

PROPOSED MANAGEMENT AND ENHANCEMENT PROJECTS



South Branch

For purposes of developing manageable projects in terms of both size and funding, the South Branch was divided into project segments. A total of eight (8) segments have been established running east to west. The segments are designed to closely relate to definable geographic areas, land use and development conditions. The projects are listed by segments and include project funding as well as the management and enhancement areas.

The following projects are proposed for implementation of the South Chollas Creek Branch Enhancement Plan.



SEGMENT 1

 Habitat Enhancement / Restoration or Management Actions

 Arts Project / Underpass

 Reconstruction area / Arts Project

 Trail

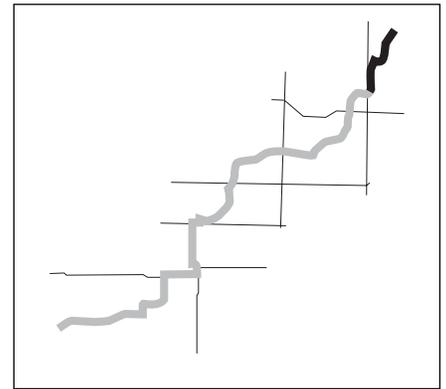
 Education Center, Learning Centers Interpretive Centers

Gompers Outdoor Learning Laboratory - Segment 1

Educational Project

The Gompers 3.6 area site offers a good opportunity for an interactive laboratory facility. The site is owned and maintained by San Diego City Schools. Some infrastructure is already in place as a result of an earlier CALTRANS Environmental Enhancement and Mitigation Program Grant. The existing infrastructure includes walkways, portable structures, a canopy-shaded seating/study area and an amphitheater facing the creek. With this existing infrastructure, the estimated cost of additional physical site improvements is \$402,000. These improvements include: wetlands management and enhancement areas, improvement of an existing wind generator, construction of a solar energy system, sound attenuation improvements, propagation center improvements, habitat enhancement, storage building improvements, installation of interpretive signs, and construction of a security gate and fencing. Additional costs cover personnel and program development.

Project Budget:	
Site Improvements	\$402,000 <i>Interactive Laboratory</i>
Personnel	\$701,000
Program Development	\$150,000



Arts Project

The two-block creek section along 51st Street that has been channelized should be the subject of a public arts project to address how the concrete channel area can be enhanced. By integrating hydrological and flood control design in contrast with artistic enhancements and pedestrian trails, this right-of-way area can have multiple functions and a design that can be the pride of the neighborhood.

Project Budget:	\$500,000 <i>Channel Reconstruction</i>
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Management Actions

The northern reach of Chollas Creek is concrete encased to Euclid Avenue; residential development immediately surrounds the channel on both sides. However, there are pockets of vacant lots occupied by ruderal vegetation communities and dominated by weedy, invasive plant species, often on steep slopes. These areas exist south of Geneva Street and west of the creek (opposite Elwood Avenue); in a corner between Hilltop and 51st Street west of the creek; and east of Euclid Avenue to Market Street.

Due to the small size, isolation and steep grade of these areas, restoration is not feasible, however, weed control and trash removal will benefit higher quality riparian systems and wetlands downstream. Vacant lots should be acquired, landscaped and utilized as pocket parks.

Project Budget: land acquisition and improvements (Total cost still to be determined)



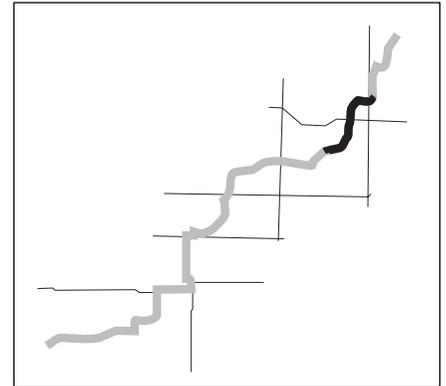
Trail Linkages

The trail linkages will lead from the Gompers Learning Laboratory along the public sidewalks to the Chollas Creek and Euclid Avenue (at Guymon Street) convergence. A second connecting trail system will lead from the Multiple Species Conservation Program (MSCP) Preserve to the Elementary Institute of Science, the Malcolm X Library and the paleontological outcropping adjacent to the library. These trail systems should be developed in accordance with the design guidelines. There are 5154 lineal feet of trails proposed. Trail cost per lineal foot is estimated at \$50.00.

Project Budget: \$258,000 *Trails*

Science Education Center Segment 2A

The intersection of Market Street and Euclid Avenue is important to surrounding neighborhoods as it hosts a number of civic institutions, namely: the Tubman-Chavez Cultural Center, the Malcolm X Library, The Elementary Institute of Science, Horton Elementary School, and the Euclid Avenue Transit Station. Due to its many civic offerings, this intersection will serve as a strategic point of community revitalization in Southeastern San Diego.



Trail Linkage

A ramp/stairway from Guymon Street would provide access to Chollas Creek from the Horton Elementary School. Members of the community would follow a pathway along the eastern side of the creek that would link into the Science Education Center north of Market Street. Identification and interpretive signage, a staging area and an interpretive station plus lighting will encourage students and residents to use the creek as an “educational laboratory” as well as a recreational and entertainment hub for daytime and evening activities.

Project Budget: \$296,000 *Trails*

Habitat Enhancement/Restoration

This area immediately west of Euclid Avenue is characterized by a cobbly invert bottom and steep creek banks. Although the creek is channelized in this segment, it is not visibly concrete-lined. The invert bottom and banks are occupied by exotic wetlands vegetation (mainly giant reed), interspersed with pockets of emergent wetlands, freshwater marsh and isolated willows. A vacant lot with ruderal vegetation extends south of the property.



Hydrological information for this segment of the Creek is not available at this time, although the creek seems to be running on the surface year-round in this area. The invert banks are very steep. A hydrological and hydraulic analysis (including



SEGMENT 2A

 Habitat Enhancement / Restoration or Management Actions

 Arts Project / Underpass

 Reconstruction area / Arts Project

 Trail

 Education Center, Learning Centers
Interpretive Centers

groundwater study) for this area will be conducted for the implementation of the enhancement measures. The groundwater study will measure depth of groundwater at the invert bottom and the invert banks to determine the location, grade and slope of the modified north/eastern invert bank.

