

CREEK & WATERSHED MAP of Richmond & Vicinity

By Janet M. Sowers, William Lettis & Associates, Inc.
Historical wetlands research by the San Francisco Estuary Institute

This map shows the current waterways of the Richmond area, including the creek and storm drain network and present-day watershed boundaries. Also shown are the historical creeks, tidal marshes, and lagoons. Many of these historical water features no longer exist. Development resulted in the construction of underground storm drains and engineered channels, the filling of tidal marshes and the bay, and construction of reservoirs.

Notes: Only larger features are shown. Creeks and engineered channels have a minimum of 0.2 square kilometers of watershed, and storm drains measure at least 24 inches in diameter.

Engineered channels include both natural creeks significantly reinforced by concrete or rock, and artificial channels, ditches, and canals not coincident with a historical creek. Some newer engineered channels are designed to mimic natural channels.

Accuracy: Every effort was made to produce an accurate map, however, all lines should be considered approximate. There is error in the historical maps, in the transfer of historical information to modern maps, and in the modern maps themselves. In addition, natural shifting of creeks and fluctuations in the extent of marshes and lagoons can be expected both before and after the historical maps or photos were made. Historical marsh and lagoon boundaries are considered accurate to within 1000 feet on either side of the line shown. Historical creek locations are accurate to within 200 feet, ephemeral channels to within 500 feet. Present-day creek and storm drain locations are considered accurate to within 100 feet on either side of the line shown.

How this map was made: Storm drains, engineered channels, flood-control channels, and present-day creeks were compiled from city and county data, 2004 aerial photography, and field inspection. The historical locations of creeks were interpolated from 1939 aerial photography, and 1850-1910 historical maps. Historical tidal marshes and willow groves were researched by SFEI using a variety of sources

including the 1853, 1856, and 1857 U. S. Coast Surveys (www.sfei.org). Complete documentation can be obtained from Janet Sowers at jsowers@lettis.com or www.museumca.org/creeks. The base map showing present geographic features consists of portions of the following U. S. Geological Survey 7.5-minute topographic quadrangles: Richmond (1995), Oakland West (1993), Mare Island (1980), and San Quentin (1995). We added major new roads and highways.

Financial support was provided by the State Water Resources Control Board through CNPS Pollution Control Grant agreement No. 04-139-552-0 awarded to San Francisco Estuary Institute and by U. S. Army Corps of Engineers, San Pablo Bay Watershed Restoration Program, administered by CDM Inc.

Technical assistance was provided by the cities of Richmond, El Cerrito, San Pablo, Pinole, and Hercules, the county of Contra Costa, Friends of Five Creeks, Friends of Baxter Creek, and the Watershed Project. Field and editorial assistance were provided by Christopher Richard, Trish Mulvey, and the Horn family. The map was drafted by Jason Holmberg.

