



**OPERATIONS AND MAINTENANCE PLAN
BOAT HARBOR PARKING AREA
MARINA BAY PROJECT
RICHMOND, CALIFORNIA**

This plan has been prepared on behalf of Richmond Community Redevelopment Agency by PES Environmental, Inc. (PES) as a plan for inspecting and maintaining a cap over lead-bearing soil located within the parking lot for users of the boat harbor at Marina Bay (Plate 1). The boat harbor parking lot is located within Area E of the Marina Bay Development, northeast of the intersection of Marina Way South and Hall Avenue. The capped portion of the boat harbor parking lot is bounded on the north by additional paved parking lot and industrial properties, on the east by additional paved parking lot, on the south by Hall Avenue and commercial/light industrial properties, and on the west by Marina Way South and commercial/industrial properties (Plate 2).

An area of encapsulated lead-bearing soils, encompassing a total of approximately 46,291 square feet (ft²), is located beneath the boat harbor parking lot (Plate 3). Exhibit A to Covenant and Agreement to Restrict Use of Property¹ provides a more detailed description of the location of the cap underlying lead-affected soil. Approximately 1,600 cubic yards (yd³) of metal-bearing soil was excavated from Parcel BB at Marina Bay, and approximately 180 yd³ of paint-bearing soil (containing lead) were excavated and stockpiled on Area U. Scrap metal and paint pieces were subsequently separated from the soil and the remaining 1,200 yd³ of soil was blended with calcium hydroxide and calcium carbonate pond sediments (lime) excavated from the North Pond (Area U). The mixed soil was then placed beneath the boat harbor parking lot extension in 1991. A minimum of 9 inches of clean fill and gravel base material was placed on top of the lead-bearing soil and a 2-inch thick asphalt cap was placed on top of the gravel base material². A map depicting the approximate location of the cap and the underlying lead-bearing soils is provided as Plate 3.

The goal of the inspection and maintenance actions is to maintain the integrity of the cover. 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.

ROUTINE OPERATION AND MAINTENANCE

Annually, the site owner will complete inspection and maintenance activities during the month of February (unless an extension of time is obtained from the Department of Toxic Substances Control [DTSC] or its successor):

¹ Covenant and Agreement to Restrict Use of Property, Marina Bay Project, Launch Ramp Parking Area, Richmond, California dated December 13, 1991.

² Harding Lawson Associates, 1993. *Final Remedial Action Plan, Marina Bay Development, Richmond, California*. June 25.

- (1) The asphalt pavement will be inspected by a California-registered civil engineer for signs of cracking or other degradation, which might compromise the integrity of the cover. Field notes describing the observations made at the time of inspection will be prepared and will detail the pavement conditions.
- (2) Cracks or other degradation of the asphalt will be patched or otherwise repaired within 30 days of the inspection.

REPORTING

Annual Reporting

Annually, the site owner 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.

5-Year Reporting

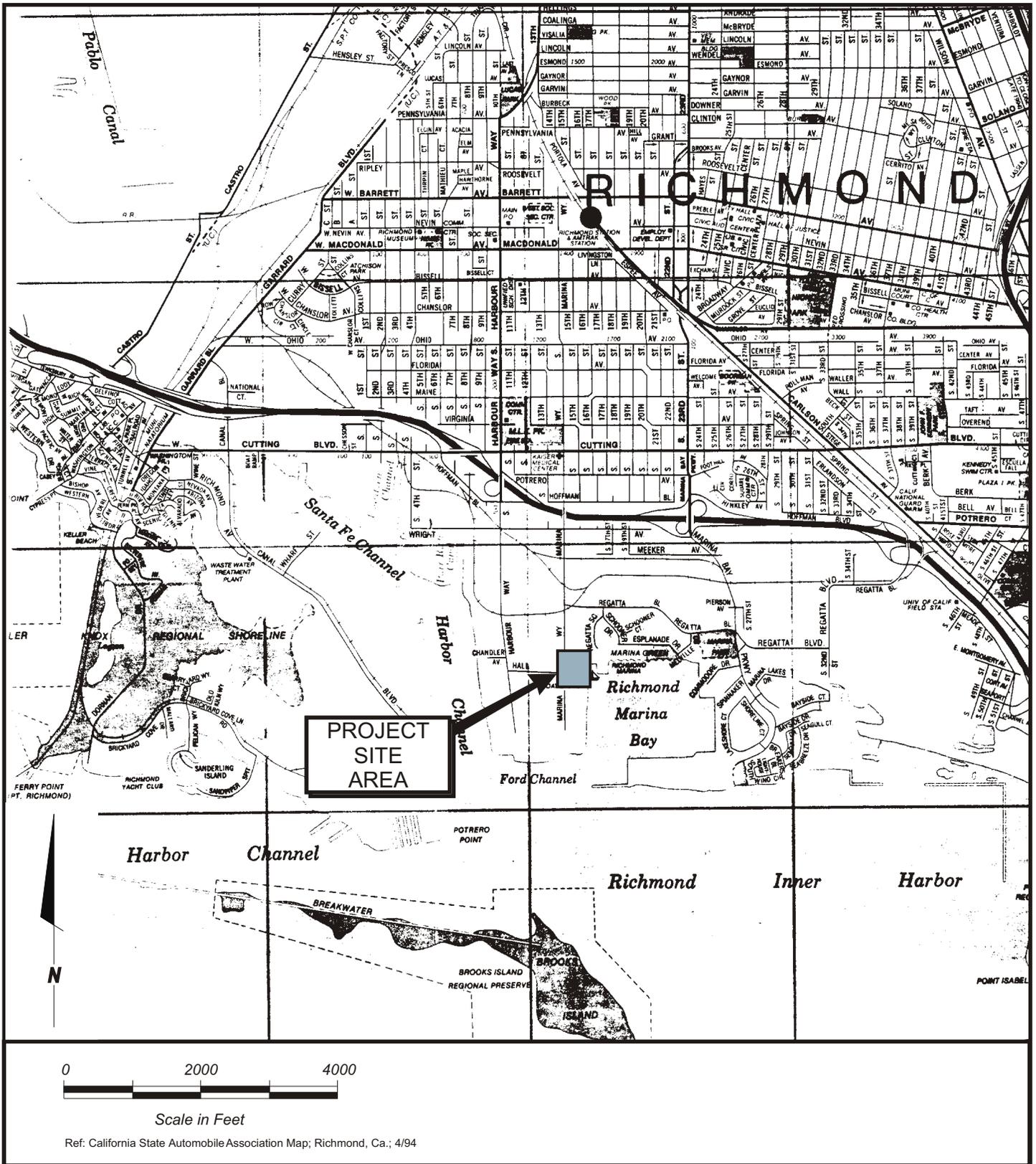
Every 5 years a 5-year review report will be prepared by a California-registered civil engineer. Ninety days before the end of the 5-year period, the site owner will submit a work plan to DTSC describing how the 5-year review will be conducted. The 5-year review report will be submitted to DTSC 30 days after approval of the work plan. 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 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 the boat harbor parking area that will result in penetration to the underlying lead-bearing soil, 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
Boat Harbor Parking Area O&M Plan
Marina Bay Project
Richmond, California

PLATE

1

EXPLANATION
 Area of Investigation