The proposal includes wetlands restoration adjacent to a proposed new Science Education Center. The Center will provide a valuable resource to study water quality and plant life. This area is suitable for combining wetlands enhancement and restoration with an educational facility. The northern/western bank will not be lowered to maintain flood protection, current grades, and integrity of the surrounding land uses (street, school). However, the northern/eastern bank could be terraced to allow for the transition of a restored wetlands system to an educational facility, the Science Education Center. Wetlands restoration would follow the methods described below, and consist of the following:

- Creek grading to lower the northern/eastern bank, widen the floodplain, and terrace the bank to connect to the Science Education Center;
- Exotic species removal;
- Planting of freshwater marsh and emergent wetlands in the creek invert;
- Planting of riparian scrub vegetation on the creek banks;
- Planting of a transitional buffer consisting of wetlands and upland vegetation between the riparian scrub vegetation and the Science Education Center;
- Establishment of a trail system with interpretive signs to link the restoration area to the Science Education Center

Education Center

The Science Education Center is proposed for construction on a small portion of the side of the site pad, south of the restoration area. The Center is designed to be large enough to accommodate an average class size of 20 students in an open air structure to protect participants from the sun and rain. It is not intended to be a large structure and will consist of interpretive signs, structures and hands-on exhibits. Exhibits would feature such subjects as the:

- history of Chollas Creek and its use by Native Americans;

- biology and hydrology of wetlands;
- importance of wetlands for water quality and wildlife;
- loss of wetlands due to urbanization and associated disturbances;
- restoration and enhancement of wetlands; and
- ways to protect and enhance wetlands and water quality.

The Science Education Center and restoration areas will be equipped with appropriate lighting and other safety features as determined by the City of San Diego. Lighting will be shaded downward so as not to disturb nesting birds. Access to the Center will be planned sensibly to allow for traffic flow from Euclid Avenue and the trolley station without impacting the restored riparian plantings. The educational facility will feature appropriate outdoor furniture, possibly constructed of natural materials to mimic the natural theme of the exhibit. Trails will be designed such that they impact the wetlands minimally but still provide maximum educational benefit. Trail surfaces will be built from decomposed granite, bark mulch, or equivalent natural surfaces. The area will be revegetated using native vegetation appropriate for riparian wetlands restoration as detailed in this plan. No ornamental or invasive exotic plants will be used for the educational facility nor the wetlands restoration portion of this area. If feasible, the educational facility may include a hands-on exhibit where children can create their own miniature wetlands system. The Center and its wetlands will need to be maintained on a regular basis to avoid degradation of the wetlands system (vandalism, loitering, destruction of vegetation, etc.).

Project Budget: \$75,000 *Interpretive Center
Improvements*

Market Creek Plaza Segment 2B

The Jacobs Family Foundation, a non-profit organization, has taken the lead in implementing Market Creek Plaza, a major redevelopment project in the southwest quadrant of the intersection between Market Street and Euclid Avenue.

Trail Linkages

Market Creek Plaza will include food and retail stores, office buildings, a movie theater, and a youth center with Chollas Creek running through the middle of the site, the Jacobs Family Foundation is restoring this natural resource to enhance the project's public spaces and design quality. Proposed enhancements include trail linkages throughout as follows:

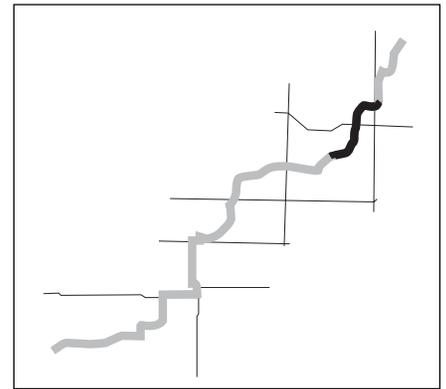
East Side Pathway

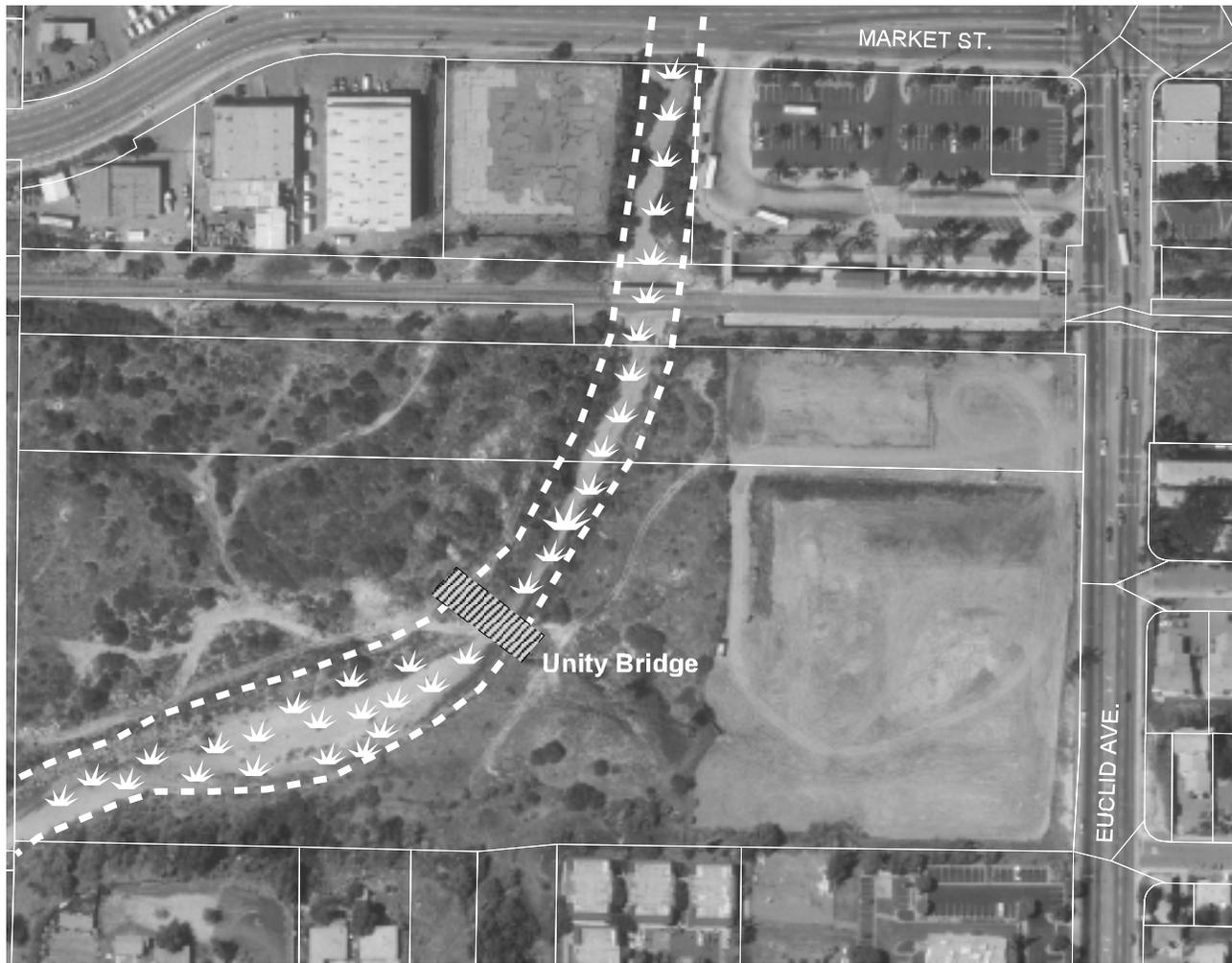
This pathway would begin on the southern side of the Market Street west of the Euclid Trolley Station. From the station, this eight-foot wide trail follows a ramp along the offices and retail shops of the Plaza. Walking along the trail, a pedestrian would experience the excitement of Market Creek Plaza - a "celebration" fountain, colorful kiosks selling clothing, gifts and food, and the Renaissance Conference Center. The pathway would take the visitor past the spectacular amphitheater, an outdoor performing arts center designed to rise when water flows through the creek. The pathway would then follow an embankment that includes a 500-person, 11-tiered terraced seating area surrounded by shade trees and built-in lighting. The visitor will marvel at the multi-cultural tile tapestries that are built into the pathway and follow a lighted promenade that continues south to the end of the project's property. The length of the East Side Pathway is 850 feet. This development cost is being funded and constructed by the Jacobs Family Foundation as part of their Market Creek Commercial Center Development.

