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EDR


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N
EDR


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EDR

INQUIRY #: 4313406.12

YEAR: 1966

= 500'

N

EDR


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INQUIRY #: 4313406.12
YEAR: 2012
= 500'
N
EDR

Proposed East Palo Alto Youth Center
1950 Bay Road
East Palo Alto, CA 94303

Inquiry Number: 4313406.3
June 03, 2015

Certified Sanborn® Map Report

6 Armstrong Road, 4th Floor
Shelton, Connecticut 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

6/03/15

Site Name:
Proposed East Palo Alto Youth
1950 Bay Road
East Palo Alto, CA 94303

Client Name:
SCA Environmental
650 Delancey Street
San Francisco, CA 94107

EDR Inquiry # 4313406.3

Contact: Karen Emery

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Certified Sanborn Results:

Site Name: Proposed East Palo Alto Youth Center
Address: 1950 Bay Road
City, State, Zip: East Palo Alto, CA 94303
Cross Street:
P.O. # B11689
Project: East Palo Alto Youth Center
Certification # E708-4697-B65E

Maps Provided:

1968

Sanborn® Library search results
Certification # E708-4697-B65E

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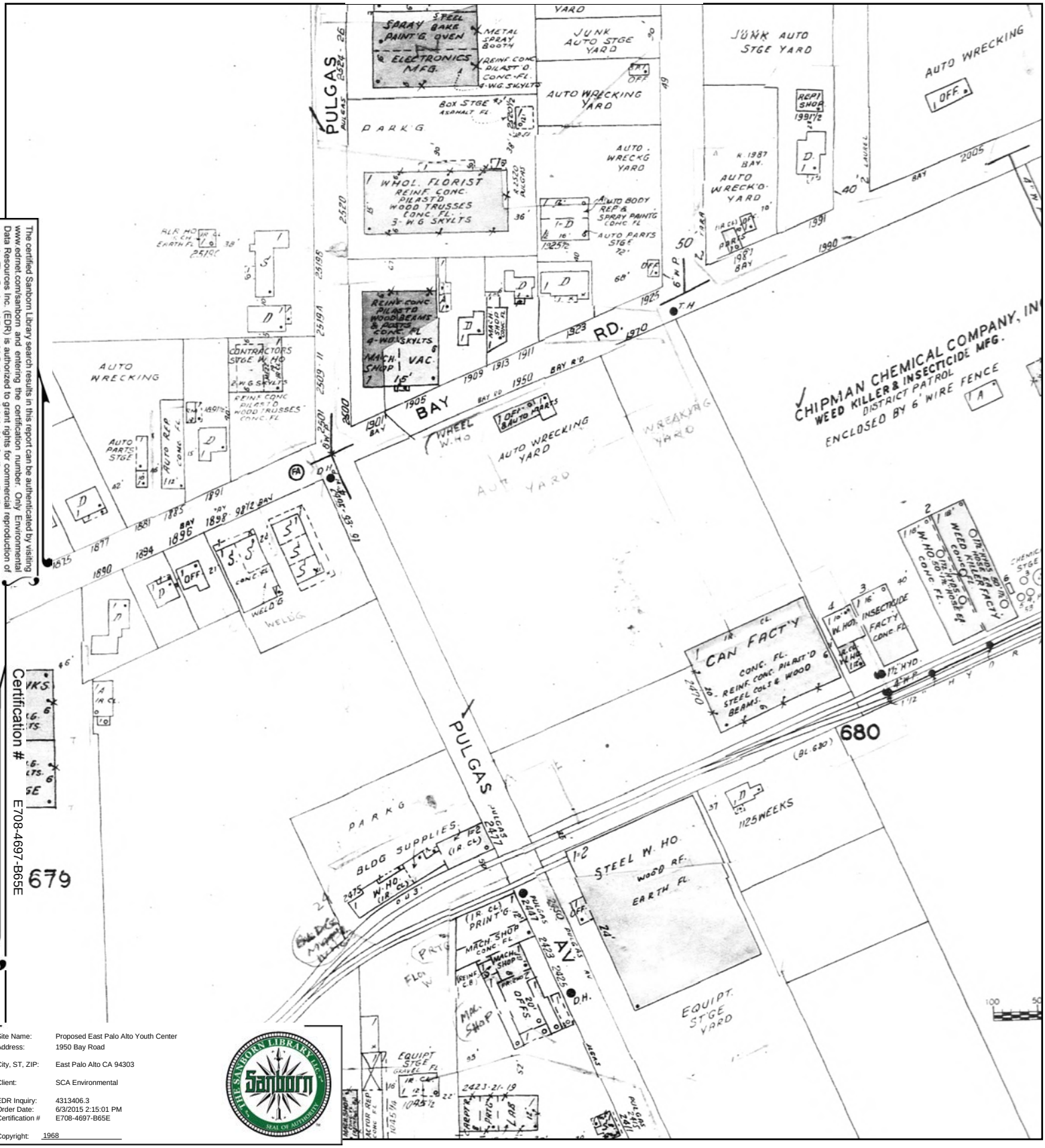
1968 Source Sheets

Volume 1, Sheet 23

1968 Certified Sanborn Map



Certification # E708-4697-B65E

Site Name:	Proposed East Palo Alto Youth Center
Address:	1950 Bay Road
City, ST, ZIP:	East Palo Alto CA 94303
Client:	SCA Environmental
EDR Inquiry:	4313406.3
Order Date:	6/3/2015 2:15:01 PM
Certification #	E708-4697-B65E
Copyright:	1968

This Certified Sanborn Map combines the following sheets. Outlined areas indicate map sheets within the collection.

0 Feet 150 300 600

23

Volume 1, Sheet 23

N

Proposed East Palo Alto Youth Center
1950 Bay Road
East Palo Alto, CA 94303

Inquiry Number: 4313406.4
June 03, 2015

EDR Historical Topographic Map Report

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Historical Topographic Map

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Historical Topographic Map

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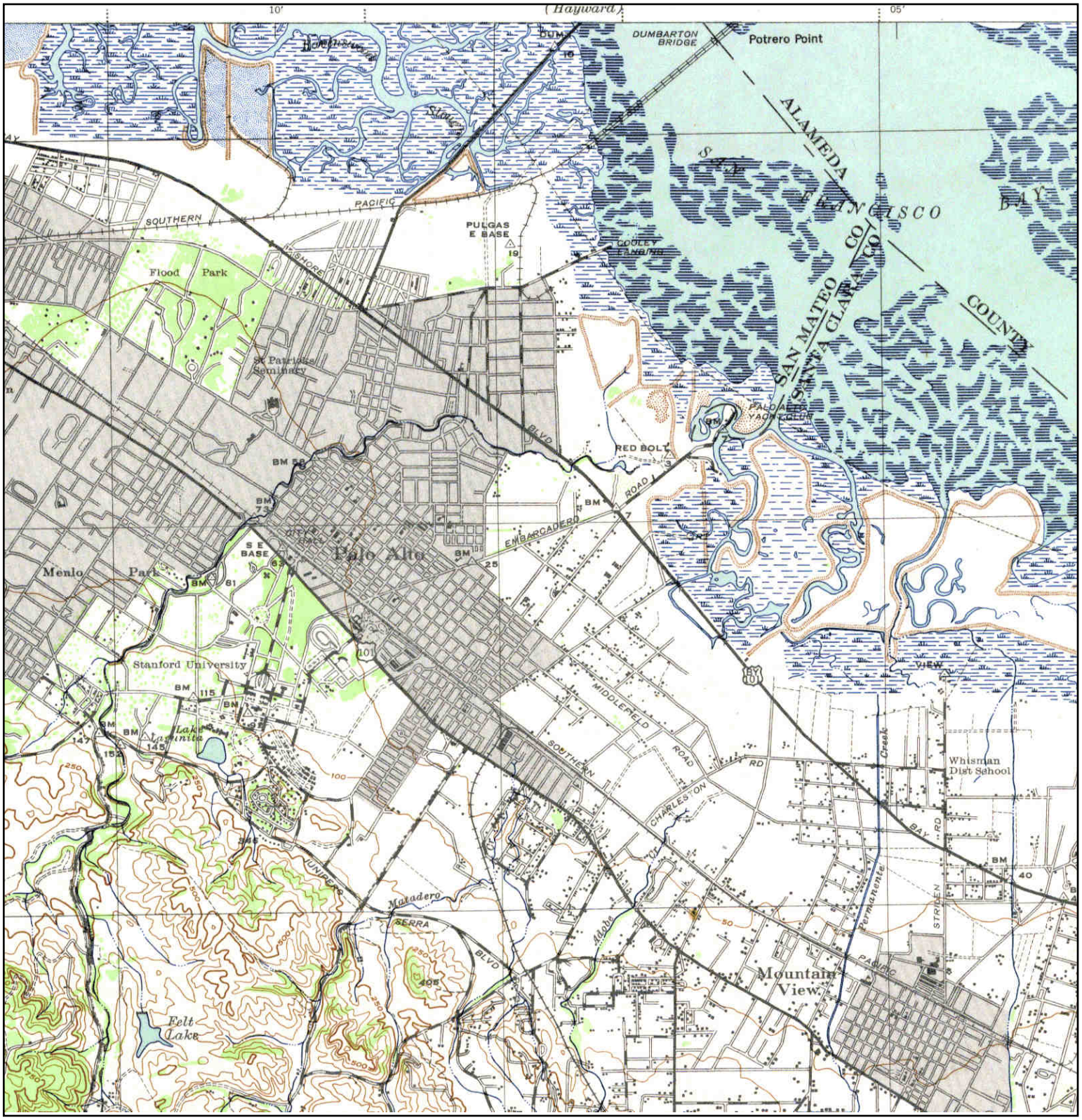

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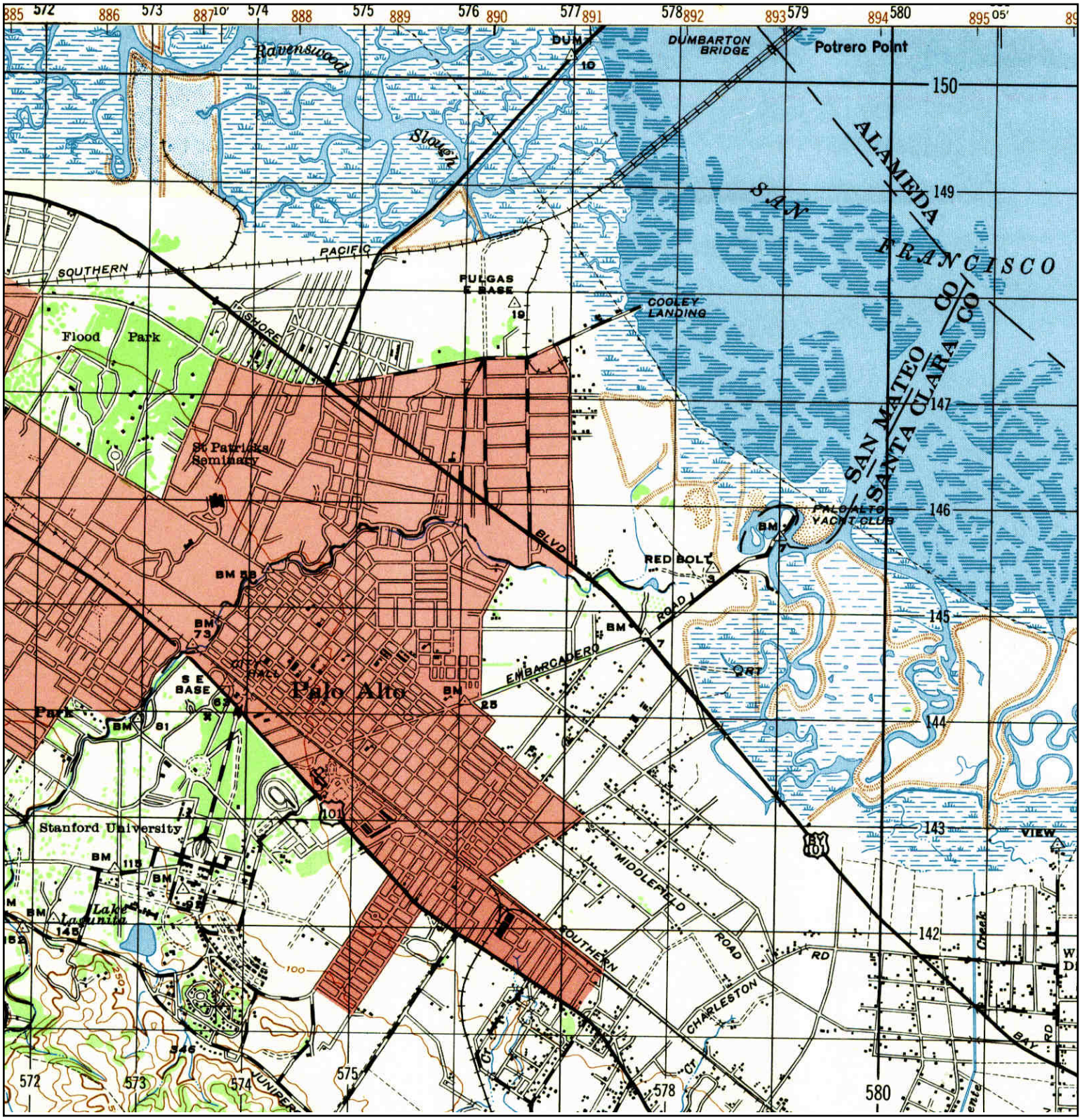

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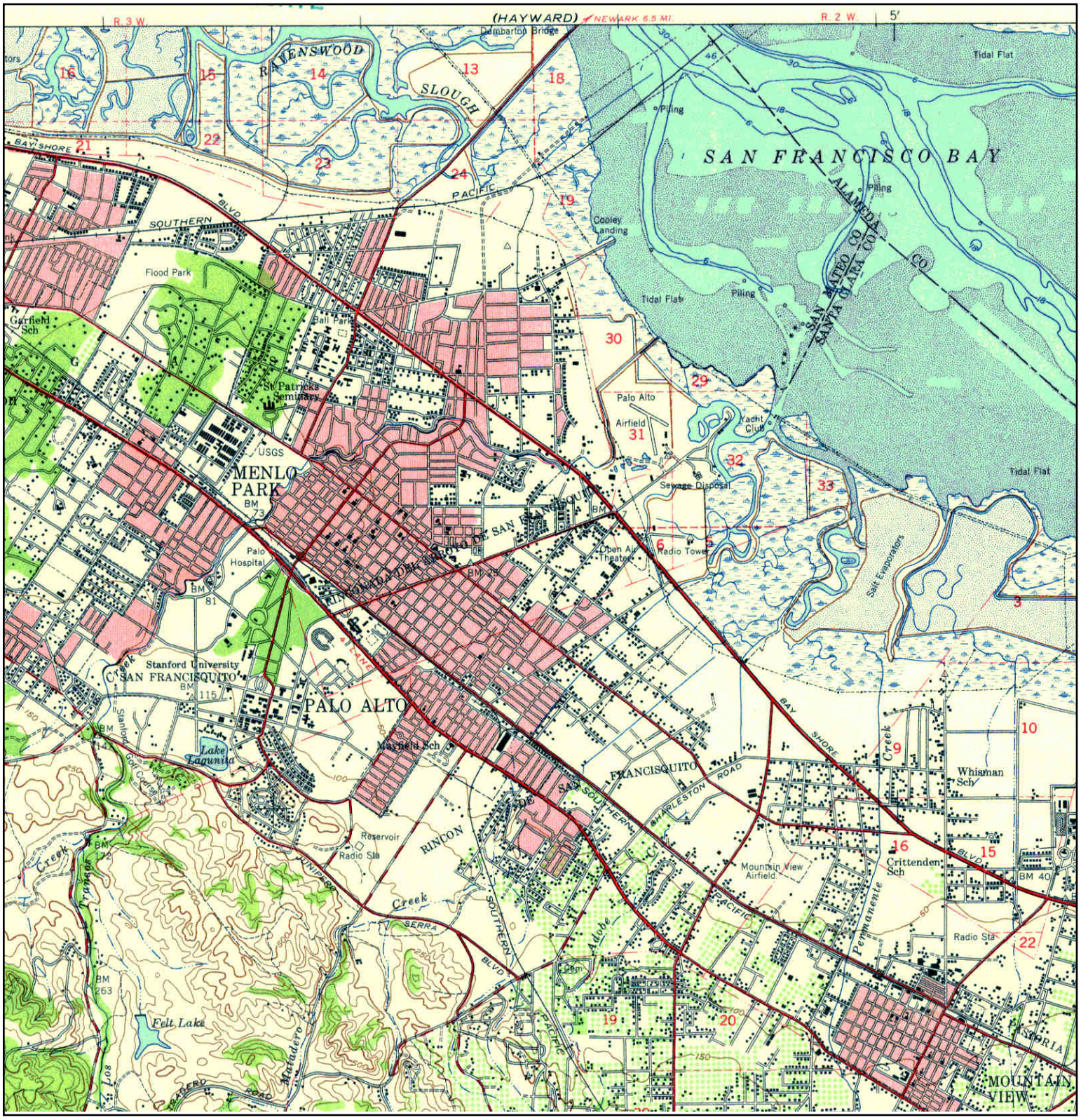

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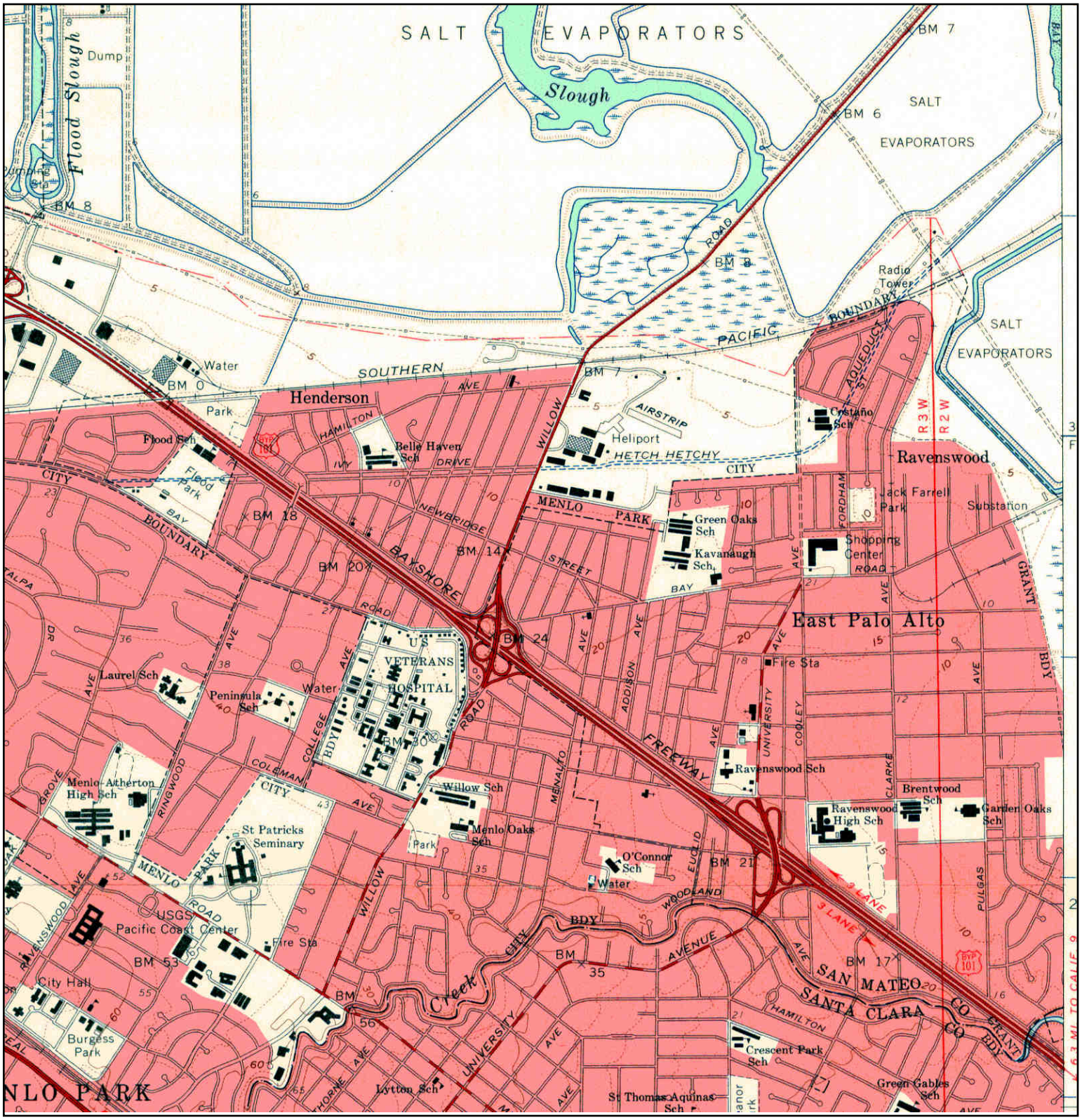

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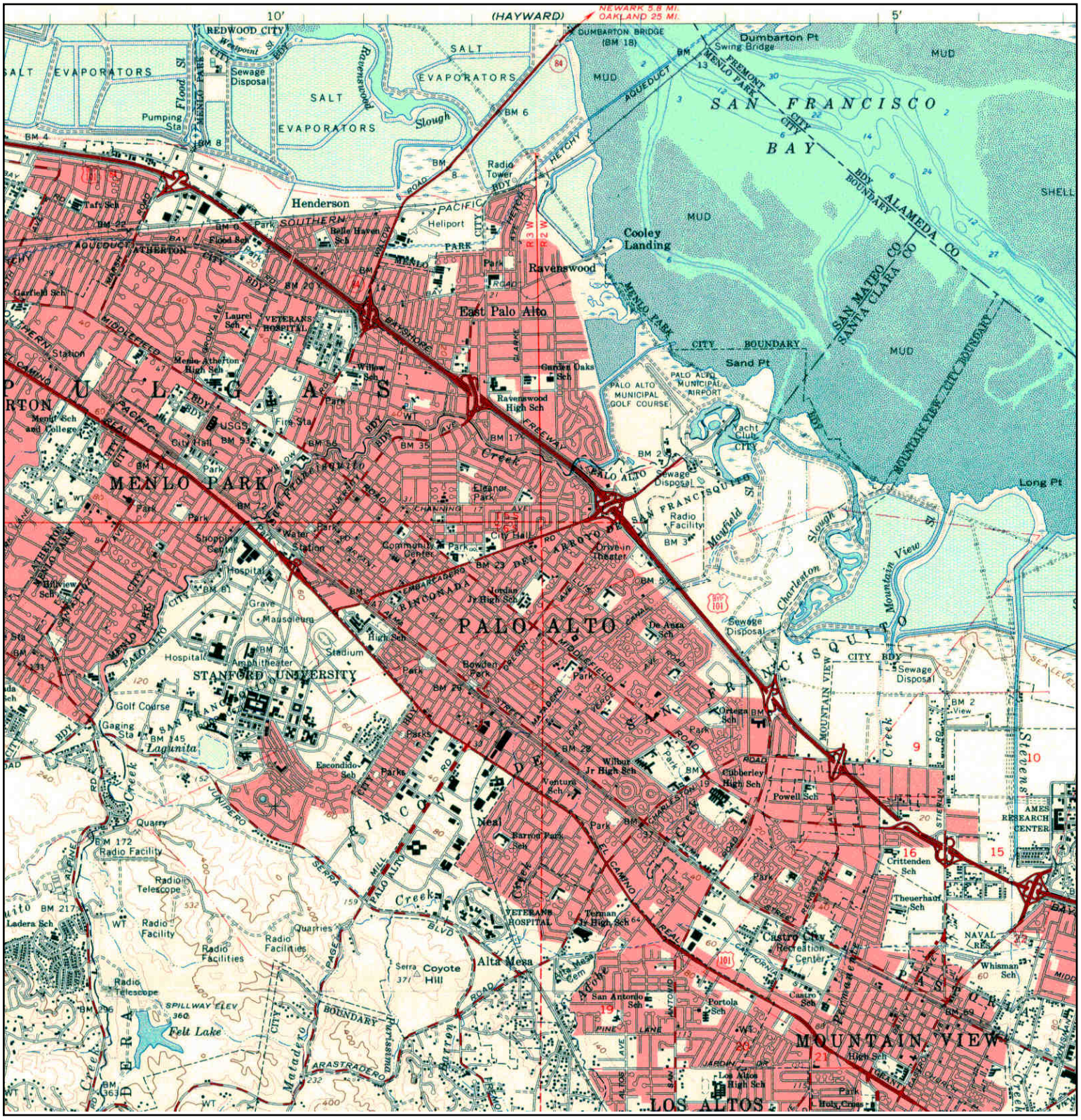

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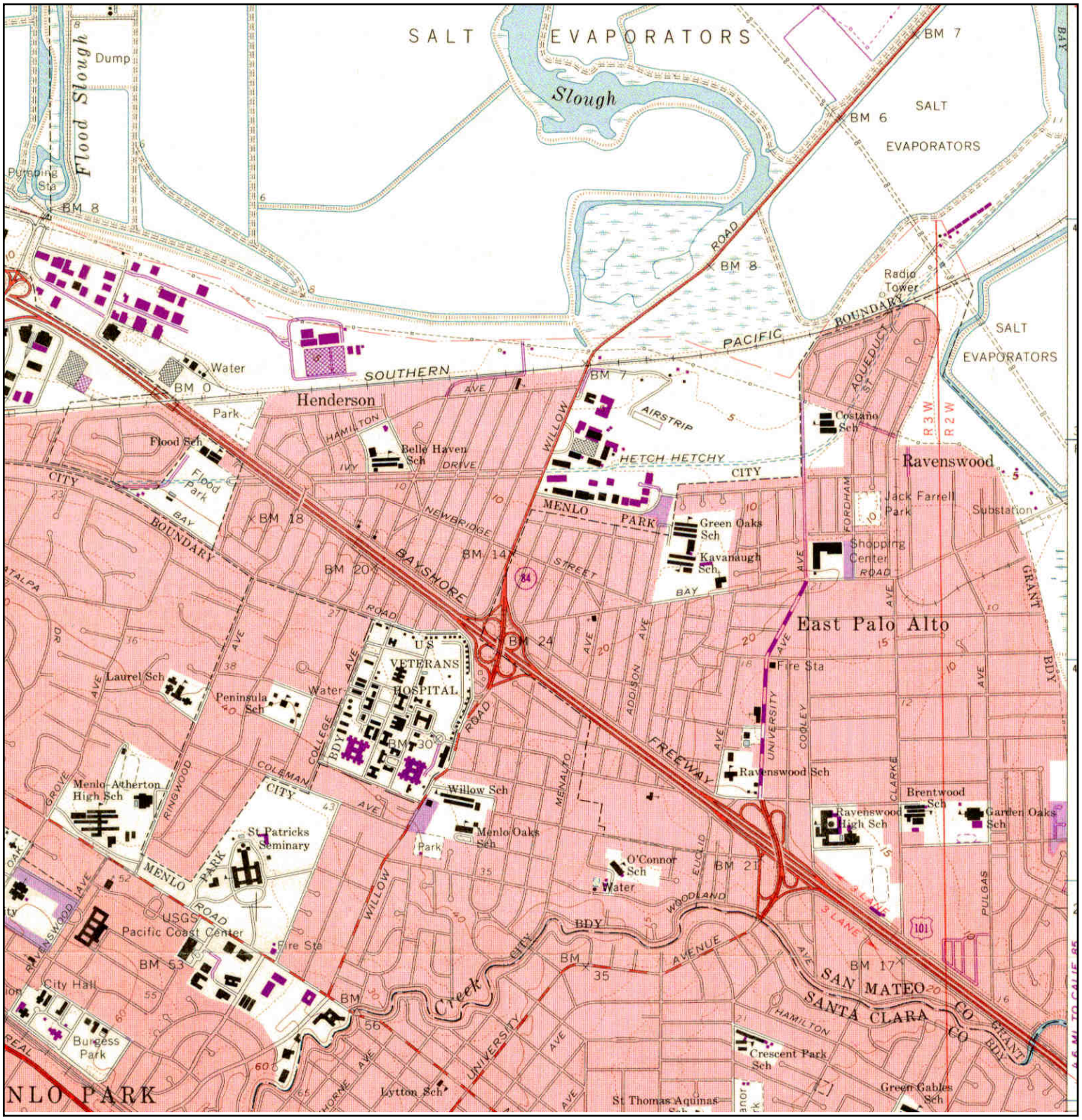

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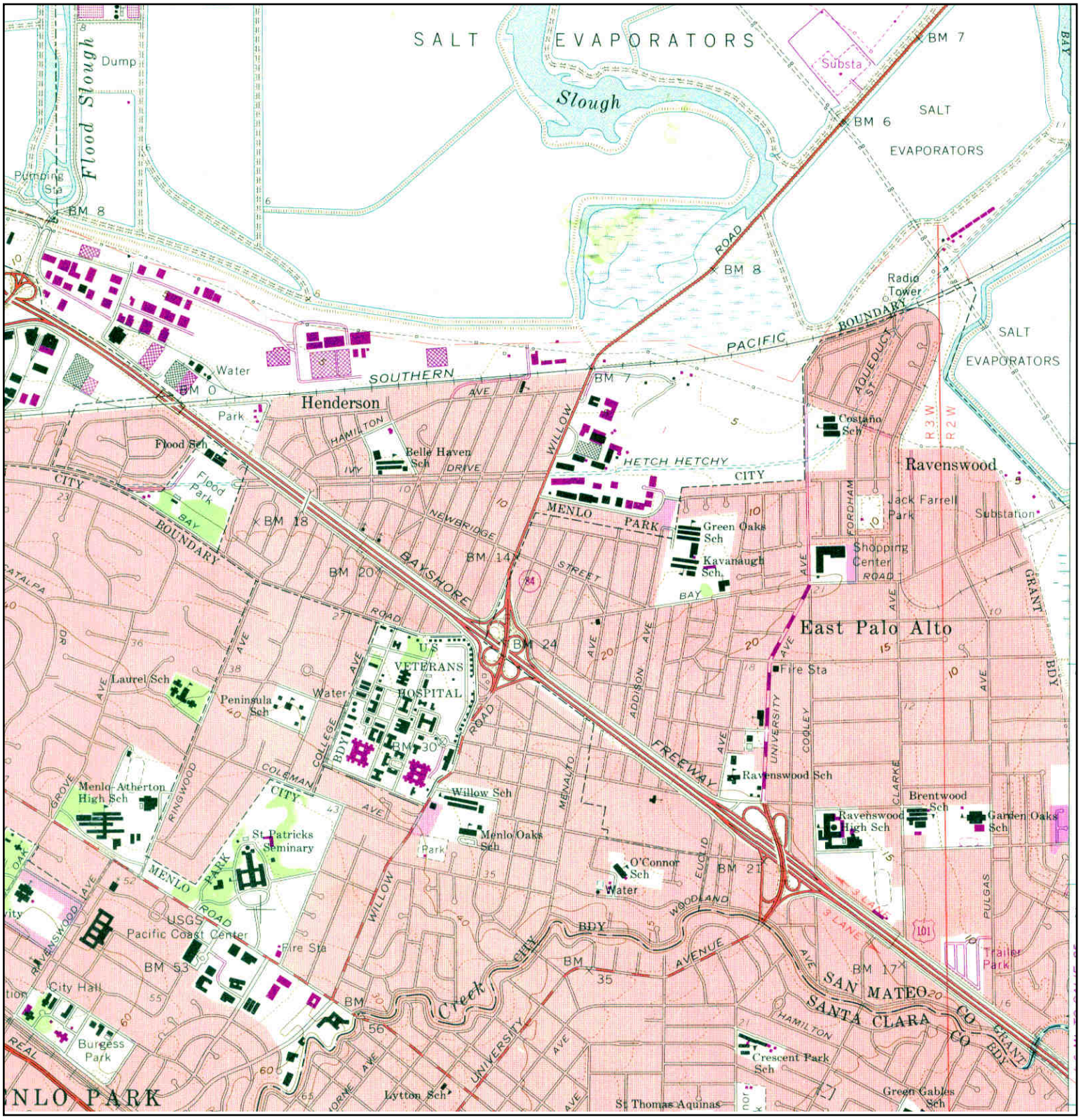

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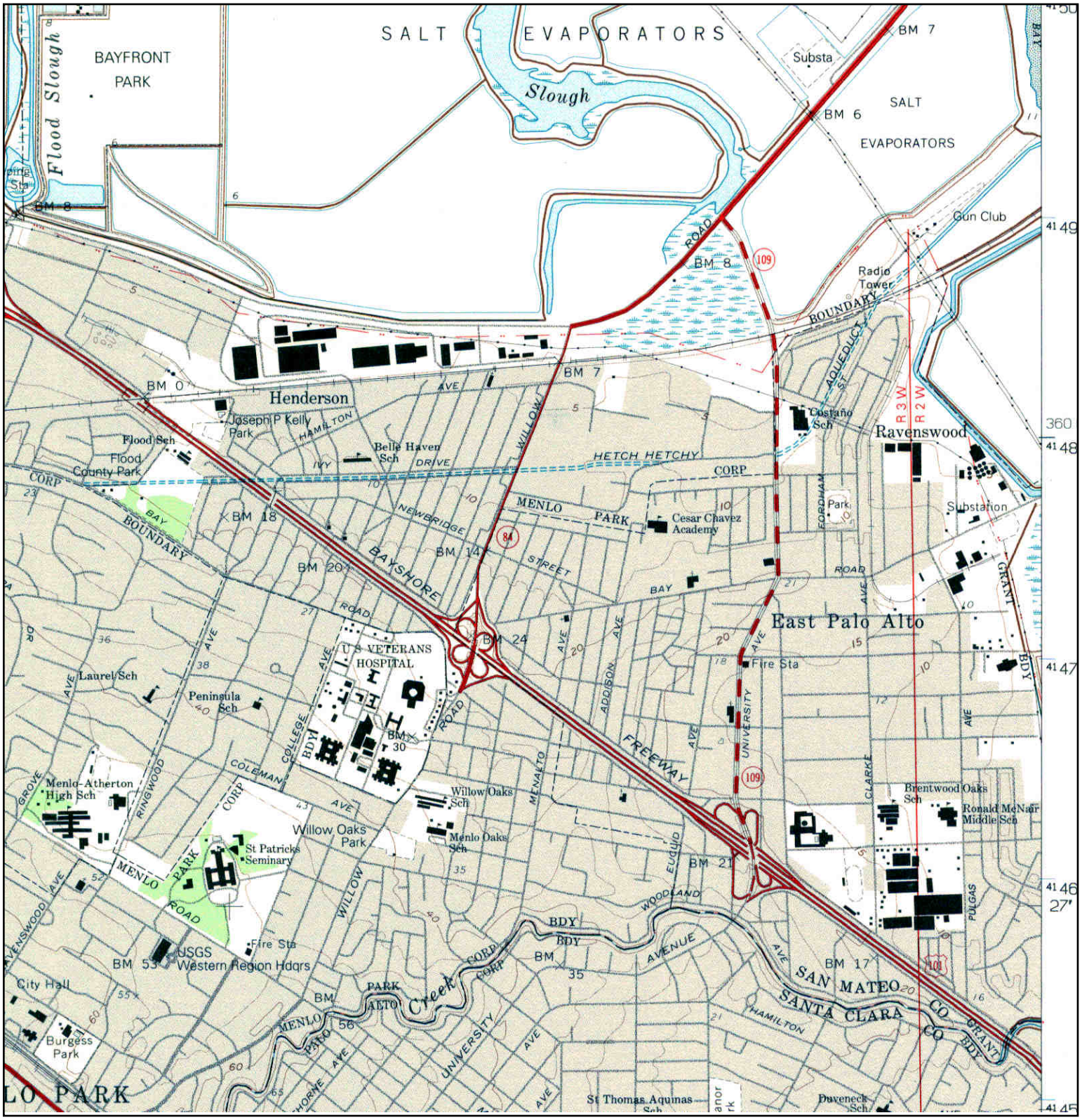

