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The existing creek and culverts near the existing railroad bridge would be filled. The creek upstream would be improved by realigning the creek, cutting back the existing slopes and constructing new creek embankments. On the upstream side of the existing railroad bridge, there are currently three 72-inch-diameter culverts under the access road near the proposed location of the Transit Loop Bridge (Figure 2.2-11). These culverts restrict flow during flood events and result in overtopping of the access road and railroad tracks. The existing channel has a 90-degree bend where Refugio Creek encounters the access road and a second 90-degree bend, where flows enter the culverts under the access road. These man-made sharp bends in the existing channel further reduce channel capacity to convey flows. As part of the restoration, these bends would be eliminated, the creek straightened, and a new outlet to San Pablo Bay constructed. The new railroad bridge would cross Refugio Creek at the new mouth. The railroad bridge abutments would be constructed outside of the creekbed and banks. New riprap slope protection would also be installed to protect the bridge abutments through the UPRR prism.

A new meandering low flow channel and enlarged marsh would be incorporated to improve hydraulic and ecological function. The marsh would gradually increase the floodplain width to a maximum of approximately 200 feet upstream of Bayfront Bridge. Restoration work in the channel would include planting of native plant species. It is also anticipated that there would be some voluntary colonization of tidal marsh species, including pickleweed (*Sarcocornia pacifica*), gumplant, and other native species.

Currently, the existing Refugio Creek channel is approximately 1590 feet (0.54 acre) from the proposed southern project boundary at the previously restored portion of the creek to San Pablo Bay at edge of the UPRR ballast. As described above, this restoration will remove two 90 degree turns of Refugio Creek. However, constructing the new meandering channel will create an increase in the overall length and acreage of Refugio Creek resulting in a channel approximately 1652 feet long (0.97 acre).

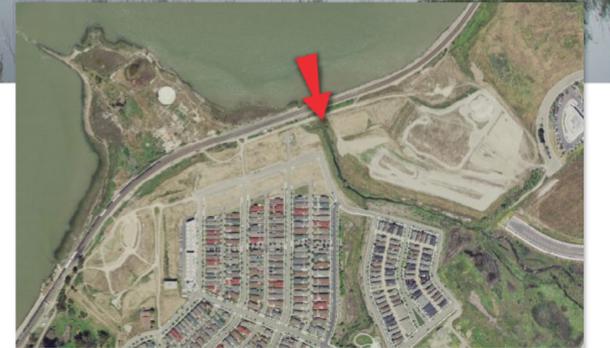
An upstream portion of the creek was reconstructed as a habitat restoration project as part of previous development projects; reconstruction and habitat restoration of the lower section of the creek from the North Channel to the mouth of Refugio Creek would be performed as part of the Hercules ITC.

Additionally, the North Channel will be re-graded and enhanced to accommodate an expanded wetland area and provide mitigation to compensate for the impacts associated with the crossing of John Muir Parkway across the North Channel (**Figure 2.2-13**). This area may also serve to provide some stormwater detention and water quality improvements prior to discharge back into the North Channel and downstream into Refugio Creek and ultimately into San Pablo Bay. Immediately north of North Channel, a 10 foot-wide pedestrian trail will connect residents from Linus Pauling to John Muir Parkway.