Project Budget: \$75,000 *Trail*

West Side Pathway

Located on the western side of the creek, this pathway would cross a vehicle bridge and follow the creek passing in front of the Magic Johnson Cinema complex and continue south for 750





SEGMENT 2B

-  Habitat Enhancement / Restoration
or Management Actions
-  Arts Project / Underpass
-  Reconstruction area / Arts Project
-  Trail

feet concluding at the end of the project's property. This portion of the walkway will include dense landscaping and inset and pole lighting along the entire length of the trail.

Project Budget: \$89,000 *Trail*

"Unity" Bridge

A pedestrian-only bridge will span 135 feet across the creek to link the two trails together. This bridge is a single span Bow Truss steel structure measuring 35 feet in height and 16 feet from the floor of the Creek. Standing on the bridge, pedestrians will have a spectacular view of the amphitheater and experience the natural beauty of the creek and the surrounding landscaping.

Project Budget: \$208,200 *Bridge*

Other Trail Linkages

The trail system in Segment 2B will consist of paved eight foot trails on both sides of the creek, connected by a pedestrian "unity" bridge. The trails will run from the creek's convergence with Euclid Avenue to the southwestern corner of the Market Creek Plaza site.

Project Funded: By Jacobs Foundation





SEGMENT 3

-  Habitat Enhancement / Restoration or Management Actions
-  Arts Project / Underpass
-  Reconstruction area / Arts Project
-  Trail

City Water Department Parcel Segment 3

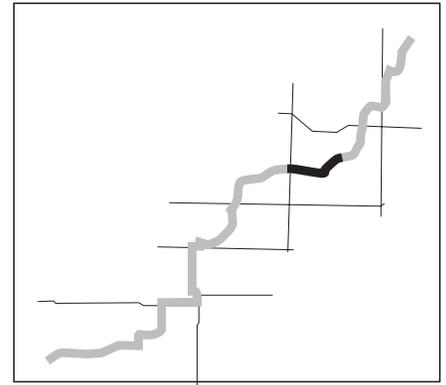
A new linear park link is proposed along the Chollas Creek flood plain, east of 47th Street, in the zone between Imperial Avenue and Market Street. This area is presently undeveloped. The parcel south of the El Rey Trailer Plaza Mobile Home Park, is owned by the City Water Department. The Water Department intends to maintain the parcel for potential future use. For this reason, no wetlands restoration is proposed. However, the Water Department would consider allowing a trail to go through the parcel. This could be accomplished by negotiating a “Right of Entry Permit” with the Water Department. It would be a temporary (3 years) permit that would allow the trail construction to begin. Later, a long-term lease could be negotiated allowing for permanent public access to the trail.

Project Budget: \$76,000 *Trail*

Enhancement/Restoration Actions

Within this segment, most of the channel invert is cobbly and unvegetated. Very large areas are infested with giant cane (disturbed wetlands) that cover the edges of the invert as well as a good portion of the creek’s banks. Small patches of riparian scrub vegetation are also scattered along the banks. Ornamentals and ruderal vegetation characterize the upland areas, though there are some scattered chaparral species on the south side of the creek. A small tributary drains the residential area on the southeastern side of the creek and supports additional riparian habitat.

This segment extends approximately 1,900 feet east of the 47th Street bridge. The bed of the creek is lined with cobble and rocks. The sloping sides are heavily vegetated. Except for the portion near the 47th Street bridge, the creek appears unimproved. The width of the bed varies between approximately 30 and 80 feet. The creek bed is normally dry except during and after rainfall. Site drainage from the mobile home park and other surrounding properties enters the channel on the surface and in underground pipes.





The calculated water surface elevation in a 100-year flood varies from approximately 81 Mean Sea Level (MSL) at 47th Street to approximately 92 MSL at the easterly end of the mobile home park. The 100-year flood is not totally contained within the defined channel. Most of the mobile home park, as well as some undeveloped land south of the creek, is currently subject to inundation in a 100-year flood. Portions of the mobile home park are as much as 5 feet below the 100-year flood level.

The 100-year flood flow is classified as “subcritical” meaning the elevation of the water surface may be influenced by conditions downstream. In this instance, the calculated water surface in a 100-year flood is elevated because of a constriction at the 47th Street bridge. The average velocity of flow within the channel during a 100-year flood is estimated to be between 5 and 7 feet per second.

Proposed enhancements include widening of the channel and adding multiple plateaus within the cross section for trails and vegetation (Figure 7). Freshwater Marsh is proposed on the channel invert in selected areas where it is supported by groundwater and urban surface water runoff. The banks are to be planted with riparian, transition, and upland vegetation including trees and shrubs.



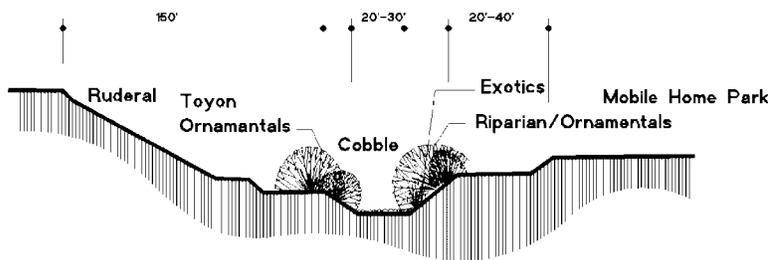
Widening of the floodplain and using a combination of wetlands protection, exotic species removal and habitat restoration, as described in the detailed Management Actions, appears particularly feasible in this area. The site is adjacent to the proposed Market Creek Plaza which is intended as a community focal point, and the site is also a short distance away from the trolley stations, another perceived community focal point. Therefore, a natural riparian corridor that is accessible by trail presents an extension of the upstream focal point into the community.

- The site is suitable for enhancement due to appropriate aspect, location, vegetation, size, soils, water and the fact that the western portion of the site is already owned by the City of San Diego.
- Preservation and enhancement of riparian habitat on this site allows for the conservation of the last remaining larger wetlands area within the study area.