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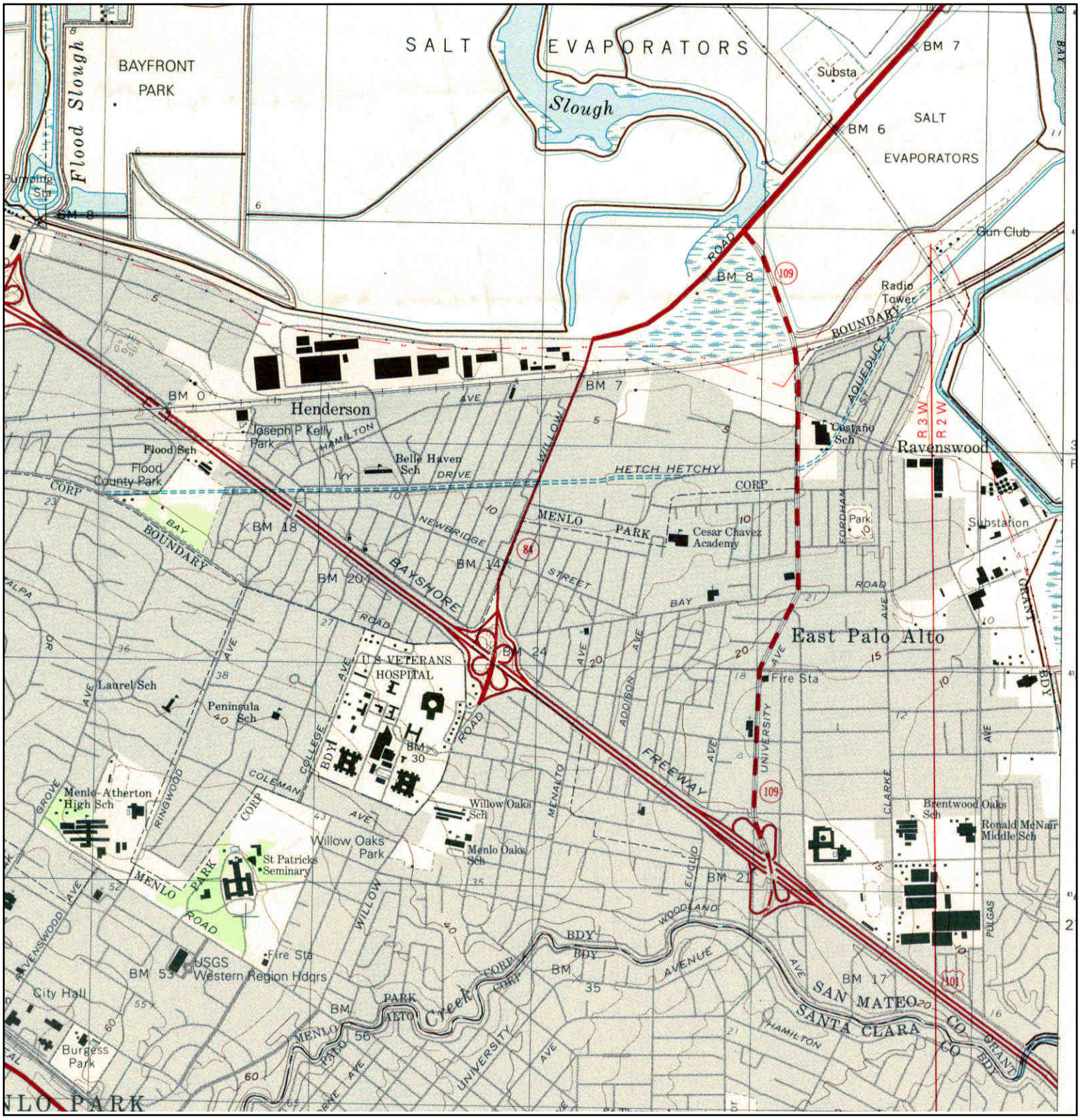

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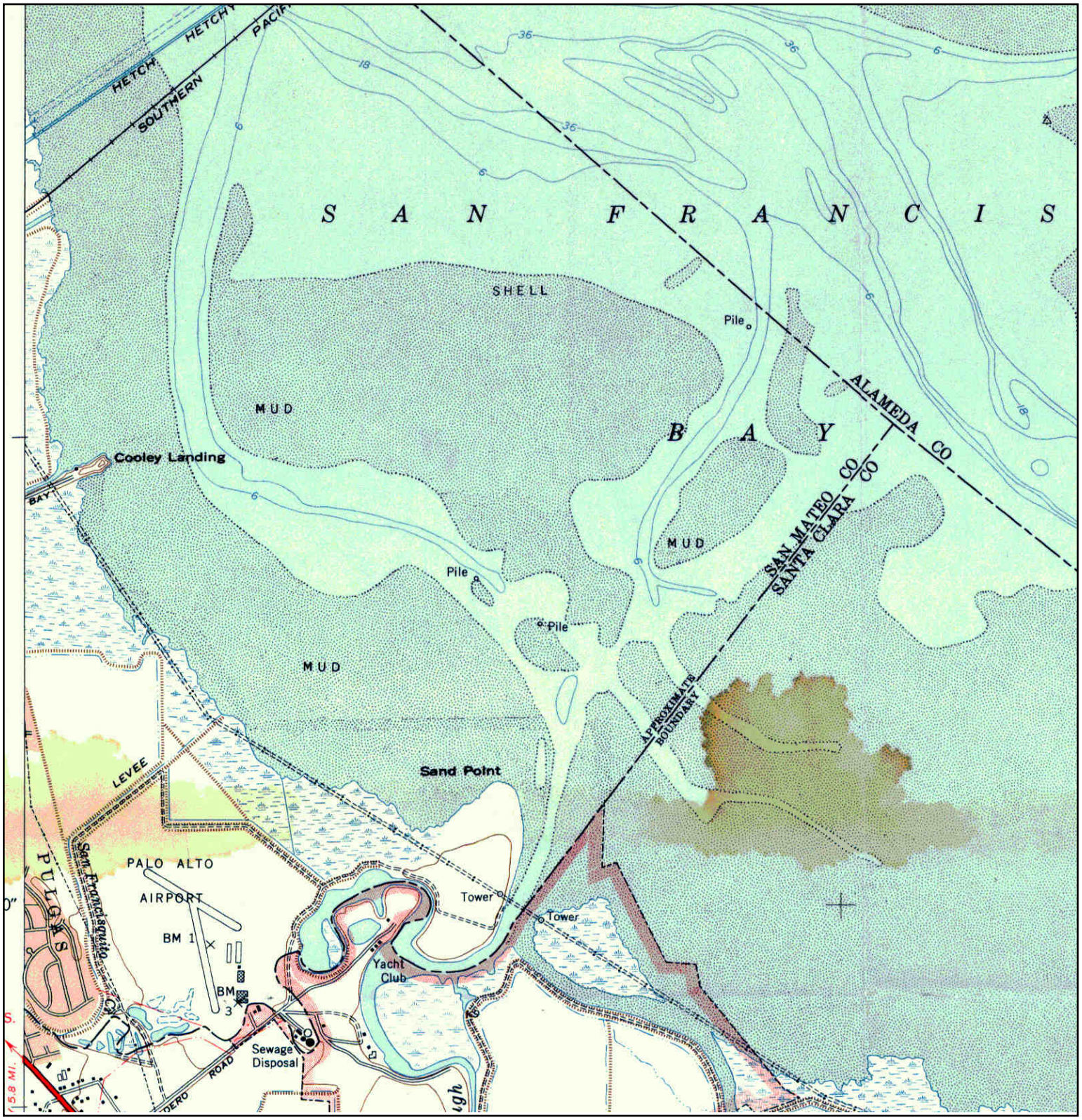

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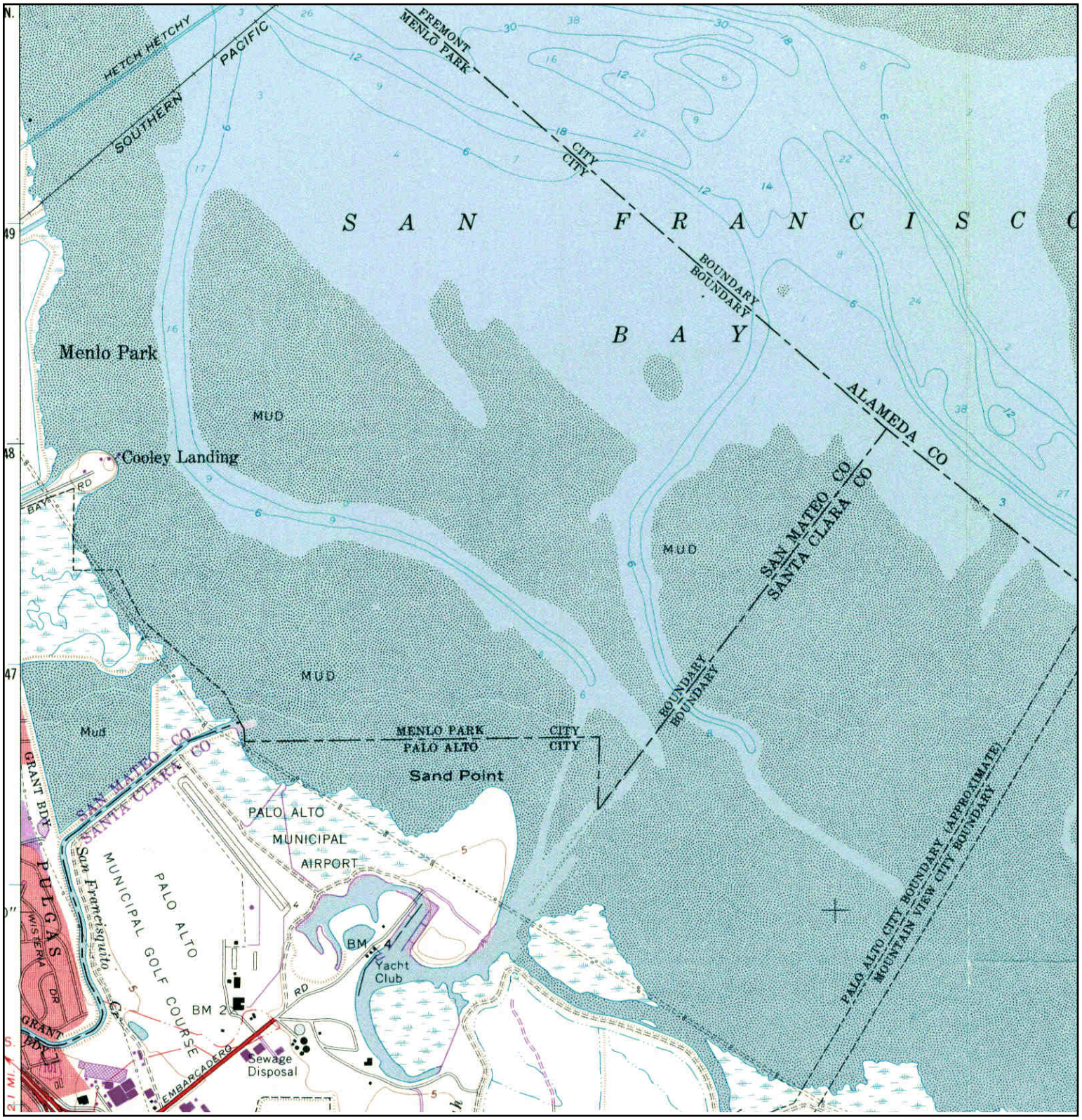

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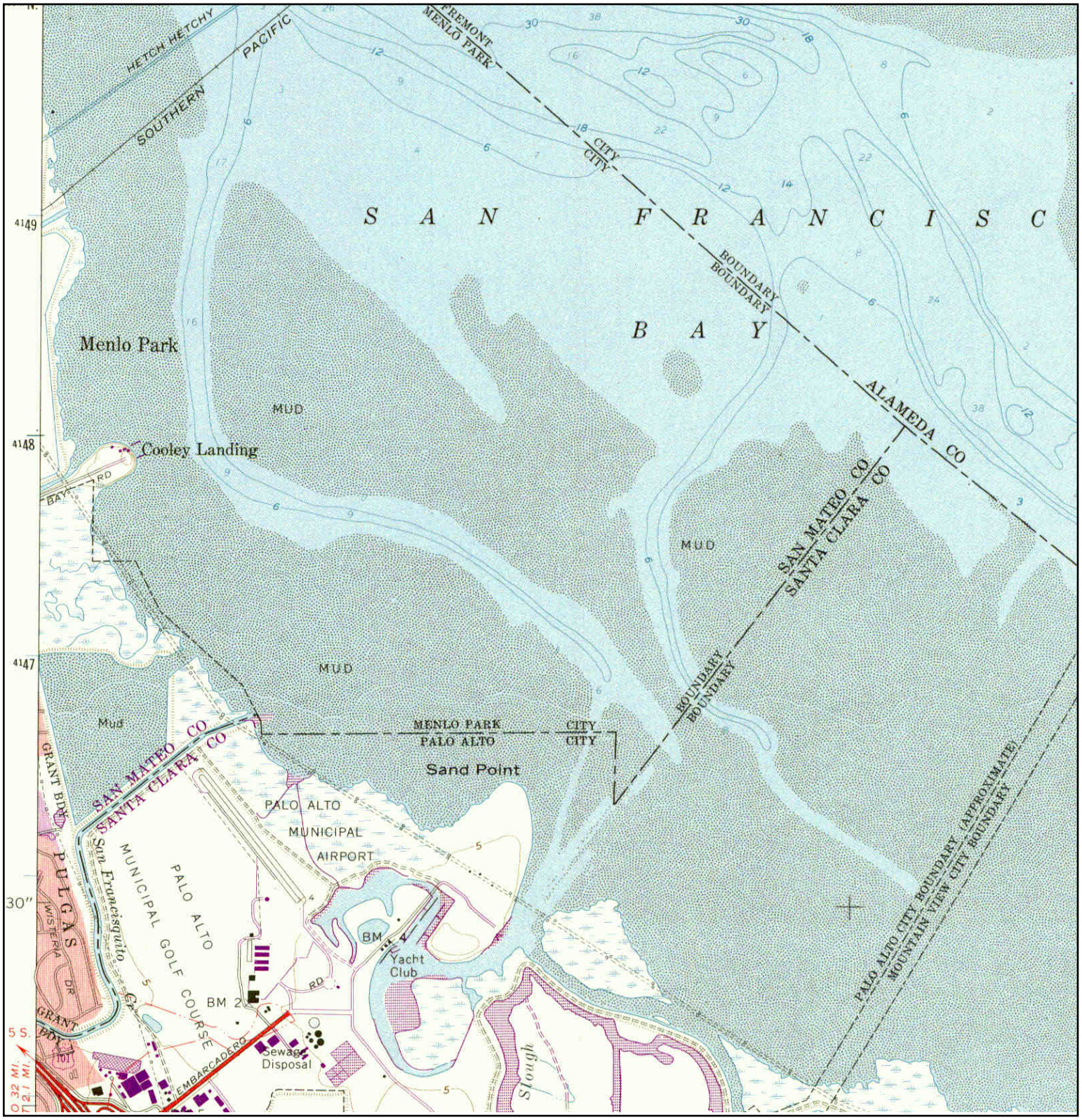

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Five-Year Status Report

1990 Bay Road Site
East Palo Alto, California

S.S. PAPADOPULOS & ASSOCIATES, INC.
Environmental & Water-Resource Consultants

March 29, 2019

45 Belden Place, 4th Floor, San Francisco, CA 94104 • 415-773-0400

S.S. PAPADOPULOS & ASSOCIATES, INC.
ENVIRONMENTAL & WATER-RESOURCE CONSULTANTS

March 29, 2019

Mr. Mark Johnson
California Regional Water Quality Control Board
San Francisco Bay Region
1515 Clay Street, Suite 1400
Oakland, CA 94612

Subject: **Five-Year Status Report**
1990 Bay Road
East Palo Alto, CA

Dear Mr. Johnson:

On behalf of StarLink Logistics, Inc., we are submitting the Five-Year Status Report for the 1990 Bay Road Site in East Palo Alto. Please contact the undersigned if you have any questions or require additional information.

Sincerely,

S.S. PAPADOPULOS & ASSOCIATES, INC.

Michael T. Rafferty, P.E.
Project Manager

MR/KB

Enclosures

cc:
Rose Marie Caraway, U.S. Environmental Protection Agency – caraway.rosemarie@epa.gov

cc (Electronic Only):
Denise Tsuji, Department of Toxic Substances Control – dtsuji@dtsc.ca.gov
Sean Charpentier, City of East Palo Alto – scharpentier@cityofepa.org
Kamal Fallaha, City of East Palo Alto – kfallaha@cityofepa.org
Annie Li, San Francisco Water District (Hetch Hetchy Water District) – ali@sfwater.org

Deno Milano, San Mateo County Health Department – dmilano@smcgov.org
Brian Gwinn, San Mateo County Environmental Health –bgwinn@smcgov.org
Akin Okupe, East Palo Alto Sanitary District – aokupe@epasd.com
Phil Bobel, PARWQCP – phil.bobel@cityofpaloalto.org
Steve Eichman, Ravenswood School District – seichman@ravenswoodschools.org
Jeffrey Lawson, Silicon Valley Law Group – jsl@svlg.com
Nadine Rambeau, EPACENTER ARTS –nadine@epacenterarts.org
Robert L. Hines, Farella Braun + Martel LLP – rhines@fbm.com
Michael Bogdan – Michael.bogdan@sanofi.com
Jon Hitchcock – jonh@menlofire.org
Zhen Zhen Li – zhenzli@gmail.com
Z Yu – zyu2032@gmail.com
Marc Morolla, Pacific Gas & Electric Company - marc.morolla@pge.com

Five-Year Status Report

1990 Bay Road Site
East Palo Alto, California

Prepared for:

Starlink Logistics, Inc.
Bridgewater, New Jersey

Prepared by:

S.S. PAPADOPULOS & ASSOCIATES, INC.
Environmental & Water-Resource Consultants

March 29, 2019

45 Belden Place, 4th Floor, San Francisco, CA 94104 • 415-773-0400

REPORT

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Section 1
Introduction

This Five-Year Status Report for the 1990 Bay Road Site (the site) was prepared for StarLink Logistics, Inc. (SLLI) pursuant to California Regional Water Quality Control Board, San Francisco Bay Region (RWQCB) Site Cleanup Requirements (SCR)-R2-2016-0037. This report describes the status of remedial activities and evaluates whether the response actions remain protective of human health and the environment.

Previous Five-Year Status Reports, submitted on January 29, 1999, March 31, 2004, March 31, 2009 and March 31, 2014 described the status of remedial activities then in place, and provided a schedule for pending remedial activities (Geomatrix and SSP&A, 1999 and 2004, AMEC Geomatrix and SSP&A, 2009, and SSP&A, 2014b). Remedial activities completed during the past five years have consisted of routine groundwater monitoring, site maintenance, sanitary sewer monitoring, soil and groundwater management in support of the City of East Palo Alto's Bay Road Phase II and III improvement project, soil management in support of development activities on various site properties, investigation of arsenic concentrations on the 1200 Weeks Street property, and various property management activities.

Report Organization

Site background and characteristics are described in this Section. Section 2 describes the selected remedies for the soil in the individual Operable Units and for site groundwater. A discussion of new soil and groundwater information collected and work outside the scope of the remedy performed since the 2014 Five-Year Status Report is presented in Section 3 and the status of remedy implementation is described in Section 4. Section 5 provides a re-evaluation of clean-up criteria for the site. Section 6 describes the effectiveness of the selected remedy and compliance with the Site Management Plan, and Section 7 provides a schedule for completion of remaining remedial components.

Site Background

The site is located in an industrial area in the City of East Palo Alto, California (the City) along the western shore of the San Francisco Bay (Figure 1). The approximately 26-acre site is comprised of several individual properties and is defined to include areas with arsenic concentrations in soil greater than 20 milligrams per kilogram (mg/kg) of undried (wet) soil and sediment (Figure 2). The site includes the 1990 Bay Road property, which is the location of the former operating facility and the source of the arsenic contamination. The remainder of the site includes partly developed commercial properties to the north, south, and west; residential and mixed-use properties to the south; and 1.9 acres of tidal wetland located beyond the levee east of the 1990 Bay Road property.

The 1990 Bay Road property was originally used to formulate agricultural chemicals. From the 1920s until 1964, the property was owned by Chipman Chemical Company (Chipman) and used for manufacturing arsenic-based products, such as weed control compounds. In 1964, Rhodia Inc. (Rhodia), acquired Chipman and continued operations at the property until the late 1960s. In 1971, Rhodia sold the property to Zoecon Corporation (Zoecon), which began operations in 1972, after expansion of site facilities. Zoecon, which later became Sandoz Agro Inc. (Sandoz), manufactured biorational insect controls at the agrichemical facility. In 1978

Rhodia changed its name to Rhône-Poulenc Inc. (Rhône-Poulenc). In 1994, Rhône-Poulenc repurchased the real property from Sandoz. Catalytica, Inc. (Catalytica) purchased some of the property improvements from Sandoz and leased the real property from Rhône-Poulenc for use in the manufacturing of chemicals and pharmaceutical intermediates. Rhône-Poulenc became Aventis CropScience USA Inc. in 2000. Catalytica ceased operations in mid-2001. In 2001, the property and facility ownership were transferred to SLLI. SLLI is owned by Aventis Agriculture and Hoechst GMBH, both of which were wholly owned by Aventis S.A. Sanofi-Synthelabo purchased Aventis S.A. in 2004 and merged to create Sanofi-Aventis S.A., which later was renamed Sanofi S.A. Aventis Agriculture and Hoechst GMBH are wholly owned subsidiaries of Sanofi S.A.

The plant and office facilities were demolished in the spring of 2002 to facilitate site cleanup work. The 1990 Bay Road property is now vacant, except for an empty warehouse structure adjacent to Bay Road. A construction contractor leases the paved areas of the property as a support area to their nearby construction project, to store materials and for remote employee vehicle parking.

Operable Units and Sub-Areas

The site was originally administratively divided into two operable units for purposes of investigating, selecting, and implementing appropriate remedies for the site. These operable units are the Upland Operable Unit and the Wetland Operable Unit. The Upland Operable Unit, an area that encompassed about 8.9 acres, was originally defined in California Regional Water Quality Control Board, San Francisco Bay Region (RWQCB) Order 91-016. The boundaries of the Upland Operable Unit were redefined by subsequent RWQCB orders to include an additional 11.8-acres referred to as the Upland Operable Unit Annex and an additional 3.6 acres, referred to as the South of Weeks Street Subarea. For purposes of this report, "Upland Operable Unit" is used to refer to those areas addressed by RWQCB Order 91-016. The Upland Operable Unit Annex and South of Weeks Subarea are addressed separately herein. The Wetland Operable Unit consists of approximately 1.9 acres of the tidal wetland, owned by the City of Palo Alto and located beyond the levee southeast of the 1990 Bay Road property. Groundwater is addressed on a site-wide basis. The operable units and subareas are shown on Figure 3.

Regulatory History

Remedial activities began at the site in 1981, when an initial investigation of the extent of arsenic in soil and groundwater was conducted. The RWQCB issued Cleanup and Abatement Order 82-001 dated 15 April 1982 requiring, in part, that Zoecon and Rhone-Pou1enc institute a sampling and analysis program to determine extent of contamination of soil, surface water, and groundwater with heavy metals and organic compounds. In 1985, the site was proposed for inclusion on the National Priorities List (NPL) under the federal Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). Also in 1985, the California Department of Health Services (DHS) issued Sandoz, the Facility owner and operator at the time, a permit to store and treat hazardous waste under the U.S. Environmental Protection Agency's (U.S. EPA's) Resource Conservation and Recovery Act (RCRA) authority (permit No. CAT000611350). In 1989, U.S. EPA formally removed the site from consideration for the NPL.

From 1987 to 1991, the site was under the jurisdiction of DHS, which later became the Department of Toxic Substances Control (DTSC), pursuant to a Consent Order between DTSC, the RWQCB, and Rhône-Poulenc. Lead agency status changed in January 1991 to the RWQCB

and the provisions of the Consent Order were vacated by stipulation, except those referencing cost recovery.

A Record of Decision (ROD) was issued by U.S. EPA for the Upland OU in March 1992 (U.S. EPA, 1992), and the selected remedial actions were incorporated into Order No. 92-022. In 1994, Order No. 94-042 modified the boundaries of the Upland OU to incorporate the Upland OU Annex. Order No. 94-042 served as an explanation of significant difference, thereby amending the ROD to include the Upland OU Annex, which included the Non-tidal wetland portion of the adjacent PG&E property and the Torres property. In 1997, remedial actions for the South of Weeks Subarea were required by Order No. 97-095. Order No. 97-095 also served as an explanation of significant difference, thereby further amending the ROD to include the South of Weeks Subarea.

A portion of the tidal marsh comprises the Wetland OU. Order No. 92-127 required an Ecological Assessment of the tidal marsh, which was finalized in 1998. A Feasibility Study was prepared for the Wetland OU in 2005, which was finalized in 2007 (Geomatrix and SSP&A, 2007). Order SCR-R2-2005-0033 for the Wetland OU was adopted in 2005.

In 2009, the United States Department of Justice, on behalf of the U.S. EPA and the Department of the Interior, entered into a Consent Decree with SLLI to, among other things, release and agree to a covenant not to sue with SLLI with respect to Natural Resource Damages (NRD) claims relating to the site.

Site investigation and cleanup activities have been ongoing at the site since the early 1980s and substantial remedial activities have been implemented and completed for the site. Since that time, the RWQCB adopted several orders to regulate investigation and cleanup activities. In 2016, the RWQCB issued Order SCR-R2-2016-0037, which superseded and rescinded the previous orders for the site and compiled a comprehensive set of tasks for ongoing remedial measures, long-term monitoring, and management of the site. The selected remedies were not changed by the new order.

Site Characteristics

The site, as previously stated, is defined as areas with arsenic concentrations greater than 20 mg/kg in soil (Figure 2). While arsenic is the primary contaminant of concern at the site, other metals, including cadmium, lead, zinc, mercury, and selenium, have been found at elevated concentrations as well. Arsenic is also found in shallow groundwater at the site (Figure 4) in an area smaller than the affected soil area.

Two distinct water-yielding groundwater zones exist at and around the site: a shallow zone that occurs from a depth of about 5 to 40 feet and a deep aquifer that occurs below a depth of about 160 feet. The shallow zone consists of interbedded silts, clayey silts, and sand lenses. A relatively continuous sand lens occurs at a depth of about 5 to 15 feet, and a second relatively continuous sand lens occurs at a depth of about 20 to 35 feet. The depth interval from about 5 to 15 feet is referred to as the upper shallow groundwater zone, and the depth interval from about 20 to 35 feet is referred to as the lower shallow groundwater zone. The direction of groundwater flow in the shallow groundwater zone is generally toward the southeast to discharge areas along the sloughs in the tidal wetland (Figure 4). During the dry summer months, the direction of groundwater flow shifts to a more southerly direction. Beneath the shallow groundwater zone to a depth of about 160 feet is a silty-clay and clay interval that acts as an aquitard separating the shallow zone from the deep aquifer.

Groundwater in the upper and lower shallow groundwater zones contains arsenic concentrations in excess of 0.05 milligrams per liter (mg/L) as shown on Figures 4 and 5. The total areal extent of impacted groundwater is about 12.5 acres. Groundwater quality in the deep aquifer has not been affected.

A tidal wetland located adjacent to the site, known as the Laumeister Tract, is estuarine with a plant community classified as Northern Coastal Salt Marsh. This tidal wetland is one of the most extensive, relatively undisturbed wetlands in the South Bay. It is bounded by levees on the north, west, and south and is open to full tidal action from the South Bay on the east. The vegetation is dominated by pickleweed and salt grass, with cordgrass in lower elevations and sloughs. The wetland supports populations of the Ridgeway's rail and the salt marsh harvest mouse, species that are endemic to central California salt marshes and are listed as endangered by the U.S. Fish and Wildlife Service and the California Department of Fish and Wildlife.

In addition to site-related contaminants, contamination from other industrial activities is present on the site. Investigations indicate the presence of contamination by VOCs, heavy metals, and pesticides at site properties, which are unrelated to the 1990 Bay Road site contamination.

Land Use

The land use designations of the properties at the site were specified in the Ravenswood/4-Corners Transit Oriented Development Specific Plan approved by the East Palo Alto City Council on September 9, 2012 and issued final on February 22, 2013 (The Specific Plan, The Planning Center, 2013). This plan laid out the City's zoning and redevelopment goals for the Ravenswood area, which includes the 1990 Bay Road Site. The existing deed restrictions for the site are consistent with these land use designations.

Site Documents

Digital copies of key project documents are maintained on the RWQCB's Geotracker website. Documents that were considered or relied on for selection of the response action have also been included in an administrative record for the site.

Section 2
Selected Remedies

The final cleanup remedies selected for each operable unit and soil subarea and for site groundwater are described in this section. No changes to the selected remedies have occurred since 2014.

Upland Operable Unit - Soil

The Upland Operable Unit includes approximately 8.9 acres, which lie within the 20 mg/kg soil arsenic contour (Figure 3). The Upland Operable Unit includes the following properties: the former facility portion of the 1990 Bay Road property, a portion of the 2470 Pulgas Avenue property, a portion of the 1950 Bay Road property, portions of four properties to the north of the 1990 Bay Road property, the Pacific Gas and Electric Company (PG&E) Poleyard, and areas under Bay Road.

The Remedial Investigation (RI) report (Geomatrix and SSP&A, 1989) was completed in 1989, and the Feasibility Study (FS) report (Geomatrix and SSP&A, 1991a) was completed in 1991 for the Upland Operable Unit. The remedy for the Upland Operable Unit includes the following components:

- Remove accessible soil containing arsenic concentrations greater than 5,000 mg/kg
- Treat accessible soil containing arsenic concentrations of 500 mg/kg or greater by means of fixation technology, with treatability goals of 5 mg/L arsenic, 1 mg/L cadmium, 5 mg/L lead, 0.02 mg/L mercury, and 1 mg/L selenium, as measured by the Federal Toxicity Characteristic Leaching Procedure (TCLP)
- Record deed restrictions for properties where soil greater than 70 mg/kg arsenic is left in place
- Remove soil containing arsenic concentrations above 70 mg/kg from any properties that will not be deed restricted, and dispose at an appropriate facility
- Cap areas that contain surface soil with arsenic concentrations greater than 70 mg/kg after grading to control surface ponding and maintain surface water drainage to the southeast.

Upland Operable Unit Annex - Soil

The Upland Operable Unit Annex consists of the 1175 Weeks Street property located immediately south of the 1990 Bay Road property and a portion of the property formerly known as the PG&E non-tidal marsh that is now part of the 1990 Bay Road property (the former non-tidal marsh property, Figure 3). A lot line adjustment was recorded in 2004 to incorporate the former non-tidal marsh property into the 1990 Bay Road property to form a single parcel. The county subsequently broke the parcel into two separate parcels. The two parcels, however, are both considered part of the 1990 Bay Road property and are referred to as the former facility and the former non-tidal marsh portions of the 1990 Bay Road property.

This subarea is referred to as an annex because it was originally included in the Wetland Operable Unit and was annexed to the Upland Operable Unit. The selected remedy for the Upland Operable Unit Annex is identical to that for the Upland Operable Unit.

South of Weeks Street Subarea - Soil

The South of Weeks Street Subarea (Figure 3) consists of a narrow strip of land that extends from Weeks Street to just south of Runnymede Street where arsenic concentrations were in excess of 20 mg/kg in subsurface soil prior to remediation. This subarea is about 3.6 acres and includes portions of the 1200 Weeks Street property, the 1250 Weeks Street property, the 1275 Runnymede property, and portions of the Ravenswood School District property. The remedy for the soil in the South of Weeks Subarea, specified in Order SCR-R2-2016-0037 calls for removal of soil containing greater than 20 mg/kg arsenic unless consent by the property owner is obtained. Capping, deed restrictions, and a site management plan are required where arsenic concentrations greater than 20 mg/kg remain in soil.

Wetland Operable Unit - Soil

The Wetland Operable Unit (Figure 3) consists of approximately 1.9 acres of the tidal wetland located beyond the levee southeast of the 1990 Bay Road property. The Ecological Assessment for the tidal wetland was issued on June 24, 1994 (Jenkins, Sanders & Associates, 1994), the Ecological Risk Assessment was issued on June 19, 1998 (JSA Environmental, 1998), and the Feasibility Study for the Wetland Operable Unit (the Wetland FS) was issued on May 31, 2007 (Geomatrix and SSP&A, 2007). The remedy for the Wetland Operable Unit, described in Order SCR-R2-2016-0037 includes the following components:

- Conduct topographic monitoring of the wetland surface near the bend in the levee every five years for thirty years. If the results indicate that natural erosion is exposing elevated concentrations of arsenic, a contingency plan will be developed. If, in 2036, after 30 years of monitoring, the results indicate that erosion is not occurring, topographic monitoring will cease; and
- Offset the reduction of wetland function due to the migration of arsenic into the sediment of the tidal wetlands by implementing 1.3 acres of the Cooley Landing Salt Pond restoration.

A portion of the drainage canal south of Runnymede Street owned by the City of Palo Alto was at one point considered part of the Wetland Operable Unit. However, extensive sampling on this property indicated that arsenic concentrations in soil are less than 20 mg/kg (Geomatrix and SSP&A, 1998). Therefore, this area is no longer considered part of the Wetland Operable Unit.

Groundwater

Groundwater in the upper and lower shallow groundwater zones contains arsenic concentrations in excess of 0.05 mg/L as shown on Figures 4 and 5. Groundwater quality in the deep aquifer has not been affected. The remedy for groundwater was specified in Order SCR-R2-2016-0037 and included the following components:

- Groundwater monitoring of 17 perimeter shallow zone wells with a contingency plan for plume containment should further migration occur.
- Installation of a slurry wall to contain soil and shallow zone groundwater with high concentrations of arsenic after soil remediation, and phytoremediation within the slurry wall to uptake groundwater and maintain an inward hydraulic gradient.
- Groundwater monitoring of the deep aquifer and maintenance of concentrations of arsenic and other chemicals of concern at background concentrations.

The contingency plan for groundwater at the site, the Aquifer Characterization and Contingency Plan (ACCP, SSP&A, 2016a), describes the monitoring program for the perimeter wells, the deep aquifer well, and the groundwater containment system monitoring wells as well as the criteria used to determine if monitoring data indicates potential migration of arsenic. The ACCP describes the additional investigative and statistical procedures that are required to determine if there is statistical evidence that migration of arsenic has occurred and presents the schedule for the implementation of investigations and the evaluation of data.

Section 3
Activities Since 2014

Since the previous Five-Year Status Report, additional activities have been implemented at the site, which are beyond the scope of the selected remedies for the site. These activities included soil sampling, sanitary sewer monitoring and sewer manhole repair, soil and groundwater management during construction projects, and community relations. These activities are briefly described in this section.

Soil Sampling Activities

SLLI has completed a variety of soil sampling activities since the 2014 Five-Year Status Report. This work is in addition to the routine groundwater, phytoremediation, and sewer sampling activities that occur at the site.

2470 Pulgas Avenue

In 2014, SLLI conducted soil investigations related to planned paving and excavation activities at the 2470 Pulgas property. In June, thirteen soil samples were collected from the deed-restricted portion of the property. Sampling occurred in areas that could require excavation during storm drain installation and paving work that was scheduled to occur at the property (Figure 6). Prior to sampling, the property owner had removed the pavement from the sample locations. Samples were collected from between 0 and 2.5 feet below ground surface (bgs) and analyzed for arsenic. Results indicated that all samples, except one, had arsenic concentrations of 14 mg/kg or less. A sample with an arsenic concentration of 210 mg/kg was located on the south side of the building on the property. At this location, it was agreed that the planned paving work, which involved creating an asphalt overlay to reroute drainage away from the building, would occur without excavation. In the interim, the location was covered with an inch of clean fill and later repaved.

SLLI conducted another soil investigation at the 2470 Pulgas property in September 2014, consisting of the collection of a single three-point composite sample from soils 0 to 18 inches bgs. The sample was collected from an unpaved 50 by 5-foot area that the property owner planned to pave (Figure 6). The paving plan required removal of the top 12-18 inches of soil. The result was 15 mg/kg arsenic, indicating that no engineering controls were needed to remove the soil.

In 2017, Menlo Park Fire Protection District (Menlo Park Fire) purchased the property and began plans for property use and development. In 2018, Menlo Park Fire investigated a sewer line collapse, and subsequently started plans to add cleanouts to the sewer lateral connection that runs from the southern warehouse structure and the sewer main in Pulgas Avenue. In December, SLLI collected a sample of soil composited from top of soil to 3.75 ft bgs and analyzed for arsenic from the area near the proposed cleanout location (Figure 6) and found that the concentration was 3.6 mg/kg, which is below levels of concern.

Runnymede Storm Drain and Bay Road Phase II/III Projects

In the past five years, soil investigations were conducted related to improvement projects undertaken by the City. This section describes the soil sampling activities associated with these projects.

In 2014, SLLI conducted soil investigations related to the City's Runnymede Storm Drain Improvement Project. Samples were collected from planned excavation areas in the drainage area south of Runnymede Street (Figure 7). Results of analyses for arsenic in soil ranged from 1.8 to 24 mg/kg. These results, which are consistent with results from other soil investigations conducted in the area in 1996 and 1998, were determined to be below levels that would impact worker health and safety or limit soil disposal options.

In September 2016, a soil investigation was conducted along the planned joint utility trench alignment beneath Bay Road. The investigation delineated between soils that could be used for backfilling and soils that would require disposal in a landfill. For purposes of this project, it was determined that soil with concentrations of arsenic greater than 20 mg/kg would be disposed in a landfill, and soil with arsenic concentrations of 20 mg/kg or less would be reused as backfill by the City. Samples were collected at approximately 80-foot increments along a 760-foot section of the trench alignment, and at six additional locations representing side trenches or utility boxes (Figures 8 and 9). The results (SSP&A, 2016e) indicated that there is an approximately 450-foot long section of the trench in Bay Road with soil with arsenic greater than 20 mg/kg to the north of the 1990 Bay Road property (Figure 9). SLLI managed the excavated soil from this area, and soils to the east and west of this zone were deemed appropriate for the City's use as backfill in regard to arsenic concentrations.

1200 Weeks Street Property

Investigations were conducted at the 1200 Weeks Street property by the property owner in 2015 and 2016 to evaluate the extent of elevated chemicals of potential concern on the property in advance of property development. The results of the investigations were summarized in a work plan for the final remedy (RPS Iris Environmental, 2016) and its subsequent addendum (RPS Iris Environmental, 2017). During the investigation in 2015, elevated concentrations of arsenic were detected in a boring, IE-13 (Figure 10), in the northwest corner of the 1200 Weeks Street property.