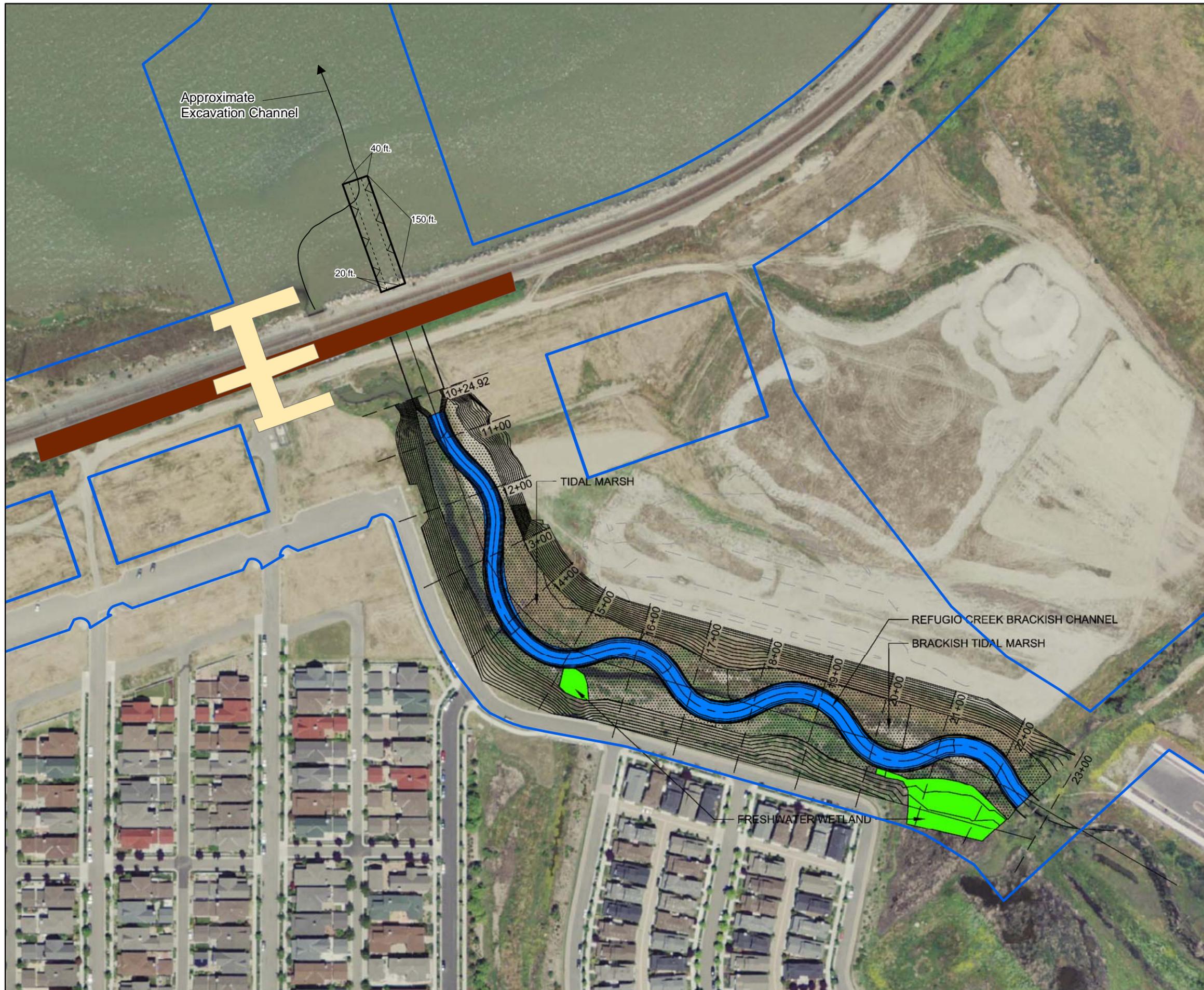
Restoration work conducted under the Hercules ITC project would include similar elements as restoration work upstream to allow a seamless and complete habitat restoration of the entire lower creek. The creek channel would be regraded and widened in order to restore a more natural serpentine form, increase flood-flow capacity, provide a creek floodplain, and restore associated tidal wetlands. The restored creekbed would be approximately 180 to 185 feet wide from top-of-bank to top-of-bank, with the restored banks at a slope no greater than 3:1, and some of the

slopes on the two riparian planting area slope banks varying between 6:1 and 9:1. The restoration and flood control components would connect with the portion of Refugio Creek upstream of the Waterfront District that was similarly restored in December 2000.

The portion of the restored creek wetland area included in the Hercules ITC (between North Channel and the creek mouth) may provide compensatory mitigation for wetlands affected by development activity within the project site. Approximately 0.08 acre of jurisdictional waters within the existing North Channel would be permanently affected by the installation of the John Muir Parkway culvert. Other jurisdictional waters would be temporarily impacted by the creek restoration grading; this temporary impact would be mitigated when the channel is regraded and restored (the restored serpentine form would make the channel longer than the original main channel by approximately 120 linear feet). Tidal marsh and freshwater wetlands adjacent to Refugio Creek would be affected by the restoration work. At a minimum, restoration work would reestablish the same amount of acreage to ensure that restoration activities are entirely self-mitigating.



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Legend

- Project Boundary
- Station Building
- Station Platform

Refugio Creek Restoration:
Wetland graphic prepared by RDG, 03-2010.