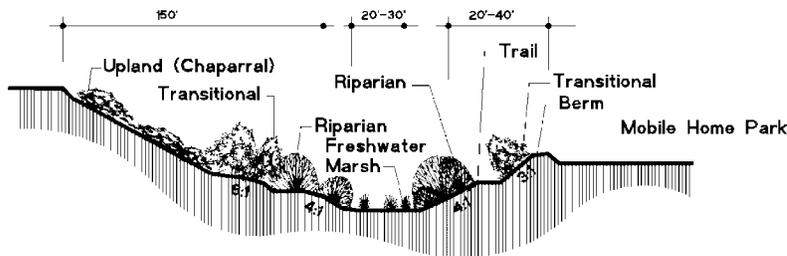
The proposed Enhancement Actions require that a hydraulic analysis be made for the area. The water surface elevation of the 100-year flood is influenced heavily by a backwater caused by a constriction at the 47th Street bridge. Assuming no modifications to the bridge, it is not practical to lower the water surface elevation of the flood in this segment. Therefore, a 5 to 6 foot high protective berm is needed along the northerly bank of the improved channel.

From a hydraulic standpoint, the typical cross-section modified as described above should provide adequate flood control protection with acceptable flow velocities. However, a 300-foot long portion between 600 and 900 feet from 47th Street will have to be narrowed by at least 50 feet because of steep topography on the south side.

Project Budget : \$400,000 *Enhancement/Restoration*



EA 2 Segment 3
Section at El Rey Trailer Plaza Mobile Home Park (looking west)



EA 2 Segment 3
Proposed section at El Rey Trailer Plaza Mobile Home Park (looking west)



No Scale

Profile of Enhancement Area 2



SEGMENT 4

 Habitat Enhancement / Restoration or Management Actions

 Trail

 Arts Project / Underpass

 Reconstruction area / Arts Project

East of Interstate 805 Segment 4

This segment spans westward between 47th Street and the culvert under I-805 and is surrounded by condominium complexes. A trail within the creek is one of the options proposed for this segment.

Management Actions

The creek flows through a narrow invert surrounded by banks with 2:1 or 3:1 slope ratios. The invert is cobble-lined and exhibits infrequent wetlands vegetation. The banks are occupied with such ornamentals as eucalyptus, palm trees, acacias and pepper trees and with an understory of mostly exotic plant species. However, the creek corridor in this area is lined with mature cottonwoods that were planted on top of the south bank.

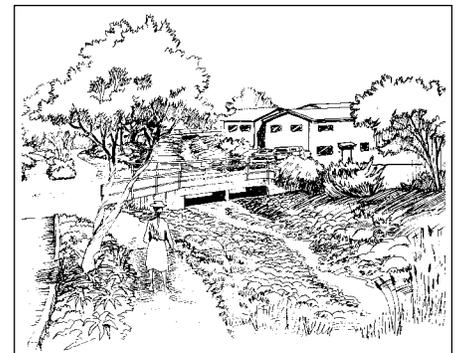
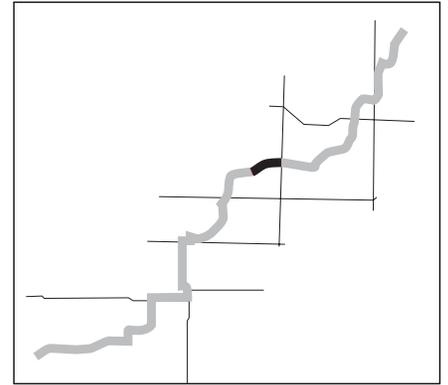
Although condominium complexes line the creek on both sides with fences established on top of the creek banks, there is opportunity for exotic species removal and replanting with native riparian species. A trail within the creek compatible with the Chollas Creek Enhancement Program could be established to link the community. Replanting would follow the enhancement guidelines outlined below.

Project Budget : \$50,000 *Trail*

Trail Linkages

The trail system connection was reviewed and three alternatives were considered:

1. the trail may continue in the actual creek bed if safe passage provisions are made, or
2. an easement for construction of a trail system adjacent to the creek can be acquired, or
3. the trail system can be continued along the public right-of-way to the YMCA.



For the immediate future, the preferred routing for this path, due to safety considerations, is option 3, which includes an interpretive program to be installed along the public right-of-way. There are approximately 4,000 lineal feet of sidewalk/trail proposed.

Project Budget: \$200,000 *Trail*

Arts Project

The underpass of Interstate I-805 should be the subject of a Public Arts project to find inventive ways of using the underpass tunnels for safe pedestrian passage under the freeway. Also, a future study to address creek trail locations and the re-engineering the I-805 underpass linkage to create a safe trail environment is proposed.

Project Budget: \$1,000,000 *I-805 study/
re-engineering*
\$500,000 *Arts Project*

North and West of YMCA Site - Segment 5

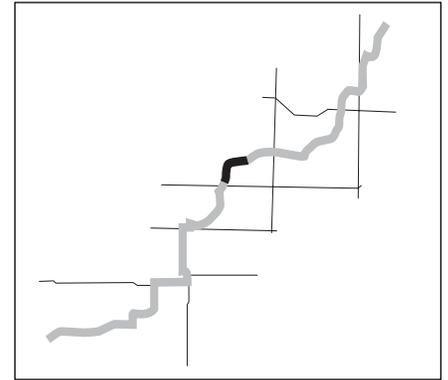
Segment 5 begins at the culvert on the west side of I-805, runs west to YMCA Way and then bends south to Imperial Avenue.