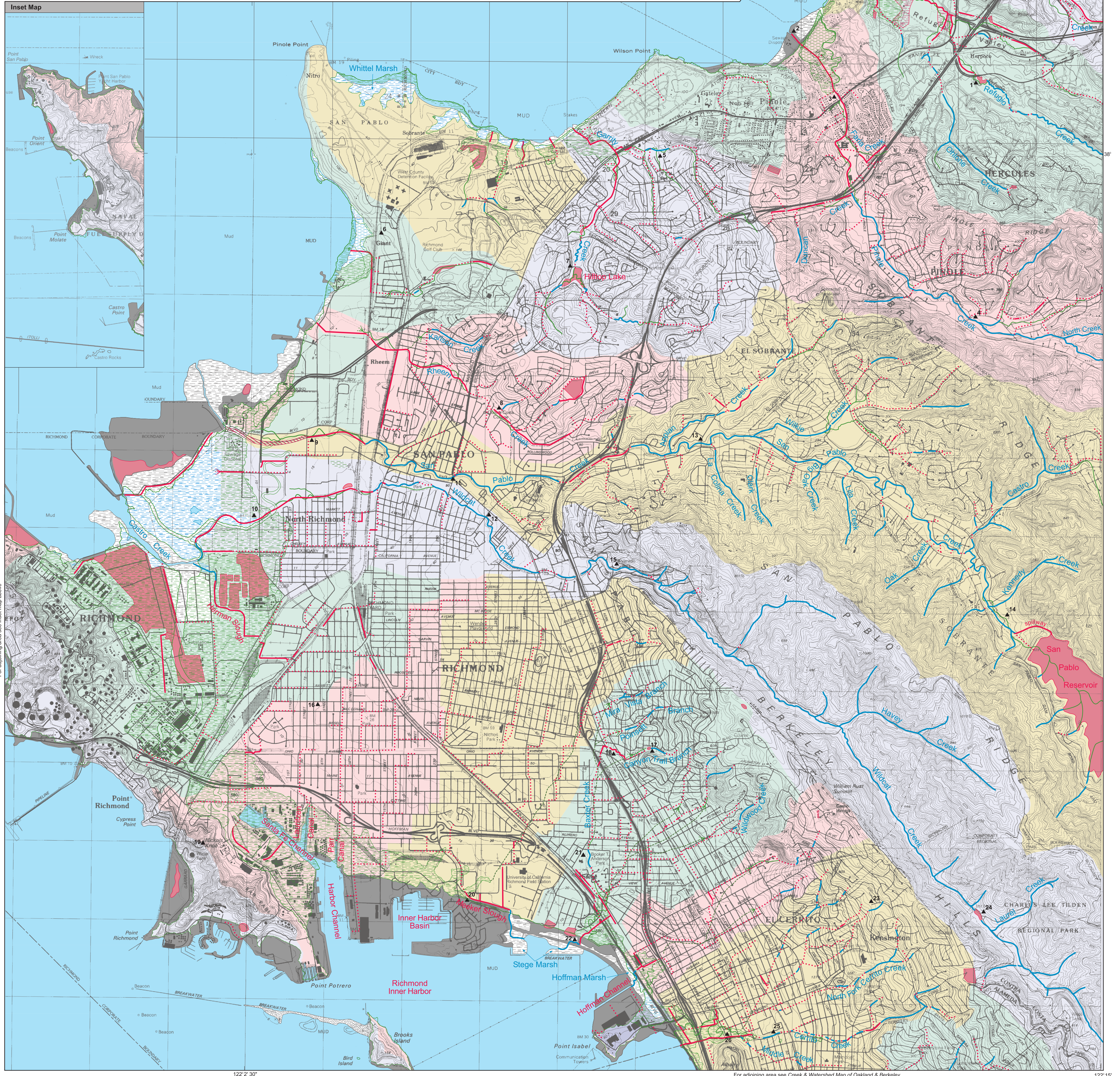
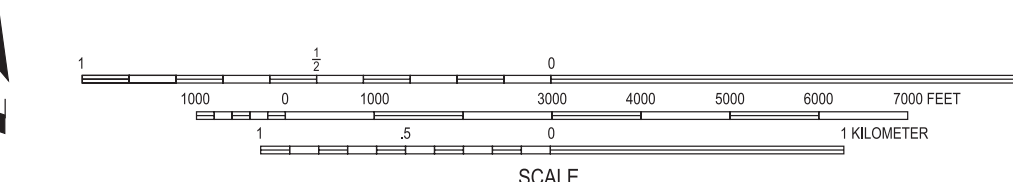
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PUBLISHED BY:
Oakland Museum of California
1000 Oak Street, Oakland, CA 94607
www.museumca.org/creeks
• 2006 •

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EXPLANATION

- Creeks
- Underground storm drains
- Engineered channels
- Bay or natural lakes
- Artificial bodies of water
- Bay fill
- Flood control channels ≥ 200 feet wide
- Historical tidal marsh, still present
- Artificial freshwater wetland
- Modern tidal marsh formed after ~1850
- Beaches and sand bars formed after ~1850
- Present watersheds
- Water spreads over the ground
- Historical features, circa 1850, no longer visible
- Creeks, buried or drained, dashed where location uncertain
- Epheermal creeks
- Lakes, lagoons, ponds
- Willow groves
- Beach sand
- Tidal marsh and sloughs
- Now fill land
- Water spreads over the ground