1 in = 150 ft (at tabloid layout)

0 12.5 25 50 Meters

0 50 100 200 Feet

N

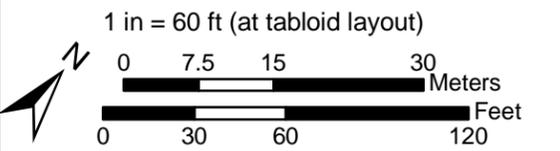
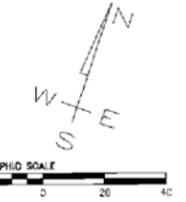
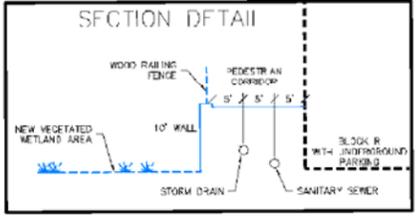
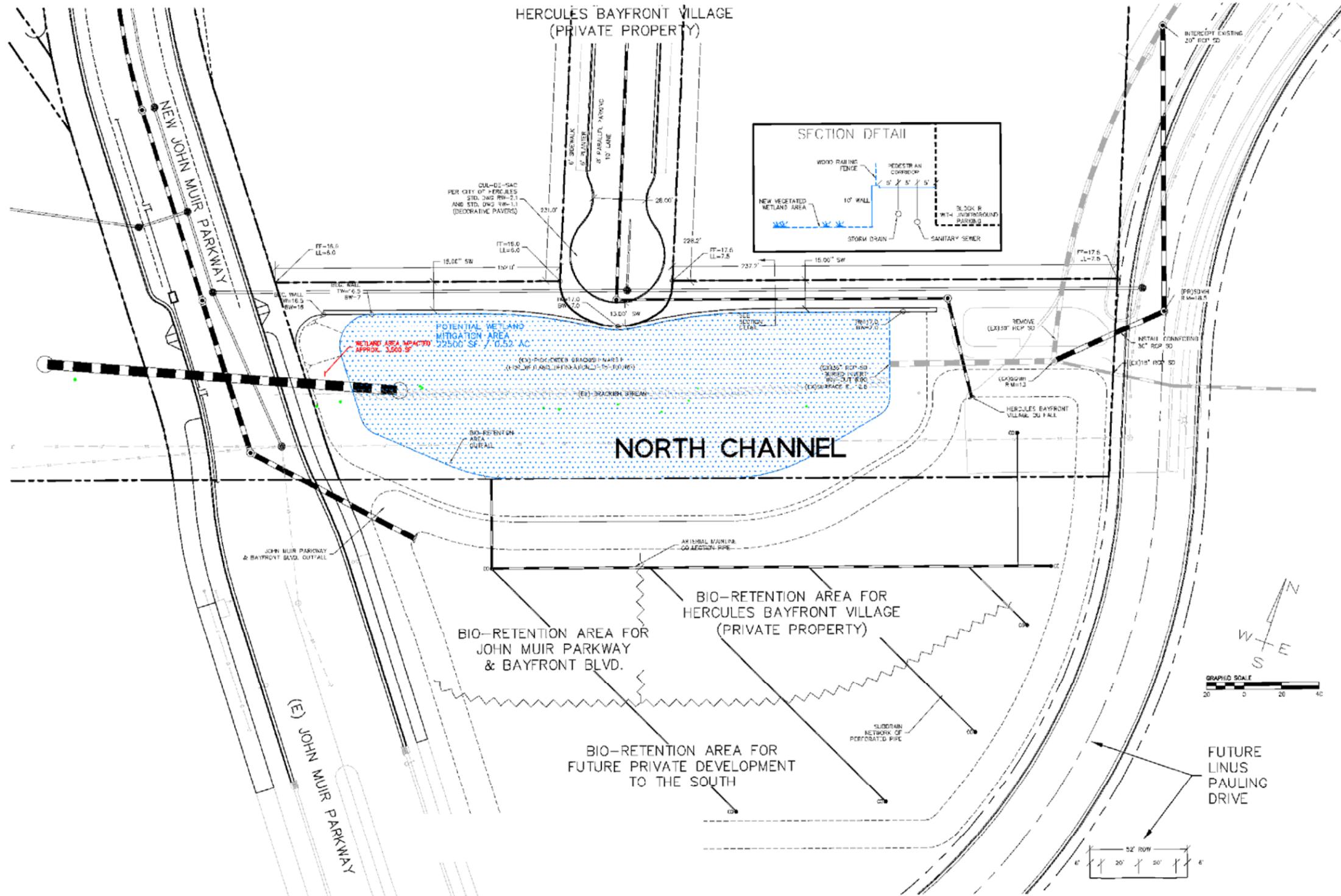
Figure 2.2-12: Refugio Wetland Mitigation

City of Hercules
Hercules Intermodal Transit Facility
Contra Costa County, California

Data Sources: Map information was compiled from the best available sources. No Warranty is made for its accuracy or completeness. Topographic Base Map, Aerial photography from ESRI ArcGIS Online; Hydrography from National Hydrography Dataset; NWI Data from U.S. Fish and Wildlife Service and soils data from USDA NRCS Soil Survey. Data is State Plane Feet, NAD83 Zone 3.