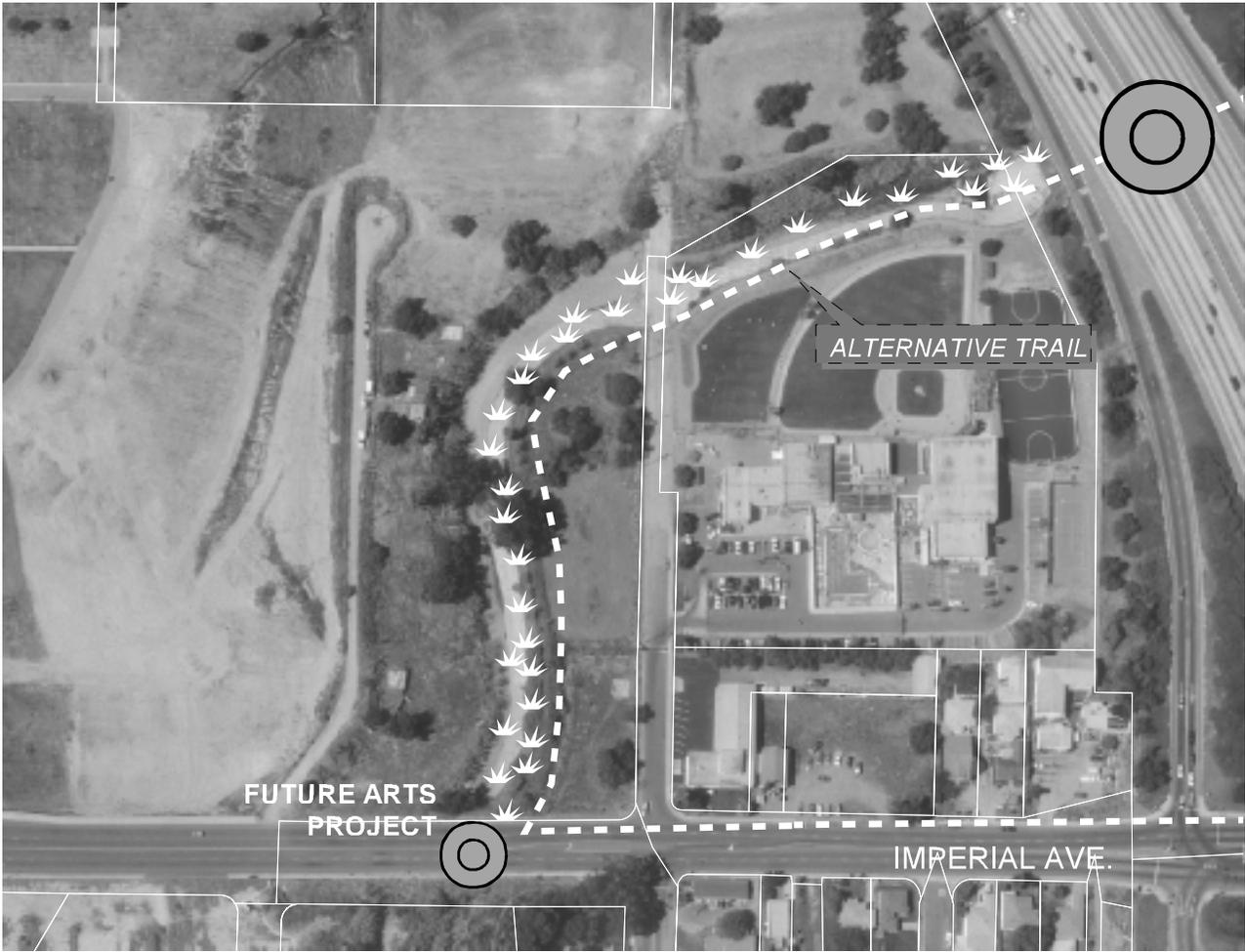
Enhancement/Restoration Actions

Within this segment, the eastern bank of Chollas Creek is concrete-lined, while the western bank is earthen. Most of the channel invert (approximately 90 to 95 percent) is cobbly and unvegetated, though large patches of disturbed wetlands, composed mostly of giant cane and white sweetclover, occur along the edges of the invert. A concrete dip crossing traverses the creek in this area and appears to back-up water on the upstream side, thus supporting areas of disturbed freshwater marsh habitat. Small patches of riparian scrub are also present on the north and south sides of the creek.

The channel runs from the west side of the Interstate 805 bridge and proceeds westerly crossing the extension of YMCA Way (formerly 45th Street). It then bends to the south and runs for approximately 400 feet to Imperial Avenue. The total length is approximately 1,200 feet. This portion of Chollas Creek was improved in 1978. The bottom width ranges between 40 and 50 feet. The depth and the top width vary. The channel bottom is primarily cobble. One bank (the east and south side) is lined with concrete. The other bank is vegetated. North and west of the creek, the land slopes up to Greenwood Cemetery located on a plateau at least 50 feet above the floodplain. The extension of YMCA Way is constructed as a dip section. Under flood conditions the road is submerged and acts as a drop structure. A water main and a gas line have been constructed beneath the road crossing.

Most of the creek bed in the vicinity appears dry except during and after rainfall. Several isolated pockets of ponding water have been observed at other times. The 100-year flood flow within the channel is classified as subcritical. Flow is constricted at the Imperial Avenue bridge resulting in an elevated water surface upstream to the drop structure. Except for a small, undeveloped piece of property west of the creek near Imperial

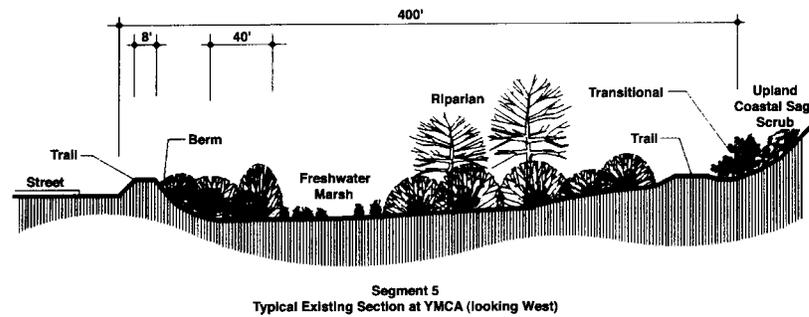
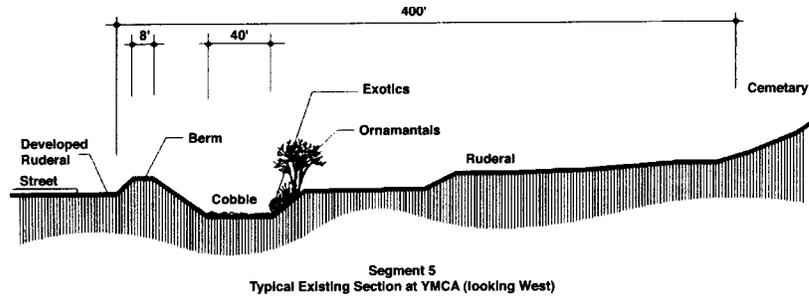




SEGMENT 5

-  Habitat Enhancement / Restoration or Management Actions
-  Arts Project / Underpass
-  Reconstruction area / Arts Project
-  Trail

Avenue, the 100-year flood is confined to the channel. A portion of the land lying east and south of the creek (the YMCA property) is below the 100-year flood elevation but is protected from flooding by a 10-foot high earthen berm. The calculated mean velocity in the channel during a 100-year flood ranges from 6.4 to 8.7 feet per second.



Proposed enhancements compatible with wetlands management recommendations would include removing the concrete lining from the channel bank downstream of YMCA Way and removing the paved dip section in the creek. Between Imperial Avenue and YMCA Way, the channel will be widened and re-vegetated in a manner similar to the enhancement area in Segment 3. Trails are proposed along the channel banks. Upstream (east) of YMCA Way, no channel modifications are proposed.

Restoration and enhancement for this segment would involve regrading of the channel banks to lower and widen the flood-plain (see illustration above). The berm at the southern portion of the site would be retained as flood control. Restoration and

enhancement measures would follow the methods described in the earlier description. Grading and revegetation operations would require acquisition or lease options of the lower (southern) portion of the cemetery to accommodate the wider floodplain. Flood control in this area is not required as the floodwater elevation is expected to remain similar to current conditions. The southern portion of this site is owned by the City of San Diego. This enhances the restoration and enhancement value significantly beyond the hydrological and biological feasibility, as property acquisition may not be necessary.

