



**OPERATIONS AND MAINTENANCE PLAN
SHIMADA FRIENDSHIP PARK
MARINA BAY PROJECT
RICHMOND, CALIFORNIA**

This plan has been prepared on behalf of Richmond Community Redevelopment Agency by PES Environmental, Inc. (PES) to describe inspection and maintenance of the surface cover located at Shimada Friendship Park in the South Shore Areas of the Marina Bay Project in Richmond, California (Plate 1). Shimada Friendship Park, formerly referred to as Trailhead Park, is developed as a public park, with various ground cover including turf, landscaped soil and hardscaped surfaces. Shimada Friendship Park is bounded on the north by Peninsula Drive, on the east and west by residences, and on the south by San Francisco Bay (Plate 2).

The Final Remedial Action Plan¹ submitted for the subject property included both in-situ encapsulation of hydrocarbon-affected soil, and excavation of metal- and paint-contaminated soil for offsite disposal or encapsulation elsewhere within the Marina Bay Project. According to the Covenant to Restrict Use of Property² filed at the Contra Costa County Records Office, petroleum hydrocarbon- and lead-affected soil has been encapsulated onsite. In 1990 and 1991, a soil cap consisting of various layers of material (6 inches of imported topsoil, 6 inches of native topsoil, 12 inches of low-permeability soil, and a 12-inch thick foundation layer³) comprising at least 2 feet of clean fill was placed over the affected soil⁴. The approximate locations of encapsulated soil and overlying soil cap are shown on Plate 3. As shown on Plate 3, portions of the soil cap are covered with hardscaped surfaces (walkways). Because the hardscaped surfaces overlie the 2-foot thick soil cover, this plan will focus on the inspection and maintenance of the soil cover only. The entire property encompasses an area of approximately 3 acres. Exhibit A to Covenant to Restrict Use of Property provides a detailed description of the location and boundaries of Shimada Friendship Park.

The goal of the inspection and maintenance activities is to maintain the integrity of the soil cover at Shimada Friendship Park. To accomplish this goal, this plan: (1) details the frequency and procedures for routine operation and maintenance; (2) documents reporting requirements; and (3) details the procedures to be implemented for non-routine operation and maintenance.

¹ Harding Lawson Associates (HLA), 1993. *Final Remedial Action Plan, Marina Bay Development, Richmond, California*. June 25.

² Covenant to Restrict Use of Property, Environmental Restriction, Shimada Friendship Park, Marina Bay Redevelopment, Richmond, California dated January 28, 2005.

³ HLA, 1990. *Construction Plans and Special Provisions, Trailhead Park Cover, Richmond, California*. August 15.

⁴ HLA, 1991. *Remedial Operations, Soil Containing Paint and Metal Debris, Trailhead Park, Marina Bay Development, Richmond, California*. January 8.

ROUTINE INSPECTION AND MAINTENANCE PROCEDURES

Annually, the site owner will complete inspection and maintenance activities during the month of February (unless an extension of time is obtained from DTSC or its successor). Inspection and maintenance procedures for the soil cap at Shimada Friendship Park are presented below.

The maintenance of the soil cap will proceed by the following guidelines:

- (1) The soil cap will be inspected by a California-registered civil engineer for evidence of wilted vegetation, barren areas, discoloration, and/or burrowing animals in the vegetation that might cause erosion of the soil. The vegetative cover must be maintained in order to preserve a minimum of 2 feet of cover soil with petroleum hydrocarbon and lead concentrations less than project cleanup goals. Areas with stressed vegetation and bare areas will be evaluated to determine the possible cause or causes. Field notes describing the observations made at the time of inspection will be prepared and will detail the vegetative cover; and
- (2) Areas where distressed vegetation is observed, if any, will be revegetated and/or fertilized within 30 days of the inspection.

REPORTING

Annual Reporting

Annually, the site owner or its designee will submit a report to DTSC within 45 days of the inspection. The report will include the field inspection notes and a description of repairs for the soil cap.