- ### POINTS OF INTEREST
- 1. Refugio Valley Park.** Creeks naturally meander. Their channels follow sinuous curves and kinks, seeming to twist their way downstream. Refugio Creek remains natural through this lovely city park, with meanders unstraightened. Damming the creek created the lake, now graced with dramatic fountains. The creek's sinuous south shore appears to follow the old meandering creek bank. Upstream along the jogging trail is another treat: a three-quarter mile reach of meandering creek, lined with large oaks, willows, and eucalyptus, extending all the way to the community center.
 - 2. Bayfront Park.** Sitting at the mouth of Pinole Creek, this city park offers sweeping views of San Pablo Bay and a close-up view of a tidal marsh. In the 1800s, this marsh was open water west of the railroad tracks. Over the last century, the creek washed silt down from the hills building up the marsh. The railroad track marks the old shoreline. Watch for trains!
 - 3. Pinole Creek at Fernandez Park.** Through the park is a curving reach of Pinole Creek. The footbridge behind Pinole Senior Center is a good place to contrast this earthen channel with the concrete box channel that carries the creek under San Pablo Avenue. Note the storm drain outfall visible on the downstream side of the bridge; look for a large metal pipe emptying into the creek. The Pinole Creek Trail follows the south bank under the trestle where the creek then becomes a straight channel from here to the bay. Contrast this channel with its original meandering channel shown in green on the map.
 - 4. Pinole Valley Park.** Beautiful Pinole Creek flows through this city park, bordered by native riparian vegetation including oak, bay, and willow. Accessible from the western end of the park, a trail follows the creek then turns and crosses a footbridge to the dog park. Standing on the footbridge, note how deeply the channel is incised; scientists estimate that about three feet of down-cutting dates from the 1800s when cattle grazing caused loss of vegetation on the hills, resulting in higher runoff and channel erosion.
 - 5. Louis Francis Park.** This small city park incorporates a creek into its design. In contrast to other neighborhoods where creeks were buried in underground pipes, this small tributary to Garry Creek is valued as an asset, although its meanders were straightened. A trail follows the creek and an attractive footbridge affords access to the north bank as well as a good view of the creek.
 - 6. Point Pinole Regional Park.** One of the jewels of the East Bay coastline, Point Pinole offers spectacular bay views, fishing, lush marshes, rocky cliffs, and twelve miles of trails. A trail through the fall-winter migratory-bird season is well worth the effort. Plans are underway to expand the park by incorporating additional marshlands to the south.
 - 7. Hilltop Lake Park.** Damming Garry Creek created this small lake originally built as a recreation site for Standard Oil employees. The California Department of Fish and Game stocks the lake with rainbow trout and channel catfish for anglers. Downstream from the dam, one of the few remaining natural reaches of Garry Creek meanders beneath the willows and bay trees. View it from the YMCA parking lot.
 - 8. Rheem Creek at Contra Costa College.** A straight, earthen, engineered channel across the campus, Rheem Creek offers valuable habitat for local wildlife and plants, while also providing a campus amenity. For a more natural creek, take the path up the hill past the Student Activities building along a small meandering tributary. Five large pipes under the pavement connect this pretty, shaded creek to Rheem Creek.
 - 9. San Pablo Creek and Wildcat Creek at Third Street.** Third Street crosses both major creeks within a relatively short distance. San Pablo and Wildcat Creeks have been neighbors for thousands of years, sweeping back and forth across the flatlands and sometimes joining together, such as between 1830 and 1895. Since 1900, they have been entirely separate, and high levees built in the 1960s now ensure that each keeps a separate channel to the bay.