Because significant changes are proposed between Imperial Avenue and YMCA Way, a Hydrological Study will be required. Within this reach, the water surface elevation in a 100-year flood is determined primarily by a constriction at Imperial Avenue. Unless the Imperial Avenue bridge is modified, the water surface elevation anywhere in this reach will not be much below 70 MSL. The cross-section as proposed anticipates moving the existing earthen berm at the east channel bank all the way to the edge of YMCA Way. The low-lying area west of the channel near Imperial should be filled to an elevation above 70 MSL.

The typical cross-section as proposed will provide adequate flood protection with acceptable flow velocities. The hydraulic effect of roughening the channel bank and bed will be offset by the increased width. The elevation of the floodwater surface should not change significantly.

Project Budget: \$37,800 *Hydrological Study*
\$325,000 *Enhancement/Restoration*
\$564,000 (*entire project budget estimate*)

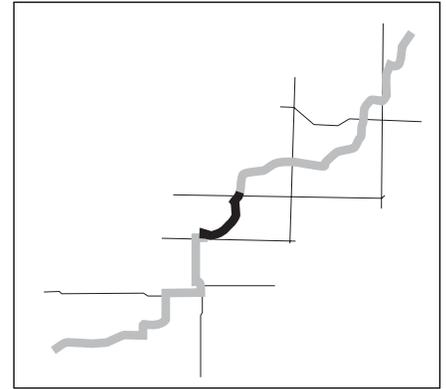
Trail Linkages

Trails are proposed to run directly adjacent to and on both sides of the creek as it traverses the Jackie Robinson Family YMCA and continues to its intersection with Imperial Avenue.

Project Budget: \$124,000 *Trails*

Imperial Marketplace - Segment 6

The Imperial Marketplace project involves the development of a 42.01 acre site in which Chollas Creek runs along its eastern and southern perimeter. Plans involve the construction of a community shopping center with approximately 243,427 square feet of retail space. This project is intended to balance the goals of the Southeastern San Diego Community Plan, both economic and social, by providing needed commercial services to the community and removing blight from the neighborhood. The project will incorporate flood control along Chollas Creek with landscaping improvements to create a park-like area along the creek and the edge of the retail center.



The section of Chollas Creek, which traverses the Imperial Marketplace, provides an important connection from the Jackie Robinson YMCA and Imperial Avenue to the Educational Cultural Complex on Ocean View Boulevard. Specific improvements include: the creation of 2.71 acres of flood channel within the reconstructed creek, the planting of native vegetation along the channel, the construction of multi-use trails on both the north and south sides of the creek, and the installation of trail-related amenities.

Enhancement/Restoration Actions

Much of this segment has been recently cleared and regraded for construction of the Imperial Marketplace. Creek slopes have been altered to 2:1 engineered slopes on both sides of the creek that are designed to potentially contain 100-year floods. Although this area featured one last remnant of relatively functional riparian vegetation within the study area, the current channel invert and newly manufactured slopes do not presently support vegetation. Revegetation and mitigation activities are in conceptual form and will be implemented as part of the project. Armorflex, a structural method of stabilizing steep slopes, will be utilized to stabilize banks in certain areas, but it is uncertain how well these areas will revegetate. Ornamentals, mostly large eucalyptus, occur in the upland areas. From the landscape plans for Imperial Marketplace, it is apparent that the slopes will be landscaped with trees and shrub plants, some of which are





SEGMENT 6

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|---|---|
|  Habitat Enhancement / Restoration or Management Actions |  Trail |
|  Arts Project / Underpass |  Education Center, Learning Centers Interpretive Centers |
|  Reconstruction area / Arts Project |  Parks |

native, but most of which are ornamental. The parcel that contains the creek and a corridor on both sides of the creek is owned by the City of San Diego.

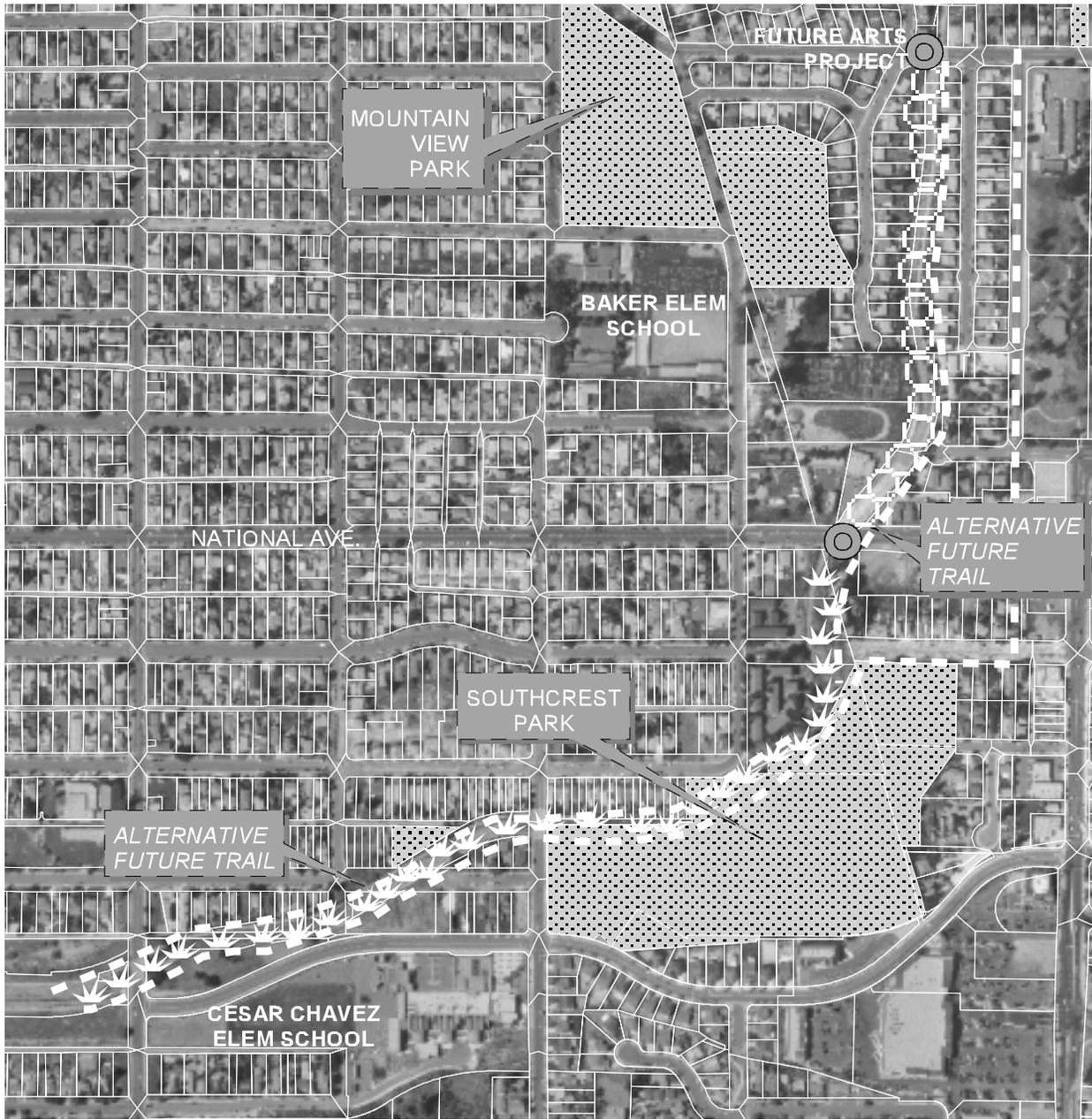
The construction and landscape plans for the Imperial Marketplace indicate that landscape maintenance is the responsibility of the Southeastern Economic Development Corporation, the owners of the Imperial Marketplace. Therefore, Management Actions are not included in this Wetlands Management Plan. The creek corridor has reverted back to City of San Diego ownership as a land swap, and the City will be responsible for its maintenance.