Five-Year Reporting

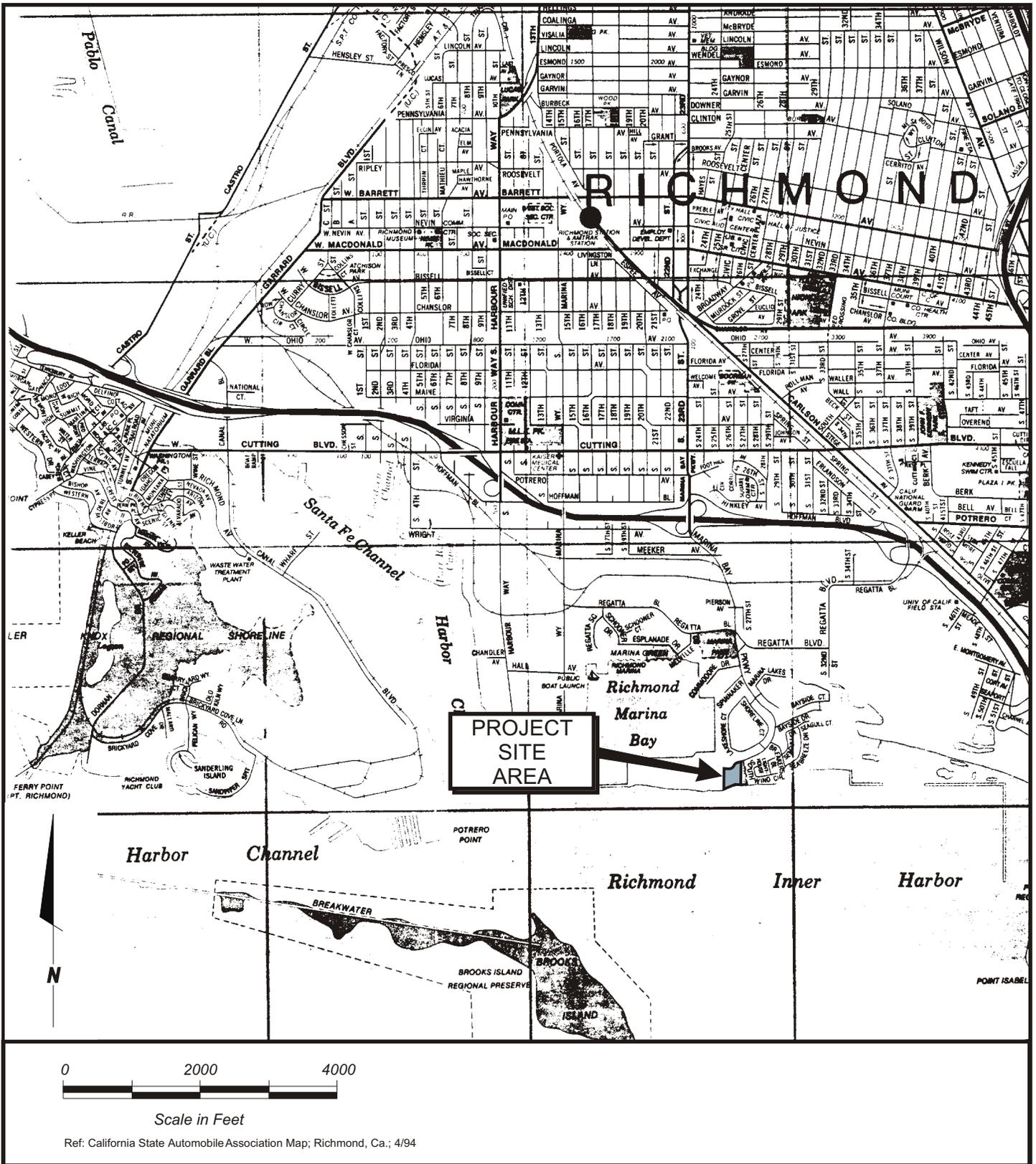
Every 5 years a report will be prepared by a California-registered civil engineer. Ninety days before the end of the 5-year period, the site owner will submit a workplan to DTSC describing how the 5-year review will be conducted. The 5-year review report will be submitted to DTSC 30 days after approval of the workplan. The report will describe the inspection and maintenance activities that were conducted over the past 5 years. The report will include, at a minimum, a review of the status and effectiveness of the cap and if necessary, make recommendations to modify the cap or cap design. A copy of field inspection notes for the prior 5-year period will also be included in the report.

NON-ROUTINE OPERATION AND MAINTENANCE

This plan is intended to describe only those procedures for routine inspection and maintenance of the cap. If it is determined by the site owner that major cover repairs, or other subsurface construction activities, are needed at Shimada Friendship Park that will result in penetration of the cover to depths greater than 2 feet, then: (1) all applicable regulations to provide protection of worker safety and health will be followed; (2) a Soil Management Plan including a Health and Safety Plan will be submitted to DTSC for review and approval prior to any construction activity; and (3) DTSC will be notified prior to commencement of work.