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**Figure 2.2-13:
North Channel Wetland Mitigation**

City of Hercules
Hercules Intermodal Transit Facility
Contra Costa County, California

Data Sources: Map information was compiled from the best available sources. No Warranty is made for its accuracy or completeness. Topographic Base Map, Aerial photography from ESRI ArcGIS Online; Hydrography from National Hydrography Dataset; NWI Data from U.S. Fish and Wildlife Service and soils data from USDA NRCS Soil Survey. Data is State Plane Feet, NAD83 Zone 3.

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The approximate 10-foot-wide Creekside Trail flanked with landscaping and split rail fencing would be constructed along the creek's eastern edge and would ultimately connect to the proposed Bay Trail to adjacent to the UPRR tracks.

Chelsea Wetlands Restoration

The Chelsea Wetlands is a vacant 11-acre lot located adjacent to Pinole Creek and the San Pablo Bay in the City of Hercules southwest of Hercules Point (**Figure 2.2-14**). The City has proposed restoration of the property to reestablished tidal influence to the wetlands and to reduce local flooding (Appendix J). The site historically supported tidal marsh habitat; however, a large portion of the site was filled approximately 100 years ago during development of the Hercules/Pinole area. The site currently supports annual grasslands, a small tidal drainage channel with adjacent pockets of tidal marsh, and a few small, scattered seasonal wetlands. Restoration of the Chelsea Wetlands will also provide off-channel flood storage for lower Pinole Creek. Restoration of the Chelsea Wetlands includes the creation of approximately 5.2 acres of tidal salt marsh, 0.7 acre of tidal channel and 1.1-1.8 acre of marsh-upland transition, as well as the enhancement of 0.05 acre of existing tidal channel and 2.1 acres of marsh-upland transition. A portion of the restoration at the Chelsea Wetlands may serve as partial compensatory mitigation for the impacts associated with construction of the Hercules ITC.

Transit Loop and Bridge

Transit Loop Drive would serve as a transit loop to allow transit vehicles to enter and exit the Hercules ITC and would provide drop-off, pick-up, and short-term parking areas for non-transit vehicles. Transit Loop Drive would be a two-lane paved roadway that extends north from John Muir Parkway at the intersection with Bayfront Boulevard, west at the northern end of a parcel known as Block K, across Refugio Creek, then south to Bayfront Boulevard (Figure 2.2-1).

Transit Loop Drive Bridge would consist of a single span (approximately 72 foot long), cast-in-place concrete bridge spanning Refugio Creek (**Figure 2.2-15**). The Transit Loop Drive Bridge would be supported on two abutments with wing walls supported on driven steel H-piles. The bridge would consist of a variable depth (arched bottom) girder with decorative railings along the sidewalk and a brick façade at the abutments. The face of the bridge girder may include decorative elements that relate to the waterfront's architectural character.

Creekside Park and Plaza

Creekside Park and Plaza would make up the area within the Transit Loop, Bayfront Boulevard, Refugio Creek, and the footprint of the future building on Block K (**Figure 2.2-16**). The area is about 100 feet by 200 feet inclusive of Creekside Trail, which would wind along the western edge of the park adjacent to Refugio Creek. The area is a more natural space taking design references from Refugio Creek and San Pablo Bay. An open lawn would fill the center of the space and transition into tidally influenced native plants as the space blends into the creek to the west. The Creekside Park would be bound by a linear footpath corridor to the east, adjacent to Block K. The north edge would be formed by a distinctive swale providing stormwater treatment with rocks and stepping stones; it would also be planted with trees as a windscreen. The area also

would have a small trellis along the edge of the trail providing a small staging area that would be screened from the sun and provide a focal point down Bayfront Boulevard and beyond.