Subsequently in 2016, an investigation was initiated by SLLI to delineate the vertical and horizontal extent of elevated arsenic concentrations in this area. Results of soil sampling, shown on Figure 10, indicated an area of arsenic in excess of 20 mg/kg is present in and around a property cut-out owned by the City. This area of elevated arsenic concentrations in soils does not appear to be connected to previously identified areas of arsenic contamination in soils from the 1990 Bay Road property.

During the sampling, unusually wet soil at a depth of three feet bgs was documented at one of the boring locations, which led to another investigation. Five trenches were excavated to attempt to identify potential sources of the excess moisture (Figure 11), and wet soil conditions were eventually tied to a previously unidentified 10-inch diameter well. The well is likely associated with the Bay View Mutual Water Company, which owned a 24 by 14-foot portion of the northwest corner of the 1200 Weeks Street property before 1985 when the ownership transferred to the county government. The City of East Palo Alto and the County of San Mateo were notified of the well. The County has requested that the City prepare a plan to properly abandon the well. The results of the SLLI investigations were submitted to the RWQCB (SSP&A, 2016c and 2016d).

Sanitary Sewer Monitoring and Sewer Manhole Repair

An 18-inch sanitary sewer main, operated by the East Palo Alto Sanitary District (EPASD), runs east along Bay Road north of the 1990 Bay Road property and then south across the east side

of the 1990 Bay Road property for approximately 520 feet. The sanitary sewer main continues south across the 1175 Weeks Street property and then, south of Weeks Street, continues south along the levee on the 1250 Weeks and 1275 Runnymede Street properties past the southern extent of the 1990 Bay Road Site at Runnymede Street (Figure 12). The sewer main continues south to the Palo Alto Regional Water Quality Control Plant approximately 1.5 miles away.

To inhibit groundwater flow along the sewer line backfill, three cement-bentonite grout barriers were constructed prior to 2009 around sections of the 18-inch diameter pipe on the 1990 Bay Road, 1175 Weeks Street, and 1250 Weeks Street properties (Figure 12). The location of the grout barrier on the 1175 Weeks Street property corresponds with the location where the alignment of the subsurface barrier wall crosses the sanitary sewer main.

Several sewer laterals intersect the 18-inch sewer main within the boundaries of the 1990 Bay Road Site: a lateral at the intersection of Tara Street and Bay Road; two laterals connect to the sewer main in front of 1990 Bay Road; a lateral connects at the east end of Weeks Street; two laterals connect on the 1275 Runnymede Street property; and a lateral that connects at the east end of Runnymede Street. One lateral that connects to the main sewer in front of the 1990 Bay Road property is a double-contained pipe from the 1990 Bay Road warehouse. Its approximate location is shown on Figure 12. The annulus of this double-contained pipe is checked for the presence of leaks annually. Since the 2014 Five-Year Status Report, this leak test was conducted in either October or December 2014, 2015, 2016, 2017 and 2018 and no leakage was detected.

To evaluate and monitor the extent of arsenic in groundwater in the backfill of the sewer main, a monitoring system consisting of wells completed in the backfill was constructed in 1998. Monitoring wells were originally installed at the six locations where the sewer mains cross the 1990 Bay Road Site boundary, and three monitoring wells were installed in the backfill of the 18-inch sewer main between Weeks Street and Runnymede Street. Monitoring of these sewer backfill wells is conducted as part of the groundwater monitoring program described above.

In addition to the potential for groundwater to flow along the sewer line backfill, there is the potential for infiltration of groundwater containing elevated concentrations of arsenic into the sanitary sewer main. Potential infiltration of groundwater containing arsenic into the sewer main is monitored by routine sampling of the 18-inch sewer main upstream and downstream of the 1990 Bay Road Site. Twenty-four-hour time-averaged samples are collected from a manhole on Bay Road just west of the site (A22) and from a manhole at the end of Runnymede Street (T23) (Figure 12). Samples are analyzed for arsenic and results of this sampling are used to determine if significant arsenic is infiltrating into the sewer main. Analytical results of the sanitary sewer sampling since 2014 are included in Table 1 and results since 1996 are shown on Figure 13.

In 2013, arsenic levels in downstream manhole T23 were showing an increasing trend. SLLI initiated an investigation to determine if this trend was indicative of increased seepage into the sanitary sewer on site. The investigation consisted of two video inspections, and additional manhole sampling during a routine sampling event. Between January and April 2014, SLLI conducted two video inspections of the sewer between manholes A29 and T27 and sewer sampling that confirmed that infiltration of water into the sewer was occurring at both manhole T27 and T23. Based on this, SLLI implemented a plan to repair the faulty sewer manholes and inspect all others within the site boundaries.

SLLI contracted with a specialty contractor to seal the active leaks and apply epoxy coating in pre-cast concrete manholes T23 and T27, and to inspect manholes T24, T25, T26, T28, and T29 for leaks. The work was completed in August 2014. On August 12, approximately one week after

the completion of the repair work, routine sewer sampling was conducted in manholes A22 and T23. The arsenic concentration detected in manhole T23 was 1.5 µg/L compared to a high of 14 µg/L prior to repair.

Routine sanitary sewer sampling results since August 2014 indicate that the repair work successfully mitigated the groundwater intrusion issues at the site (Figure 13). The results indicate that the arsenic levels remain below levels of concern. Routine sanitary sewer monitoring is ongoing.

Site Management

Site management currently entails periodic visits to the site to check the integrity of the remedial components. A visual inspection of the site is conducted monthly. During this inspection the conditions of the caps, levees, wells, gates, fencing, and storm drain catch basins, sediment traps and outfall are noted. This inspection is conducted by walking and driving the perimeter of the site. Monitoring well surface completions and stove-pipe covers are inspected quarterly. On an annual basis, each of the properties on the site is visited and the caps, levees, wells, gates, fencing, and storm drains are thoroughly inspected. Repairs and maintenance are conducted as needed following the inspections.

A portion of the 1990 Bay Road property has been leased to Truebeck Construction of San Mateo, California since 2018 for use as a support area to their nearby construction project. SLLI periodically checked on Truebeck's activities to confirm that their operations do not damage the caps or fences on the property.

In addition to these routine management activities, SLLI manages soil and groundwater as needed during development activities on properties within the site boundaries. Additional site management activities that have occurred since 2014 include management of soil and groundwater during the City's construction projects and management of soil during construction activities at the 1950 Bay Road property. These activities are described below.

Bay Road Phase II/III Coordination

Since 2011, SLLI has coordinated with the City during the design and implementation of plans for the Bay Road Phase II/III improvement project. The project includes roadway improvements, undergrounding of overhead utilities, and re-routing of utilities including storm drain, gas, and water. Representatives of SLLI have attended meetings, reviewed documents and corresponded with the City and subcontractors keep the City informed about issues concerning the soil under streets and the presence of the storm drain on Bay Road installed by SLLI.

- SLLI sampled soil along the planned excavation, as described earlier, in advance of the undergrounding phase of the Bay Road Phase II/III construction. The pre-construction soil sampling identified a 450-foot long zone in Bay Road along the frontage of the 1990 Bay Road property where soils contained arsenic at greater than 20 mg/kg (Figure 9). SLLI elected to manage soil above this limit and send it for offsite disposal. Based on the soil sampling results, the soil to be excavated from the joint trench and associated side-trenches within the arsenic-impacted area was profiled for disposal as a non-hazardous waste. The City began construction of the joint utility trench in Bay Road in late 2016. The trench extends approximately 1800 feet from Pulgas Avenue east to where Bay Road intersects the levee. Utility potholing and sawcutting of the main trench and lateral trenches began in December 2016 with SLLI representatives present during work in the soil management

area. Trench excavation, utility installation, backfilling, and restoration work was started in January and ended in May 2017. SLLI representatives were present during work near and on the 1990 Bay Road property, coordinating with the City and the contractor to manage soil and groundwater from the soil management area.

- In August 2016, in preparation for the utility undergrounding phase of work, the City's contractor potholed using an air-knife in the vicinity of the site to confirm significant utility crossings for the trench construction, and pothole spoils were placed in drums on the 1990 Bay Road property. A sample was collected from each of the drums, and results indicated that the soils were non-hazardous, with arsenic concentrations ranging from less than 2.7 to 36 mg/kg.
- In related work in September 2016, a PG&E subcontractor augered holes for new utility poles on the 1990 and 1950 Bay Road properties in preparation for the City utility undergrounding project. Soil spoils from the two holes were placed in a roll-off soil bin on the 1990 Bay Road property. The soil was sampled for metals and determined to have an arsenic concentration of 93 mg/kg. A soluble threshold limit concentration (STLC) analysis for arsenic was run on the soil and the soil was determined to be non-hazardous for arsenic with a result of 4.5 mg/L, which is below the regulatory limit of 5 mg/L. The drummed non-hazardous soil spoils generated during the air-knifing from six utility potholes along the 1990 Bay Road frontage were also placed in the roll-off soil bin. The roll-off bin was transported on January 17, 2017 under a non-hazardous bill of lading to the Clean Harbors Buttonwillow disposal facility.
- In addition, in September, a subsurface archeological survey was conducted by Far Western Anthropological Research Group, Inc. of Davis, California as part of the City's Phase II/III Project. Four of the borings from the survey were within the area in Bay Road that requires proper disposal of the soil. Far Western SLLI coordinated with Far Western to ensure appropriate soil handling and disposal.
- Approximately 275 cubic yards of soil excavated from the main trench, lateral trenches, and trenches for utility boxes and vaults from the arsenic-impacted area was stockpiled on the 1990 Bay Road property for loading and off-site disposal. Most of the soil was loaded into 19 end-dump trucks on March 15 through 17, 2017 and was transported under non-hazardous bills of lading to the Clean Harbors disposal facility in Buttonwillow, California. The remaining approximately 5 cubic yards from the stockpile and a small quantity of impacted soil generated during final completion of the work was placed in a soil bin. The roll-off soil bin was transported to the Clean Harbors Buttonwillow disposal facility on October 25, 2017, also under a non-hazardous bill of lading. In total, 447 tons of non-hazardous soil from the Bay Road utility undergrounding project were disposed of at the Clean Harbors Buttonwillow disposal facility.
- Some non-impacted soil excavated by the City's contractor from trenches outside of the soil management area was temporarily stockpiled on the 1990 Bay Road property, in areas away from arsenic-impacted soil. SLLI allowed the City to stockpile approximately 600 cubic yards of soil spoils while the City waited for dry weather conditions to move the soil to another location in the City for reuse. Loading and off-haul of this soil from the 1990 Bay Road property was completed in April 2017.
- SSP&A coordinated with the City and their contractor to manage groundwater pumped from utility trenches on Bay Road. In areas outside of the 450-foot long soil management

area, the City's contractor pumped groundwater from trenches into 20,000-gallon storage tanks. SSP&A collected samples of the tanked groundwater and ran field tests on the groundwater (using the Arsenator test method) to check that arsenic concentrations were not elevated prior to discharge by the contractor. Approximately 10,000 gallons of groundwater from trenches within the arsenic-impacted area were transferred to a tank on the 1990 Bay Road property. A sample of the groundwater from this tank had an arsenic concentration of 27 µg/L. Based on these results, the RWQCB approved discharge of the collected water into the phytoremediation area.

- Asphalt cap pavement at utility trenches and around utility boxes and vaults were restored by the City's contractor in May 2017. Hot-mix asphalt was used for restoration of the nine-inch thick caps on the 1950 and 1990 Bay Road properties and on the PG&E Poleyard. Six inches of hot-mix asphalt was replaced at the frontage shoulders of those three properties. SSP&A was present for this paving work. Asphalt pavement in the roadway of Bay Road was replaced by the City in June 2017.
- In September 2017, and without advanced notice to SLLI, a PG&E subcontractor installed a new utility pole on eastern end of the SLLI former non-tidal marsh property as part of the City utility undergrounding project. Soil spoils from the pole installation were tested and found to have arsenic concentrations of 4.9 mg/kg. SLLI subsequently requested that PG&E spread the soil pile, but PG&E indicated the City would spread the soil as part of their planned future grading of the property in preparation for its potential use as a truck turn-around.

1950 Bay Road Construction Coordination

In October 2018, construction activities in the capped area began at the EPACenter Arts located at 1950 Bay Road. As part of the construction, subsurface work beneath the cap was necessary for installation of electrical lines, parking light piers, charging stations, and a trash enclosure. SLLI elected to manage soil excavated from the capped area. SLLI representatives were present during work in the cap area and coordinated with EPACenter Arts and their contractor to manage impacted soil in the arsenic-impacted area.

- Approximately 40 cubic yards of soil excavated from the trenches and light footings from the deed-restricted area was placed in bins and moved onto the 1990 Bay Road property for off-site disposal. Characterization sampling results indicated an arsenic concentration in the soil of 6.7 mg/kg. The soil will be transported and disposed of under a non-hazardous bill of lading in early 2019.
- An additional approximately 40 cubic yards of fill material, which had been placed in 1992 and 1993 after excavation of contaminated soil from the property in 1992, was excavated and tested. Test results indicated the arsenic concentration in the fill material was not detected above the reporting limit of 3.4 mg/kg, and with the RWQCB's approval, the material was placed on the 1990 Bay Road former non-tidal marsh area.

PG&E Pole Replacement on 1250 Weeks Street

In 2016, PG&E replaced a utility pole on the 1250 Weeks Street property. SLLI observed the installation and collected a sample from the soil spoils for waste characterization, which indicated the soil was non-hazardous. The soil was spread on the property.

Community Relations

SLLI participated in several different community relations activities between 2014 and 2019, including meetings and communications with the City and property owners in the vicinity of the site. The community relations activities include the following:

- On numerous occasions, SLLI met with the City of East Palo Alto regarding the City's Phase II/III Project, potential City easements, the City's soil and groundwater management plan, the undergrounding of utilities on Bay Road, and City easements for possible use of SLLI properties.
- SLLI met with the owners and representatives of the owners of properties around the site regarding future property development. Since 2014, development activities have been planned and/or implemented at the 1950 Bay Road, 2470 Pulgas Avenue, and 1200 Weeks Street properties. In addition, there is potential for development of 1990 Bay Road and 1175 Weeks Street properties, and soil, groundwater and geotechnical investigations have been conducted by third parties on both properties.
- SLLI joined the Ravenswood Shores Business District and attended the organization's meetings.
- SLLI reviewed conceptual plans for raising levees at and in the vicinity to the 1990 Bay Road Site prepared by the San Francisquito Creek Joint Powers Authority and communicated with their design consultants.
- In 2015, SLLI leased the 1990 Bay Road property for parking for the City during the City's installation of solar panels at its main parking lot at the City Hall facility.
- SLLI provided parking on 1990 Bay Road property for various events at the Cooley Landing Education Center and for other City uses.

SLLI attended events at the Cooley Landing Education Center and donated $25,000 to Grassroots Ecology in support of environmental learning opportunities at Cooley Landing.

Section 4
Status of Remediation

The selected remedies for the 1990 Bay Road Site are described in Section 2. Each of the components of the selected remedies for the Upland Operable Unit and Annex, the South of Weeks Subarea, the Wetland Operable Unit, and for groundwater is described below followed by a brief description of the status of implementation of the component. Table 2 presents a site remediation summary and Figure 14 shows the status of remediation.

Upland Operable Unit and Upland Operable Unit Annex

The remedy for the Upland Operable Unit and Annex included soil removal, soil treatment, placement of deed restrictions, clean closure where possible, and installation of caps where soil with arsenic remains. Each of these remedial components is described below including a description of what has been completed and what remains to be implemented for each component.

Soil Removal

The Upland Operable Unit and Annex remedy includes the removal of accessible soils containing concentration greater than 5,000 mg/kg arsenic. Prior to 2014, accessible soil containing arsenic concentrations greater than 5,000 mg/kg was removed from both the former facility and the former non-tidal marsh portions of the 1990 Bay Road property, and the 1175 Weeks Street property. Inaccessible soil containing arsenic concentrations greater than 5,000 mg/kg may remain beneath the warehouse on 2470 Pulgas Avenue. Soil removal activities will take place in the future when the warehouses are removed and if soil with arsenic concentrations greater than 5,000 mg/kg are identified in subsequent soil sampling. Soil with arsenic concentrations greater than 5,000 mg/kg has been removed from all other properties.

Soil Treatment

The Upland Operable Unit and Annex remedy includes the treatment of accessible soils containing concentrations of 500 mg/kg or greater of arsenic by means of fixation technology. The treatability goal is 5 mg/L arsenic, 1 mg/L cadmium, 5 mg/L lead, 0.02 mg/L mercury, and 1 mg/L selenium as measured by the TCLP.

Prior to 2014, approximately 28,000 cubic yards of soil containing 500 to 5,000 mg/kg arsenic were treated with an in-situ soil fixation method and approximately 4,300 cubic yards of soil were treated using a post-excavation fixation method. No soil treatment activities have been conducted since 2014.

Inaccessible, untreated soil containing arsenic concentrations between 500 and 5,000 mg/kg arsenic remain beneath buildings on the 2470 Pulgas Avenue property. If soil with arsenic concentrations greater than 500 mg/kg is identified in soil sampling when the warehouses are removed, the soil will be treated in place by means of fixation technology or removed and disposed offsite in an appropriate landfill.

Deed Restrictions

The remedy requires that deed restrictions be recorded for the 1990 Bay Road Property and adjacent properties where soil with arsenic concentrations greater than 70 mg/kg is left in-place.

Several properties in the Upland Operable Unit and Annex required deed restriction because soil with arsenic concentrations greater than 70 mg/kg remains in place. Prior to 2014, deed restrictions were obtained for the properties, which include: the eastern portion of 1950 Bay Road; 2470 Pulgas Avenue; 1990 Bay Road (including the former facility, the former non-tidal marsh portion of the property and the southern half of the Bay Road right-of-way); 1175 Weeks Street; and the PG&E Poleyard.

There are no pending deed restriction activities.

Clean Closure

The Upland Operable Unit and Annex remedies include the removal of soil containing arsenic concentrations above the site-specific commercial/industrial cleanup criterion (70 mg/kg) from any properties which will not be deed restricted. Prior to 2014, clean closure was completed on the properties north of Bay Road that are within the 1990 Bay Road Site. These are the only properties in the Upland Operable Unit and Annex with clean closure. There are no pending clean closure activities for the Upland Operable Unit and Annex.

Caps

The remedy requires the paving of areas that contain surface soil for which arsenic concentrations are greater than 70 mg/kg. Prior to 2014, areas north of Weeks Street that contain surface soil arsenic concentrations greater than 70 mg/kg were paved or remained inaccessible beneath structures. Triple-layer asphalt caps were installed and continue to be maintained on the former facility portion of the 1990 Bay Road property, the northern portion of the 1175 Weeks Street property, the eastern portion of the 1950 Bay Road property, the PG&E Poleyard, and portions of the 2470 Pulgas Avenue property. The asphalt road pavement and portions of the 1990 Bay Road cap serve as the cap for the southern half of the right-of-way of Bay Road.

A geosynthetic clay liner overlain by 1 foot of imported fill was installed as an approved cap in the former non-tidal marsh portion of the 1990 Bay Road property (Geomatrix and SSP&A, 2000a). The capping of this area resulted in the filling of about 3 acres of wetland. RWQCB Order 94-042 required that these acres be off-set at a ratio of three acres of wetlands created, enhanced, or restored for every acre eliminated. A portion of the restoration of the Cooley Landing Salt Pond was designated to off-set the wetland loss.

A single-layer, 2-inch asphalt cap was installed by the former property owner over the southern portion of the 1175 Weeks Street property. SLLI completed installation of the drainage connection between this cap and the 6-inch thick, 3-layer asphalt cap on the northern portion of the property. Approximately 0.3 acres of wetland was impacted during the work on the 1175 Weeks Street property, for which the RWQCB also required mitigation. A portion of the restoration of the Cooley Landing Salt Pond was designated to off-set the wetland loss.

All required capping has been installed. The asphalt and geosynthetic clay caps continue to be inspected as part of routine monitoring and maintained as needed throughout the 1990 Bay Road Site.

South of Weeks Subarea

The remedy for the South of Weeks Subarea included soil removal, placement of deed restrictions, clean closure where possible, and installation of caps where soil with arsenic remains.

Each of these remedial components is described below including a description of what has been completed and what remains to be implemented for each component.

Soil Removal

In the South of Weeks Subarea, soil removal is required for soil containing greater than 20 mg/kg arsenic unless consent by the property owner is obtained. Capping, deed restrictions, and a site management plan are required where arsenic concentrations greater than 20 mg/kg remain in soil.

Prior to 2014, soil containing arsenic concentrations greater than 20 mg/kg was removed from the 1286 Runnymede Street (Ravenswood School District) property and accessible soil containing arsenic concentrations greater than 20 mg/kg was removed from the 1275 Runnymede Street (Wilson) property.

The original 1200 Weeks Street property has been divided into two properties, 1200 and 1250 Weeks Street with 1250 Weeks Street located adjacent to the levee. Soil with concentrations greater than 20 mg/kg was removed from the 1200 Weeks Street property, and soil containing arsenic concentrations greater than 20 mg/kg was removed from above the water table on the 1250 Weeks Street property.

Also in the South of Weeks Subarea, inaccessible soil with arsenic concentrations greater than 20 mg/kg remains on the 1275 Runnymede property under and adjacent to the levee and sanitary sewer, and beneath structures such as buildings, storage sheds, sidewalks, pavement and patios. On the 1250 Weeks Street property, soil with arsenic concentrations greater than 20 mg/kg remains below the water table and under and adjacent to the levee and sanitary sewer.

In 2015, investigations conducted by the new property owner identified an area in the northwest portion of the 1200 Weeks Street property with arsenic concentrations above 20 mg/kg. Soil remediation activities to remove soil with concentrations exceeding risk-based limits of chemicals of concern including arsenic and pesticides are planned for implementation by others on the 1200 Weeks Street property (RPS Iris Environmental, 2016). The work plan for remediation activities at this property includes additional soil sampling, removal of near-surface soil that exceed target cleanup levels (TCLs), confirmatory sampling, and import of a minimum of two feet of clean cover. These activities will be conducted by others.

In addition, related to the 2015 investigation of the 1200 Weeks Street property, an investigation, described in Section 3, found that arsenic in excess of 20 mg/kg is present in a property cut-out owned by the City near the northwest corner of the 1200 Weeks Street property. An abandoned well was also discovered in 2016 in this area. Investigation and destruction of the well, which the County has indicated is the responsibility of the City, is required before soil removal activities can be implemented (SSP&A, 2016c). Well destruction and soil removal activities have not been scheduled.

Deed Restrictions

The remedy for the South of Weeks Subarea requires deed restrictions to be recorded for properties where soil with greater than 20 mg/kg is left in-place. Prior to 2014, deed restrictions were obtained for properties at 1200 and 1250 Weeks Street (formerly one property, now two parcels) and 1275 Runnymede Street (Wilson property).

Soil remediation activities to remove soil with concentrations exceeding risk-based limits of chemicals of concern including arsenic and pesticides are planned for the 1200 Weeks Street

property. These activities will be conducted by others. To facilitate putting into place separate deed restrictions on each of the two properties, the (single) deed restriction for the 1200 and 1250 Weeks Street properties will be terminated. Following the termination and in coordination with RWQCBs staff, new, separate deed restrictions will be placed on the two properties with restrictions specific to each property.

No deed restriction has been filed for the City-owned property cut-out at the northwest corner of the 1200 Weeks Street property. There are no other pending deed-restriction activities.

Clean Closure

To achieve clean closure, soil containing arsenic concentrations above 20 mg/kg must be removed from any properties that will not be deed-restricted. Prior to 2014, clean closure was completed on the Ravenswood School District property on Runnymede Street. This is the only property with clean closure and no deed restriction in the South of Weeks Subarea. There are no pending clean closure activities for the South of Weeks Subarea, except for the activities planned at the 1200 Weeks Street property.

Caps

For properties in the South of Weeks Street Subarea, a cap is required for all areas containing greater than 20 mg/kg arsenic in soil.

Inaccessible soil with arsenic concentrations greater than 20 mg/kg remains under and adjacent to the levee and sanitary sewer, and beneath structures such as buildings, storage sheds, sidewalks, pavement, and patios on the 1275 Runnymede Street property. Inaccessible soil with arsenic concentrations greater than 20 mg/kg remains on the 1250 Weeks Street property under and adjacent to the sanitary sewer and levee. This soil on the 1250 Weeks Street property is capped with a minimum of 3 feet of soil containing less than 20 mg/kg arsenic.

There are no pending cap activities for the South of Weeks Subarea.

Wetland Operable Unit

Topographic monitoring of the wetland surface near the bend in the levee is required every 5 years (for thirty years beginning in 2006) in accordance with the Topographic Monitoring Workplan (SSP&A, 2005). If the results indicate that natural erosion is exposing elevated concentrations of arsenic, a contingency plan shall be submitted within 30 days. If, after 30 years of monitoring, the results indicate that erosion is not occurring, the discharger may submit a written request to cease topographic monitoring.

The third marsh slough topographic monitoring event was performed on January 29, 2016. A California-licensed surveyor was retained to measure the marsh slough elevation at six stations located approximately every 50 feet along the centerline of a minor slough, beginning 50 feet north of the point where the minor slough diverges from the major slough and matching the locations of the baseline monitoring performed in 2006 and 2011. Survey results (Figure 15) show that surface elevations have increased at five of the six locations, with an average of 0.13 feet increase over the past five years. This indicates that erosion of the slough is not occurring. Baseline and years five and 10 topographic data are presented on Figure 15.

The next topographic monitoring event is scheduled for January 2021. Results of the monitoring events are reported in the annual reports.

Groundwater

The remedy for groundwater at the site included the installation of monitoring wells and a subsurface hydraulic barrier wall and implementation of a groundwater monitoring program for the site. The groundwater monitoring program is described in the Groundwater Self-Monitoring Program included in RWQCB Order SCR-R2-2016-0037. The Sampling and Analysis Plan (Geomatrix and SSP&A, 1992), Quality Assurance Project Plan, (Geomatrix and SSP&A, 1991b) and revised ACCP, which included information on deep aquifer monitoring, (SSP&A, 2016a), describe the sample collection, analysis, and evaluation procedures. The status of the barrier wall and chemical and hydraulic monitoring of site groundwater is described below.

Barrier Wall Installation

The remedy for groundwater at the 1990 Bay Road Site required the installation of a slurry wall to prevent outward migration of arsenic concentrations exceeding 0.05 mg/L in the upper shallow groundwater zone. In June 2001 a 1,275-foot long subsurface hydraulic barrier (Figure 16) was constructed to a depth of 17- to 20-feet bgs (Geomatrix and SSPA, 2002). The barrier consists of two sections; one section constructed using a soil-bentonite mixture (715 linear feet), primarily on the former PG&E non-tidal marsh, and the other section constructed using a soil-cement-bentonite mix (560 linear feet), on the 1175 Weeks Street property. The mixture of Portland cement, bentonite slurry and soil on the 1175 Weeks Street property provides greater strength for future development over that section of wall. Details of the construction of the barrier wall are contained in the Groundwater Containment System Installation, Remedial Action Implementation Report (Geomatrix and SSP&A, 2002). The barrier wall impedes groundwater discharge from the site to the tidal wetland. The design goal for the wall was to achieve a continuous low hydraulic conductivity barrier. To prevent groundwater flow underneath the wall, the wall was tied into sediments with a similarly low hydraulic conductivity. The site is underlain by a clay layer at about 15 feet bgs. The wall was keyed two feet into this clay layer. The base of the wall lies at about 17 feet bgs or more. The hydraulic conductivity, as estimated by laboratory permeability tests, is 10^{-7} centimeters per second (cm/sec) along the eastern wall alignment, and 10^{-6} cm/sec along the southern wall alignment.

There are no pending barrier wall activities. Monitoring of the barrier wall is ongoing as described in the sections below. A Performance Evaluation Report for the Groundwater Containment System, which presented a detailed evaluation of the performance of the barrier wall and monitoring system was submitted in 2006 (SSP&A, 2006), and updates were included in the Five-Year Status Reports in 2009 (AMEC Geomatrix and SSP&A, 2009), and 2014 (SSP&A, 2014b). Appendix A contains the latest Performance Evaluation for the Groundwater Containment System.

Groundwater Chemistry Monitoring

SLLI installed and maintains a network of groundwater monitoring wells to monitor chemical and hydraulic conditions at the site. The network of wells includes perimeter monitoring wells, sanitary sewer backfill monitoring wells, containment system performance wells, a deep well, interior wells, piezometers, and lower and upper shallow groundwater zone well pairs. Each type of well is used to monitor the extent and migration of arsenic in groundwater and/or the hydraulic performance of the groundwater containment system. The current long-term groundwater chemistry monitoring program for the network of site wells is described below and the monitoring schedule is shown in Table 3. Well construction details are shown in Table 4.

Monitoring Wells for Groundwater Chemistry Monitoring

The monitoring well network for groundwater chemistry monitoring consists of perimeter monitoring wells, interior wells, a deep well, and utility backfill monitoring points (Figure 17).

Perimeter Wells

SLLI has maintained and monitored a system of perimeter groundwater monitoring wells since 1986 (Figure 17). The perimeter monitoring system was originally designed to meet the requirements of Site Cleanup Requirements Order No. 85-67, which required that a system of perimeter monitoring well pairs completed in the upper and lower shallow aquifer be located within 100 feet of the 0.05 mg/L contour for arsenic. Groundwater sampling data collected from the perimeter monitoring system are evaluated according to the procedures in the revised ACCP (SSP&A, 2016a) to determine if there is statistical evidence that the arsenic concentration in any of the perimeter monitoring wells exceeds 0.04 mg/L. The perimeter monitoring system consists of 17 wells that encircle the site. The following wells are currently monitored:

- Perimeter upper shallow zone monitoring wells M-9, W-105, W-107, W-121, W-123, W-125, W-127, W-128, W-129;
- Perimeter lower shallow zone monitoring wells W-102, W-110, W-112, W-122, W-126 and W-142; and
- Perimeter utility backfill monitoring points W-137 and W-143.

Interior Wells

Currently six interior monitoring wells are included in the groundwater-monitoring network. These wells are:

- Interior upper shallow zone monitoring wells M-4, W-114, W-115, and WCC-10; and
- Interior lower shallow zone monitoring wells WCC-09 and WCC-11.

Deep Well

One well, W-101, located on the 1990 Bay Road property is included in the groundwater monitoring network to monitor the deep aquifer. The analytical results from the deep well are evaluated according to the procedures in the revised ACCP (SSP&A, 2016a) to determine if arsenic concentrations in the deep aquifer exceed background concentrations.

Utility Backfill Monitoring Points

To evaluate and monitor the extent of arsenic in groundwater in the backfill of the sewer main, a monitoring system consisting of wells completed in the backfill was constructed at the site. Monitoring wells were installed in the backfill of the 18-inch diameter sewer main and on the south side of the 72-inch diameter storm drain pipe that runs beneath Runnymede Street.

There are currently ten wells included as backfill monitoring wells. Monitoring wells W-130, W-131, W-132, W-133, and W-137 were installed at the locations where the sewer mains cross the 1990 Bay Road Site boundary. Three additional monitoring wells, W-134, W-135A, and W-138, were installed in the backfill of the 18-inch sewer main between Weeks Street and Runnymede Street. Two wells, W-143 and W-136, were installed on the south side of the 72-inch diameter storm drain pipe that runs along Runnymede Street. Two of these utility backfill monitoring wells, W-137 and W-143, are included as perimeter monitoring wells and the remaining eight wells are designated as backfill monitoring points in the groundwater monitoring network.

Groundwater Chemistry Monitoring Activities

Since the 2014 Five-Year Status Report (SSP&A, 2014b), groundwater chemistry monitoring was conducted in 2014, 2016 and 2018. Analytical results from samples collected from monitoring wells in 2014, 2016, and 2018 are shown on Table 5. Arsenic concentrations over time in site monitoring wells are presented in Appendix B.

Results from the 2014, 2016 and 2018 sampling events indicated arsenic concentrations in interior wells ranged from 0.004 mg/L in lower shallow zone well WCC-11 to 7.1 mg/L in upper shallow zone well WCC-10 and in utility backfill monitoring points from less than 0.0001 mg/L in W-130 to 8.09 mg/L in well W-135A. Arsenic concentrations in all perimeter monitoring wells in the 2014, 2016, and 2018 sampling events were below 0.04 mg/L. In addition, groundwater monitoring data from the deep well (W-101) indicated arsenic concentrations less than the historic reporting limit of 0.001 mg/L for all three biennial monitoring events. Reporting limits for the analytical methods used at the site have decreased and low-level detections of arsenic (0.0006 mg/L) are observed in well W-101.

Groundwater monitoring of the perimeter monitoring wells and selected other monitoring wells will continue on a biennial basis with the next monitoring event scheduled for April 2020. The results of the groundwater monitoring are included in the annual summary report for the site and uploaded to the RWQCB Geotracker database.

Groundwater Level Monitoring

A groundwater level monitoring program has been ongoing at the site since 1986. Site-wide groundwater level monitoring occurs annually, and a subset of monitoring wells is monitored quarterly for groundwater containment system performance monitoring.

The following locations, shown in Figure 18, currently comprise the site-wide groundwater level monitoring network:

- All well locations including deep, perimeter, interior, and utility backfill, that are included in groundwater chemistry monitoring program;
- Water Level-Monitoring Wells: C-26, W-103, W-104, W-106, W-111, W-113, W-118 to W-120, W-124, WCC-06, and WCC-12;
- Piezometers: P-1, P-3, P-4, and P-6 through P-13; and
- Containment Performance Wells: W-139 (A), W-140 (B), and W-141 (C).

Water levels are measured annually in April in these wells.

In addition, water levels are measured quarterly (including the annual site-wide monitoring event) in three monitoring wells, W-139 (A), W-140(B) and W-141(C) and in piezometers P-8 through P-13 to monitor the hydraulic performance of the barrier wall. Upon completion of the barrier wall, wells W-139 (A), W-140(B) and W-141(C) were installed in the upper shallow groundwater zone and the groundwater monitoring program for containment performance was implemented. Water level measurements in the containment system monitoring wells are evaluated according to the procedures in the revised ACCP (SSP&A, 2016a) to determine if the containment system is effective in meeting the prohibition on significant migration of pollutants in groundwater established by RWQCB Order SCR R2-2016-0037.

Since the 2014 Five-Year Status Report (SSP&A, 2014b), groundwater level monitoring has been conducted quarterly for containment system performance wells and annually for other wells according to the schedule shown on Table 3. In addition, selected wells were monitored to

assess site conditions when changes in hydraulic conditions were suspected due to climatic events or modification of groundwater management practices at neighboring properties. Table 6 presents a summary of groundwater level measurements collected since 2014 and potentiometric surface maps for the upper and lower shallow groundwater zones from 2014 through 2018 are included in Appendix C. Historical data are contained in the previous Five-Year Status Reports (Geomatrix and SSP&A, 2004; AMEC Geomatrix and SSP&A, 2009; SSP&A, 2014b).

Groundwater levels in site-wide monitoring wells will continue to be measured annually. For containment performance wells, water levels will continue to be measured quarterly to monitor the hydraulic performance of the containment wall. The results of the groundwater monitoring will be included in the annual summary reports for the site and uploaded to the RWQCB Geotracker database.

Dewatering

The remedy for groundwater required intermittent dewatering within the slurry wall as necessary to maintain an inward hydraulic gradient, treatment of extracted groundwater as necessary; and discharge of treated water to the storm drain under an NPDES permit.

SLLI originally initiated a phytoremediation study in 1997 to assess whether trees could transpire sufficient quantities of groundwater to alter the hydraulic gradient at the site boundary, thereby limiting the migration of groundwater to the discharge area in the tidal wetland. Based on earlier greenhouse studies conducted at the site (Beak and Geomatrix, 1998) along with published water use rates of tamarisk and eucalyptus trees, it was estimated that approximately 400 trees (300 tamarisk and 100 eucalyptus trees) were required to alter hydraulic gradients at the site. In February 2001, the RWQCB approved the conceptual design for a groundwater containment system for the site (RWQCB, 2001), which included phytoremediation as an alternative to a pump and treat system for dewatering within the barrier wall (Geomatrix and SSP&A, 2000b).

Prior to 2014, approximately 575 Eucalyptus viminalis, Eucalyptus camaldulensis, Eucalyptus polyanthemos, and Tamarix parviflora trees were planted within the extent of the barrier wall on the former non-tidal marsh and 1175 Weeks Street properties in several phases of planting. Existing trees periodically require replacement due to die-off from various causes. In 2012 the phytoremediation area was expanded with the planting of forty-one (41) eucalyptus trees in an area within the barrier wall east of the original planting area. However, many of the trees planted in 2012 were killed by rodent damage to the roots and trunks. In November of 2015, 29 additional eucalyptus trees were planted to replace trees that died.

The monitoring program for the trees consists of inspections to observe the general health of the trees (disease, insects, and stress), to collect tree growth measurements (height and girth), and to perform tissue sampling (leaf sampling). Individual trees from each planting event have been selected to be a part of the monitoring program. Currently, the tree health inspections are generally conducted in April and October and growth inspections are conducted in April of each year. Tissue sampling is conducted to confirm that plants used for phytoremediation do not transfer high levels of arsenic from groundwater to plant tissues. Tissue sampling currently occurs biennially in the fall. Tissue samples collected from the phytoremediation area do not show elevated levels of arsenic. Sample locations are shown on Figure 19 and the analytical results are presented in Table 7.