 - 10. Wildcat Creek Trail at Richmond Parkway.** Walk or bike the Wildcat Creek Trail either direction from Richmond Parkway and near the flood control channel of Wildcat Creek. In 2000, agencies, non-profits, and neighborhood groups cooperated to improve this area, which had suffered from chronic flooding. Between high levees on either side the channel is designed to maintain both natural ecological function, and the capacity to carry high stream flows. It incorporates a low-flow channel and flood plain with natural habitat for plants and animals. Eastward, follow the creek past Verde School and the retention pond to an impressive concrete channel and fish ladder that carries the creek under the railroad tracks. Westward, the trail ends at a viewpoint beside the tidal marsh.
 - 11. San Pablo Creek at Kennedy Plaza.** A public plaza and fountain grace this city park along San Pablo Creek. The largest creek in the Richmond area, San Pablo Creek flows in its natural channel, shaded by large oaks and sycamores.
 - 12. Alvarado Adobe.** Here beside Wildcat Creek, stood the adobe home of Juan and Martina Alvarado. This replica, built in 1976 and operated by the city of San Pablo as a museum, is open to the public on Sunday afternoons. Wildcat Creek flows under Church Lane beside the Senior Center. Note how many reinforcement methods can be seen in this short reach of the creek – a concrete culvert under the road, a concrete wall, a metal wall, riprap (the boulders), and a new sloped bank planted with willow and cottonwood at the base – all to prevent bank erosion.
 - 13. El Sobrante Library.** San Pablo Creek borders the library grounds where, beginning in 2000, volunteers have been pulling ivy and establishing a native garden underneath the redwood trees. Eventually 300 feet of creek bank will be revegetated. Get a good look at the creek from the Appian Way bridge where eucalyptus trees tower over an understory of native buckeyes.
 - 14. San Pablo Creek at Kennedy Grove Regional Park.** This park lies at the base of San Pablo Dam. Hence, water releases to the creek from the reservoir above govern the flow through the park. Plovers extending through the dam release water into the creek to keep the reservoir at a safe level. Occasionally, very heavy rain features wide side signs tell the story of the creek. Originally, the banks of the park road at its lowest point to protect it from erosion by high releases and overflows. A planned seismic retrofit will significantly alter the creek, immediately below the dam.
 - 15. Alvarado Park.** Established as Grand Canyon Park in 1909, Alvarado Park now is a part of Wildcat Canyon Regional Park. Stonework bridges, lampposts, and walls date from the 1930s. Wildcat Creek flows through the park and forms a scenic backdrop for picnic areas and trails. Channel engineering in the 1990s to reduce erosion placed large boulders in the channel to dissipate energy. View these boulders from the bridge. Stabilizing this channel remains a challenge as the banks are highly fractured by the Hayward Fault, which runs through the park. During floods, Wildcat Creek churns muddy brown with sediment eroded from Wildcat Canyon.
 - 16. Richmond Museum of History.** Visit the museum to see historical maps of the region made during the Mexican and gold-rush eras. This part of the Richmond plain has no creeks because it is an alluvial fan, a landform created by Wildcat Creek when, over thousands of years, it flooded over the lowlands depositing layers of sand, silt, and gravel. Wildcat Creek now flows across the north side of the plain, having abandoned its old paths across the fan. Rain that falls mainly on the plain is now carried away by underground storm drains.
 - 17. Canyon Trail Park.** The Canyon Trail Branch of Baxter Creek flows down a shaded gulch into a frog pond bordered by native vegetation. The site is popular with volunteers working with the city to restore and maintain native habitat. A special feature is the large pentagonal boulder once used by the native Huichun Ohlone.
 - 18. Baxter Creek Gateway Park.** In fall 2005, a block-long reach of this small creek received a major makeover. Here, the Canyon Trail Branch flowed for eighty years in a ditch alongside the railroad track. A recent restoration project created a more naturally functioning, meandering channel and floodplain, and planted new native vegetation. A creekside trail, connecting from the Ohlone Greenway, crosses the footbridge. The creek's meandering path, which carries each of the several branches of the creek flowed out onto the flatlands then disappeared into the porous alluvium, reappearing nearer the bay where groundwater seeped to the surface. Only after heavy winter rains would the branches join together and course across the flatlands. Such creeks are called ephemeral, shown on the map as dashed green lines.