Attachments: Plate 1 – Site Location Map
Plate 2 – Vicinity Map
Plate 3 – Site Plan

ATTACHMENTS

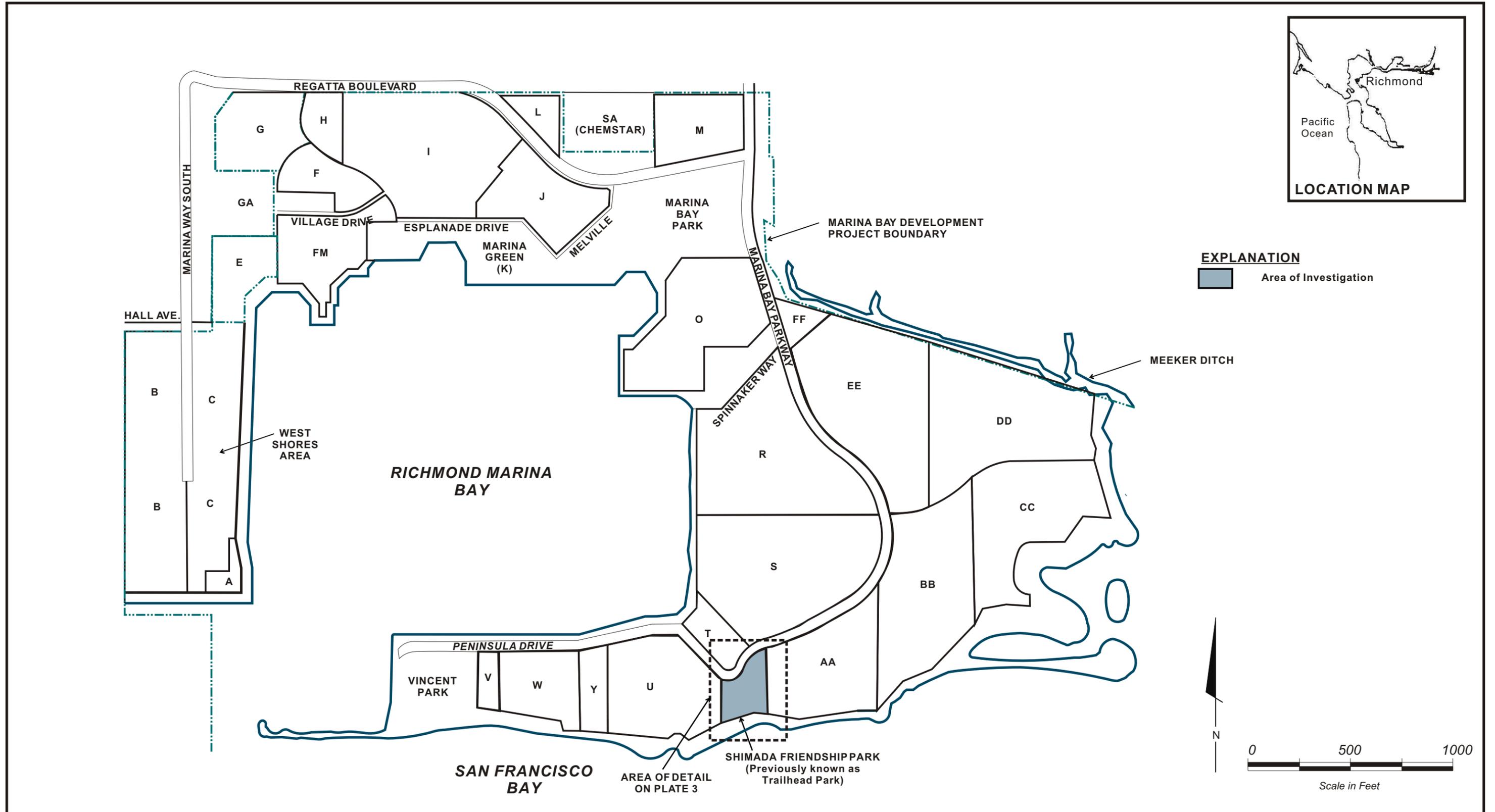


PES Environmental, Inc.
Engineering & Environmental Services

Site Location Map
Shimada Friendship Park O&M Plan
Marina Bay Project
Richmond, California

PLATE

1



Explanation

-  Approximate Property Boundary
-  Approximate Location of Encapsulated Hydrocarbon-Bearing Soils
-  Approximate Location of Soil Cap