Healthy, growing trees transpire water that is taken up via their root systems, providing the dewatering necessary within the barrier wall to maintain the lower groundwater levels inside the slurry wall. The details of the phytoremediation area are shown on Figure 19.

The phytoremediation monitoring program will continue with tree health inspections scheduled for April and October and growth inspections in April of each year. The next biennial tissue sampling event will occur in the fall of 2020.

Section 5
Re-evaluation of Cleanup Criteria

The goals of the remedy selected for the site were to prevent exposure to soil and groundwater containing site-related constituents (arsenic, cadmium, mercury, lead, and selenium) at concentrations in excess of levels determined to be protective of human health and to prevent further expansion of the zone containing contaminated groundwater. This section compares soil cleanup criteria for the site (site cleanup criteria) with current regulatory screening levels for arsenic and other site-related constituents that reflect new information since the 2014 Five-Year Status Report. This section also evaluates the criterion used to determine the extent of affected groundwater.

Soil Cleanup Criteria

Although cleanup criteria were developed for each of the site-related constituents, arsenic is the most widespread constituent. From the data that was collected as the remedy was implemented, it became apparent that if remedial goals for arsenic were met, concentrations of other site-related constituents (cadmium, lead, mercury and selenium) would be at low concentrations relative to their respective cleanup criteria. Therefore, the cleanup criteria for arsenic are the focus of this discussion. A discussion of the other metals is provided for reference.

Accessible soil containing greater than 5,000 mg/kg arsenic has been removed, and accessible soil containing greater than 500 mg/kg arsenic has been treated. Areas in the Upland Operable Unit and Annex containing soil with greater than 70 mg/kg arsenic and areas in the South of Weeks Subarea with soil with greater than 20 mg/kg arsenic have been capped and deed restrictions for these properties have been recorded. Clean closure was completed on the properties north of Bay Road where soil with greater than 70 mg/kg arsenic was removed, and on the Ravenswood School District property south of Runnymede Street where soil with greater than 20 mg/kg arsenic was removed.

Current Regulatory Screening Levels

The site-specific residential cleanup criterion of 20 mg/kg arsenic and the commercial/industrial criterion of 70 mg/kg arsenic[1] from the ROD are compared to current regulatory screening levels in this section. The following regulatory screening levels were reviewed:

- EPA (regional screening levels [RSLs]; EPA, 2018),
- RWQCB (environmental screening levels [ESLs]; RWQCB, 2019),
- DTSC (DTSC Screening Levels [DTSC SLs]; DTSC, 2018)

While EPA has published RSLs for all site-related constituents, chemicals with more conservative toxicity criteria developed by California's Office of Environmental Health Hazard Assessment (OEHHA) are not addressed in the RSLs. As a result, DTSC has developed DTSC-

[1] A screening level of 300 mg/kg was originally calculated for commercial/industrial properties (PRC, 1991), but properties with greater than 70 mg/kg of arsenic in soil were also capped and a deed restriction was put in place to eliminate exposure to soil. As such, exposed soil containing arsenic in commercial/industrial areas was remediated to less than 70 mg/kg.

SLs for chemicals where there is a significant difference (3-fold) between screening levels predicted using OEHHA compared to EPA toxicity criteria. Specific to this site, the toxicity criteria and exposure approach developed in California for arsenic, cadmium, lead, and mercury are more conservative than EPA's approach for deriving the RSLs (DTSC, 2018). DTSC has developed DTSC-SLs for arsenic, cadmium, lead, and mercury, which are presented herein. The RWQCB has independently developed ESLs for the site-related constituents.

For the purpose of evaluating carcinogenic risk, EPA uses an acceptable risk range of $1x10^{-4}$ to $1x10^{-6}$. In the documentation supporting the ROD for the site (PRC, 1991), a target risk of $1x10^{-4}$ was used for site cleanup criteria. Because current regulatory screening levels for carcinogens are based on a target risk of $1x10^{-6}$, these levels were adjusted to a target risk of $1x10^{-4}$ by multiplying by 100 for consistency with cleanup criteria assumptions. These values are referred to herein as "site-adjusted" regulatory screening levels. However, for arsenic, RSLs, ESLs, and DTSC-SLs for non-carcinogenic health effects[2] for residential exposure are lower (i.e., more health protective) than the screening level based on a $1x10^{-4}$ risk, and as such are used as the site-adjusted regulatory screening level in Table 8.

Residential Cleanup Criteria

As shown on Table 8, the site-specific residential cleanup criterion of 20 mg/kg arsenic is lower than the site-adjusted regulatory screening level based on EPA's RSL for residential site use, 35 mg/kg. The site-adjusted regulatory screening level based on RWQCB ELSs (0.26 mg/kg) and DTSC-SLs (0.4 mg/kg) are lower than the site-specific cleanup criterion (20 mg/kg), and also below the background concentrations for the Bay Road site.

The RI report for the site (Geomatrix and SSP&A, 1989) concluded that background concentrations in unaffected areas near the site ranged from 7 to 10 mg/kg, and other off-site studies indicated arsenic background in the San Francisco Bay area ranged from 3.1 to 18 mg/kg.[3] The RI also concluded that site soils containing more than 20 mg/kg of arsenic probably have been affected by historic site activities. Accordingly, the RWQCB determined that, for the purpose of this cleanup action, 20 mg/kg is considered background for arsenic at the site (RWQCB Order 92-022). Therefore, arsenic in residential areas was essentially remediated to background conditions. Because regulatory screening levels were superseded by background conditions for arsenic, no revision to the cleanup approach is required as a result of changes to the screening levels.

Commercial/Industrial Cleanup Criteria

As shown on Table 8, the site-specific commercial/industrial cleanup criterion of 70 mg/kg arsenic is below the site-adjusted regulatory screening levels based on the EPA's RSLs for commercial/industrial site use, 300 mg/kg for carcinogenic effects and 480 mg/kg for noncarcinogenic effects. The regulatory screening level based on the RWQCB's ESLs and DTSC's Cal-modified RSLs (3.6 and 4.2 mg/kg, respectively) are lower than the site cleanup criteria for commercial/industrial site use (70 mg/kg), and also below the background concentrations for the Bay Road site.

[2] Screening levels for noncarcinogenic health effects are based on a target hazard index of 1.

[3] In 2011, a regional study for the urbanized areas of San Francisco Bay cited on the RWQCB website indicates a 99th percentile arsenic concentration of 11 mg/kg and a range of arsenic from 0.61 to 11 mg/kg (Duvergé, 2011).

All commercial/industrial areas with soil that contained arsenic concentrations greater than 70 mg/kg were capped or deed restrictions were placed on the properties, except for a small area north of Bay Road. Exposed soil containing arsenic concentrations greater than 70 mg/kg was excavated on three properties north of Bay Road in 1992. A small area adjacent to these excavations currently has soil with concentrations between 25 and 70 mg/kg. This area is in or next to the Bay Road right of way and does not present a significant risk of exposure to the soil. Therefore, no change in the site-specific commercial/industrial cleanup criterion for soil north of Bay Road is warranted because remediation activities (e.g., removal or capping) essentially remediated to background where exposed soil remained in place.

Other Metals

The other metals detected in soil at the Bay Road site were evaluated for potential carcinogenic or non-carcinogenic effects. The cleanup criteria from the ROD and current regulatory screening levels are compared on Table 9. The regulatory screening levels developed by EPA, the RWQCB, and DTSC are based on non-carcinogenic health effects for all four metals so an adjustment based on a higher target risk level for carcinogenic effects is not applicable.

As shown in Table 9, the site cleanup criteria for residential areas are lower than the regulatory or site-adjusted screening levels for lead for all screening levels. For the other metals, the site cleanup criterion was higher than at least one regulatory criterion.

Residential Criteria

- The residential site cleanup criteria for cadmium (10 mg/kg) is higher than the DTSC-SL (5.2 mg/kg).
- The residential site cleanup criteria for mercury (3 mg/kg) is higher than the DTSC-SL (1 mg/kg).
- The residential site cleanup criteria for selenium (600 mg/kg) is higher than the EPA RSL and RWQCB ESL (both are 390 mg/kg).

Commercial/Industrial Criteria

- The commercial/industrial site cleanup criteria for cadmium (2000 mg/kg) is higher than the EPA-RSL (980 mg/kg), the RWQCB ESL (1100 mg/kg), and the DTSC-SL (7.3 mg/kg).
- The commercial/industrial site cleanup criteria for mercury (600 mg/kg) is higher than the EPA RSL (46 mg/kg), the RWQCB ESL (190 mg/kg), and the DTSC-SL (4.4 mg/kg).
- The commercial/industrial site cleanup criteria for selenium (6000 mg/kg) is higher than the EPA RSL and RWQCB ESL (5800 mg/kg).

The differences between site cleanup criteria and the regulatory screening levels do not change the remediation approach at the site because, as stated previously, remediation of arsenic to residential or industrial cleanup criteria resulted in remediation of the other metals to concentrations generally well below site cleanup criteria and current regulatory screening levels. A review of the data compared to the regulatory screening levels indicates that measures taken to mitigate arsenic in residential and industrial areas (e.g., excavation, treatment and/or capping) have effectively mitigated concentrations of the other four metals.

Groundwater Criteria

The EPA and California Department of Health Services MCL for arsenic in drinking water of 0.01 mg/L has not changed since the 2014 Five-Year Status Report. As stated in the ROD, shallow groundwater at the site is not considered a source of drinking water under the California "Sources of Drinking Water Policy" (State Water Resources Control Board Resolution No. 88-63) due to high levels of salinity. The goal for shallow groundwater is prevention of migration of the zone of contaminated groundwater. This goal is consistent with current RWQCB and EPA policy. The definition of the extent of contaminated groundwater is currently based on whether arsenic exceeds 0.05 mg/L. Although 0.05 mg/L arsenic is greater than the background arsenic concentration, it is similar to the Chronic Water Quality Objective of 0.036 mg/L for saltwater (40 CFR 131.38). Therefore, as indicated in the previous Five-Year Status Reports, 0.05 mg/L arsenic is an appropriate threshold concentration for identifying the extent of affected groundwater at the Upland Operable Unit because it is protective of the potential beneficial uses.

The goal for deep groundwater at the site is background concentrations. The background arsenic concentration in the deep aquifer has been calculated to be 0.005 mg/L (SSP&A, 2016a).

Section 6
Effectiveness of the Remedy

The remedy at the 1990 Bay Road Site is effective. Site conditions are protective of human health and the environment. The measures implemented and the ongoing controls ensure compliance with the Comprehensive Site Management Plan and the deed restrictions on the properties. The major accomplishments and our recommendations are summarized in this section.

Compliance with Comprehensive Site Management Plan and Deed Restrictions

In 2014, a Comprehensive Site Management Plan (CSMP) was prepared as part of the RWQCB Order SCR R2-2016-0037 to describe the risk management measures implemented at the site and to specify the individual tasks and responsibilities required to monitor and maintain the components of the remedy for the entire 1990 Bay Road site (SSP&A, 2014a). An addendum to the CSMP was submitted in 2016 with changes in response to public comment (SSP&A, 2016b). Additional institutional controls, including deed restrictions and routine site inspections ensure that site controls are maintained so that the potential for exposure to arsenic in soil beneath structures and caps remains extremely low.

There is a possibility that the conditions of deed restrictions may not be communicated to persons managing or conducting intrusive work in deed restricted areas of the site. Because of this potential, SLLI is registered with Underground Service Alert (USA) for the entire site area. If calls are made to USA for clearance to excavate in areas of the site, SLLI is notified and responds if the planned work may cause exposure to arsenic-affected soil and groundwater.

In addition, due to the long-term nature of the project, it is important that SLLI continues to keep the public, potential landowners or developers, and the City informed on the conditions and requirements of the site orders and deed restrictions. Turn-over in City offices and in neighboring properties can result in interested parties being uninformed of potential site risks. In order to keep the public informed, SLLI periodically updates site documents on the RWQCB Geotracker website. SLLI also periodically meets with City officials to discuss the site and local developments to keep the City informed about site issues and find out how local plans may impact the site. SLLI tracks site property owners and site uses. Table 10 lists the owners for properties in the vicinity of the 1990 Bay Road Site as of February 2019. This information is checked periodically and will be updated in future Five-Year Status Reports.

Upland Operable Unit, Annex and South of Weeks

Remedial measures were implemented at the site to eliminate exposure to soil at concentrations above the cleanup criteria. In the Upland Operable Unit and Annex, soil with arsenic concentrations greater than 5,000 mg/kg has been removed, and accessible soil with arsenic concentrations between 500 and 5,000 mg/kg has been removed or stabilized to reduce mobility and toxicity. Properties with soil with arsenic concentrations over 70 mg/kg have been capped, with the exception of the properties to the north of Bay Road where soil with arsenic concentrations over 70 mg/kg was removed. In addition, deed restrictions have been recorded on the properties where soil below the cap or beneath structures has greater than 70 mg/kg arsenic.

In the South of Weeks Street Subarea, soil with greater than 20 mg/kg arsenic has been removed from the Ravenswood School District property and accessible soil with greater than 20

mg/kg arsenic has been removed from the 1275 Runnymede Street property and the 1200 and 1250 Weeks Street properties. Deed restrictions have been recorded for the 1275 Runnymede Street property and 1200 and 1250 Weeks Street properties where inaccessible or capped soil with concentrations greater than 20 mg/kg arsenic remains.

To mitigate filling of seasonal wetlands on the 1175 Weeks Street property and the former non-tidal marsh portion of the 1990 Bay Road property in the Upland Operable Unit Annex and for loss of wetland habitat in the Wetland Operable Unit, SLLI restored the 122-acre former Cooley Landing salt pond to a high-quality salt marsh habitat.

Wetland Operable Unit

For the Wetland Operable Unit, topographic surveys have been completed in 5-year increments starting in 2006, and the elevations in the marsh are stable and appear to be rising. The wetland offset has been provided in the Cooley Landing restoration area. Accordingly, the cleanup criteria for the Wetland Operable Unit are being met.

Groundwater

The extensive data collected since the ROD was issued indicates that the extent of arsenic in groundwater has not changed significantly over the thirty-three years of monitoring of the site perimeter monitoring system, and that arsenic in groundwater does not pose a threat to human health and the environment. The groundwater containment system, composed of the barrier wall and phytoremediation for dewatering, provides further protection against arsenic migration and the ongoing monitoring of the network of perimeter groundwater monitoring wells is conducted to detect any significant migration of arsenic.

Section 7
Schedule for Completion of Remedial Components

The status of remedial components is described in this section by subarea. Where appropriate, a tentative schedule for completion of the remedial components is discussed.

Upland Operable Unit

Soil removal and treatment will be conducted on the 2470 Pulgas Avenue property when the warehouse is removed and affected soil becomes accessible.

Upland Operable Unit Annex

There are no remaining remedial components to be completed in the Upland Operable Unit Annex.

South of Weeks Street Subarea

Additional soil removal will be conducted when structures are removed from the 1275 Runnymede Street property. Soil will be removed from the northwest corner of the 1200 Weeks Street property as part of the property owner's remediation for pesticides. Arsenic on the small City cut-out near Weeks Street will be excavated after the former water supply well is destroyed. After completion of the planned remediation by others for the 1200 Weeks Street property, the deed restriction on that property and 1250 Weeks street will be terminated and replaced by separate deed restrictions for the two properties.

Wetland Operable Unit

There are no remaining remedial components for the Wetland Operable Unit. The next topographic monitoring event is scheduled for 2021. Topographic monitoring will continue every five years until 2036.

Groundwater

Phytoremediation and groundwater monitoring will continue and an evaluation of the performance of the barrier wall and monitoring system will continue to be included in future Five-Year Status Reports.

Site Maintenance and Monitoring

Monitoring and management of soil and groundwater at the site, sewer monitoring, and site inspections will continue as described in the CSMP, the ACCP, and RWQCB Order SCR-R2-2016-0037.

Reduction of Water Board Oversight

RWQCB Order SCR-R2-2016-0037 requires SLLI to recommend ways to reduce RWQCB oversight for the site. The most consequential action to reduce RWQCB oversight would be to develop the site with new buildings and paving to promote beneficial re-use and make the land more productive. To that end, SLLI placed the property on the market in 2018. A developer is in negotiations with SLLI to purchase the 1990 Bay properties and may be in negotiations with the

owner of 1175 Weeks Street to purchase and develop that property as well. Developing the site with offices or other commercial structures and associated parking would essentially provide a near-permanent cap for the property, and, once developed, could significantly reduce the involvement of the RWQCB in managing the site. Commercial development would also provide significant monetary fees to the City to develop infrastructure and reduce the significant blight that has distressed the neighborhood over several decades.

SLLI is also a member of the USA notification system, which provides a first line of defense for notification of subsurface work at or near the site. Using this, SLLI is able to filter the projects for location and proximity to chemical impacts and apprise RWQCB of potential issues before the contaminated areas are breached and further remediation is needed. SLLI will also continue to actively work to reduce potential incursions into areas with soil with elevated arsenic concentrations by continuing to interface with the City regarding infrastructure improvement plans, property owners regarding development plans, and with other groups with projects in the area including the San Francisquito Creek Joint Powers Authority, which is designing the raising of the levee at the site. SLLI will continue to keep the RWQCB informed of progress and potential impacts to contaminated media.

SLLI will also explore with the RWQCB the possibility of obtaining no further active remediation status for the site. The status is applicable when contamination remains at a site, but the site has reached the point where the required activities have been reduced to long-term monitoring and management. This status indicates that the major cleanup actions have been completed at the site, and the site no longer needs active management by RWQCB staff. The remedy at the 1990 Bay Road Site is fully constructed in all accessible areas and the site is in long-term monitoring and maintenance. The CSMP describes the on-going management requirements and the ACCP describes the on-going monitoring under current site conditions. SLLI's request for no further active remediation status would reference both the CSMP and ACCP and address any additional measures that might be required if the site were to be redeveloped.

Section 8
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FIGURES

Basemap from USGS National Map
Palo Alto and Mountain View, California
Quadrangle 2012

N

0 1000 2000

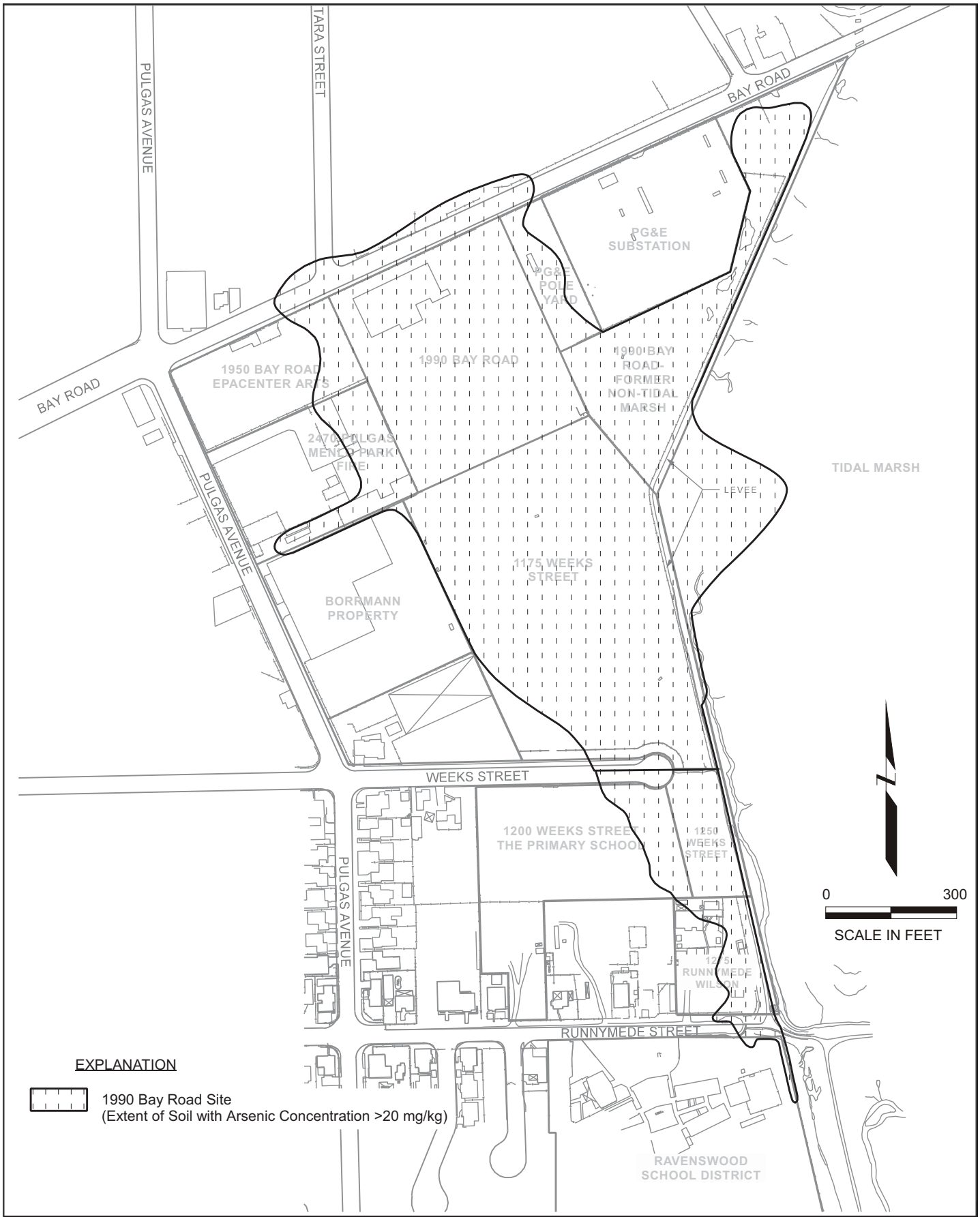
SCALE IN FEET

SITE LOCATION MAP

1990 Bay Road Site
East Palo Alto, California

Figure 1

S.S. Papadopulos & Associates, Inc.

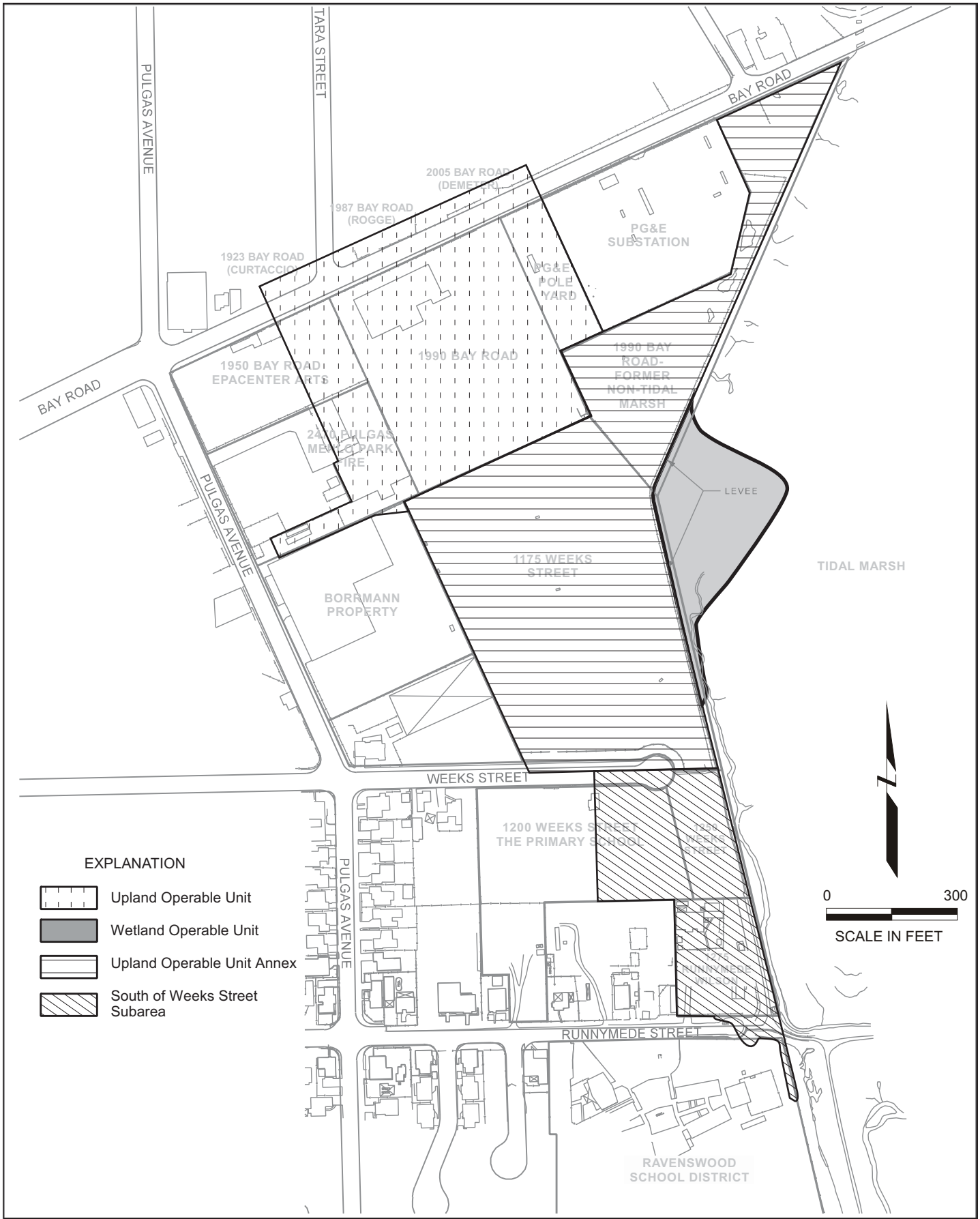


S.S. Papadopulos & Associates, Inc.

SITE BOUNDARIES

1990 Bay Road Site
East Palo Alto, California

Figure 2

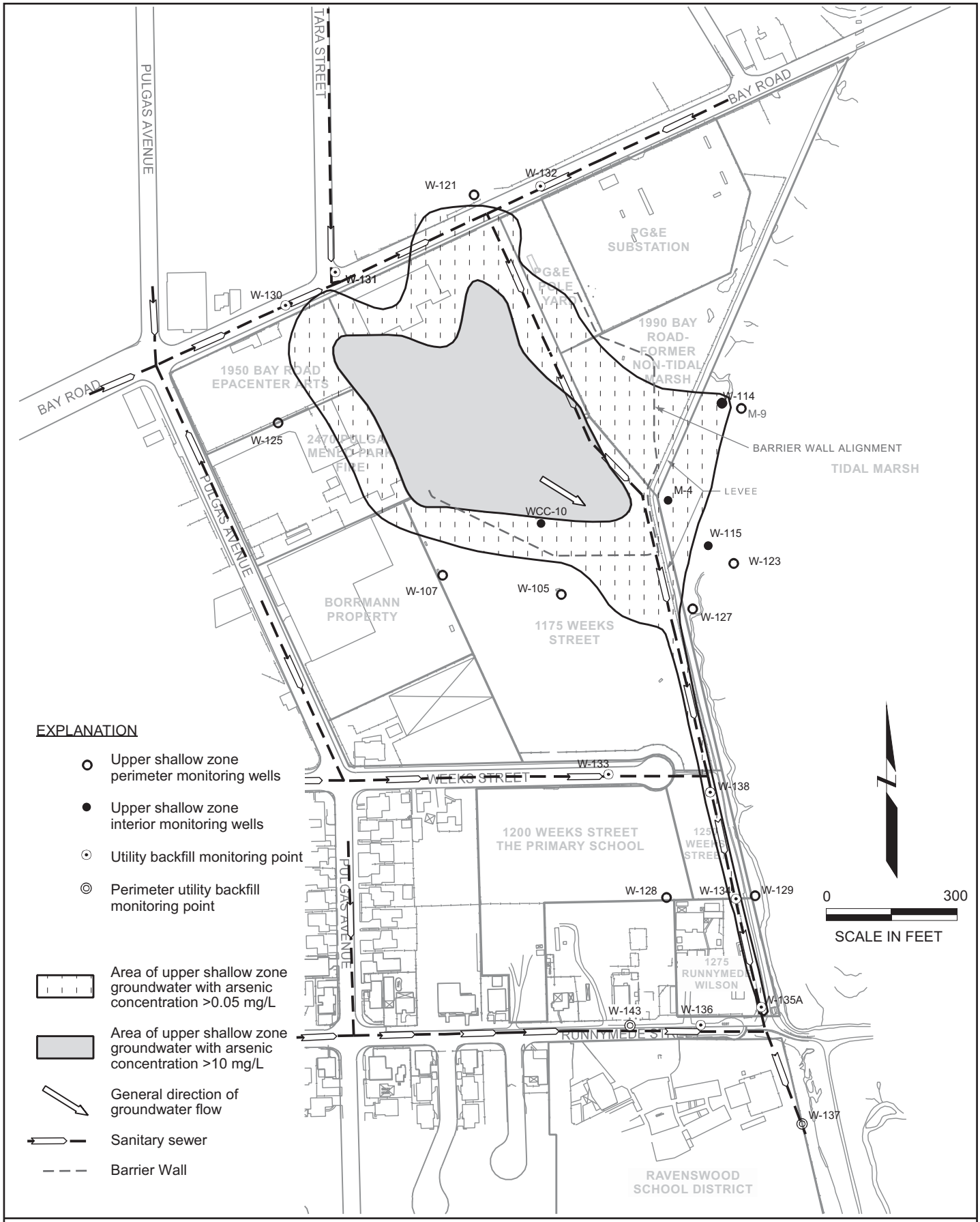


OPERABLE UNITS AND SUBAREAS

1990 Bay Road Site
East Palo Alto, California

Figure 3

S.S. Papadopulos & Associates, Inc.

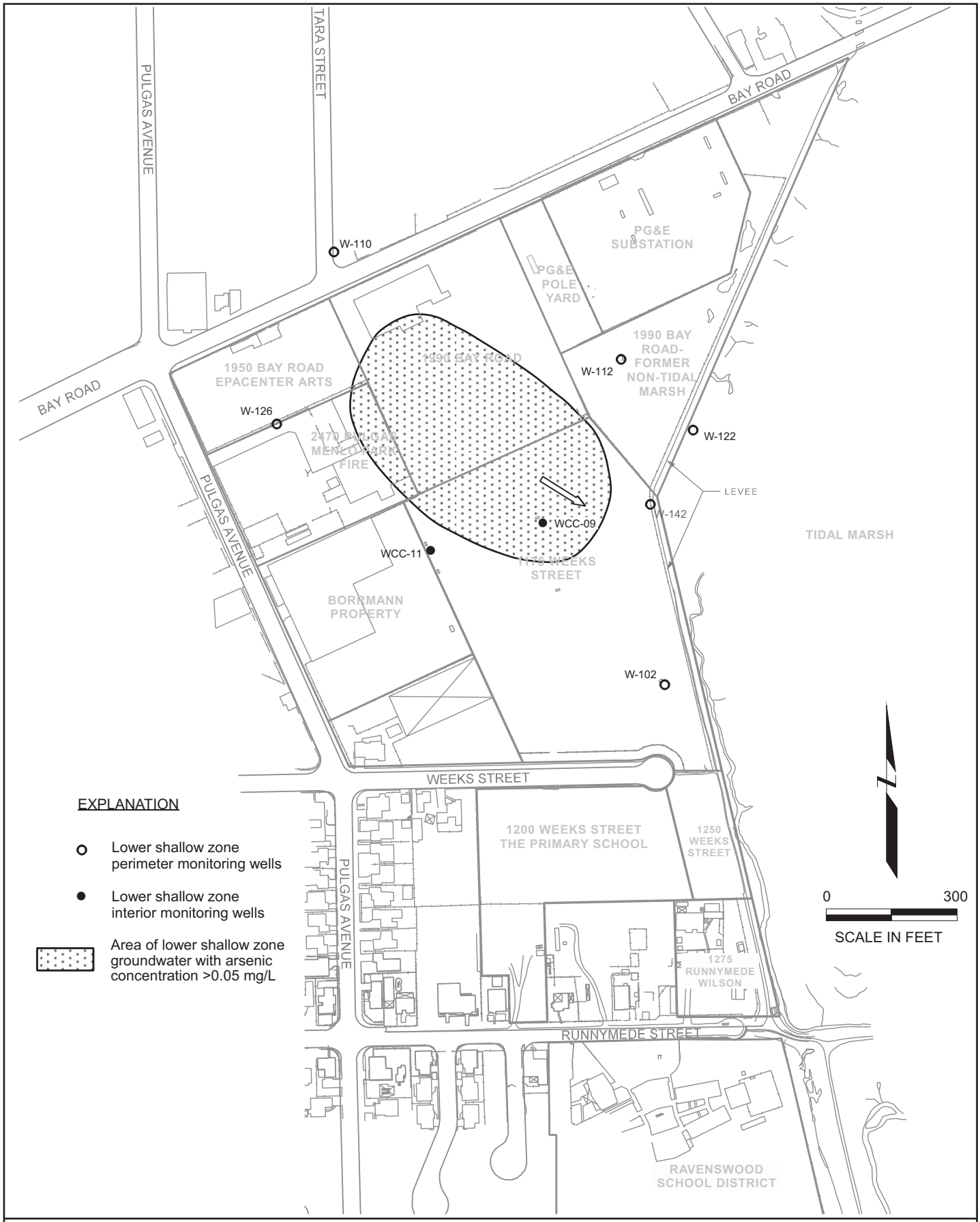


EXTENT OF ARSENIC IN GROUNDWATER IN UPPER SHALLOW ZONE

1990 Bay Road Site
East Palo Alto, California

Figure 4

S.S. Papadopulos & Associates, Inc.



EXTENT OF ARSENIC IN GROUNDWATER IN LOWER SHALLOW ZONE

1990 Bay Road Site
East Palo Alto, California

Figure 5

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EXPLANATION

Deed Restricted Area

Section of pavement removed by property owner

Section to be paved by property owner

Soil sample location for samples collected on June 6, 2014

Location of grab samples collected on September 25, 2014. 3 grab samples were composited for analysis.

Soil sample location for the sample collected on December 27, 2018

Sample ID (depth of boring)
Total arsenic concentration in milligrams per kilorgram

BA7-1 (0.5')
5.7 mg/kg

B-COMP-1 (1.0')
15 mg/kg

MFSS-1 (3.0')
3.6 mg/kg

B-COMP-1 (1.0')
15 mg/kg

BA7-1 (0.5')
5.7 mg/kg

BA7-3 (2.5')
6.0 mg/kg

BA7-2 (2.5')
6.5 mg/kg

BA7-4 (2.0')
14 mg/kg

BA7-5 (2.5')
4.9 mg/kg

MFSS-1 (3.0')
3.6 mg/kg

Property Line

Deed Restricted Area

BA7-6 (0.5')
< 2.7 mg/kg

BA7-7 (0.5')
<3.0 mg/kg

BA7-8 (2.0')
<3.6 mg/kg

BA7-9 (2.5')
7.7 mg/kg

BA7-10 (1.0')
6.4 mg/kg

BA7-11 (1.0')
210 mg/kg

BA7-12 (0.5')
6.4 mg/kg

BA7-13 (0.5')
6.2 mg/kg

Concrete Pads (removed)

Warehouse Building

NAIL & BRASS TAG IN CONC.

NAIL & BRASS TAG ON CONC. CURB

MONITORING WELLS

ELECTRICAL PULL BOX

HOSE BIBB

GAS RISER

(PARCEL I OF PRELIM.)
PTN. PARCEL A (51-PM-15 & 16)

(PARCEL II OF PRELIM.)

(PARCEL III OF PRELIM.)

24' TEMP. INGRESS-EGRESS EASEMENT & PERMANENT UTILITY EASEMENT DOC. 2006-076921 AND AMENDED BY DOC. 2006-127036 (PARCEL II OF PRELIM.)

3/4" IRON PIPE WITH WOOD PLUG AND BRASS TAG

NAIL & BRASS TAG

PULGAS AVENUE

1950 BAY ROAD, EAST PALO ALTO, CALIFORNIA
136-MAPS-79 TO 80

S24°49'00"E

S63°11'00"W 185.64'

S63°11'00"W 400.64'

S63°11'00"W 215.00'

N24°49'00"W 253.44'

0 20 40 60 80 Feet

S.S. Papadopulos & Associates, Inc.