Parking

In the near term (prior to build-out of the proposed HB Project), a 220-space surface parking lot located southwest of the planned intersection of John Muir Parkway and Bayfront Boulevard (Block N) would provide parking for train and bus patrons. Figure 2.2-2 identifies the surrounding parcels and their locations. This parking lot would eventually be replaced by mixed-use and residential development as part of the proposed HB project at Block N; replacement parking available to transit terminal commuters would be included in the HB development project. Long-term parking for the Hercules ITC would be provided in a multi-story building on a waterfront parcel east of Refugio Creek (identified as Block K on Figure 2.2-2) and could accommodate approximately 250 parking spaces, meeting all forecasted transit parking needs.

Phase 2 – Café/Transit Annex Building and Transit/Civic Plaza

Café/Transit Annex Building

This building design would integrate both public and private uses into a single structure (**Figure 2.2-17**). At the eastern edge a covered transit waiting area, adjacent to the Transit Loop, would serve the bus bay (ticket vending machines may also be incorporated into this area). The end of the building at Bayfront Boulevard would accommodate a café or other small retail use. The café would be a single-story, approximately 1,400-square-foot building with seating, private restroom, and kitchen facilities included in the main building. The kitchen facility would accommodate either deli-style or short-order food. Connected by a roofed breezeway are two single-occupancy, handicapped-accessible public restrooms. Refuse storage would be within and enclosed area located behind the restrooms.

Transit/Civic Plaza

The Transit/Civic Plaza would be an active gathering space oriented towards the main street of Bayfront Boulevard with clear, direct connections to the Bay Trail and Waterfront Promenade (Figure 2.2-17). From the plaza, three routes would connect to the promenade. South of the plaza there would be a passage between the Station Building and adjacent private development. The primary station access from the plaza would connect through a building passage where elevators, ramps, and other transit services would be located. To the north edge of the plaza and Station Building, the Transit Loop sidewalk would extend directly to the Waterfront Promenade.

With approximately 12,273 sf of open space area, the Transit/Civic Plaza would provide access openings with the following dimensions:

- South – 88 feet,
- East – 38 feet plus a 22.5-foot opening in the cafe building,
- West – 12.5 feet plus 20 feet from Block G, and
- North – 22-foot opening from the Bay Trail and 12-foot openings below the station stairs.

Phase 3 – Hercules Point Bridge

Hercules Point Bridge and Land Side Ramp

The Hercules Point Bridge and the land side concrete ramp would connect the community to a viewing platform at Hercules Point via a ramp from the Railroad Plaza at the base of Railroad Avenue with a 130-foot prefabricated steel bridge spanning over the UPRR tracks (Figure 2.2-2). Completion of the water side ramp connecting the viewing platform down to the point would be dependent upon completion of the Hercules Point Park and open space (Phase 4). The Hercules Point bridge will serve primarily pedestrians to access Hercules Point. The bridge will also provide restricted access to accommodate light utility trucks and public service vehicles for maintenance on Hercules Point and public safety.

Railroad Plaza

The proposed Railroad Plaza would be approximately 100 feet by 150 feet in size and located at the terminus of Railroad Avenue. It would provide a destination to for views the bay and access the proposed Hercules Point Bridge, which would ultimately provide a connection to the proposed Hercules Point Park and open space (Figure 2.2-1 and 2.2-2).

Phase 4 (Future Project) – Hercules Point and Open Space

Hercules Point is a planned open space and designated public park on 10.96 acres. This phase of the project is beyond the scope of this document; however, it is included in the cumulative effects analysis. Additional environmental documentation and approval would be completed before this phase of the project proceeds to construction.

Phase 5 (Future Project) – Ferry Terminal

A future connection to a ferry terminal is anticipated to complete the City's goal to fulfill the multimodal transit opportunity afforded by the waterfront property. While the connection is planned to occur as part of the City's long-range goal, planning and accommodations are included in the current proposal (including the Station Building, transit/civic plaza, and emergency vehicle access) to help facilitate the future ferry service. While this phase of the project is beyond the scope of this document, analysis of required project components and potential impacts is included for the purposes of cumulative affects analysis. Additional environmental documentation and approval of the ferry terminal and ferry service would be required before this phase of the project begins construction.

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Legend

- Project Boundary
- Chelsea Restoration Boundary

1 in = 200 ft (at tabloid layout)

0 25 50 100 Meters

0 100 200 400 Feet

Figure 2.2-14: Chelsea Wetlands Restoration Site

City of Hercules
 Hercules Intermodal Transit Facility
 Contra Costa County, California

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