Project Funded: By Southeastern Economic
Development Corporation (SEDC)

Trail Linkages

The trails system will consist of 10-foot wide decomposed granite trails on both sides of the creek, running from Imperial Avenue to Ocean View Boulevard. Trail amenities along this segment will include lighting, benches, drinking fountains and bike racks.

Project Funded: Estimated Completion Date 2002



SEGMENT 7

-  Habitat Enhancement / Restoration or Management Actions
-  Arts Project / Underpass
-  Reconstruction area / Arts Project
-  Trail
-  Parks

Chollas Walk - Segment 7

This segment of Chollas Creek runs from north of Ocean View Blvd., near San Pasqual Street, south to Southcrest Community Park and then travels westerly along the north border of the park and continues on to 38th Street.

Trail Linkages

Due to the lack of space adjacent to the creek, the trail segment from Ocean View Boulevard to Southcrest Park would continue, for the time being, entirely along existing sidewalks along San Pasqual Street. The sidewalks would be enhanced with street trees, interpretive and directional signage, as well as a number of public art projects, thus creating an urban art trail. There are approximately 3950 lineal feet (\$50/lineal foot) of trails proposed.

Project Budget: \$197,500 *Trail*

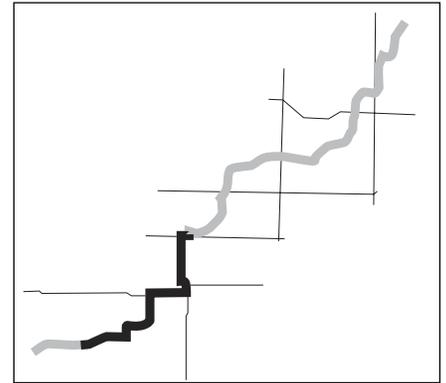
The trail system would run adjacent to the creek as it traverses Southcrest Park, then revert to the sidewalk along Alpha Street until it reaches the proposed 252 Corridor Park. There are approximately 2674 lineal feet (\$50/lineal foot) of trails proposed.

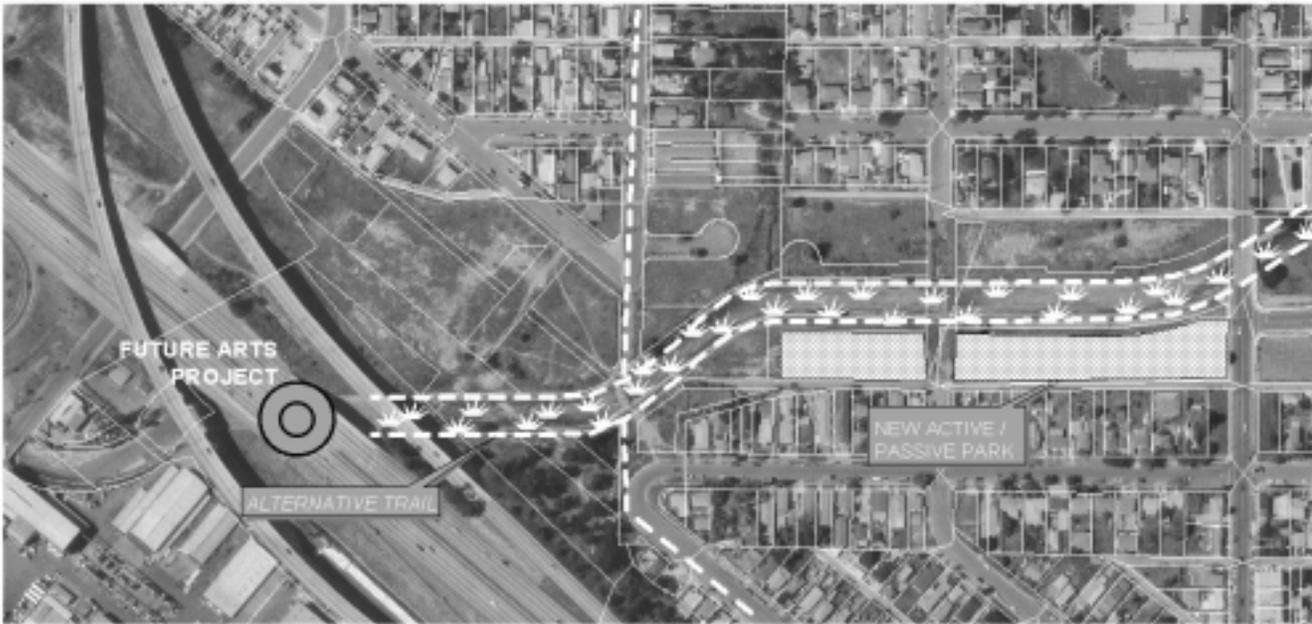
Project Budget: \$133,700 *Trail*

Arts Project

A one-block segment of the creek to the west of San Pasqual Street is a concrete channel that runs between two rows of single-family homes. Prior to concretization, the area was a deep earthen gorge where children could often be found exploring. A public arts project that will address hydrology, flood safety, and environmental enhancement should be pursued for this area. The following budget is an estimate depending on the final art concept.

Projected Budget: \$20,000 *Schematic design*
\$600,000 *Channel Reconstruction*
(estimate)



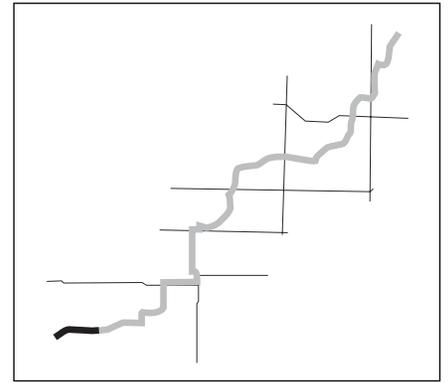


SEGMENT 8

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|  Habitat Enhancement / Restoration or Management Actions |  Trail |
|  Arts Project / Underpass |  Education Center, Learning Centers
Interpretive Centers |
|  Reconstruction area / Arts Project |  Parks |

Southcrest - 252 Corridor Segment 8

Once the site of single family homes, the corridor was acquired by the State of California prior to 1960 and cleared for a proposed freeway project (SR-252). Following heavy opposition from the community, the freeway project was canceled in the late 1970's and this strip of vacant land was turned over to the Southeastern Economic Development Corporation (SEDC) for redevelopment. SEDC is currently in the process of developing housing along the creek and turning over several parcels to the City of San Diego for the creation of a park in the western most area. The Cesar Chavez Elementary School has since been constructed along this corridor near the creek.