SAMPLES COLLECTED ON THE 2470 PULGAS AVENUE PROPERTY

2470 Pulgas Avenue
East Palo Alto, California

Figure 6

Run-SD-1: 24 mg/kg arsenic depth 2'

Run-SD-3: 21 mg/kg arsenic depth 2'

Run-SD-2: 21 mg/kg arsenic depth 2'

Run-SD-4: see below

Run-SD-4: 4.9 mg/kg arsenic depth 2'

Run-SD-5: 2.2 mg/kg arsenic depth 2'

Run-SD-6: 4.2 mg/kg arsenic depth 1.5'

Run-SD-7: 3.3 mg/kg arsenic depth 2'

Run-SD-8: 2.1 mg/kg arsenic depth 2'

Run-SD-9: 1.9 mg/kg arsenic depth 2'

Run-SD-10: 1.8 mg/kg arsenic depth 1.5'

*CHANNEL CONTROL LINE IS THE "C" LINE
BERM CONTROL LINE IS

SEE EROSION CONTROL PLAN
NDS
NG (TYP)

"C" CONTROL LINE* S12°09'43"E

"B" CONTROL LINE*

RANCHO LINE BOUNDARY
BETWEEN CITY OF EAST PALO ALTO
AND THE CITY OF PALO ALTO

TOP OF BERM
WIDTH 6'
1
17

EXCAVATE CHANNEL STA. C 2+20 TO 24+35

SAWCUT AND REMOVE
20LF OF CURB, GUTTER
& SIDEWALK

TOP OF BERM
WIDTH 12'
1
17

EXISTING FENCE TO REMAIN
AND PROTECT IN PLACE

SEE STAGING PLAN SHT 23
FOR ALLOWABLE TRUCK HAUL ROUTES
WITHIN PROJECT AREAS

DEMO, REMOVE & SALVAGE CHAIN LINK FENCING
FOR REINSTALLATION ALONG EACH SIDE OF CHANNEL

OTECT IN PLACE
SSMH AND SDMH

DEMO & REMOVE
EX SDCB & 23'± 12" RCP

DEMO & REMOVE
EX SDCB & 26'± 12" RCP

CLEAR & GRUB AREA
AT CHANNEL WORK

CLEAR & GRUB AT AREA
OF NEW BERM

SAWCUT AND REMOVE
20LF OF CURB, GUTTER
& SIDEWALK

AREAS FOR
EXCESS FILL
PLACEMENT

WETLANDS LIMIT
(TYP)

SEE EROSION CONTROL PLAN
SHT 19 FOR WETLANDS
PROTECTION SILT FENCING (TYP)

MATCHLINE SEE BELOW

RUNNYMEDE ST.

GARDEN ST.

CYPRESS ST.

BEECH ST.

0 25 50 100 150
Scale: 1" = 50'

DEMO, REMOVE & SALVAGE CHAIN LINK FENCING
FOR REINSTALLATION ALONG EACH SIDE OF CHANNEL

DEMO & REMOVE EX 48" CMP CULVERT
DEMO EACH SIDE OF PATH 2 LENGTHS OF
25LF CHAIN LINK FENCING

EX CHAINLINK FENCE
PROTECT IN PLACE

CLEAR & GRUB AREA
AT CHANNEL WORK

EXCAVATE CHANNEL "C" STA. 2+20

BERM MATCHES EXISTING GRADE
"B" STA 17+00 TO 23+25

NEW SD BERM

PROTECTION SILT FENCING (TYP)

NEW SD BERM

AREAS FOR
EXCESS FILL
PLACEMENT

CLEAR & GRUB AT AREA
OF NEW BERM

"B" STA. 16+71.5 275'RT

WETLANDS LIMIT

0 25 50 100 150
Scale: 1" = 50'

BCDC 100'
JURISDICTION

BCDC LINE

AT FINISH OF DREDGING

DREDGE PROFILE "C" STA. 24.35 TO 0+50

SEE EROSION CONTROL PLAN
SHT 19 FOR WETLANDS
PROTECTION SILT FENCING (TYP)

CONTROL TIE
254.11' N77°50'17"E FROM MONUMENT
IN THE O'CONNOR ST. CUL DE SAC TO
"C" STATION 29+81.83 ON CONTROL LINE

ST MONUMENT #4

ENCE TO REMAIN
ROTECT IN PLACE

MATCHLINE SEE ABOVE

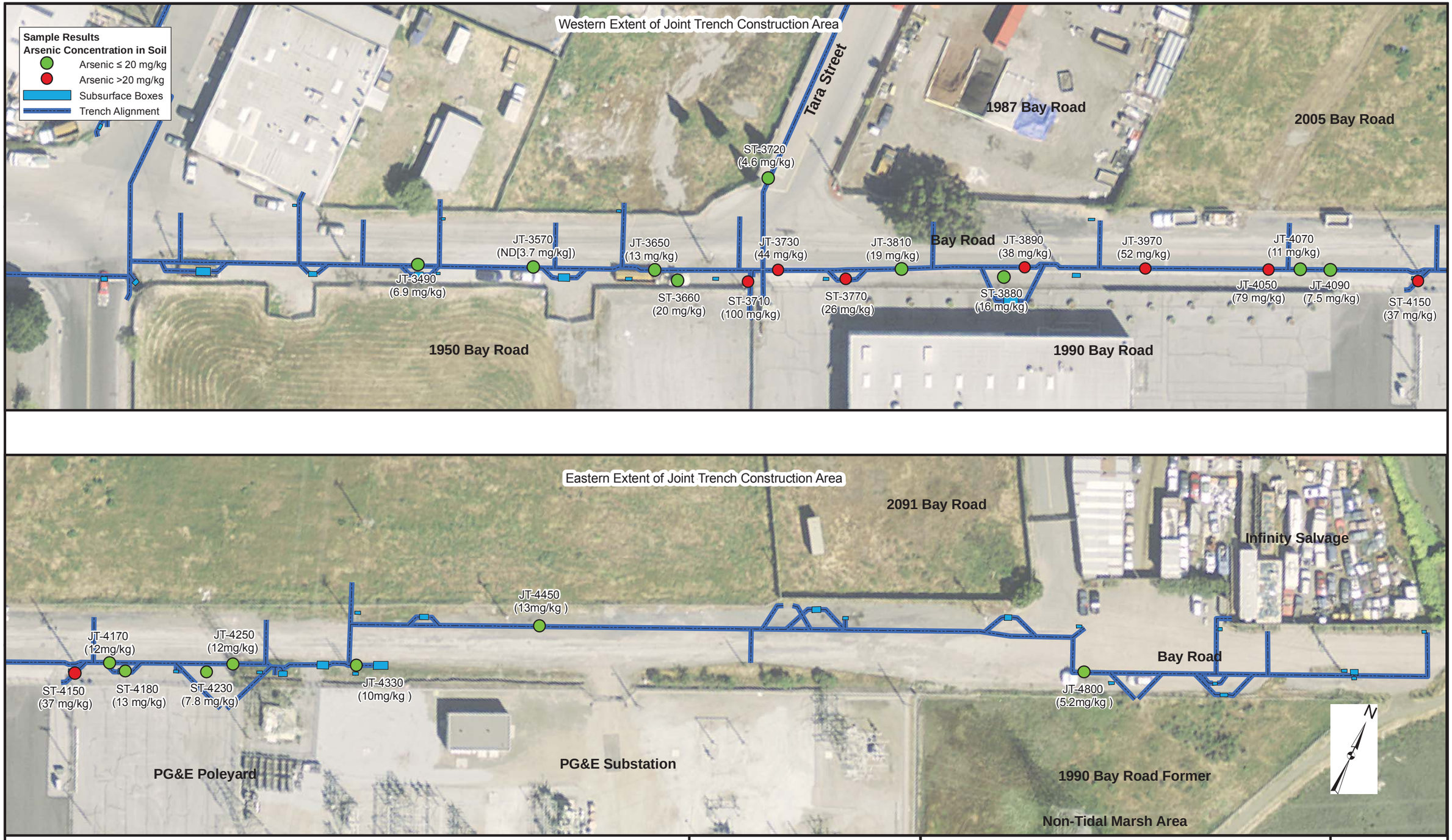
0 100 200
Approximate Scale (Feet)

S.S. Papadopulos & Associates, Inc.

SAMPLES COLLECTED SOUTH OF RUNNYMEDE STREET

1990 Bay Road Site
East Palo Alto, California

Figure 7



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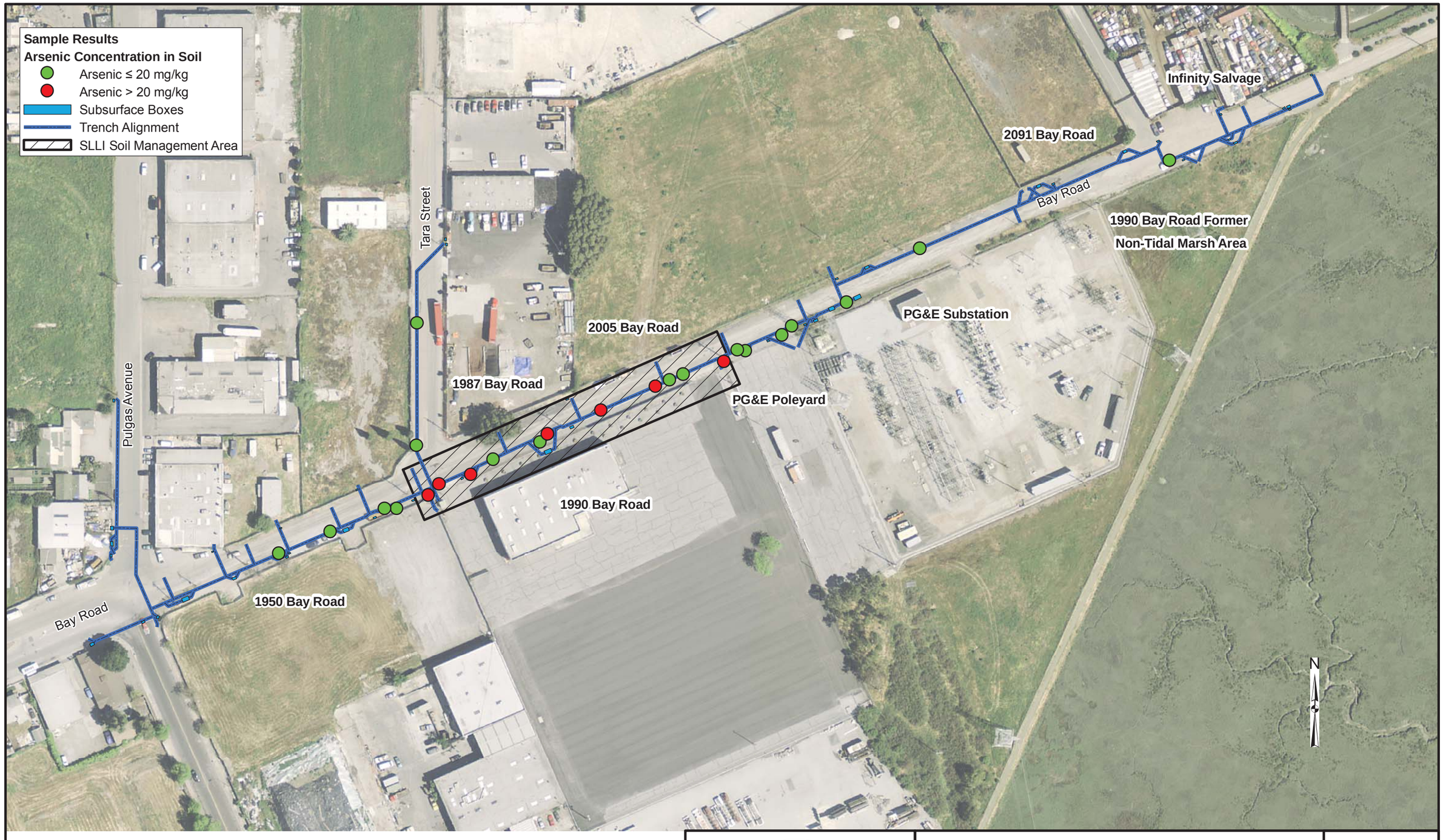
BAY ROAD JOINT TRENCH SOIL SAMPLE RESULTS

1990 Bay Road Site
East Palo Alto, California

Figure 8



0 100 200 Feet

S.S. Papadopulos & Associates, Inc.

BAY ROAD JOINT TRENCH SOIL MANAGEMENT AREA

1990 Bay Road Site
East Palo Alto, California

Figure 9

WEEKS STREET

SIDEWALK

SSP-6

Depth (ft)	As Conc. mg/Kg
0.5	**76**
1.0	**50**
2.0	**110**
3.0	**190**
4.0	**200**
5.0	**170**
6.0	**140**

SSP-14

Depth (ft)	As Conc. mg/Kg
0.5	**87**
1.0	**56**
2.0	**110**
3.0	**170**
4.0	**190**
5.0	**110**
6.0	**120**
7.0	**110**
8.0	**62**
9.0	**74**
10.0	**47**
11.0	**29**
11.5	14
12.0	4.1

SSP-18

Depth (ft)	As Conc. mg/Kg
0.5	**85**
1.0	**100**
2.0	**67**
3.0	**38**
4.0	**48**
5.0	**62**
6.0	**93**
7.0	**46**
8.0	**34**
8.5	**33**
9.0	12
10.0	6.3
11.0	5.4
12.0	2.8

SSP-19

Depth (ft)	As Conc. mg/Kg
0.5	**26**
1.0	**21**
1.5	9.0
2.0	5.8
3.0	4.0
4.0	4.1
5.0	3.6
6.0	4.8

SSP-7

Depth (ft)	As Conc. mg/Kg
0.5	**42**
1.0	17
2.0	5.7
3.0	4.6
4.0	5.9
5.0	4.5
6.0	5.0

SSP-8

Depth (ft)	As Conc. mg/Kg
0.5	5.9
1.0	14
2.0	3.1
3.0	3.5
4.0	3.7

SSP-17

Depth (ft)	As Conc. mg/Kg
0.5	74
1.0	**200**
2.0	**110**
3.0	**120**
4.0	**150**
5.0	**99**
6.0	**120**
7.0	**94**
8.0	**59**
9.0	**41**
10.0	**49**
10.5	**20**
11.0	14
12.0	4.5

SSP-2

Depth (ft)	As Conc. mg/Kg
0.5	**44**
1.0	**30**
1.5	**26**
2.0	7.7
3.0	4.9
4.0	6.9
5.0	5.1
6.0	7.1

SSP-3

Depth (ft)	As Conc. mg/Kg
0.5	19
1.0	16
2.0	4.5
3.0	4.9
4.0	4.2

SSP-9

Depth (ft)	As Conc. mg/Kg
0.5	8.7
1.0	7.8
2.0	3.6
3.0	3.2
4.0	2.5

IE-13

SSP-1

Depth (ft)	As Conc. mg/Kg
0.5	**21**
1.0	16
1.5	14
2.0	6.6
2.5	6.1
3.0	4.8
3.5	4.7
4.0	4.0
5.0	4.9
6.0	4.6

IE-13

Depth (ft)	As Conc. mg/Kg
1.0	**144**
3.0	**56.9**

SSP-16

Depth (ft)	As Conc. mg/Kg
0.5	**49**
1.0	**78**
1.5	**46**
2.0	6.6
3.0	3.6
4.0	3.3
5.0	3.5
6.0	3.8
7.0	5.3
8.0	3.7

SSP-13

Depth (ft)	As Conc. mg/Kg
0.5	**43**
1.0	**90**
2.0	**79**
2.5	**30**
3.0	8.6
4.0	4.8
5.0	4.6
6.0	5.8

SSP-5

Depth (ft)	As Conc. mg/Kg
0.5	17
1.0	19
2.0	14
3.0	6.6
4.0	3.9

SSP-4

Depth (ft)	As Conc. mg/Kg
0.5	12
1.0	13
2.0	8.7
3.0	7.0
4.0	3.9

SSP-15

Depth (ft)	As Conc. mg/Kg
0.5	6.7
1.0	11
2.0	4.5
3.0	3.9
4.0	3.7
5.0	<3.1
6.0	4.1

SSP-12

Depth (ft)	As Conc. mg/Kg
0.5	11
1.0	**22**
1.5	17
2.0	6.0
3.0	4.0
4.0	3.3

SSP-11

Depth (ft)	As Conc. mg/Kg
0.5	11
1.0	11
2.0	5.5
3.0	3.3
4.0	3.7

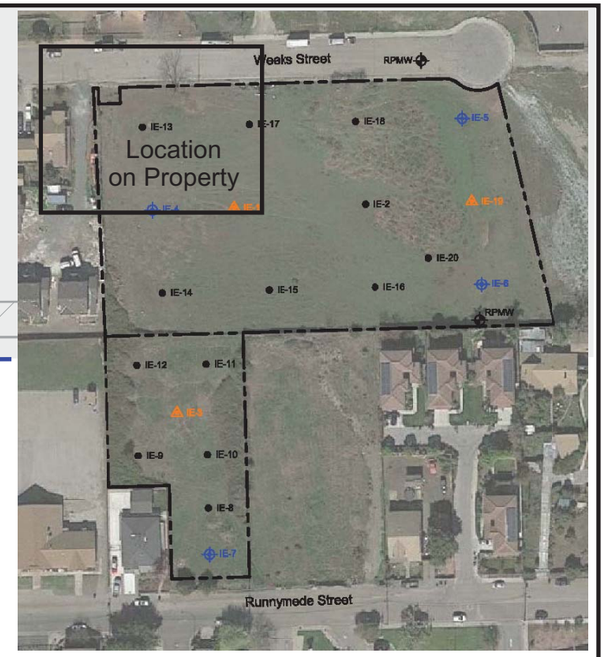
SSP-10

Depth (ft)	As Conc. mg/Kg
0.5	8.4
1.0	9.7
2.0	5.9
3.0	3.7
4.0	3.7

Property Line

IE-4

IE-1



IE-17

1200 WEEKS STREET PROPERTY

Extent of City-Owned Property
Soil Boring - 2015 Iris Investigation
Round 1 Soil Boring - 2016 SLLI
Round 2 Soil Boring - 2016 SLLI

N

0 20 40

Approximate Scale (Feet)

S.S. Papadopulos & Associates, Inc.

SAMPLES COLLECTED ON THE 1200 WEEKS STREET PROPERTY

1990 Bay Road Site
East Palo Alto, California

Figure 10

WEEKS STREET

SIDEWALK

SSP-18

TRENCH 2

TRENCH 3

TRENCH 4

SSP-6

SSP-14

SSP-17

TRENCH 1

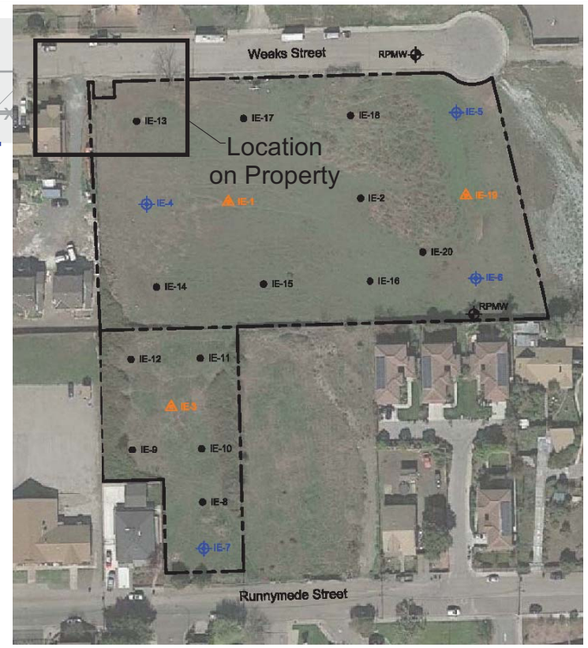
TRENCH 5

SSP-16

SSP-13

EXPOSED DETERIORATED 10" DIAMETER STEEL CASING OF UNKNOWN WELL

Property Line



1200 WEEKS STREET PROPERTY

SSP-2

SSP-5

IE-13

SSP-1

N

Exploratory Trenches
Extent of City-Owned Property
Soil Boring - 2015 Iris Investigation
Soil Boring - 2016 SLLI
Round 2 Soil Boring - 2016 SLLI

0 6 12

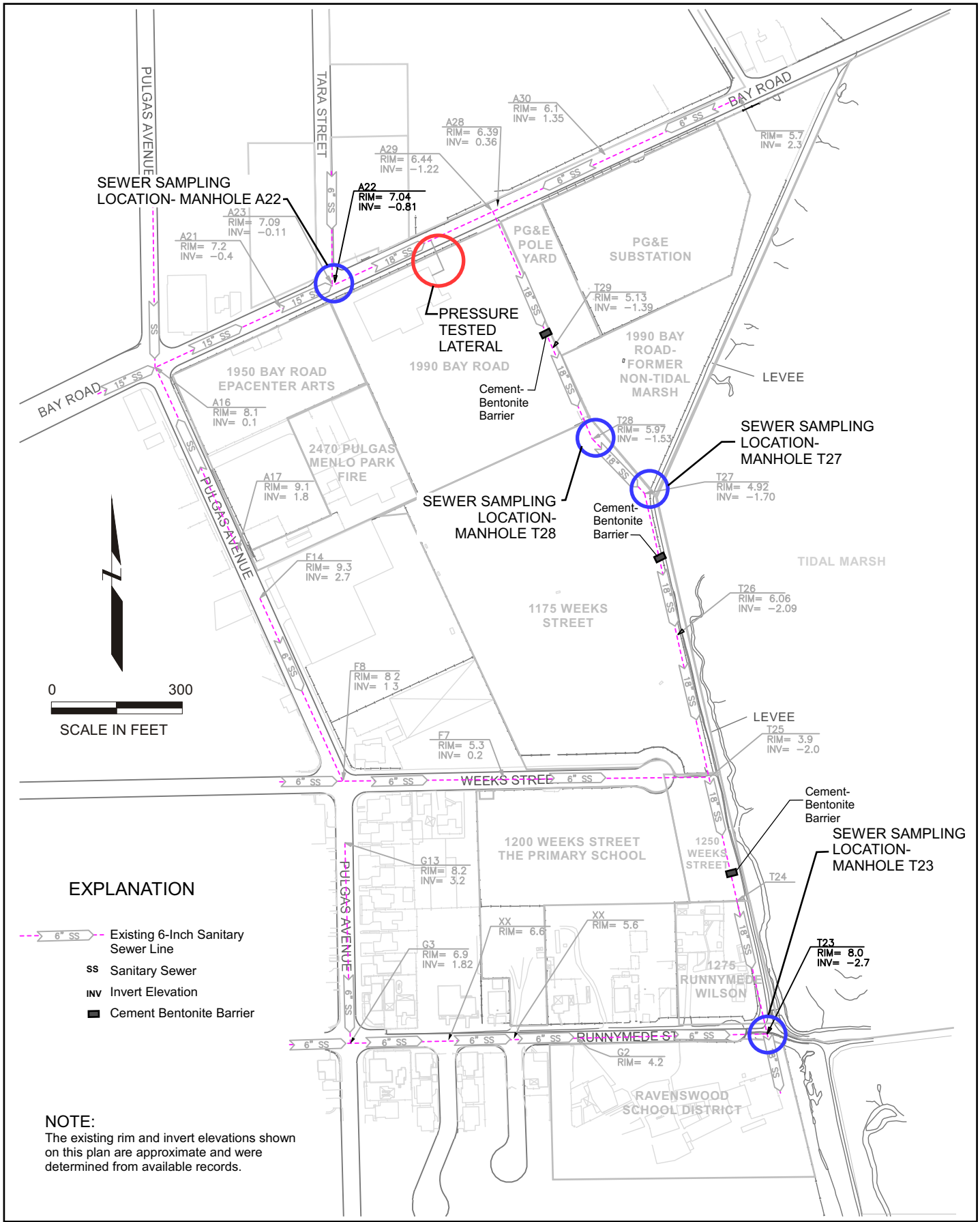
Approximate Scale (Feet)

S.S. Papadopulos & Associates, Inc.

EXPLORATORY TRENCH LOCATIONS ON THE 1200 WEEKS STREET PROPERTY

1990 Bay Road Site
East Palo Alto, California

Figure 11

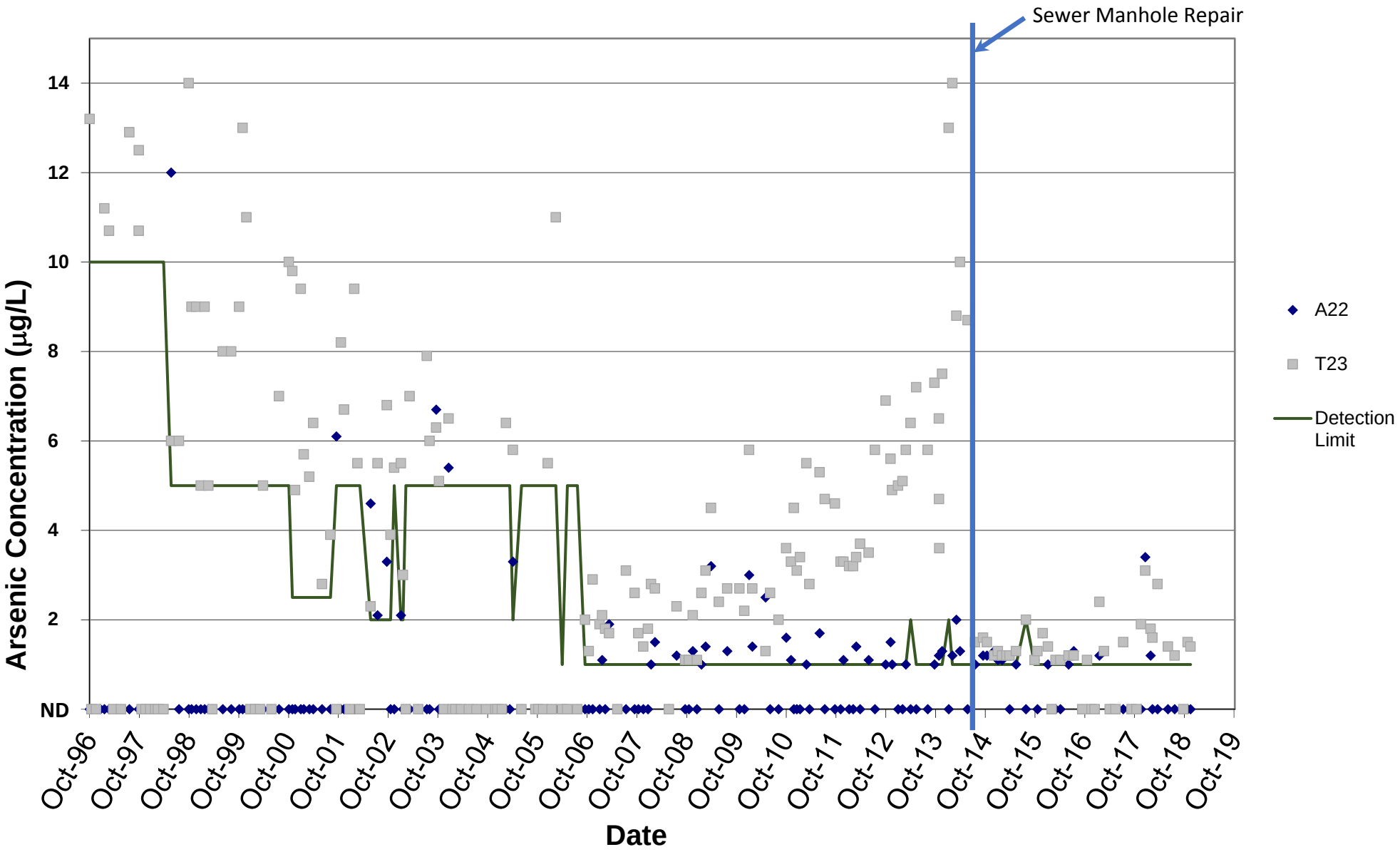


S.S. Papadopulos & Associates, Inc.

SANITARY SEWER MONITORING LOCATIONS

1990 Bay Road Site
East Palo Alto, California

Figure 12

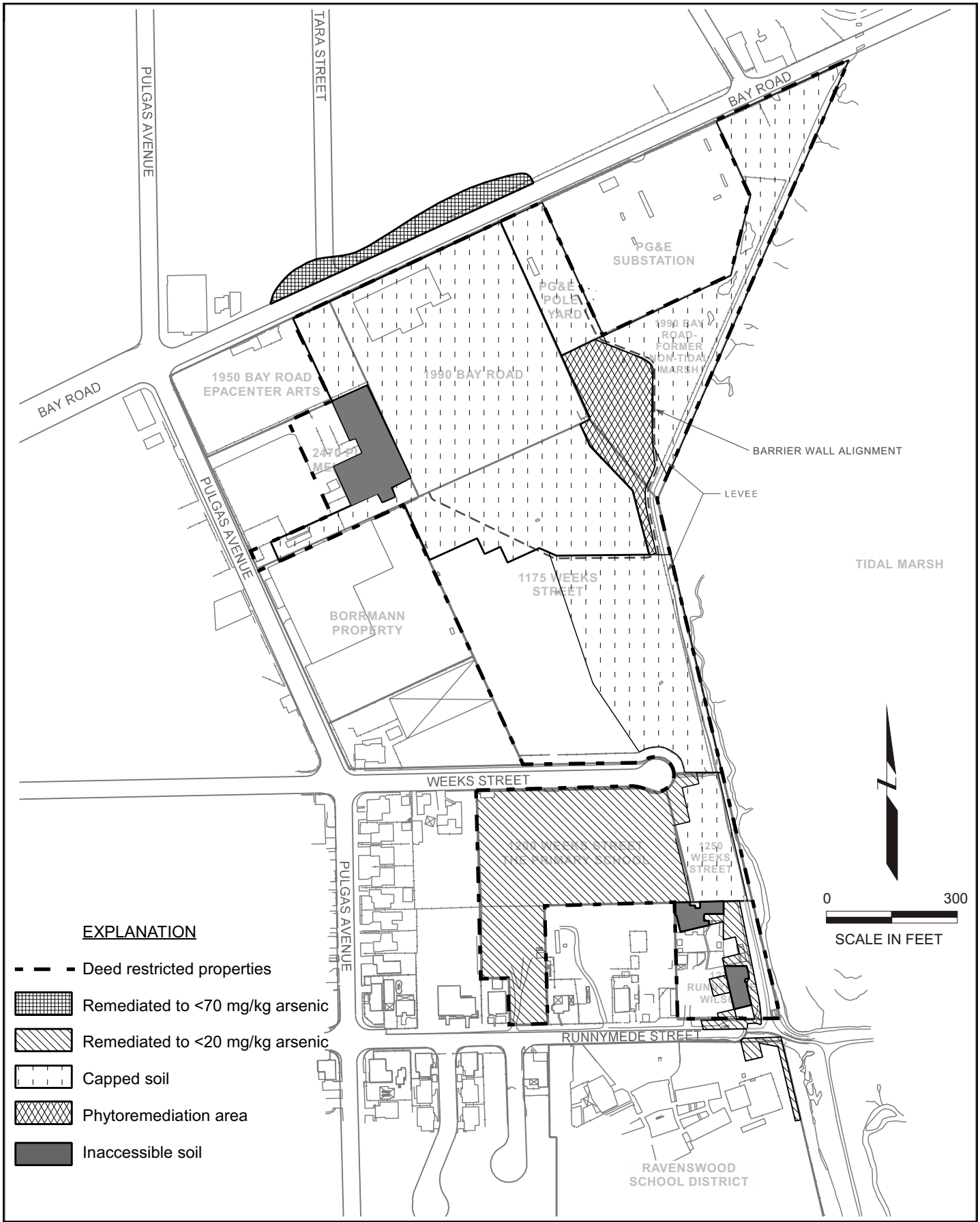


S.S. Papadopulos & Associates, Inc.

SANITARY SEWER SAMPLING RESULTS

1990 Bay Road Site
East Palo Alto, California

Figure 13

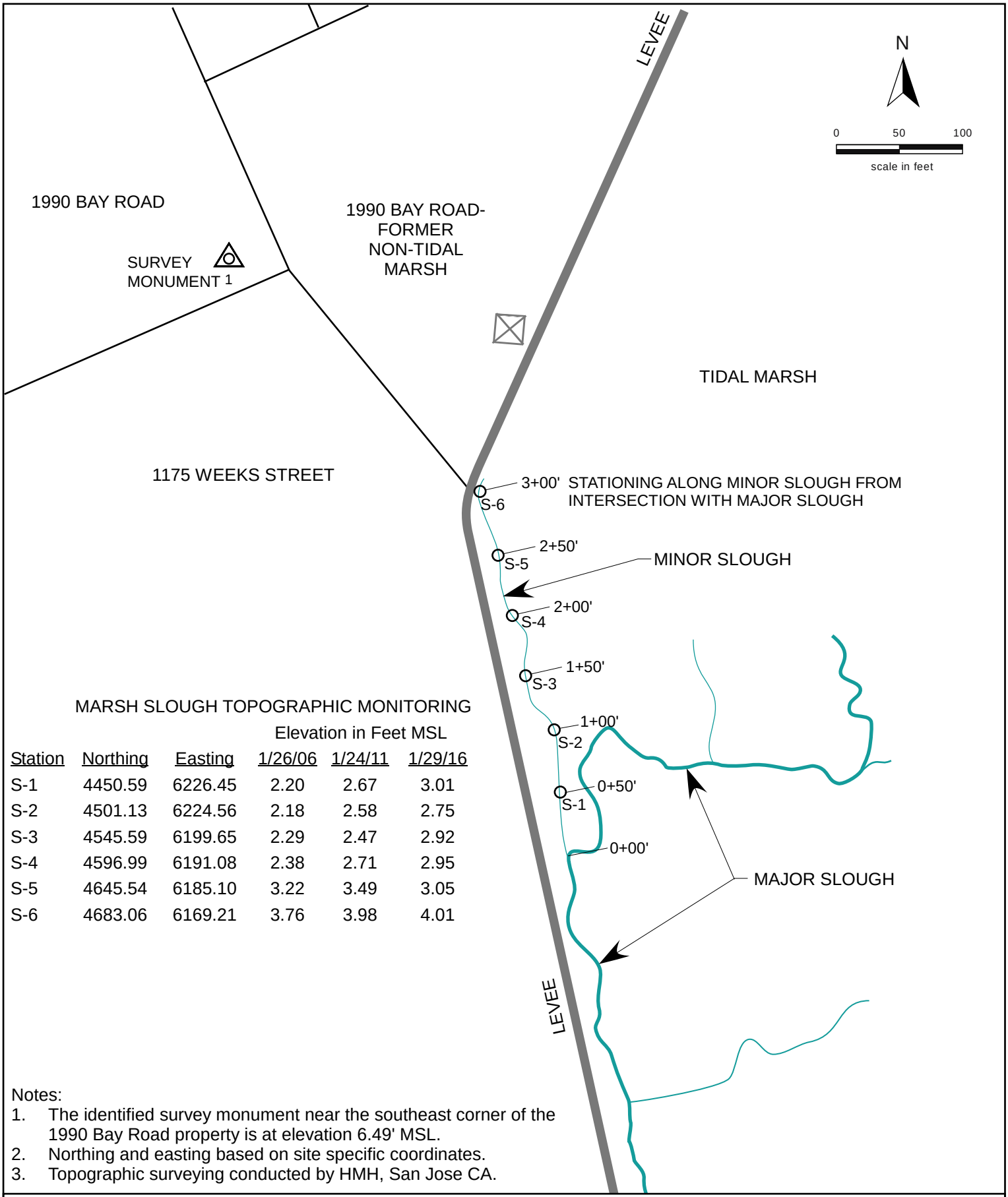


CURRENT STATUS OF REMEDIATION

1990 Bay Road Site
East Palo Alto, California

Figure 14

S.S. Papadopulos & Associates, Inc.



MARSH SLOUGH TOPOGRAPHIC MONITORING

Elevation in Feet MSL

Station	Northing	Easting	1/26/06	1/24/11	1/29/16
S-1	4450.59	6226.45	2.20	2.67	3.01
S-2	4501.13	6224.56	2.18	2.58	2.75
S-3	4545.59	6199.65	2.29	2.47	2.92
S-4	4596.99	6191.08	2.38	2.71	2.95
S-5	4645.54	6185.10	3.22	3.49	3.05
S-6	4683.06	6169.21	3.76	3.98	4.01

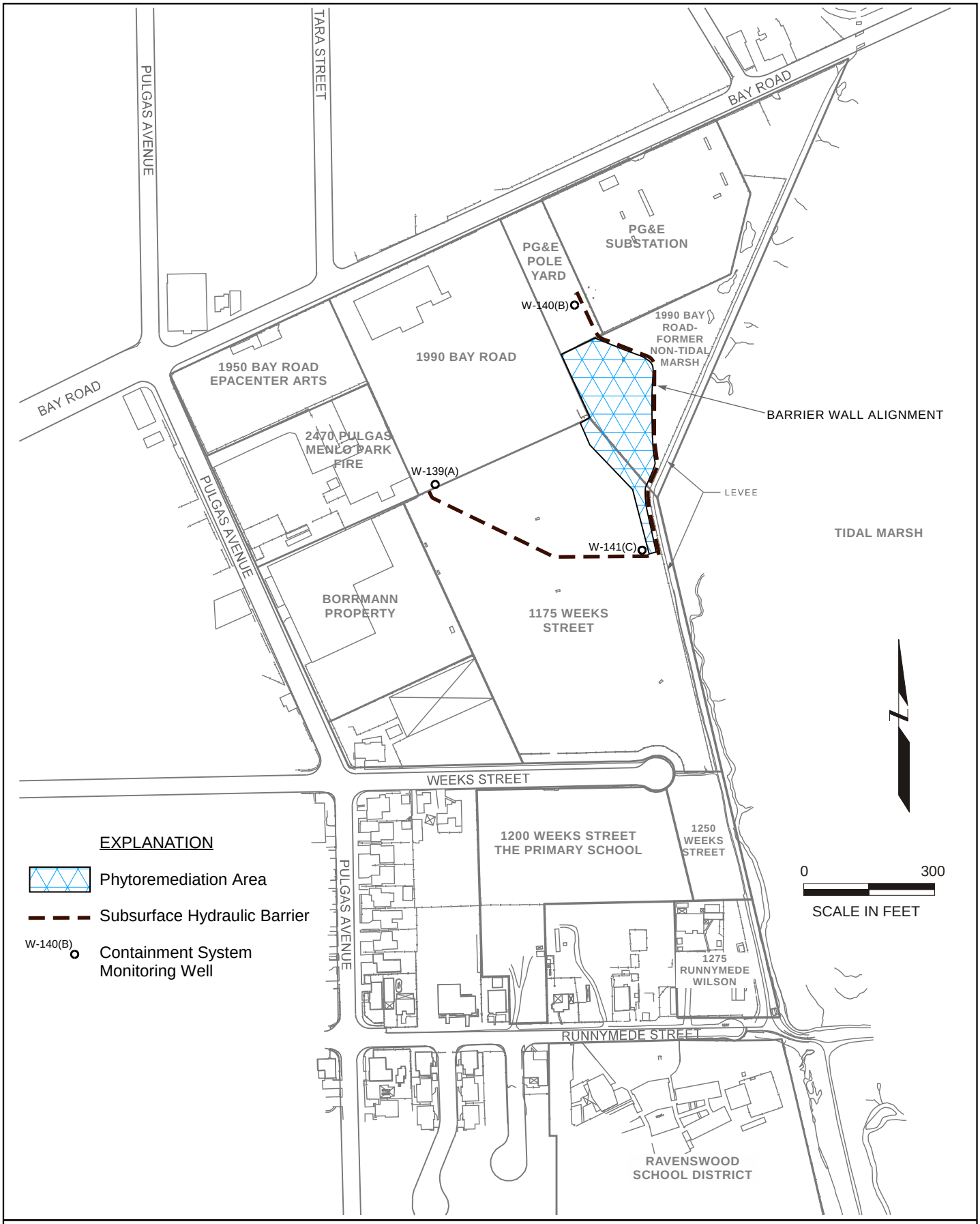
Notes:
1. The identified survey monument near the southeast corner of the 1990 Bay Road property is at elevation 6.49' MSL.
2. Northing and easting based on site specific coordinates.
3. Topographic surveying conducted by HMH, San Jose CA.