 - 19. Nickels Knob.** Looking east from the viewpoint, the area around the harbor was originally marshland. A tidal marsh, complete with meandering sloughs, once separated the ridge you are standing on, the Richmond Potrero, from the Richmond plain. The entire marsh would flood during high spring tides, turning the potrero into an island. Waterfront developers filled the tidal marsh between 1900 and 1950.
 - 20. Meeker Slough at the Bay Trail.** Follow a portion of the Bay Trail along Meeker Slough, a modern feature fed by storm water from the flatlands of Richmond and tidal waters from the bay. Meeker Slough follows the old shoreline as an engineered channel, then turns south and becomes a natural tidal slough, formed in post-1850 marsh sediments.
 - 21. Booker T. Anderson Park.** Baxter Creek flows through this large city park in a fairly natural configuration. In 2000, a restoration project regraded the channel and planted native vegetation. In 1900, this stretch of Baxter Creek, then known as Stege Creek, was part of Richard Stege's ranch, which included ponds on the creek where he raised frogs for San Francisco restaurants.
 - 22. Stege Marsh.** Visible from either side of the old railroad grade that is now the Bay Trail, Stege Marsh is a relatively new feature. U. S. Coast Survey maps from 1858 show open bay here. Silt began to accumulate shortly after the railroad and the breakwaters were built. Unfortunately, these sediments are highly polluted with chemicals derived from nearby manufacturing plants. Restoration is underway removing contaminated sediments and planting new vegetation. Walk the Bay Trail noting the abundant bird life; perhaps you will see the endangered clapper rail. Baxter Creek enters at the east end of the marsh and Meeker Slough at the west end.
 - 23. Blake Garden.** Surrounding Blake House, the official residence of the president of the University of California, this terrace garden serves as a teaching facility. Open weekdays, visitors may stroll through the garden and nursery, pause at the reflecting pool fed by a natural spring, or hike a trail along one of the two small creeks. Both creeks are natural, cascading serenely through small wooded canyons, only to be swallowed by storm drains at the end of their run. A few blocks west of Huber Park, another small tributary of Cerrito Creek falls from a hole in a stone wall into a pool near the play structure.
 - 24. Jewel Lake and Wildcat Creek Trails.** Originally built in 1922 to supply water to Berkeley, Jewel Lake is a popular attraction in Tilden Regional Park. Now filling with sediment washed in by Wildcat Creek, the lake is becoming a marsh. A boardwalk takes you across the marsh to view wetland vegetation and wildlife. Downstream from the dam, the Wildcat Creek Trail will take you through adjoining Wildcat Canyon Park four miles to Alvarado Park in Richmond.
 - 25. Cerrito Creek at the Plaza.** Cerrito Creek marked the boundary between two large Spanish and Mexican land grants and later became the boundary between Contra Costa and Alameda Counties. In the 1800s, Don Victor Castro resided in a large hacienda where El Cerrito Plazo now stands and managed the vast Rancho San Pablo lands. The City of El Cerrito and volunteers restored three blocks of creek along the south edge of the shopping center with native plantings and a more meandering channel.
 - 26. Cerrito Creek Park.** Before European settlement, several small creeks converged in a large marsh just west of what is now San Pablo Avenue. The Huichun Ohlone had a village beside the creek at the base of Albany Hill. There people ground acorns, shelled oysters, and feasted on the marsh's bounty. With urbanization, the marsh was filled and the creek forced into a straight, engineered channel. An attractive creekside trail runs from Adams Street west to Pierce Street; much of the creek bank is replanted with native species.

For glossary see: www.museumca.org/creeks/terms.html