements should be designed into the Ohlone Greenway as it is improved wherever possible. Though the possibilities are limited only by the creativity of the El Cerrito community, a selection of sustainably oriented elements could include:

- Energy elements
 - Solar or wind powered site elements incorporated into other uses, like sculpture or lighting fixtures and other proposed elements that require electricity
 - Play equipment that stores kinetic energy
 - Encouragement of non-motorized vehicle use by good maintenance and management of the trail
- Water elements
 - Efficient harvesting of rainwater from structures into cisterns to be used as irrigation water on the site
 - Minimal use of plants that require excessive irrigation, use of recycled water for irrigation
 - Use of low flow components in infrastructure elements, such as toilets, water fountains, etc. or compost toilets in place of flushing versions
- Recycling/Reuse of materials
 - Use of recycled products in site furnishings, like recycled plastic or composite wood benches
 - Encouragement of recycling activity on the site with adequate recycling receptacles adjacent to waste receptacles
 - Appropriate consideration, before existing elements are replaced, of whether elements can be recycled or reused
- Food production/local produce
 - Community garden areas; some may be acceptable for some food production
 - A selected plaza area could be designed to be appropriate for use as a Farmer’s Market location

[1] U.S. Environmental Protection Agency



Farmers' markets support local food production and decrease the need for transport while making fresh, healthy food available to everyone.

Proposed Elements



Solar sculpture can provide a physical presence during the day, but at night has the potential to light up its surroundings



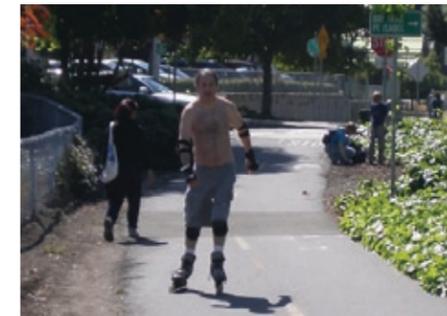
Kinetic play equipment uses energy collected from users to power a pump that brings water from a detention basin to the surrounding landscaping



Kinetic wind sculpture can be used to collect energy, which can be stored for future use



This rain garden planting area uses recycled water irrigation to augment the rainwater. Recycled water is already being used very effectively on many sites



The Ohlone Greenway promotes alternative forms of transportation by its very nature. An improved trail right-of-way will only enhance this very important El Cerrito amenity



This rain cistern collects water from the surrounding structures



Recycled materials can be used effectively in site furnishings, such as in this recycled plastic and recycled aluminum bench



This solar powered trash-compacting waste receptacle has adjoining compartments for recycling -- cans and bottles on one side, paper on the other



Community gardening has many socially sustainable benefits, as well as economic and environmental ones

SUSTAINABILITY