S.S. Papadopulos & Associates, Inc.

MARSH TOPOGRAPHIC MONITORING YEAR 10 ELEVATIONS

1990 Bay Road Site
East Palo Alto, California

Figure 15



GROUNDWATER CONTAINMENT SYSTEM

1990 Bay Road Site
East Palo Alto, California

Figure 16

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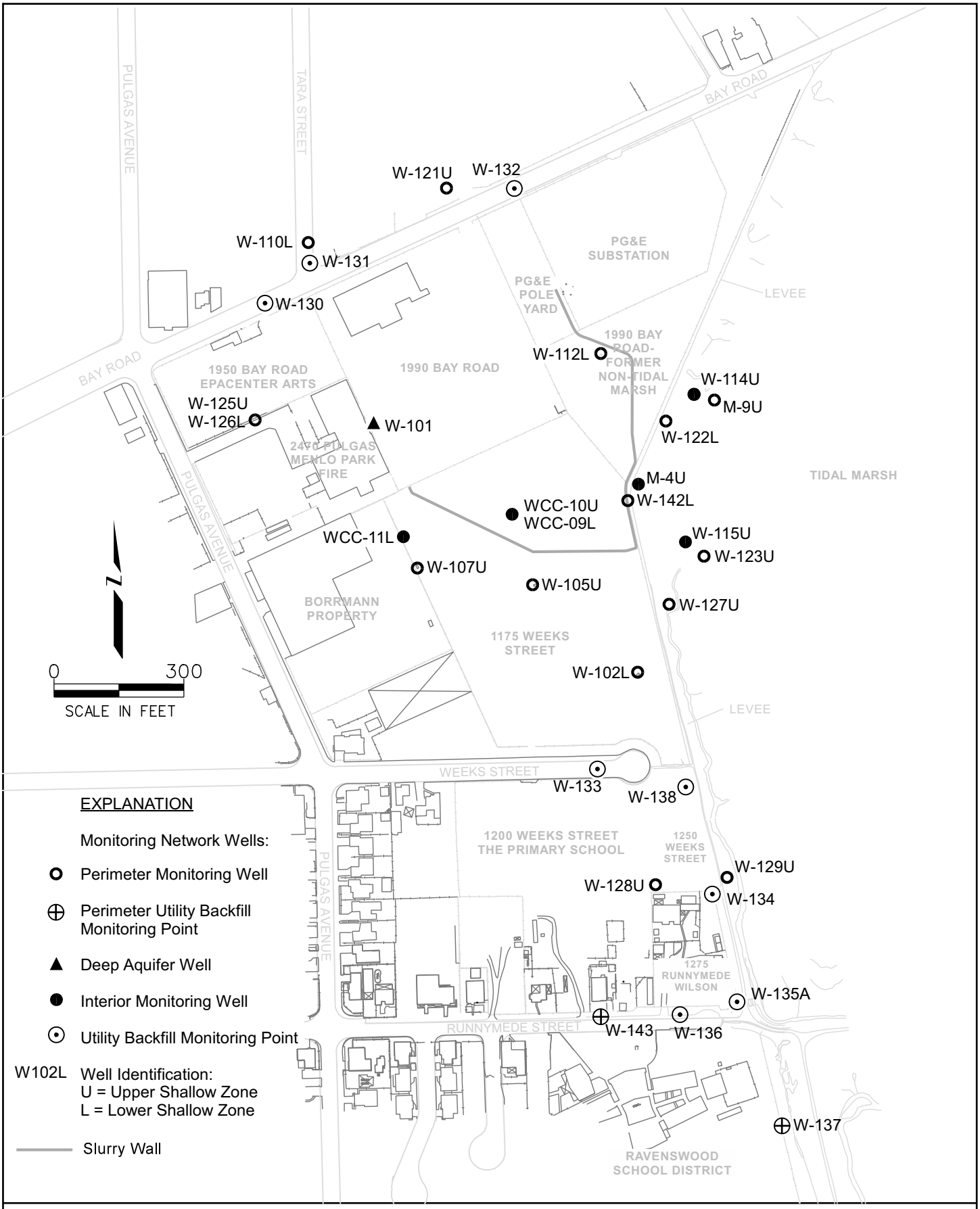
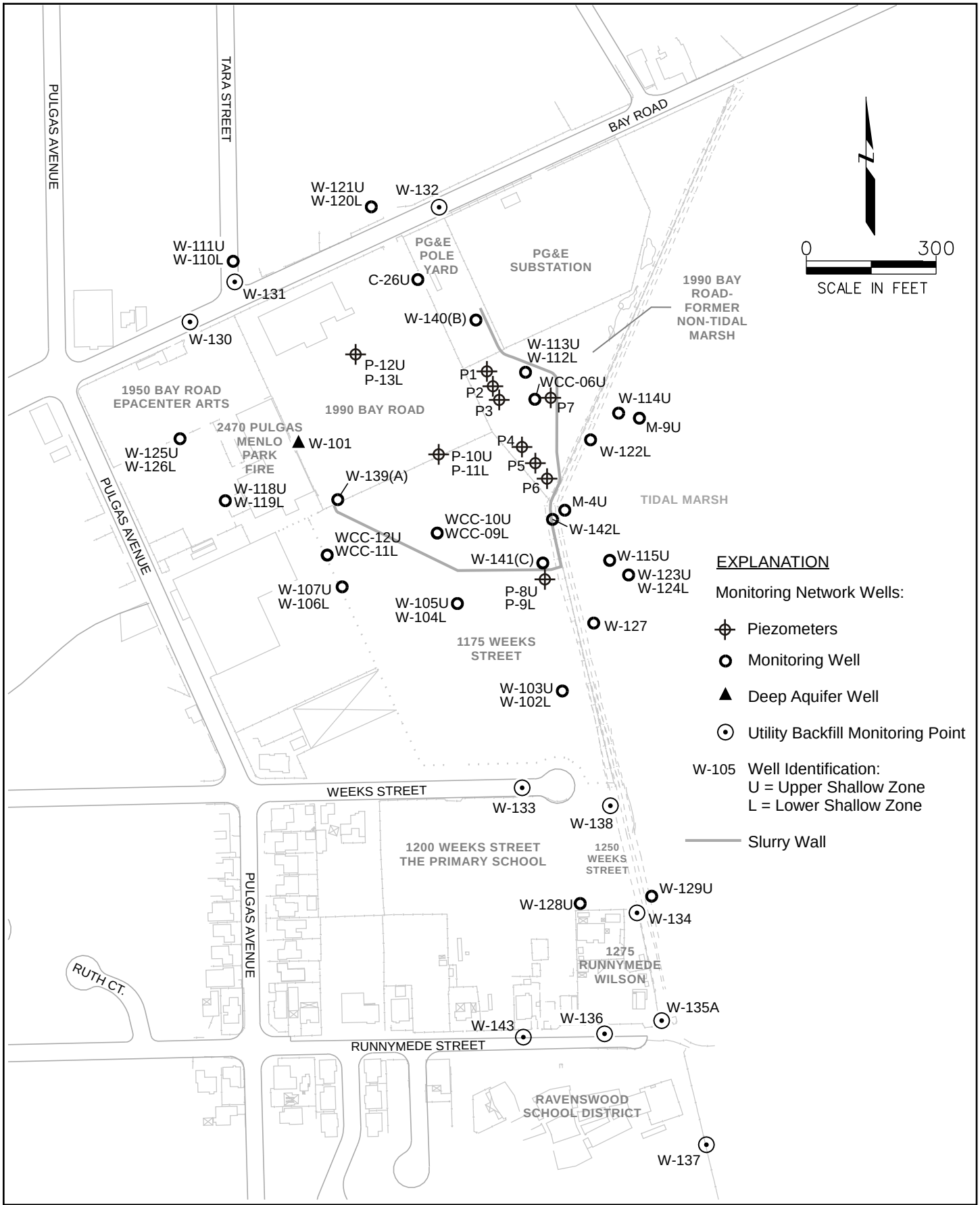


GROUNDWATER CHEMISTRY MONITORING WELLS

1990 Bay Road Site
East Palo Alto, California

Figure 17

S.S. Papadopulos & Associates, Inc.



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GROUNDWATER LEVEL MONITORING WELLS

1990 Bay Road Site Vicinity
East Palo Alto, California

Figure 18

PG&E POLEYARD

Sample MT-TAM

1990 BAY ROAD- FORMER NON-TIDAL MARSH

Sample EAST-TAM

Sample CAT-OAK

P-1

Sample 2012-EUC

W-113

W-112

P-2

XX

P-7

P-3

WCC-6

1990 BAY ROAD PROPERTY

Sample PGE-EUC

LEVEE

P-4

BARRIER WALL ALIGNMENT

Sample LT-TAM

P-5

Sample PP-TAM

Sample PP-EUC

P-6

1175 WEEKS STREET PROPERTY

Sample UPTORR-TAM

TIDAL MARSH

Sample LOWTORR-TAM

N

0

60

SCALE IN FEET

EXPLANATION

- ✳ EUCALYPTUS POLYANTHEMOS
- ▪ EUCALYPTUS CAMALDULENSIS
- ● TAMARIX PARVIFLORA
- XX EXISTING SITE OAK TREE
- ⊙ EUCALYPTUS VIMINALIS
- ⬡ MONITORING TREES
- ⊕ PIEZOMETER
- ⊗ MONITORING WELL
- ○ EUCALYPTUS CONFERRUMINATA, SPATHULATA, CORNUTA, GONIOCALYX, OVATA, OR ROBUSTA
- ▭ SAMPLING AREA

S.S. Papadopulos & Associates, Inc.

PHYTOREMEDIATION AREA

1990 Bay Road Site
East Palo Alto, California

Figure 19

TABLES

TABLE 1

SANITARY SEWER SAMPLE RESULTS - 2014 THROUGH 2018

1990 Bay Road Site

East Palo Alto, California

Date Sampled[1]	Concentration of Arsenic in Sample from Manholes[2] micrograms per liter (µg/l)			
	A22	T23	T27	T28
1/31/2014	ND(2)[3]	13		
2/27/2014	1.2	14		
2/28/2014			17	1.6
3/28/2014	2	8.8		
4/24/2014	1.3	10		
6/18/2014	ND(1)	8.7		
8/12/2014	1	1.5		
10/10/2014	1.2	1.6		
11/7/2014	1.2	1.5		
12/30/2014	1.3	1.2		
1/27/2015	1.1	1.3		
2/27/2015	1.1	1.2		
3/31/2015	1.2	1.2		
4/23/2015	ND(1)	1.2		
6/9/2015	1	1.3		
8/21/2015	ND(2)	2		
10/23/2015	1.1	1.1		
11/13/2015	ND(1)	1.3		
12/22/2015	1.7	1.7		
1/29/2016	1	1.4		
2/26/2016	ND(1)	ND(1)		
3/25/2016	ND(1)	1.1		
4/29/2016	ND(1)	1.1		
6/29/2016	1	1.2		
8/5/2016	1.3	1.2		
10/7/2016	ND(1)	ND(1)		
11/11/2016	ND(1)	1.1		
12/15/2016	ND(1)	ND(1)		
1/6/2017	ND(1)	ND(1)		
2/10/2017	1.2	2.4		
3/15/2017	1.3	1.3		
4/27/2017	ND(1)	ND(1)		
6/9/2017	ND(1)	ND(1)		
8/4/2017	ND(1)	1.5		
10/5/2017	ND(1)	ND(1)		
11/10/2017	ND(1)	ND(1)		
12/12/2017	ND(1)	1.9		
1/12/2018	3.4	3.1		
2/21/2018	1.2	1.8		
3/6/2018	ND(1)	1.6		

TABLE 1

SANITARY SEWER SAMPLE RESULTS - 2014 THROUGH 2018

1990 Bay Road Site

East Palo Alto, California

Date Sampled[1]	Concentration of Arsenic in Sample from Manholes[2] micrograms per liter (µg/l)			
	A22	T23	T27	T28
4/13/2018	ND(1)	2.8		
6/28/2018	ND(1)	1.4		
8/16/2018	ND(1)	1.2		
10/19/2018	ND(1)	ND(1)		
11/20/2018	ND(1)	1.5		
12/11/2018	ND(1)	1.4		

Notes:

1. Samples collected by Field Solutions, Inc and analyzed by TestAmerica Laboratories of Pleasanton, California by EPA Method 200.8.

2. Location of sewer manholes shown on Figure 12.

3. "ND" indicates that the concentration of arsenic was below the analytical detection limit shown in parentheses (e.g. ND(1) indicates arsenic was not detected above the 1 µg/kg detection limit).

TABLE 2

SITE REMEDIATION SUMMARY
1990 Bay Road Site
East Palo Alto, California

Operating Unit	Property/Area	Description of Remedial Action	Date Completed
Upland Operable Unit	1990 Bay Road Property-North Area and Railroad Tracks	Removed Soil with >5000 mg/kg Arsenic	1991
		Treated Soil with >500 mg/kg Arsenic	1992
		Capped Soil with >70 mg/kg Arsenic	1993
		Recorded Deed Restriction (Number[1] 94091057)	May 23, 1994
	1990 Bay Road Property-Plant Area	Removed Soil with >5000 mg/kg Arsenic	2002 - 2003
		Treated Soil with >500 mg/kg Arsenic	2002 - 2003
		Capped Soil with >70 mg/kg Arsenic	2003
		Recorded Deed Restriction (Number[1] 94091057)	May 23, 1994
	PG&E Poleyard Property (1992 Bay Road)	Removed Soil with >500 mg/kg Arsenic	1992
		Capped Soil with >70 mg/kg Arsenic	1992
		Recorded Deed Restriction (Number[1] 2001040627)	March 27, 2001
	1950 Bay Road Property	Removed Soil with >500 mg/kg Arsenic	1992
		Capped Soil with >70 mg/kg Arsenic	1993
		Recorded Deed Restriction (Number[1] 93216751)	December 13, 1993
	2470 Pulgas Avenue Property	Removed Accessible Soil with >500 mg/kg Arsenic	1992
		Capped Soil with >70 mg/kg Arsenic	1992
		Remove Remaining Soil with >500 mg/kg Arsenic	To Be Completed When Building Removed
		Recorded Deed Restriction (Number[1] 93213452)	December 8, 1993
	Soil Under Bay Road Adjacent to 1990 Bay Road Property	Capped Soil with >70 mg/kg Arsenic within Easement (Pavement)	Existing
		Agreement with City on Excavation in Easement	1992
		Recorded Deed Restriction (Number[1] 96070509)	June 12, 1996
	Properties North of Bay Road	Removed Soil with >70 mg/kg Arsenic	1992

TABLE 2

SITE REMEDIATION SUMMARY
1990 Bay Road Site
East Palo Alto, California

Operating Unit	Property/Area	Description of Remedial Action	Date Completed
Upland Operable Unit Annex	1175 Weeks Street Property	Removed Soil with >5000 mg/kg Arsenic	1991
		Treated Soil with >500 mg/kg Arsenic	1994
		Capped Soil with >70 mg/kg Arsenic	1998 & 2002
		Recorded Deed Restriction (Number[1] 98090257)	June 12, 1998
	Former Non-tidal Marsh (now part of the 1990 Bay Road Property)	Removed Soil with >5000 mg/kg Arsenic	1991
		Removed Soil with >500 mg/kg Arsenic	1994
		Capped Soil with >70 mg/kg Arsenic	1999
		Recorded Deed Restriction (Number[1] 2001040627)	March 27, 2001
		Restored Cooley Landing Salt Pond	2000
South of Weeks Street Subarea	Wilson Property (1275 Runnymede Street)	Removed Accessible soil with > 20 mg/kg Arsenic	1997-1998
		Remove Remaining soil with > 20 mg/kg Arsenic	To Be Completed When Building Removed
		Recorded Deed Restriction (Number[1] 97150087)	Nov. 19, 1997
	Ravenswood School District Property (1286 Runnymede)	Removed Soil with >20 mg/kg Arsenic	1997
	1200 Weeks Street Property	Removed Soil with >20 mg/kg Arsenic	1999
		Recorded Deed Restriction (Number[1] 9807589)	May 20, 1998
	1250 Weeks Street Property	Removed Accessible Soil with >20 mg/kg Arsenic	1999
		Capped Inaccessible Soil with >20 mg/kg Arsenic	1999
		Recorded Deed Restriction (Number[1] 9807589)	May 20, 1998
Wetland Operable Unit	Tidal Wetland	Provided 1.3-Acre Wetland Off-Set in Cooley Landing Restoration Area	2005
		Performed Baseline and Years 5 and 10 Topographical Monitoring	2006, 2011, and 2016

TABLE 2

SITE REMEDIATION SUMMARY
1990 Bay Road Site
East Palo Alto, California

Operating Unit	Property/Area	Description of Remedial Action	Date Completed
Ground-water	Former Non-tidal Marsh and 1175 Weeks Street Property	Phytoremediation Implemented and Expanded	1997 - Present
		Barrier Wall Installed	2001
	1250 Weeks Street Property	Sewer Backfill Barrier Installed	1999
	1990 Bay Road Property	Sewer Backfill Barrier Installed	2001
	Site-Wide	Deep Aquifer Monitoring Plan Submitted	1991[2]
		Aquifer Characterization and Contingency Plan Submitted	1995 2016(revised)
		Groundwater Monitoring	1986-Present
	1990 Bay Road, 1175 Weeks Street, 1250 Weeks Street, and 1275 Runnymede Properties	Remediation of Abandoned Wooden Sewer Implemented	2011

Notes:
1. Document Recording Number for Official Records, County of San Mateo, California.
2. Subsequent revisions to the Deep Aquifer Monitoring Plan were included in the Aquifer Characterization and Contingency Plans.

TABLE 3

GROUNDWATER MONITORING PROGRAM

1990 Bay Road Site
East Palo Alto, California

Well Number	Groundwater Zone	Water Level Monitoring Frequency	Groundwater Sampling Frequency (Arsenic Concentration)
DEEP WELL			
W-101	Deep	Annual	Biennial
PERIMETER WELLS			
M-9	Upper Shallow	Annual	Biennial
W-102	Lower Shallow	Annual	Biennial
W-105	Upper Shallow	Annual	Biennial
W-107	Upper Shallow	Annual	Biennial
W-110	Lower Shallow	Annual	Biennial
W-112	Lower Shallow	Annual	Biennial
W-121	Upper Shallow	Annual	Biennial
W-122	Lower Shallow	Annual	Biennial
W-123	Upper Shallow	Annual	Biennial
W-125	Upper Shallow	Annual	Biennial
W-126	Lower Shallow	Annual	Biennial
W-127	Upper Shallow	Annual	Biennial
W-128	Upper Shallow	Annual	Biennial
W-129	Upper Shallow	Annual	Biennial
W-137	Utility Backfill	Annual	Biennial
W-142	Lower Shallow	Annual	Biennial
W-143	Utility Backfill	Annual	Biennial
INTERIOR WELLS			
M-4	Upper Shallow	Annual	Biennial
W-114	Upper Shallow	Annual	Biennial
W-115	Upper Shallow	Annual	Biennial
WCC-09	Lower Shallow	Annual	Biennial
WCC-10	Upper Shallow	Annual	Biennial
WCC-11	Lower Shallow	Annual	Biennial
UTILITY BACKFILL MONITORING POINT			
W-130	Utility Backfill	Annual	Biennial
W-131	Utility Backfill	Annual	Biennial
W-132	Utility Backfill	Annual	Biennial
W-133	Utility Backfill	Annual	Biennial
W-134	Utility Backfill	Annual	Biennial
W-135A	Utility Backfill	Annual	Biennial
W-136	Utility Backfill	Annual	Biennial
W-138	Utility Backfill	Annual	Biennial

TABLE 3

GROUNDWATER MONITORING PROGRAM

1990 Bay Road Site
East Palo Alto, California

Well Number	Groundwater Zone	Water Level Monitoring Frequency	Groundwater Sampling Frequency (Arsenic Concentration)
WATER LEVEL MONITORING WELLS			
C-26	Upper Shallow	Annual	
W-103	Upper Shallow	Annual	
W-104	Lower Shallow	Annual	
W-106	Lower Shallow	Annual	
W-111	Upper Shallow	Annual	
W-113	Upper Shallow	Annual	
W-118	Upper Shallow	Annual	
W-119	Lower Shallow	Annual	
W-120	Lower Shallow	Annual	
W-124	Lower Shallow	Annual	
WCC-06	Upper Shallow	Annual	
WCC-12	Upper Shallow	Annual	
PIEZOMETERS			
P1	Upper Shallow	Annual	
P3	Upper Shallow	Annual	
P4	Upper Shallow	Annual	
P6	Upper Shallow	Annual	
P7	Upper Shallow	Annual	
P8	Upper Shallow	Quarterly	
P9	Lower Shallow	Quarterly	
P10	Upper Shallow	Quarterly	
P11	Lower Shallow	Quarterly	
P12	Upper Shallow	Quarterly	
P13	Lower Shallow	Quarterly	
CONTAINMENT/PERFORMANCE WELLS			
W-139(A)	Upper Shallow	Quarterly	
W-140(B)	Upper Shallow	Quarterly	
W-141(C)	Upper Shallow	Quarterly	

TABLE 4

MONITORING WELL CONSTRUCTION DETAILS[1]

1990 Bay Road Site
East Palo Alto, California

Well No.	Completion Date	Well Casing[2] Diameter (inches)	Elevation of Top of Casing (feet NGVD[3])	Total Depth (feet below ground surface)	Screened Interval (feet below ground surface)
Deep Well					
W-101(D)[4]	4-24-86	5	6.62	178.9	158.3-178.3
Perimeter Wells					
M-9(U)[5]	9-11-87	2	6.47	12.5	7.5-12.5
W-102(L)	8-12-86	2	8.22	31.5	26-31
W-105(U)	7-7-86	2	9.24	14.5	9-14
W-107(U)	7-8-86	2	10.19	14	8.5-13.5
W-110(L)[6]	7-14-86	2	7.68	41.2	20.7-40.7
W-112(L)	8-8-86	2	6.88	34	23.5-33.5
W-121(U)	9-2-88	2	6.45	12.5	7-12
W-122(L)	8-19-88	2	5.78	36.0	27-32
W-123(U)	8-16-88	2	6.08	15.0	7.5-12.5
W-125(U)	10-29-91	2	6.93	16.5	6.5-16.5
W-126(L)	10-28-91	2	7.03	36.5	26.5-36.5
W-127(U)	6-23-1998	2	6.99	9.58	5.41-8.89
W-128(U)	6-26-98	2	5.95	6.34	3.53-6.19
W-129(U)	6-23-98	2	6.57	11.04	6.88-10.37
W-137(UB)	6-22-98	2	4.46	5.43	2.93-4.76
W-142(L)	8-3-01	2	7.37	38.5	28-36.9
W-143(UB)[5]	7-31-07	2	3.7	7	4-7
Interior Wells					
M-4(U)	9-11-87	2	6.24	10.0	5-10
W-114(U)[5]	8-8-86	2	6.15	11.5	6-11
W-115(U)	8-7-86	2	6.32	12.5	7-12
WCC-09(L)	10-83	2	8.76	36	26-36
WCC-10(U)	10-83	2	8.6	12.5	7.5-12.5
WCC-11(L)	10-83	2	8.35	34	24-34
Utility Backfill Monitoring Points					
W-130 (UB)	6-23-98	2	6.78	6.2	4-5.53
W-131 (UB)	6-24-98	2	6.76	6.94	3.77-6.26
W-132 (UB)	6-24-98	2	5.72	5.79	3.93-5.42
W-133 (UB)	6-24-98	2	3.08	5.55	3.36-4.89
W-134 (UB)	6-22-98	2	4.16	4	2.5-3.37
W-135 (UB)[7]	6-22-98	2	6.95	7.37	5.22-6.75
W-135A (UB)	10-10-11	2	6.42[8]	6.5	4.5-6.4
W-136 (UB)[5]	6-22-98	2	2.70	6.88	3.87-6.24
W-138 (UB)	8-26-98	2	6.80	6.1	4.95-5.55
Other Wells					
M-1	9-11-87	2	6.52[9]	12.5	7.5-12.5
W-108(L)[7]	7-11-86	2	6.63[9]	36.5	26-36
W-109(U)[7]	7-11-86	2	6.64[9]	11.5	6-11
WCC-2(U)[7]	10-82	2	6.21[9]	18.0	8.0-18.0
WCC-3(U)[7]	10-82	2	6.69[9]	18.0	8.0-18.0
WCC-5(L)[7]	10-83	2	6.01[9]	32.0	22-32
WCC-7(L)[7]	10-83	2	5.66[9]	32	22-32
WCC-8(U)[7]	10-83	2	5.73[9]	11.5	6.5-11.5

TABLE 4

MONITORING WELL CONSTRUCTION DETAILS[1]

1990 Bay Road Site
East Palo Alto, California

Well No.	Completion Date	Well Casing[2] Diameter (inches)	Elevation of Top of Casing (feet NGVD[3])	Total Depth (feet below ground surface)	Screened Interval (feet below ground surface)
Water Level Monitoring Wells					
C-26(U)[10]	11-10-81	2	6.56	15.95	4.45-14.45
W-103(U)	8-12-86	2	8.04	14	8.5-13.5
W-104(L)	7-3-86	2	9.52	44.5	34-44
W-106(L)	7-7-86	2	10.52	39	28.5-38.5
W-111(U)[6]	7-15-86	2	7.62	11.67	6.17-11.17
W-113(U)	8-8-86	2	6.86	11.5	6-11
W-118(U)	7-9-86	2	6.71	11.5	6-11
W-119(L)	7-9-86	2	6.81	30.5	20-30
W-120(L)	9-2-88	2	6.58	38.0	19.5-34.5
W-124(L)	8-17-88	2	5.84	32.0	24-29
WCC-6(U)	10-83	2	6.7	12.0	7-12
WCC-12(U)	10-83	2	8.48	15	10-15
Piezometers					
P1 (U)	11-25-97	0.75	9.97	13	8-10.9
P2 (U)	11-25-97	0.75	9.59	13.1	10.2-12.9
P3 (U)	11-25-97	0.75	9.73	13.3	10-13.1
P4 (U)	11-25-97	0.75	9.71	13	9.8-12.9
P5 (U)	11-25-97	0.75	9.21	13	10.1-12.9
P6 (U)	11-25-97	0.75	9.98	13	10.1-12.9
P7 (U)	11-25-97	0.75	6.29	10.2	7-10
P8 (U)	3-18-05	1	8.19	17	7-16.4
P9 (L)	3-18-05	1	8.2	37	27-36.4
P10 (U)	3-17-05	1	7.77	13	8-12.5
P11 (L)	3-17-05	1	7.77	38	27.5-36.8
P12 (U)	3-16-05	1	7.34	13	8-12.5
P13 (L)	3-16-05	1	7.22	35	25-34.5
Containment /Performance Wells					
W-139(A)(U)	8-1-01	2	8.19	18	8-16.9
W-140(B)(U)	8-1-01	2	5.48	18	5-13.9
W-141(C)(U)	8-2-01	2	8.66	18	7-17

Notes:

1. Information in this table last updated 02/10/2018. Additional non-monitoring wells located on site include M-3, M-7, M-8, M-11, M-12 and M-13.
2. Piezometers casings are 3/4-inch Schedule 40 PVC. Deep well W-101 casing is a 5-inch diameter Schedule 80 PVC (I.D. of 4.813 inches). All other wells including the utility monitoring points are 2-inch Schedule 40 PVC (I.D. of 2.067 inches).
3. Top of casing in NGVD = National Geodetic Vertical Datum. Elevations of wells were surveyed by HMH, Inc. on September 21, 2009. Control point was southeast corner of 1990 Bay Road property (HMH#142 at 6.49 feet msl)
4. Deep well W-101 is artesian. Water level elevation is measured by attaching a clear pipe to the sampling port and measuring height of water above measuring point. Measuring point for deep well W-101 is the top of the flange plate.
5. Well W-136 was removed from Perimeter Monitoring well group in 2007; replaced by new well W-143. Well W-114 was removed from Perimeter Monitoring well group in 2013 replaced by existing well M-9.
6. Due to regrading on Tara Street, W-110 and W-111 well casings were extended, original total depth (40.5 or 11) and screen interval (20-40 or 5.5-10.5) were adjusted.
7. Well destroyed: Wells WCC-2 and WCC-3 destroyed on November 15, 2001, Well WCC-5 destroyed in 1999, Well WCC-7 destroyed on April 29, 1994, Well WCC-8 destroyed in 1990, and Well W-135 destroyed on October 7, 2011, Wells W-108 and W-109 destroyed on May 15, 2015.
8. Top of casing measurement from 2009 not available for this well. Top of casing surveyed by HMH, Inc. on November 22, 2011.
9. Top of casing measurement from 2009 not available for this well. Top of casing surveyed by HMH, Inc. on August 10, 2001 or from earlier data.
10. C-26 well casing was shortened, original total depth (16 ft.) and screen interval (4.5-14.5 ft. bgs) was adjusted.

TABLE 5

RESULTS OF BIENNIAL GROUNDWATER SAMPLING
2014, 2016, and 2018

1990 Bay Road Site
East Palo Alto, California

Well No.[1]	Zone [2]	ARSENIC CONCENTRATION milligram per liter (mg/l) 2014 [3]	2016 [3]	2018 [4]	Qualifier for 2018 Results [5]
DEEP WELL					
W-101[6]	D	0.0006	0.00061	0.000599	J-1
PERIMETER WELLS					
M-9	U	0.013	0.016	0.0158	J-1
W-102	L	ND(0.002) [7]	ND(0.001)	0.000658	J-1
W-105	U	0.0006	0.00076	0.000732	J-1
W-107	U	0.0004	0.0005	0.000522	J
W-110	L	0.0006	0.001	0.0007	J-1
W-112	L	0.0007	0.0006	0.00134	J-1
W-121	U	0.0012	0.0008	0.000889	J-1
W-122	L	ND(0.002)	ND(0.001)	0.00234	J-1
W-123	U	0.008	0.012	0.0132	J-1
W-125	U	0.0006	0.00056	0.000643	J
W-126	L	0.0006	0.00067	0.000584	J
W-127	U	ND(0.002)	0.002	0.00158	J-1
W-128	U	0.0009	0.00093	0.00441	J-1
W-129	U	0.013	0.011	0.0111	J-1
W-137	UB	0.0047	0.0049	0.00419	J-1
W-142	L	ND(0.002)	ND(0.001)[8]	0.00156	J-1
W-143	UB	0.0008	0.0014	0.00113	J-1
INTERIOR WELLS					
W-114	U	0.045	0.034	0.078	J-1
W-114 DUP	U	0.045	0.041	0.0764	J-1
W-115	U	0.028	0.037	0.0334	J-1
WCC-09	L	0.95	1.8	1.3	J-1
WCC-09 DUP	L	0.92	1.6	1.04	J-1
WCC-10	U	4.3	7.1	6.47	J-1
WCC-11	L	0.0053	0.0042	0.0606	J-1
WCC-11 DUP	L	0.0053	0.0044	0.0624	J-1
M-4	U	0.19	0.19	0.161	J-1
UTILITY BACKFILL MONITORING POINTS					
W-130	UB	0.0017	0.0013	0.00134	J-1
W-130 DUP	UB	0.0013	ND(0.001)	0.00134	J-1
W-131	UB	0.0019	0.0004	0.00186	J-1
W-132	UB	0.0019	0.0019	0.00188	J-1
W-133	UB	0.0027	0.0016	0.00298	J-1
W-134	UB	6.7	7.7	6.29	J-1
W-135A	UB	3.9	6	8.09	J-1
W-136	UB	0.04	0.018	0.0492	J-1
W-138	UB	4.8	5.6	5.16	J-1
W-138 DUP	UB	5	5.8	5.01	J-1

TABLE 5

RESULTS OF BIENNIAL GROUNDWATER SAMPLING
2014, 2016, and 2018
1990 Bay Road Site
East Palo Alto, California

Notes:
1. Location of wells shown on Figure 17.
2. Hydrostratigraphic units are as follows: D-deep zone; U-upper shallow zone; L-lower shallow zone; UB-utility backfill.
3. Samples collected by Blaine Tech Services. Samples in 2014 were collected on April 17 and 18 and in 2016 on April 20 and 21. Samples were analyzed by Exova (West Coast Analytical Services) of Santa Fe Springs, California by EPA Method 200.8 with helium collision gas (SOP 7040 rev12).
4. Samples collected by Blaine Tech Services on April 30 and May 1, 2018 and analyzed by Brooks Applied Labs of Bothell, Washington by ICP-QQQ_MS EPA Method 1638 with In-Bottle Digestion.
5. J-1 Qualifier: The arsenic recovery for the Standard Reference Material (B181118-SRM3) was greater than upper control limit of 130%, at 142%; the arsenic true value for B181118-SRM3 is just above the MRL. Subsequent analyses of the SRM yielded similar biased-high results. The remaining blank spike, reference material, and MS/MSD recoveries for arsenic were within acceptable limits. However, B181118-SRM3 is the only high salinity reference material analyzed with the samples. Consequently, all arsenic results in this batch that were above the MRL have been qualified "J-1" to reflect the discrepancy.
J Qualifier: Detected by the instrument, the result is greater than the MDL but equal to the MRL. Result is reported and considered an estimate.
6. Deep monitoring well W-101 was flowing under artesian condition at the time of sampling.
7. "ND" indicates that the concentration of arsenic was below the analytical detection limit shown in parentheses (e.g. ND(0.002) indicates arsenic was not detected above the 0.002 mg/l detection limit).
8. Initial analytical result reported by Exova for the 2016 W-142 sample was 0.01 mg/L (Job No. 203884). This was determined to be biased high due to carryover from a previous sample (non-conformance report N17889). The sample was reanalyzed in duplicate and the results from retest were less than the analytical detection limit of 0.001 mg/L (Job No. 204559).