Enhancement/Restoration Actions

Within this segment, Chollas Creek flows through an unvegetated channel with engineered invert and banks. A majority of the upland areas are either ruderal vegetation or ornamentals. The site is in the 252 Corridor project footprint, which is proposed for the northern bank of Chollas Creek. Incorporating wetland enhancement in this area may be constrained by lack of expansion areas.

The channel in this reach was constructed in 1959. The cross section is trapezoidal with concrete-lined banks and a sandy bottom with some cobble. The bottom is approximately 50 feet wide. The top width is variable, averaging between 90 and 100 feet. Some low vegetation grows in the sediment. Pockets of ponding water appear in this portion of the channel year round. Between Interstate 5 and 38th Street the only crossing structure is a footbridge located approximately 1,200 feet west of 38th Street. The right of way for 37th Street crosses the channel. There are no surface improvements in the channel at 37th Street, but there are underground sewer and water mains crossing. A sewer main also crosses the channel in the vicinity of the footbridge. Side drainage enters the channel from both sides on the surface, and through underground pipes. The length of this reach of channel is approximately 1,800 feet. Land on the south side of the channel is generally lower than that on the north. The channel does not have sufficient capacity to contain a 100-



year flood. The 100-year flood flow in this reach is 5300 Cubic Feet per Second (CFS). Under steady, uniform flow conditions the channel as designed has a capacity of approximately 4,000 CFS. In addition, there is a significant backwater effect from a constriction at Interstate 5. As a consequence, some of the land and some occupied dwellings on the south are in a “Special Flood Hazard Zone” as defined by FEMA, subject to inundation in a 100-year flood. Some land north of the channel is also in this zone, but none of it is developed. The elevation of the water surface in a 100-year flood is approximately 17 MSL through the entire reach. Near the footbridge, the existing elevation south of the channel is 11 MSL, approximately six feet below the 100-year flood elevation. The velocity of the 100-year flow in the channel is calculated to range between 8 and 10 feet per second. Flow is subcritical.

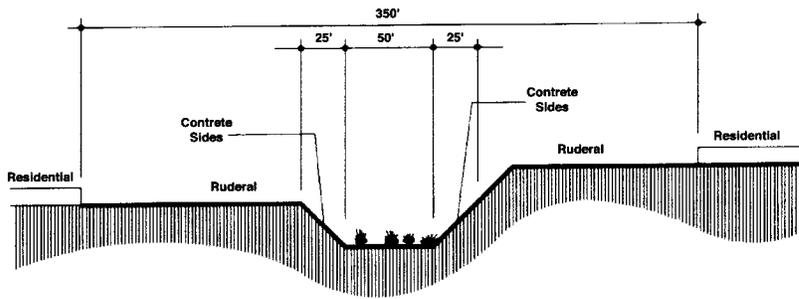
Park projects are being developed on both the north side of the creek (funded) and the south side of the Creek may include the following improvements: Active recreation, play equipment, open turf areas, restrooms, walkways, security lighting, landscaping, botanical gardens, public art, outdoor learning laboratory and site furniture.

In addition to the creation of a linear park, this corridor also offers an opportunity to comprehensively restore the creekbed itself. The condition of the creek along this segment is primarily that of a trapezoidal channel with concrete sides and a natural bottom. Creek restoration could involve the long-term removal of existing concrete sections of the creek and reversion to more natural conditions. Included in these restoration activities could be; the removal of non-native plant species and revegetation of the creek bed. This restoration project would directly contribute to the state’s resource priorities of Habitat/Ecosystem Restoration and Protection by comprehensively improving the environmental quality of the region. Due to its geographical location near the mouth of the Chollas Creek, this project is especially important because this naturalization and revegetation would serve to help clean polluted urban runoff through natural wetland processes and ultimately contribute to a cleaner San Diego Bay.

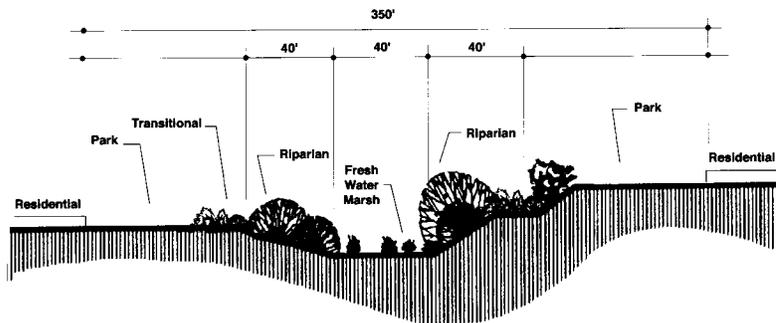
Proposed enhancements in this reach include removing the concrete from the southern channel banks and widening the top of the channel creating steps or ledges in the banks upon which the trails could be placed. The banks would be lowered and

planted with vegetation similar to the other reaches. A 7-foot high earthen berm will be necessary along the southerly bank of the channel to protect existing properties. It may also be necessary to raise a portion of 38th Street a few feet to contain flooding within the channel. Vacant property north of the channel should be filled with earth as necessary to raise it above the flood level.

Restoration of some of the park site is possible, particularly through widening of the creek and revegetating the creek banks with riparian vegetation. Park facilities could include active and passive recreation and be established in the higher creek bank areas, the vegetation for which would be wetlands transitional and buffer types (see illustration below). The lower banks could be treated with restoration measures applying the riparian plant palettes, while the park-like features would utilize the transitional/buffer palettes, as described in the detailed management actions below. The park area will be traversed by



Typical Existing Section at Southcrest Park (looking west)



Proposed Section at Southcrest Park (looking west)

trails that would complete the community linkage system. Because of the backwater effect from the constriction downstream, there is little that can be done to lower the 100-year water surface elevation through this reach. The typical cross-section as proposed, together with an earthen berm along the south side, will provide adequate flood protection with acceptable flow velocities. The hydraulic effect of roughening the channel bank and bed will be more than offset by the increased width.

Project Budget: \$453,000 *Enhancement/
Restoration*

Trail Linkages

At the proposed 252 Corridor Park, the trail system would run directly adjacent to the south side of the creek along the northern border of the park. There are 1363 lineal feet of trails proposed.

Project Budget: \$33,800 (Coastal Conservancy
funding) *Trails*
\$68,150 (entire project budget
estimate) *Trails*