TABLE 6

WATER LEVEL ELEVATIONS 2014-2018

1990 Bay Road Site
East Palo Alto, California

Well No.[1]	Date	Time	Water Level Depth (ft)	Elevation of MP[2] (ft)	Water Level Elevation (ft)
C-26	4/17/2014	9:16	4.12	6.56	2.44
	4/21/2015	8:45	4.2	6.56	2.36
	4/21/2016	7:45	3.8	6.56	2.76
	10/21/2016	11:44	4.49	6.56	2.07
	1/30/2017	11:37	2.45	6.56	4.11
	4/17/2017	12:52	3.35	6.56	3.21
	7/27/2017	10:46	4.35	6.56	2.21
	10/19/2017	9:30	4.84	6.56	1.72
	1/22/2018	10:40	3.82	6.56	2.74
	4/30/2018	8:13	3.93	6.56	2.63
M-1	4/30/2018	10:05	4.5	6.52	2.02
M-4	4/17/2014	9:15	4.24	6.24	2
	4/21/2015	9:37	4.39	6.24	1.85
	4/21/2016	8:15	4.06	6.24	2.18
	4/17/2017	11:28	4.13	6.24	2.11
	4/30/2018	10:00	4.18	6.24	2.06
M-9	4/17/2014	9:20	4.51	6.47	1.96
	4/21/2015	9:25	4.65	6.47	1.82
	4/21/2016	8:25	4.48	6.47	1.99
	4/17/2017	11:41	4.14	6.47	2.33
	4/30/2018	10:45	4.51	6.47	1.96
P-1	4/17/2014	8:32	7.65	9.97	2.32
	4/21/2015	8:52	7.69	9.97	2.28
	4/21/2016	8:10	7.43	9.97	2.54
	4/17/2017	12:09	6.91	9.97	3.06
	4/30/2018	9:32	7.51	9.97	2.46
P-10	1/24/2014	13:01	6.01	7.77	1.76
	4/17/2014	10:30	5.55	7.77	2.22
	7/16/2014	10:11	6.12	7.77	1.65
	10/28/2014	10:44	6.47	7.77	1.3
	1/12/2015	13:04	4.97	7.77	2.8
	4/21/2015	10:19	5.6	7.77	2.17
	7/21/2015	11:36	6.17	7.77	1.6
	10/14/2015	10:20	6.61	7.77	1.16
	1/29/2016	10:30	4.6	7.77	3.17
	4/21/2016	9:05	5.26	7.77	2.51
	7/19/2016	9:21	6.13	7.77	1.64
	10/21/2016	12:14	5.95	7.77	1.82
	1/30/2017	10:38	3.85	7.77	3.92
	4/17/2017	12:10	4.77	7.77	3
	7/27/2017	11:22	5.67	7.77	2.1

TABLE 6

WATER LEVEL ELEVATIONS 2014-2018

1990 Bay Road Site
East Palo Alto, California

Well No.[1]	Date	Time	Water Level Depth (ft)	Elevation of MP[2] (ft)	Water Level Elevation (ft)
P-10	10/19/2017	9:03	6.14	7.77	1.63
	1/22/2018	11:30	5.13	7.77	2.64
	4/30/2018	8:16	5.28	7.77	2.49
	7/30/2018	9:50	5.97	7.77	1.8
	10/10/2018	8:49	6.25	7.77	1.52
P-11	1/24/2014	13:02	6.07	7.77	1.7
	4/17/2014	10:28	5.63	7.77	2.14
	7/16/2014	14:35	6.18	7.77	1.59
	10/28/2014	12:55	6.39	7.77	1.38
	1/12/2015	13:06	5	7.77	2.77
	4/21/2015	10:18	5.58	7.77	2.19
	7/21/2015	11:37	6.18	7.77	1.59
	10/14/2015	10:23	6.63	7.77	1.14
	1/29/2016	10:29	4.65	7.77	3.12
	4/21/2016	9:10	5.21	7.77	2.56
	7/19/2016	9:22	6.14	7.77	1.63
	10/21/2016	12:12	5.94	7.77	1.83
	1/30/2017	10:39	3.87	7.77	3.9
	4/17/2017	12:06	4.78	7.77	2.99
	7/27/2017	11:20	5.67	7.77	2.1
	10/19/2017	9:01	6.11	7.77	1.66
	1/22/2018	11:30	5.15	7.77	2.62
	4/30/2018	8:18	5.28	7.77	2.49
	7/30/2018	9:52	5.98	7.77	1.79
	10/10/2018	8:51	6.24	7.77	1.53
P-12	1/24/2014	12:49	5.53	7.34	1.81
	4/17/2014	10:19	4.94	7.34	2.4
	7/16/2014	9:44	5.62	7.34	1.72
	10/28/2014	10:23	6.02	7.34	1.32
	1/12/2015	12:37	4.4	7.34	2.94
	4/21/2015	10:13	4.99	7.34	2.35
	7/21/2015	11:20	5.63	7.34	1.71
	10/14/2015	10:05	6.13	7.34	1.21
	1/29/2016	10:22	3.9	7.34	3.44
	4/21/2016	9:00	4.65	7.34	2.69
	7/19/2016	9:28	5.59	7.34	1.75
	10/21/2016	12:22	5.41	7.34	1.93
	1/30/2017	10:19	3.27	7.34	4.07
	4/17/2017	12:02	4	7.34	3.34
	7/27/2017	10:48	5.15	7.34	2.19
	10/19/2017	9:33	5.66	7.34	1.68

TABLE 6

WATER LEVEL ELEVATIONS 2014-2018

1990 Bay Road Site
East Palo Alto, California

Well No.[1]	Date	Time	Water Level Depth (ft)	Elevation of MP[2] (ft)	Water Level Elevation (ft)
P-12	1/22/2018	11:45	4.62	7.34	2.72
	4/30/2018	8:07	4.72	7.34	2.62
	7/30/2018	9:40	5.46	7.34	1.88
	10/10/2018	9:52	5.78	7.34	1.56
P-13	1/24/2014	12:47	5.41	7.22	1.81
	4/17/2014	10:22	4.84	7.22	2.38
	7/16/2014	9:54	5.5	7.22	1.72
	10/28/2014	10:29	5.9	7.22	1.32
	1/12/2015	12:38	4.28	7.22	2.94
	4/21/2015	10:15	4.85	7.22	2.37
	7/21/2015	11:24	5.5	7.22	1.72
	10/14/2015	10:07	6	7.22	1.22
	1/29/2016	10:23	3.8	7.22	3.42
	4/21/2016	8:55	4.51	7.22	2.71
	7/19/2016	9:30	5.45	7.22	1.77
	10/21/2016	12:24	5.29	7.22	1.93
	1/30/2017	10:20	3.11	7.22	4.11
	4/17/2017	11:59	4.13	7.22	3.09
	7/27/2017	10:50	5	7.22	2.22
	10/19/2017	9:35	5.51	7.22	1.71
	1/22/2018	11:46	4.47	7.22	2.75
	4/30/2018	8:09	4.6	7.22	2.62
	7/30/2018	9:41	5.31	7.22	1.91
	10/10/2018	8:41	5.56	7.22	1.66
P-3	4/17/2014	8:34	7.49	9.73	2.24
	4/21/2015	8:50	7.52	9.73	2.21
	4/21/2016	8:15	7.27	9.73	2.46
	4/17/2017	12:12	6.74	9.73	2.99
	4/30/2018	9:36	7.13	9.73	2.6
P-4	4/17/2014	8:46	7.54	9.71	2.17
	4/21/2015	8:56	7.59	9.71	2.12
	4/21/2016	8:17	7.32	9.71	2.39
	4/17/2017	12:16	6.83	9.71	2.88
	4/30/2018	9:40	7.32	9.71	2.39
P-6	4/17/2014	8:32	7.81	9.98	2.17
	4/21/2015	9:00	7.97	9.98	2.01
	4/21/2016	8:45	7.71	9.98	2.27
	4/17/2017	11:56	7.29	9.98	2.69
	4/30/2018	14:03	7.7	9.98	2.28
P-7	4/17/2014	9:40	3.91	6.29	2.38
	4/21/2015	9:08	4.18	6.29	2.11

TABLE 6

WATER LEVEL ELEVATIONS 2014-2018

1990 Bay Road Site
East Palo Alto, California

Well No.[1]	Date	Time	Water Level Depth (ft)	Elevation of MP[2] (ft)	Water Level Elevation (ft)
P-7	4/21/2016	8:34	4.21	6.29	2.08
	4/17/2017	12:00	2.88	6.29	3.41
	4/30/2018	13:59	3.8	6.29	2.49
P-8	1/24/2014	13:16	6.69	8.19	1.5
	4/17/2014	10:16	6.16	8.19	2.03
	7/16/2014	10:32	6.8	8.19	1.39
	10/28/2014	10:58	7.13	8.19	1.06
	1/12/2015	12:50	6	8.19	2.19
	4/21/2015	10:34	6.5	8.19	1.69
	7/21/2015	11:56	6.82	8.19	1.37
	10/14/2015	10:28	7.2	8.19	0.99
	1/29/2016	10:57	5.69	8.19	2.5
	4/21/2016	7:54	6.31	8.19	1.88
	7/19/2016	11:00	6.88	8.19	1.31
	10/21/2016	12:02	6.6	8.19	1.59
	1/30/2017	10:30	4.94	8.19	3.25
	4/26/2017	7:08	5.75	8.19	2.44
	7/27/2017	12:10	6.4	8.19	1.79
	10/19/2017	9:10	6.82	8.19	1.37
	1/22/2018	11:39	6.07	8.19	2.12
	4/30/2018	8:30	5.9	8.19	2.29
	7/30/2018	10:03	6.68	8.19	1.51
	10/10/2018	9:04	6.89	8.19	1.3
P-9	1/24/2014	13:20	6.82	8.2	1.38
	4/17/2014	10:20	6.32	8.2	1.88
	7/16/2014	10:37	6.94	8.2	1.26
	10/28/2014	11:02	7.23	8.2	0.97
	1/12/2015	12:48	6.03	8.2	2.17
	4/21/2015	10:35	6.53	8.2	1.67
	7/21/2015	11:58	7.03	8.2	1.17
	10/14/2015	10:30	7.36	8.2	0.84
	1/29/2016	10:58	5.81	8.2	2.39
	4/21/2016	7:58	6.36	8.2	1.84
	7/19/2016	9:12	6.95	8.2	1.25
	10/21/2016	12:04	6.73	8.2	1.47
	1/30/2017	10:32	5.05	8.2	3.15
	4/17/2017	12:17	6	8.2	2.2
	7/27/2017	12:13	6.58	8.2	1.62
	10/19/2017	9:13	6.99	8.2	1.21
	1/22/2018	11:40	6.18	8.2	2.02
	4/30/2018	8:35	6.29	8.2	1.91

TABLE 6

WATER LEVEL ELEVATIONS 2014-2018

1990 Bay Road Site
East Palo Alto, California

Well No.[1]	Date	Time	Water Level Depth (ft)	Elevation of MP[2] (ft)	Water Level Elevation (ft)
P-9	7/30/2018	10:04	6.81	8.2	1.39
	10/10/2018	9:06	6.9	8.2	1.3
W-101	4/17/2014	9:56	3.52	6.62	3.1
	4/21/2015	11:20	3.33	6.62	3.29
	10/14/2015	10:12	4.99	6.62	1.63
	1/29/2016	10:14	2.68	6.62	3.94
	4/21/2016	9:30	-0.36	6.62	6.98
	7/19/2016	10:11	0.47	6.62	6.15
	10/21/2016	11:30	3.23	6.62	3.39
	1/30/2017	11:55	-1.15	6.62	7.77
	4/17/2017	13:20	-4.56	6.62	11.18
	7/27/2017	11:55	-2.12	6.62	8.74
	10/19/2017	10:35	-1	6.62	7.62
	1/22/2018	11:52	-3.35	6.62	9.97
	4/30/2018	10:55	-4.32	6.62	10.94
	7/30/2018	10:25	-2.46	6.62	9.08
	10/10/2018	9:24	-0.79	6.62	7.41
W-102	4/17/2014	10:09	6.57	8.22	1.65
	4/21/2015	10:21	6.77	8.22	1.45
	4/21/2016	7:52	6.87	8.22	1.35
	4/17/2017	12:22	6.3	8.22	1.92
	4/30/2018	9:22	6.63	8.22	1.59
W-103	4/17/2014	10:11	6.12	8.04	1.92
	4/21/2015	10:23	6.38	8.04	1.66
	4/21/2016	7:54	6.46	8.04	1.58
	4/17/2017	12:22	6.02	8.04	2.02
	4/30/2018	9:23	6.2	8.04	1.84
W-104	4/17/2014	10:29	7.67	9.52	1.85
	4/21/2015	10:26	7.8	9.52	1.72
	4/21/2016	7:45	7.27	9.52	2.25
	4/21/2016	11:25	7.5	9.52	2.02
	4/17/2017	12:10	7.2	9.52	2.32
	4/30/2018	9:31	7.54	9.52	1.98
W-105	4/17/2014	10:33	7.16	9.24	2.08
	4/21/2015	10:28	7.34	9.24	1.9
	4/21/2016	7:47	7.02	9.24	2.22
	4/17/2017	12:15	6.56	9.24	2.68
	4/30/2018	9:32	7.09	9.24	2.15
W-106	4/17/2014	9:50	8.4	10.52	2.12
	4/21/2015	10:58	8.52	10.52	2
	4/21/2016	8:04	8.45	10.52	2.07

TABLE 6

WATER LEVEL ELEVATIONS 2014-2018

1990 Bay Road Site
East Palo Alto, California

Well No.[1]	Date	Time	Water Level Depth (ft)	Elevation of MP[2] (ft)	Water Level Elevation (ft)
W-106	4/17/2017	11:50	7.76	10.52	2.76
	4/30/2018	9:42	8.28	10.52	2.24
W-107	4/17/2014	9:44	8.09	10.19	2.1
	4/21/2015	11:00	8.18	10.19	2.01
	4/21/2016	8:06	8.07	10.19	2.12
	4/17/2017	11:52	7.35	10.19	2.84
	4/30/2018	9:43	7.93	10.19	2.26
W-110	4/17/2014	9:26	5.23	7.68	2.45
	4/21/2015	10:40	5.32	7.68	2.36
	4/21/2016	9:00	5.03	7.68	2.65
	4/17/2017	11:50	4.38	7.68	3.3
	4/30/2018	8:13	5.02	7.68	2.66
W-111	4/17/2014	9:28	5.09	7.62	2.53
	4/21/2015	10:38	5.61	7.62	2.01
	4/21/2016	9:03	5.75	7.62	1.87
	10/21/2016	12:55	5.74	7.62	1.88
	1/30/2017	11:28	3.49	7.62	4.13
	4/17/2017	11:54	4.32	7.62	3.3
	7/27/2017	11:43	5.3	7.62	2.32
	10/19/2017	7:57	5.8	7.62	1.82
	1/22/2018	11:00	4.88	7.62	2.74
	4/30/2018	8:30	5	7.62	2.62
	10/10/2018	10:05	6.05	7.62	1.57
W-112	4/17/2014	9:36	4.45	6.88	2.43
	4/21/2015	9:14	4.56	6.88	2.32
	4/21/2016	8:30	4.26	6.88	2.62
	4/17/2017	12:20	3.83	6.88	3.05
	4/30/2018	9:57	4.36	6.88	2.52
W-113	4/17/2014	9:33	4.52	6.86	2.34
	4/21/2015	9:11	4.64	6.86	2.22
	4/21/2016	8:25	4.33	6.86	2.53
	4/17/2017	12:23	3.89	6.86	2.97
	4/30/2018	9:55	4.38	6.86	2.48
W-114	4/17/2014	9:22	4.05	6.15	2.1
	4/21/2015	9:29	4.21	6.15	1.94
	4/21/2016	8:23	3.92	6.15	2.23
	4/17/2017	11:43	3.66	6.15	2.49
	4/30/2018	10:55	4.16	6.15	1.99
W-115	4/17/2014	8:55	4.54	6.32	1.78
	4/21/2015	9:54	4.72	6.32	1.6
	4/21/2016	7:49	4.46	6.32	1.86

TABLE 6

WATER LEVEL ELEVATIONS 2014-2018

1990 Bay Road Site
East Palo Alto, California

Well No.[1]	Date	Time	Water Level Depth (ft)	Elevation of MP[2] (ft)	Water Level Elevation (ft)
W-115	4/17/2017	11:16	4.25	6.32	2.07
	4/30/2018	10:11	4.68	6.32	1.64
W-118	4/17/2014	10:14	4.45	6.71	2.26
	4/21/2015	10:52	4.52	6.71	2.19
	4/21/2016	9:15	4.24	6.71	2.47
	10/21/2016	13:05	5	6.71	1.71
	1/30/2017	8:43	2.74	6.71	3.97
	4/17/2017	12:24	3.28	6.71	3.43
	7/27/2017	11:00	4.65	6.71	2.06
	10/19/2017	8:52	5.15	6.71	1.56
	1/22/2018	11:25	4.07	6.71	2.64
	4/30/2018	13:00	4.16	6.71	2.55
W-119	4/17/2014	10:16	4.48	6.81	2.33
	4/21/2015	10:49	4.57	6.81	2.24
	4/21/2016	9:16	4.21	6.81	2.6
	4/17/2017	12:29	3.53	6.81	3.28
	4/30/2018	13:02	4.4	6.81	2.41
W-120	4/17/2014	9:12	4.12	6.58	2.46
	4/21/2015	10:29	4.23	6.58	2.35
	4/21/2016	7:50	3.88	6.58	2.7
	4/17/2017	12:59	3.27	6.58	3.31
	4/30/2018	8:28	4.09	6.58	2.49
W-121	4/17/2014	9:14	4.02	6.45	2.43
	4/21/2015	10:26	4.07	6.45	2.38
	4/21/2016	7:53	3.76	6.45	2.69
	10/21/2016	12:45	4.48	6.45	1.97
	1/30/2017	11:12	2.27	6.45	4.18
	4/17/2017	12:57	3.19	6.45	3.26
	7/27/2017	11:33	4.24	6.45	2.21
	10/19/2017	8:11	4.71	6.45	1.74
	1/22/2018	10:50	3.68	6.45	2.77
	4/30/2018	12:50	3.83	6.45	2.62
	10/10/2018	10:15	4.8	6.45	1.65
W-122	4/17/2014	9:55	3.68	5.78	2.1
	4/21/2015	9:22	3.82	5.78	1.96
	4/21/2016	8:19	3.64	5.78	2.14
	4/17/2017	11:39	3.31	5.78	2.47
	4/30/2018	10:39	3.76	5.78	2.02
W-123	4/17/2014	9:03	4.35	6.08	1.73
	4/21/2015	9:49	4.51	6.08	1.57
	4/21/2016	8:01	4.2	6.08	1.88

TABLE 6

WATER LEVEL ELEVATIONS 2014-2018

1990 Bay Road Site
East Palo Alto, California

Well No.[1]	Date	Time	Water Level Depth (ft)	Elevation of MP[2] (ft)	Water Level Elevation (ft)
W-123	4/17/2017	11:25	3.91	6.08	2.17
	4/30/2018	10:29	4.3	6.08	1.78
W-124	4/17/2014	9:06	4.05	5.84	1.79
	4/21/2015	9:46	4.33	5.84	1.51
	4/21/2016	8:03	3.97	5.84	1.87
	4/17/2017	11:20	3.79	5.84	2.05
	4/30/2018	10:16	4.06	5.84	1.78
W-125	4/17/2014	10:18	4.58	6.93	2.35
	4/21/2015	10:54	4.67	6.93	2.26
	4/21/2016	9:23	4.5	6.93	2.43
	1/30/2017	9:12	3.02	6.93	3.91
	4/17/2017	12:41	3.71	6.93	3.22
	7/27/2017	11:13	4.81	6.93	2.12
	10/19/2017	8:46	5.31	6.93	1.62
	1/22/2018	11:22	4.15	6.93	2.78
	4/30/2018	13:08	4.37	6.93	2.56
W-126	4/17/2014	10:19	4.72	7.03	2.31
	4/21/2015	10:59	4.78	7.03	2.25
	4/21/2016	9:26	4.3	7.03	2.73
	4/21/2016	12:05	4.62	7.03	2.41
	4/17/2017	12:45	3.82	7.03	3.21
	4/30/2018	13:10	4.46	7.03	2.57
W-127	4/17/2014	10:00	4.59	6.99	2.4
	4/21/2015	9:58	4.81	6.99	2.18
	4/21/2016	8:06	5.02	6.99	1.97
	4/17/2017	11:50	4.63	6.99	2.36
	4/30/2018	8:44	4.59	6.99	2.4
W-128	4/17/2014	9:09	4.49	5.95	1.46
	4/21/2015	9:30	4.86	5.95	1.09
	4/21/2016	8:53	4.56	5.95	1.39
	4/17/2017	12:40	4.31	5.95	1.64
	4/30/2018	10:01	4.6	5.95	1.35
W-129	4/17/2014	8:58	5.34	6.57	1.23
	4/21/2015	8:52	5.53	6.57	1.04
	4/21/2016	9:01	5.36	6.57	1.21
	4/17/2017	12:51	5.22	6.57	1.35
	4/30/2018	9:34	5.29	6.57	1.28
W-130	4/17/2014	9:31	4.41	6.78	2.37
	4/21/2015	10:46	4.48	6.78	2.3
	4/21/2016	8:50	4.21	6.78	2.57
	10/21/2016	12:40	4.99	6.78	1.79

TABLE 6

WATER LEVEL ELEVATIONS 2014-2018

1990 Bay Road Site
East Palo Alto, California

Well No.[1]	Date	Time	Water Level Depth (ft)	Elevation of MP[2] (ft)	Water Level Elevation (ft)
W-130	1/30/2017	11:24	2.79	6.78	3.99
	4/17/2017	1304	3.51	6.78	3.27
	7/27/2017	11:47	4.65	6.78	2.13
	10/19/2017	8:02	5.08	6.78	1.7
	1/22/2018	11:02	4.05	6.78	2.73
	4/30/2018	8:33	4.21	6.78	2.57
W-131	4/17/2014	9:27	4.51	6.76	2.25
	4/21/2015	10:31	4.42	6.76	2.34
	4/21/2016	8:54	4.11	6.76	2.65
	10/21/2016	12:35	4.93	6.76	1.83
	1/30/2017	11:17	2.63	6.76	4.13
	4/17/2017	13:08	3.46	6.76	3.3
	7/27/2017	11:39	4.58	6.76	2.18
	10/19/2017	8:05	5.06	6.76	1.7
	1/22/2018	10:53	3.99	6.76	2.77
	4/30/2018	10:44	4.12	6.76	2.64
W-132	4/17/2014	9:20	3.3	5.72	2.42
	4/21/2015	10:10	3.33	5.72	2.39
	4/21/2016	8:00	3.02	5.72	2.7
	10/21/2016	12:30	3.69	5.72	2.03
	1/30/2017	11:05	1.68	5.72	4.04
	4/17/2017	13:13	3.39	5.72	2.33
	7/27/2017	11:29	3.52	5.72	2.2
	10/19/2017	8:14	3.95	5.72	1.77
	1/22/2018	10:45	2.86	5.72	2.86
	4/30/2018	8:22	3.2	5.72	2.52
W-133	4/17/2014	9:20	1.31	3.08	1.77
	4/21/2015	9:23	1.68	3.08	1.4
	4/21/2016	8:39	2.36	3.08	0.72
	4/21/2016	11:55	1.67	3.08	1.41
	4/17/2017	12:48	1.13	3.08	1.95
	4/30/2018	9:17	1.3	3.08	1.78
W-134	4/17/2014	8:50	2.79	4.16	1.37
	4/21/2015	8:57	3.05	4.16	1.11
	4/21/2016	8:58	2.84	4.16	1.32
	4/17/2017	13:00	2.51	4.16	1.65
	4/30/2018	9:40	2.88	4.16	1.28
W-135A	4/17/2014	8:44	5.03	6.42	1.39
	4/21/2015	8:46	5.34	6.42	1.08
	4/21/2016	9:21	5.21	6.42	1.21
	4/17/2017	12:46	6.6	6.42	-0.18

TABLE 6

WATER LEVEL ELEVATIONS 2014-2018

1990 Bay Road Site
East Palo Alto, California

Well No.[1]	Date	Time	Water Level Depth (ft)	Elevation of MP[2] (ft)	Water Level Elevation (ft)
W-135A	4/30/2018	13:42	5.07	6.42	1.35
W-136	4/17/2014	9:39	1.68	2.7	1.02
	4/21/2015	9:10	2.2	2.7	0.5
	4/21/2016	9:25	1.83	2.7	0.87
	4/17/2017	12:58	1.84	2.7	0.86
	4/30/2018	10:20	1.8	2.7	0.9
W-137	4/17/2014	9:29	3.69	4.46	0.77
	4/21/2015	8:41	4.46	4.46	0
	4/21/2016	9:16	4.21	4.46	0.25
	4/17/2017	12:40	3.96	4.46	0.5
	4/30/2018	10:31	4.08	4.46	0.38
W-138	4/17/2014	9:14	5.28	6.8	1.52
	4/21/2015	9:42	5.52	6.8	1.28
	4/21/2016	8:48	5.28	6.8	1.52
	4/17/2017	12:30	5.21	6.8	1.59
	4/30/2018	9:28	5.3	6.8	1.5
W-139(A)	1/24/2014	12:55	6.5	8.19	1.69
	4/17/2014	10:30	6.02	8.19	2.17
	7/16/2014	10:03	6.7	8.19	1.49
	10/28/2014	10:35	7.07	8.19	1.12
	1/12/2015	12:27	6	8.19	2.19
	4/21/2015	8:40	6.11	8.19	2.08
	7/21/2015	11:30	6.72	8.19	1.47
	10/14/2015	10:16	7.2	8.19	0.99
	1/29/2016	10:36	5.21	8.19	2.98
	4/21/2016	9:20	5.66	8.19	2.53
	4/21/2016	11:52	5.7	8.19	2.49
	7/19/2016	8:53	6.78	8.19	1.41
	10/21/2016	12:19	6.48	8.19	1.71
	1/30/2017	10:45	4.3	8.19	3.89
	4/17/2017	12:15	5.13	8.19	3.06
	7/27/2017	10:54	6.21	8.19	1.98
	10/19/2017	8:58	6.68	8.19	1.51
	1/22/2018	11:08	5.6	8.19	2.59
	4/30/2018	8:22	5.78	8.19	2.41
	7/30/2018	9:45	6.5	8.19	1.69
	10/10/2018	8:55	6.8	8.19	1.39
W-140(B)	1/24/2014	12:42	3.7	5.48	1.78
	4/17/2014	8:20	3.1	5.48	2.38
	7/16/2014	9:33	3.75	5.48	1.73
	10/28/2014	10:15	4.1	5.48	1.38

TABLE 6

WATER LEVEL ELEVATIONS 2014-2018

1990 Bay Road Site
East Palo Alto, California

Well No.[1]	Date	Time	Water Level Depth (ft)	Elevation of MP[2] (ft)	Water Level Elevation (ft)
W-140(B)	1/12/2015	12:13	2.62	5.48	2.86
	4/21/2015	8:23	3.17	5.48	2.31
	7/21/2015	11:13	3.76	5.48	1.72
	10/14/2015	9:55	4.19	5.48	1.29
	1/29/2016	11:07	2.02	5.48	3.46
	4/21/2016	7:15	2.86	5.48	2.62
	7/19/2016	8:32	3.74	5.48	1.74
	10/21/2016	11:40	3.5	5.48	1.98
	1/30/2017	10:54	1.46	5.48	4.02
	4/17/2017	11:00	2.38	5.48	3.1
	7/27/2017	10:25	3.28	5.48	2.2
	10/19/2017	9:22	3.78	5.48	1.7
	1/22/2018	10:35	2.78	5.48	2.7
	4/30/2018	7:28	2.97	5.48	2.51
	7/30/2018	9:36	3.61	5.48	1.87
	10/10/2018	9:56	3.85	5.48	1.63
W-141(C)	1/24/2014	13:11	7.1	8.66	1.56
	4/17/2014	10:27	6.67	8.66	1.99
	7/16/2014	10:42	7.23	8.66	1.43
	10/28/2014	10:54	7.56	8.66	1.1
	1/12/2015	12:59	6.38	8.66	2.28
	4/21/2015	10:32	6.66	8.66	2
	7/21/2015	11:54	7.35	8.66	1.31
	10/14/2015	10:26	7.7	8.66	0.96
	1/29/2016	10:55	6.07	8.66	2.59
	4/21/2016	8:38	6.52	8.66	2.14
	7/19/2016	9:03	7.35	8.66	1.31
	10/21/2016	12:00	7.08	8.66	1.58
	1/30/2017	10:28	5.13	8.66	3.53
	4/17/2017	11:18	5.61	8.66	3.05
	7/27/2017	12:05	6.81	8.66	1.85
	10/19/2017	9:06	7.3	8.66	1.36
	1/22/2018	11:35	6.41	8.66	2.25
	4/30/2018	13:30	6.54	8.66	2.12
	7/30/2018	9:57	7.11	8.66	1.55
	10/10/2018	9:00	7.33	8.66	1.33
W-142	4/17/2014	9:12	5.46	7.37	1.91
	4/21/2015	9:34	5.61	7.37	1.76
	4/21/2016	8:11	5.3	7.37	2.07
	4/17/2017	11:33	5.1	7.37	2.27
	4/30/2018	10:33	5.41	7.37	1.96

TABLE 6

WATER LEVEL ELEVATIONS 2014-2018

1990 Bay Road Site
East Palo Alto, California

Well No.[1]	Date	Time	Water Level Depth (ft)	Elevation of MP[2] (ft)	Water Level Elevation (ft)
W-143	4/17/2014	9:42	2.35	3.7	1.35
	4/21/2015	9:12	2.77	3.7	0.93
	4/21/2016	9:29	2.63	3.7	1.07
	4/17/2017	13:03	2.34	3.7	1.36
	4/30/2018	10:13	2.51	3.7	1.19
WCC-06	4/17/2014	9:44	4.41	6.7	2.29
	4/21/2015	9:06	4.44	6.7	2.26
	4/21/2016	8:40	4.16	6.7	2.54
	4/17/2017	12:05	3.78	6.7	2.92
	4/30/2018	9:50	4.31	6.7	2.39
WCC-09	4/17/2014	10:05	6.67	8.76	2.09
	4/21/2015	10:48	6.86	8.76	1.9
	4/21/2016	8:27	6.29	8.76	2.47
	4/21/2016	11:32	6.29	8.76	2.47
	4/17/2017	11:30	6.11	8.76	2.65
	4/30/2018	10:25	6.57	8.76	2.19
WCC-10	4/17/2014	10:07	6.4	8.6	2.2
	4/21/2015	10:50	6.56	8.6	2.04
	4/21/2016	8:31	6.69	8.6	1.91
	4/17/2017	11:40	5.75	8.6	2.85
	4/30/2018	10:23	6.35	8.6	2.25
WCC-11	4/17/2014	10:00	6.05	8.35	2.3
	4/21/2015	10:00	6.18	8.35	2.17
	4/21/2016	8:19	5.96	8.35	2.39
	4/17/2017	12:02	5.51	8.35	2.84
	4/30/2018	10:00	5.93	8.35	2.42
WCC-12	4/17/2014	9:58	6.45	8.48	2.03
	4/21/2015	10:02	6.3	8.48	2.18
	4/21/2016	8:21	6.1	8.48	2.38
	4/17/2017	12:05	5.5	8.48	2.98
	4/30/2018	13:19	6.11	8.48	2.37

Notes:
1. Location of wells shown on Figure 18.
2. Measuring point in feet NGVD. Elevations of wells were surveyed in September 2009 relative to site datum, except M-1 elevation from 1987 (RI Report, Table L-1).

TABLE 7

PHYTOREMEDIATION TISSUE SAMPLING RESULTS
ARSENIC CONCENTRATION

1990 Bay Road Site
East Palo Alto, California

Tree Species	Sample Location	Sample ID[1]	Sample Date	Analytical Result[2,3]
Tamarix	PG&E property	PP-TAM	9/23/1998	15
			1/21/2000	ND(1.0)[4]
			10/24/2000	0.35
			10/24/2001	3.8
			10/23/2002	18.9
			10/23/2002	22.2
			11/25/2003	16.8
			10/15/2004	6.62
			11/17/2005	1.7
			11/9/2006	3.12
			10/20/2008	16.8
			10/11/2010	10
			10/17/2012	6.7
			9/25/2014	12
			10/27/2016	7.6
			10/10/2018	ND(0.98)
		MT-TAM	9/23/1998	6
			1/21/2000	ND(1.0)
			10/24/2000	0.4
			10/24/2001	ND(2.5)
			10/23/2002	28.9
			10/23/2002	11.3
			11/25/2003	20.3
			10/15/2004	ND(0.5)
			11/17/2005	ND(0.5)
			11/9/2006	0.6
			10/20/2008	0.78
			10/11/2010	ND(1.0)
			10/17/2012	0.49
			9/25/2014	ND(0.41)
			10/27/2016	ND(0.49)
			10/10/2018	1.4
		LT-TAM	9/23/1998	8
			1/21/2000	ND(1.0)
			10/24/2000	0.24
			10/24/2001	6.5
			10/23/2002	14.0
			10/23/2002	11.0
			11/25/2003	2.21
			10/15/2004	ND(0.5)
			11/17/2005	ND(0.5)
			11/9/2006	0.45
			10/20/2008	0.72
			10/11/2010	ND(1.0)
			10/17/2012	ND(0.44)
			9/25/2014	0.54
			10/27/2016	ND(0.48)
			10/10/2018	0.87

TABLE 7

PHYTOREMEDIATION TISSUE SAMPLING RESULTS
ARSENIC CONCENTRATION

1990 Bay Road Site
East Palo Alto, California

Tree Species	Sample Location	Sample ID[1]	Sample Date	Analytical Result[2,3]
Tamarix	Torres property	UPTORR-TAM	1/21/2000	ND (1.0)
			10/24/2000	0.2
			10/24/2001	4.5
			10/23/2002	16.9
			10/23/2002	15.0
			11/25/2003	3.76
			10/15/2004	ND(0.5)
			11/17/2005	1.94
			11/9/2006	0.36
			10/20/2008	2.24
			10/11/2010	1.4
			10/17/2012	0.6
			9/25/2014	0.72
			10/27/2016	2.8
			10/10/2018	2.2
		LOWTORR-TAM	1/21/2000	ND(1.0)
			10/24/2000	0.48
			10/24/2001	4.2
			10/23/2002	17.5
			10/23/2002	21.4
			11/25/2003	2.44
			10/15/2004	ND(0.5)
			11/17/2005	ND(0.5)
			11/9/2006	1.57
			10/20/2008	2.02
			10/11/2010	1.6
			10/17/2012	0.59
			9/25/2014	2.4
			10/27/2016	0.99
			10/10/2018	ND(0.72)
	PG&E property	EAST-TAM	10/24/2001	5.5
			10/23/2002	8.9
			10/23/2002	6.9
			11/25/2003	3.66
			10/15/2004	ND(0.5)
			11/17/2005	ND(0.5)
			11/9/2006	0.57
			10/20/2008	2.95
			10/11/2010	ND(1.0)
			10/17/2012	0.79
			9/25/2014	1.9
			10/27/2016	0.79
			10/10/2018	1.4

TABLE 7

PHYTOREMEDIATION TISSUE SAMPLING RESULTS
ARSENIC CONCENTRATION

1990 Bay Road Site
East Palo Alto, California

Tree Species	Sample Location	Sample ID[1]	Sample Date	Analytical Result[2,3]
Eucalyptus	PG&E property	PP-EUC	1/21/2000	ND(1.0)
			10/24/2000	0.06
			10/24/2001	ND(2.5)
			10/23/2002	ND(5.0)
			10/23/2002	ND(5.0)
			11/25/2003	ND(0.5)
			10/15/2004	ND(0.5)
			11/17/2005	ND(0.5)
			11/9/2006	0.54
			10/20/2008	0.33
			10/11/2010	ND(1.0)
			10/17/2012	0.46
			9/25/2014	0.71
			10/27/2016	ND(0.48)
			10/10/2018	ND(0.67)
		E-SPOILS	2/24/1999	ND(1.0)
		E-TREES	2/24/1999	ND(1.0)
		2012-EUC-PODS	10/27/2016	ND(0.34)
		CHIPS	10/19/2007	0.22
		PGE-EUC	1/21/2000	ND(1.0)
			10/24/2000	0.06
			10/24/2001	ND(2.5)
			10/23/2002	ND(5.0)
			10/23/2002	ND(5.0)
			11/25/2003	0.58
			10/15/2004	ND(0.5)
			11/17/2005	ND(0.5)
			11/9/2006	0.2
			10/20/2008	0.54
			10/11/2010	1.4
			10/17/2012	0.62
			9/25/2014	1.6
			10/27/2016	0.88
			10/10/2018	ND(0.87)
		2012-EUC	9/25/2014	0.64
			10/27/2016	ND(0.49)
			10/10/2018	0.96

TABLE 7

PHYTOREMEDIATION TISSUE SAMPLING RESULTS
ARSENIC CONCENTRATION

1990 Bay Road Site
East Palo Alto, California

Tree Species	Sample Location	Sample ID[1]	Sample Date	Analytical Result[2,3]
Oak	Catalytica property	CAT-OAK	10/24/2001	4.9
			10/23/2002	20.2
			10/23/2002	31.8
			11/25/2003	2.44
			10/15/2004	ND(0.5)
			11/17/2005	ND(0.5)
			11/9/2006	0.21
			10/20/2008	0.32
			10/11/2010	ND(1.0)
			10/17/2012	ND(0.47)
			9/25/2014	0.55
			10/27/2016	0.53
			10/10/2018	ND(0.83)
Poplar	PG&E property	PP-POP	9/23/1998	2

Notes:

1. Sample areas shown on Figure 19.
2. Concentration of Arsenic in milligrams per kilogram (mg/kg)
3. Samples of plant tissue analyzed for total arsenic using EPA method 6010
   Analyses from 1999 to 2005 performed by Delta Environmental Laboratories, Benicia, California
   Analyses from 1998 to 1999 Performed by Clayton Laboratory Services, Pleasanton, California
   Analyses 2005-2008 Performed by West Coast Analytical Services/Bodycote/Exova of Santa Fe Springs, California
   Analyses 2010 Performed by McCampbell Analytical of Pittsburg, California
   Analyses after 2012 Performed by TestAmerica Laboratories of Pleasanton, California
4. “ND” indicates that the concentration of arsenic was below the analytical detection limit shown in parentheses (e.g. ND(0.5) indicates arsenic was not detected above the 0.5 mg/kg detection limit).

TABLE 8

REGULATORY SCREENING LEVELS FOR ARSENIC

1990 Bay Road Site
East Palo Alto, California

Source [Screening Level Acronym]	Residential		Commercial/Industrial	
	Regulatory Screening Level ($1x10^{-6}$)	Site-Adjusted Regulatory Screening Level[1] ($1x10^{-4}$)	Regulatory Screening Level ($1x10^{-6}$)	Site-Adjusted Regulatory Screening Level[1] ($1x10^{-4}$)
ROD [site cleanup criteria]	20		70	
EPA [RSL]	0.68	68 (c); **35** (nc)	3	**300** (c); 480 (nc)
RWQCB [ESL]	0.067	6.7 (c); **0.26** (nc)	0.31	31 (c); **3.6** (nc)
DTSC [DTSC-SL][4]	0.11	11 (c); **0.4** (nc)	0.36	36 (c); **4.2** (nc)

Notes

1. The site-specific acceptable risk level is $1x10^{-4}$. Regulatory screening levels for carcinogens based on an acceptable risk level of $1x10^{-6}$ are multiplied by a factor of 100 to be consistent with the site-specific acceptable risk level.
2. Concentrations in milligram per kilogram (mg/kg)
3. Bold values indicate the lower screening level between noncancer and cancer endpoints. As shown, the site-adjusted regulatory screening level based on non-cancer health effects is lower than a screening level for cancer risk at $1x10^{-4}$. Regulatory screening levels for noncarcinogenic health effects are based on a hazard quotient of 1.
4. DTSC has developed DTSC-modified Screening Levels (DTSC-SLs) for arsenic and other chemicals where California-specific toxicity criteria are more conservative than the criteria used by EPA (DTSC, 2018). DTSC-SLs have replaced the CHHSLs used in previous 5-Year Status Reports because the CHHSLs are not updated on a regular basis and have become outdated for several chemicals.

Abbreviations

CHHSL – California Human Health Screening Level (OEHHA, 2010)
DTSC – Department of Toxic Substances Control (DTSC, 2018)
EPA – Environmental Protection Agency
ESL – Environmental Screening Level (RWQCB, 2018)
nc - noncancer
OEHHA – Office of Environmental Health Hazard Assessment
ROD – Record of Decision
RSL – Regional Screening Level (EPA, 2018)
RWQCB – Regional Water Quality Control Board

TABLE 9

REGULATORY SCREENING LEVELS FOR OTHER METALS

1990 Bay Road Site
East Palo Alto, California

Chemical	ROD [Site Cleanup Criteria]	EPA [RSL][1]	RWQCB [ESL][1]	DTSC [DTSC-SL][1,2]
Residential				
Cadmium	10	71	78	5.2
Lead	20	400	80	80
Mercury	3	11	13	1
Selenium	600	390	390	--
Commercial/Industrial				
Cadmium	2000	980	1100	7.3
Lead	300	800	320	320
Mercury	600	46	190	4.4
Selenium	6000	5800	5800	--

Notes

1. Regulatory screening levels are based on noncarcinogenic health effects for these chemicals; therefore, no adjustment was required to account for site-specific acceptable risk level of $1x10^{-4}$. Regulatory screening levels for noncarcinogenic health effects are based on a hazard quotient of 1.
2. DTSC has developed DTSC-modified Screening Levels (DTSC-SLs) for lead and cadmium and other chemicals where California-specific toxicity criteria are more conservative than the criteria used by EPA (DTSC, 2018). DTSC-SLs have replaced the CHHSLs used in previous 5-Year Status Reports because the CHHSLs are not updated on a regular basis and have become outdated for several chemicals, including cadmium.
3. Concentrations in milligram per kilogram (mg/kg)

Abbreviations

-- = not applicable; DTSC has not developed alternative criteria for these metals.
CHHSL – California Human Health Screening Level (OEHHA, 2010)
DTSC – Department of Toxic Substances Control (DTSC, 2018)
EPA – Environmental Protection Agency
ESL – Environmental Screening Level (RWQCB, 2018)
OEHHA – Office of Environmental Health Hazard Assessment
ROD – Record of Decision
RSL – Regional Screening Level (EPA, 2018)
RWQCB – Regional Water Quality Control Board

TABLE 10

UPDATED PROPERTY OWNERSHIP INFORMATION
1990 Bay Road Site
East Palo Alto, California

Property Address	APN #	Owner Name	Owner Address
1990 Bay Road	063-122-040	SLLI	55 Corporate Drive Bridgewater, NJ 08807
1990 Bay Road - NTM Area	063-122-030	SLLI	55 Corporate Drive Bridgewater, NJ 08807
1992 Bay Road	SBE 1354127	Pacific Gas & Electric Company	77 Beale Street, P.O. Box 770000 San Francisco CA 94177
2005 Bay Road	063-121-120	Bay Road Holdings Attn: Three Cities Research	135 E 57th Street New York, NY 10022
Bay Road Frontage	063-132-090	Michael Demeter	160 Demeter Street East Palo Alto, CA 94303-0724
1923 Bay Road	063-132-100, 063-132-110	Melvin Curtaccio	1923 Bay Road, East Palo Alto, CA 94303
1987 Bay Road	063-132-220	Pg-Epa LLC	1606 Spencer Street Bellevue, NE 68123
1950 Bay Road	063-240-470	East Palo Alto Youth Arts & Music Center	101 Second St, Suite 1625 San Francisco CA 94105
2470 Pulgas Avenue	063-240-460	Menlo Park Fire Protection District	170 Middlefield Road Menlo Park, CA 94025
1175 Weeks Street	063-240-420	Epa Weeks LLC	P.O. Box 391737 Mountain View, CA 94039
1200 Weeks Street	063-271-450, 063-271-490	2014 #3 LLC	314 Lytton Avenue Ste 200 Palo Alto, CA 94301
1250 Weeks Street	063-271-480	SLLI	55 Corporate Drive Bridgewater, NJ 08807
1275 Runnymede	063-271-070	Dr. Thomasyne Wilson	1275 Runnymede Street East Palo Alto, CA 94303
1286 Runnymede St	063-272-080	Ravenswood City School District	2160 Euclid Ave. Palo Alto, CA 94303
Bay Road, Weeks Street, and Runnymede Street Right-of-Way	N/A	City of East Palo Alto	2415 University Avenue East Palo Alto, CA 94303
Tidal Marsh	063-580-090, 063-580-100	City of Palo Alto	250 Hamilton Avenue Palo Alto, CA 94301

Note:
1. Property ownership listed at the San Mateo County Assessor's Office on February 5, 2019.

Appendix A

Performance Evaluation Report for the Groundwater Containment System 1990 Bay Road Site East Palo Alto, California

Appendix A
Performance Evaluation for the Groundwater Containment System

This appendix presents a performance evaluation of the groundwater containment system for the 1990 Bay Road site and includes a description of the components of the groundwater containment system and the criteria used to evaluate its performance. The groundwater containment system was implemented pursuant to California Regional Water Quality Control Board-San Francisco Bay Region (RWQCB) Orders No. 85-67, 94-042 and 97-015 for the 1990 Bay Road Site (the site) in East Palo Alto, California. The design for the groundwater containment system was approved by the RWQCB in a letter dated February 7, 2001 (RWQCB, 2001). An initial evaluation of the performance of the barrier wall and the monitoring system was presented in the "Performance Evaluation Report for the Groundwater Containment System" (SSP&A, 2006), and updated evaluations were to be included in subsequent Five-Year Status Reports for the site. This appendix updates the previous evaluations based on monitoring data collected from 2014 through 2018.

Containment System Components

The components of the groundwater containment system are:

- A soil-bentonite barrier wall;
- Groundwater extraction by phytoremediation; and
- *In situ* treatment of groundwater contamination along the sanitary sewer easement extending from the southern extension of the barrier wall to the southern limit of arsenic contamination.

The location of the components of the containment system that have been implemented and the network of monitoring wells are shown on Figure A-1. Detailed descriptions of the barrier wall and phytoremediation trees are found in Section 4 of the Five-Year Status Report. Results of phytoremediation monitoring events are also presented in Section 4.

Containment System Performance

This section summarizes the performance of the groundwater containment system for the upper and lower shallow groundwater zones in meeting the prohibition on significant migration of pollutants in groundwater per RWBCB Order SCR-R2-2016-0037. Performance criteria used to assess compliance with this prohibition were described in the Aquifer Characterization and Contingency Plan (ACCP; SSP&A, 2016), and are discussed in this section.

Criterion 1 – Inward Hydraulic Gradients

The first performance criterion is that water levels at well W-141 (C), on an annual average basis, shall be lower than the water levels at wells W-139 (A) and W-140 (B). This performance criterion was established to assess if inward hydraulic gradients exist.

The average annual groundwater elevations at wells W-139 (A), W-140 (B) and W-141 (C) are calculated from the water level data presented in Table A-1. The calculated average elevations in

feet above mean sea level (ft msl) shown in Table A-1 indicate the groundwater elevation at well W-141 (C) is consistently less than the average elevation at wells W-139 (A) and W-140 (B).

Criterion 2 – Upper Shallow Zone Perimeter Wells

The second performance criterion established to assess performance of the groundwater containment system is that arsenic concentrations in upper shallow groundwater zone perimeter monitoring wells shall not exceed 0.05 mg/L. The shallow groundwater zone perimeter monitoring wells are W-105, W-107, M-9 (replaced W-114 in 2013), W-121, W-123, W-125, W-127, W-128 and W- 129. The monitoring data from these wells is evaluated according to the procedures specified in the revised ACCP (SSP&A, 2016). Groundwater sampling of these wells was conducted in April 2014, 2016 and 2018. Analytical results from these sampling events in upper shallow zone perimeter wells are shown in Table A-2. Figures A-2 and A-3 present historical arsenic concentrations in upper shallow perimeter monitoring wells.

The results of the April 2014, 2016, and 2018 sampling events indicated arsenic concentrations in all upper-shallow perimeter monitoring wells remained below the 0.04 milligrams per liter (mg/L) contingency action level.

The results of upper shallow zone perimeter well sampling from 2014, 2016, and 2018 indicate that the third criterion is being met as concentrations are below the 0.05 mg/L criterion.

Criterion 3 – Lower Shallow Zone Perimeter Wells

The third performance criterion is that arsenic concentrations in the lower shallow groundwater zone perimeter monitoring wells shall remain below 0.05 mg/L. The lower shallow zone perimeter monitoring wells are W-102, W-112, W-110, W-122, W-126 and W-142. The monitoring data from these wells is evaluated according to the procedures specified in the ACCP (SSP&A, 2016). Groundwater sampling of these wells was conducted in April 2014, 2016, and 2018. Analytical results from these sampling events in lower shallow zone perimeter wells are shown in Table A-2. Figures A-4 and A-5 present historical arsenic concentrations in lower shallow perimeter monitoring wells.

In April 2014, 2016, and 2018, concentrations in all the lower shallow zone perimeter wells were below the 0.05 mg/L criterion. These results indicate that the third criterion is being met.

Conclusions and Recommendations

In summary, the evaluations of the groundwater monitoring data indicate that the groundwater containment performance criteria are being met:

- Water levels in the containment performance wells indicate that within the barrier wall at the site the hydraulic gradients are inward;
- Arsenic concentrations in the upper shallow groundwater zone perimeter monitoring wells are below the 0.05 mg/L upper shallow zone criterion;
- Arsenic concentrations in the lower shallow groundwater zone perimeter monitoring wells are below the 0.05 mg/L lower shallow zone criterion;

As a result, there is no need at this time to make alterations in the groundwater containment system. Based on these results, we recommend that the current long-term monitoring program be continued. This program includes:

- Chemical Performance Monitoring: Sample monitoring wells every two years in April with the next biennial sampling event in 2020.
- Hydraulic Performance Monitoring: Annual site-wide monitoring of all monitoring wells in April and quarterly monitoring events at wells W-139 (A), W-140 (B), W-141 (C), P-8U, P-9L, P-10U, P-11L, P-12U, and P-13L.
- Phytoremediation Performance Monitoring: Conduct health inspections of the trees twice a year, take growth measurements annually, and collect tissue samples every two years.

The results of the performance monitoring will continue to be reported in the annual reports. If any of the criteria are exceeded during future monitoring events, the procedures in the ACCP will be implemented and the RWQCB will be notified as required. An updated evaluation of the performance of the groundwater containment system will be presented in the next Five-Year Status Report for the site.

References

California Regional Water Quality Control Board, San Francisco Bay Region, 2001: Approval of July 21, 2000 Revised report, Conceptual Design for Groundwater Containment System, 1990 Bay Road Site, East Palo Alto, San Mateo County, letter to Rhone-Poulenc, February 7.

S. S. Papadopulos & Associates, Inc., 2006: Performance Evaluation Report for the Groundwater Containment System, 1990 Bay Road Site, East Palo Alto, California, January 31.

S. S. Papadopulos & Associates, Inc., 2016: Aquifer Characterization and Contingency Plan, 1990 Bay Road Site, East Palo Alto, California, February 8.

FIGURES

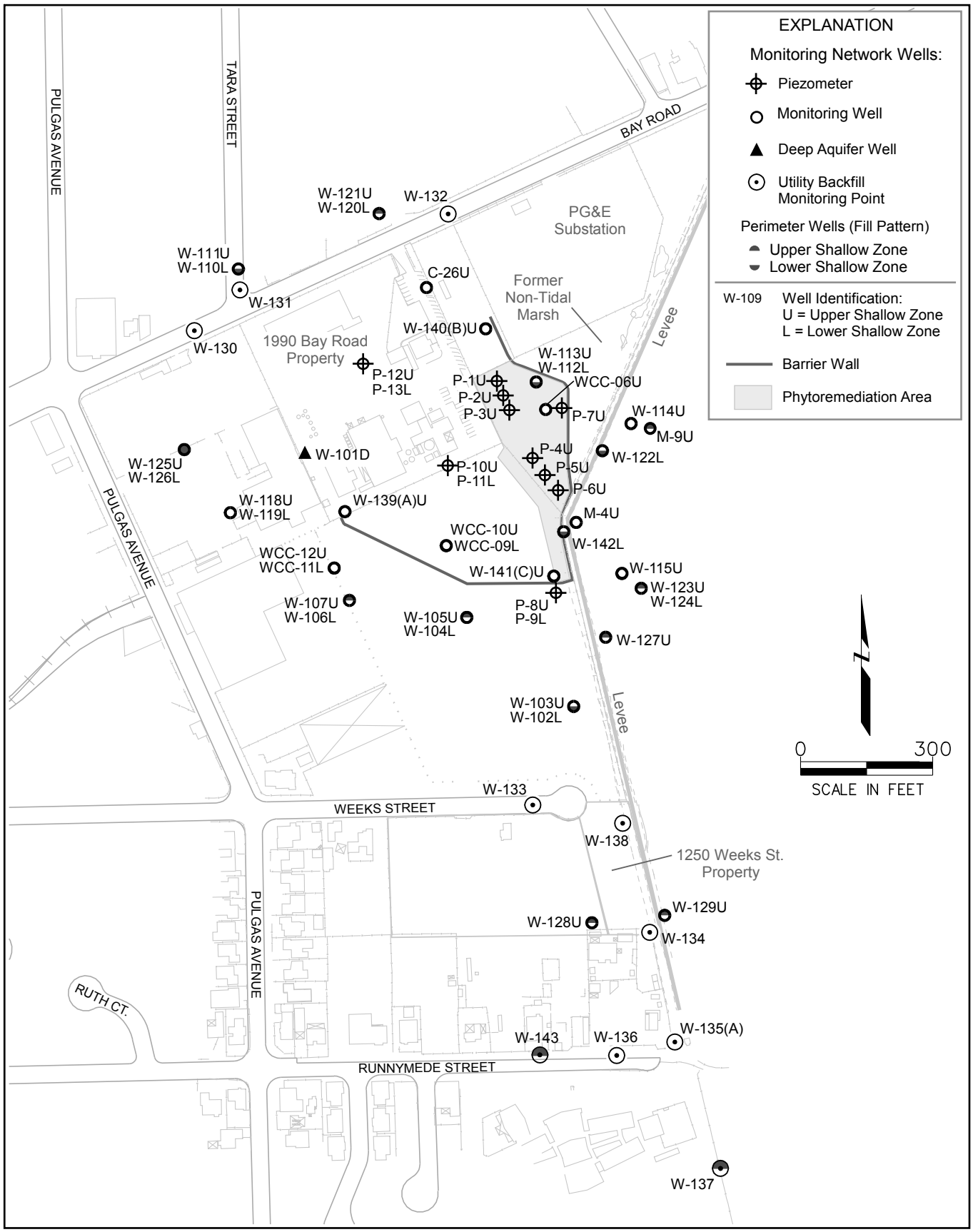
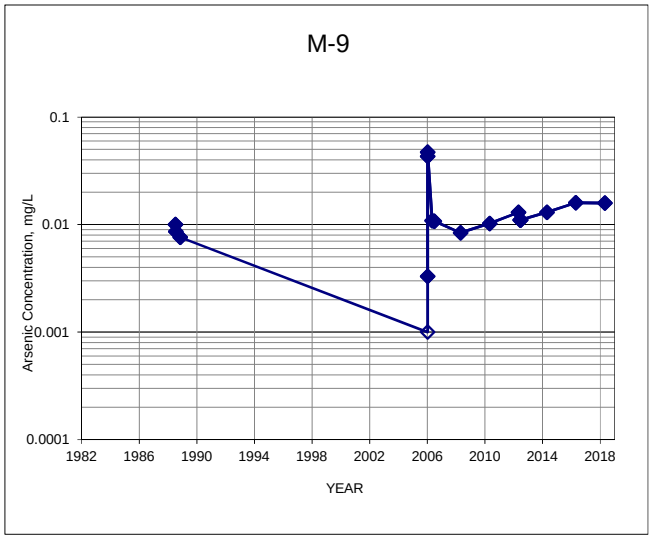
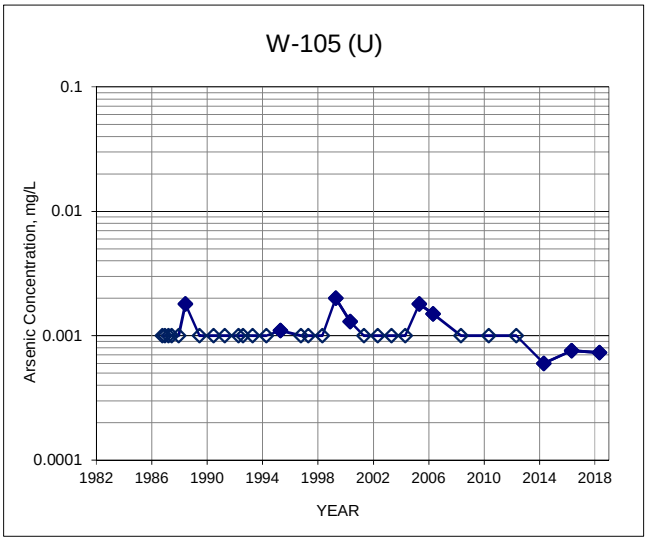
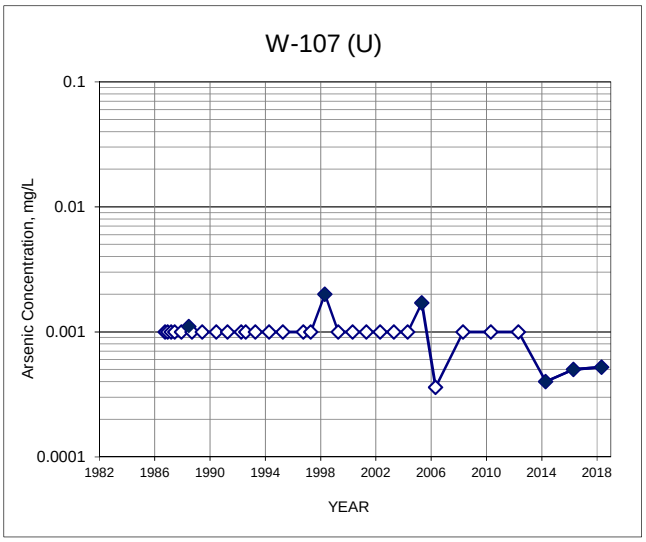
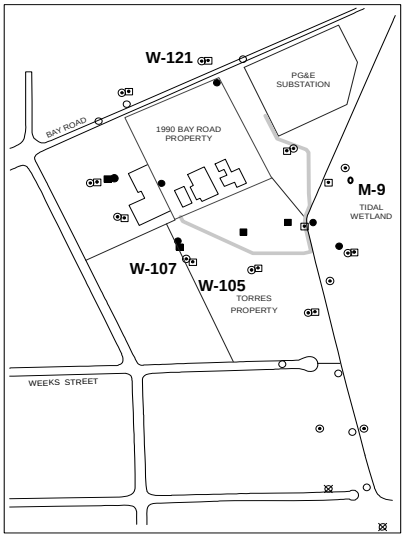


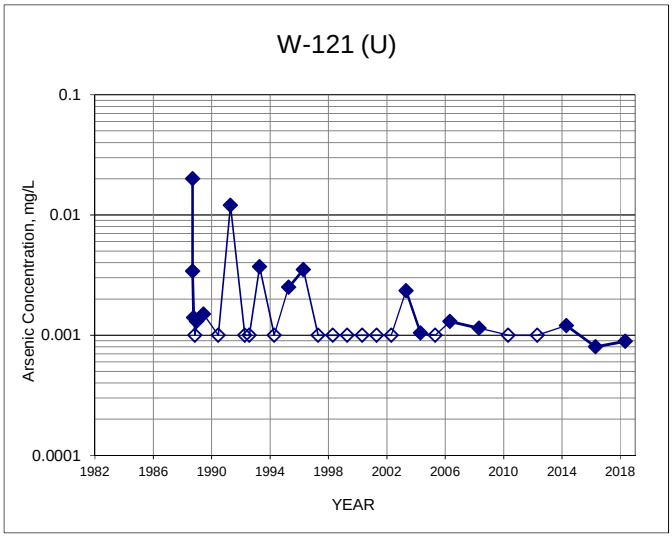
Figure A-1 Groundwater Containment System and Monitoring Well Network











EXPLANATION

◆ Arsenic was detected at the concentration indicated

◇ Arsenic was not detected above analytical detection limit

Figure A-2 Arsenic Data Upper-Shallow Perimeter Monitoring Wells M-9, W-105, W-107, W-114, and W-121

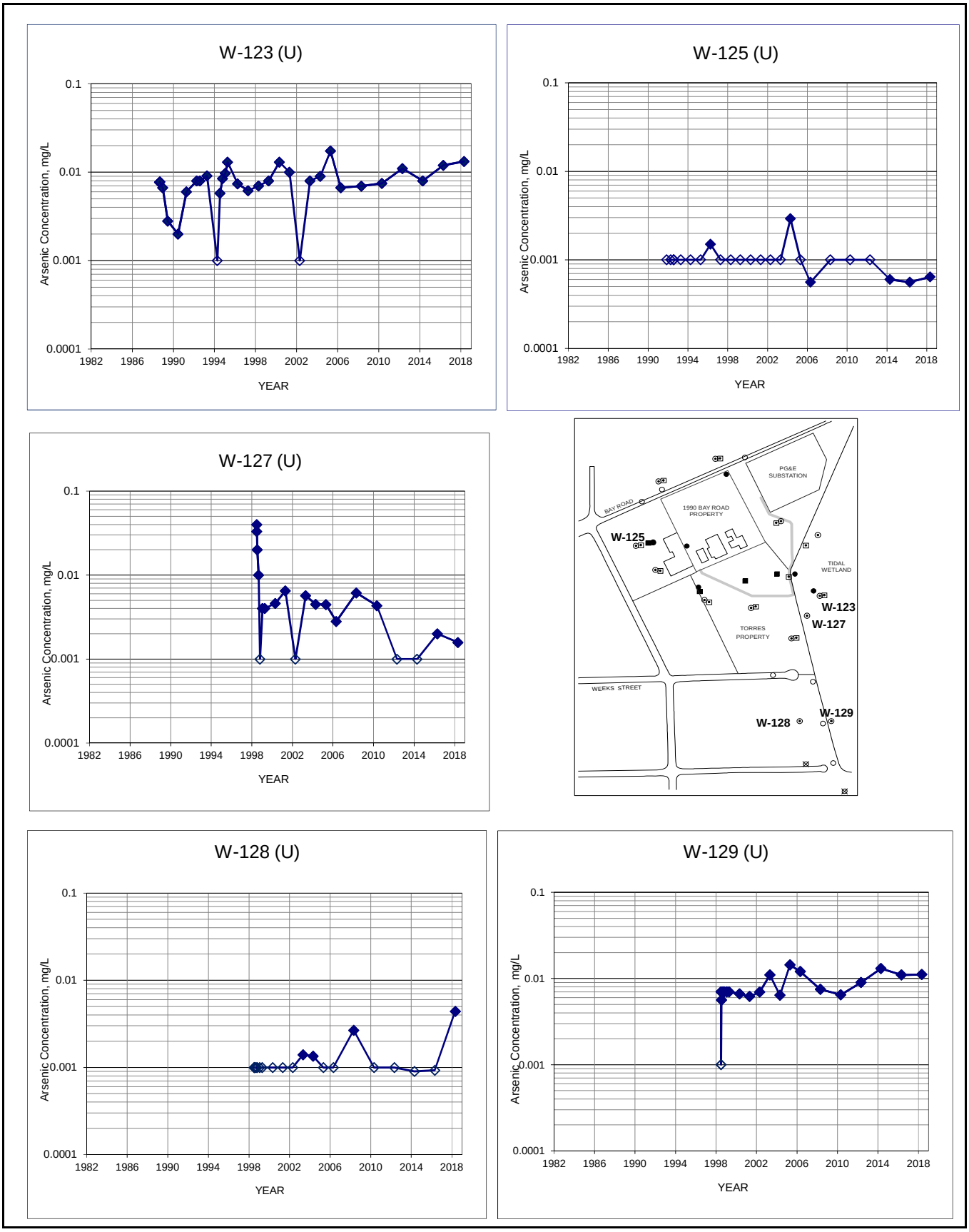
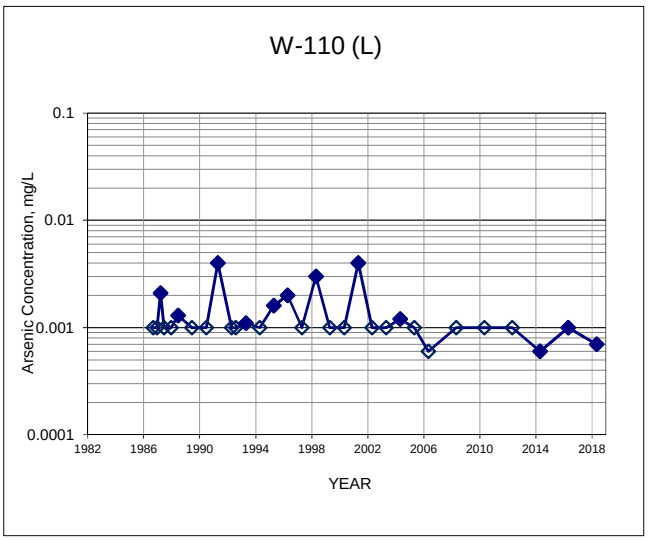
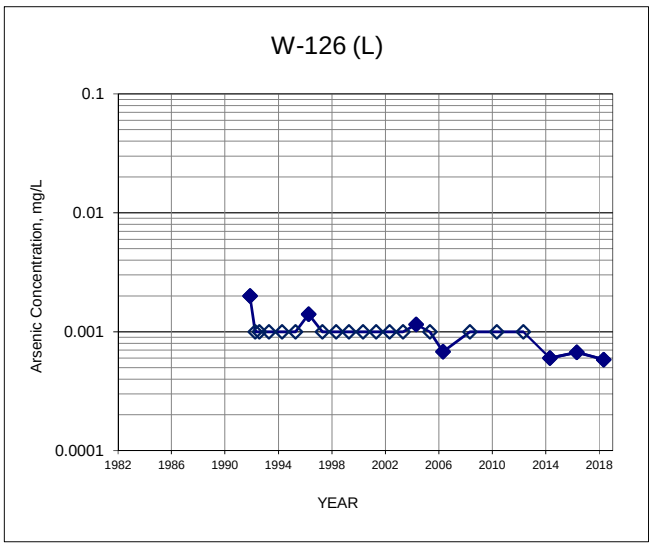
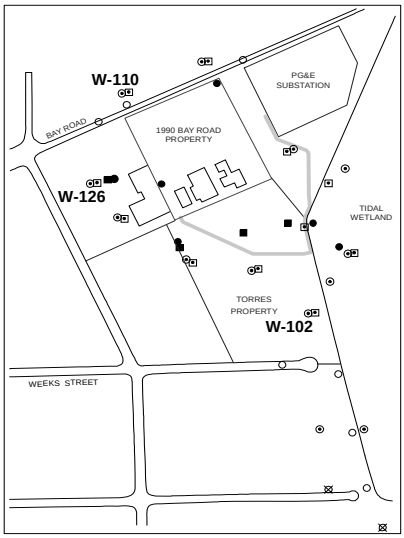


Figure A-3 Arsenic Data Upper-Shallow Perimeter Monitoring Wells W-123, W-125, W-127, W-128, and W-129







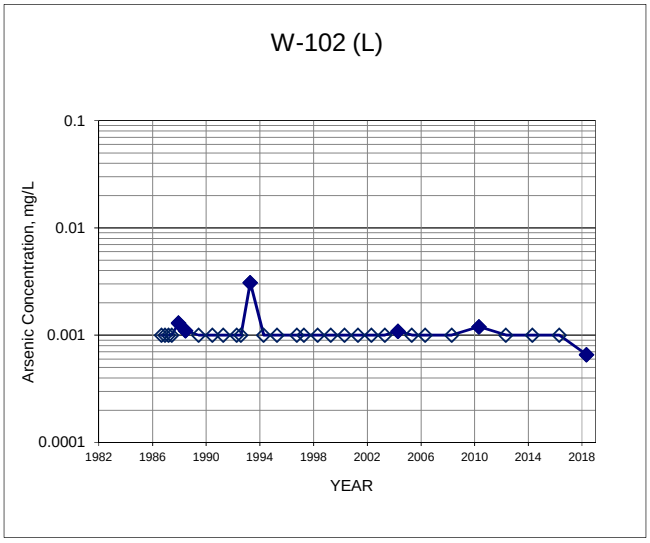
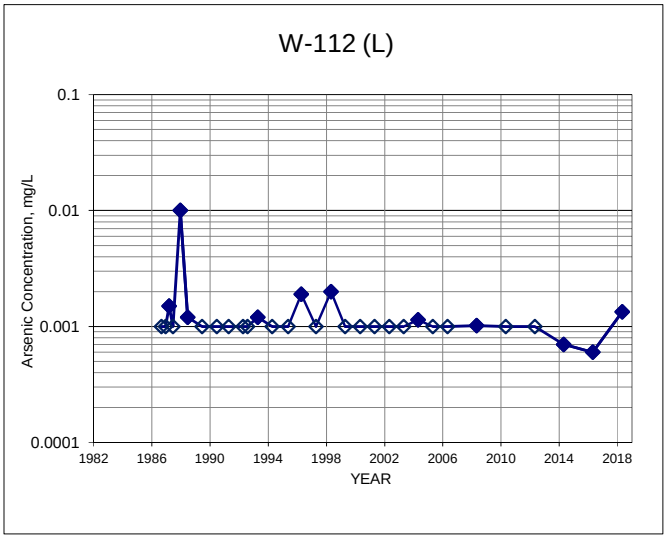
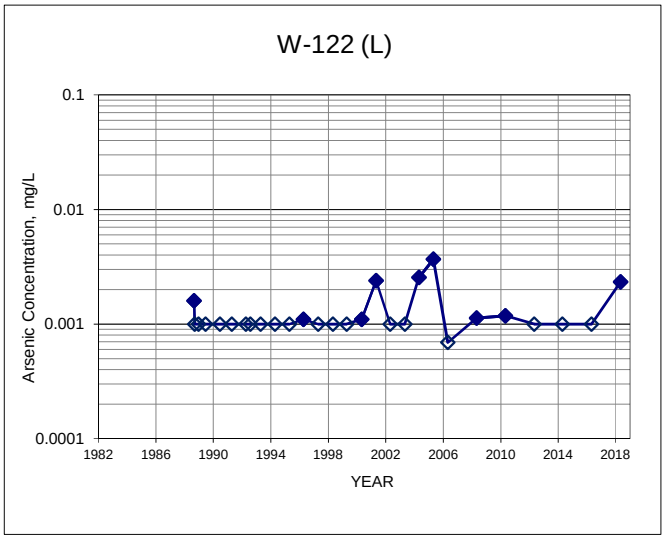
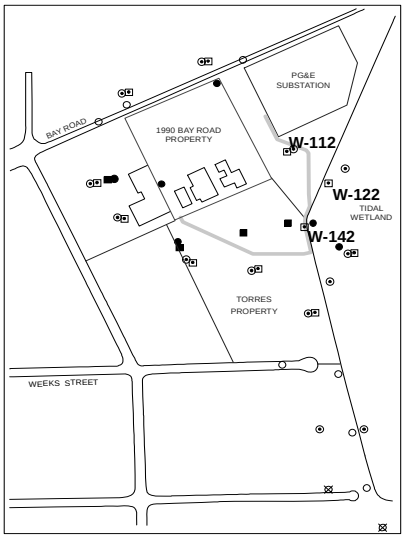


Figure A-4 Arsenic Data Lower-Shallow Perimeter Monitoring Wells, West and South of the Site







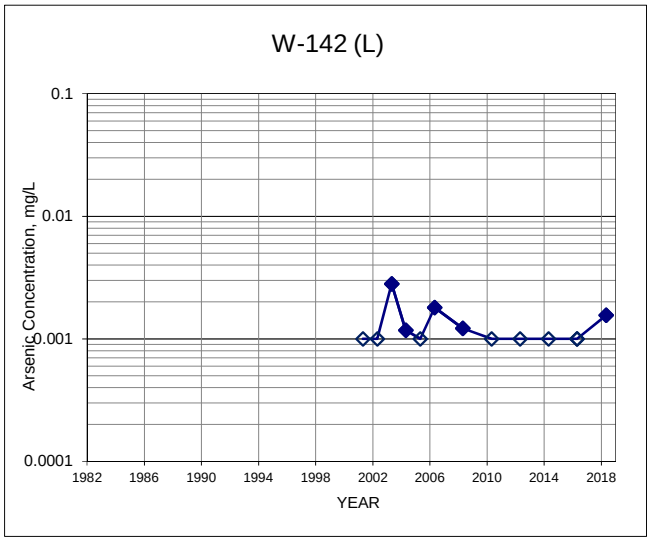


Figure A-5 Arsenic Data Lower-Shallow Perimeter Monitoring Wells, East of the Site

TABLES

TABLE A-1

AVERAGE WATER LEVEL ELEVATIONS AT W-139, W-140 AND W-141

1990 Bay Road Site
East Palo Alto, California

Year	Annual Average Elevation (ft msl)[1]			Is Criterion 1 Met[2]?
	W-139(A)	W-140 (B)	W-141 (C)	
2014	1.62	1.82	1.52	Yes
2015	1.68	2.05	1.64	Yes
2016	2.15	2.45	1.91	Yes
2017	2.61	2.76	2.45	Yes
2018	2.02	2.18	1.81	Yes

Notes:
1. ft msl - feet mean sea level
2. Criterion 1 requires that the water level at well W-141(C), on an average annual basis, is lower than the water levels at wells W-139(A) and W-140(B)

TABLE A-2
UPPER AND LOWER SHALLOW ZONE PERIMETER WELLS
GROUNDWATER MONITORING ANALYTICAL RESULTS
April 2014, 2016, and 2018

1990 Bay Road Site
East Palo Alto, California

Year	Arsenic Concentration milligrams per liter (mg/l)			
	Criterion	2014[2]	2016[3]	2018[4]
Upper Shallow Zone Wells				
M-9	0.05	0.013	0.016	0.0158
W-105	0.05	0.0006	0.00076	0.000732
W-107	0.05	0.0004	0.0005	0.000522
W-121	0.05	0.0012	0.0008	0.000889
W-123	0.05	0.008	0.012	0.0132
W-125	0.05	0.0006	0.00056	0.000643
W-127	0.05	ND(0.002)[5]	0.002	0.00158
W-128	0.05	0.0009	0.00093	0.00441
W-129	0.05	0.013	0.011	0.0111
Lower Shallow Zone Wells				
W-102	0.05	ND(0.002)	ND(0.001)	0.000658
W-110	0.05	0.0006	0.001	0.0007
W-112	0.05	0.0007	0.0006	0.00134
W-122	0.05	ND(0.002)	ND(0.001)	0.00234
W-126	0.05	0.0006	0.00067	0.000584
W-142	0.05	ND(0.002)	ND(0.001)[6]	0.00156

Notes:
1. Location of wells shown on Figure A-1.
2. Samples collected by Blaine Tech Services on April 17 and 18, 2014 and analyzed by Exova of Santa Fe Springs, California by EPA Method 200.8 SOP7040, Rev 12
3. Samples collected by Blaine Tech Services on April 20 and 21, 2016 and analyzed by Exova (West Coast Analytical Services) of Santa Fe Springs, California by EPA Method 200.8 with helium collision gas (SOP 7040 rev12).
4. Samples collected by Blaine Tech Services on April 30 and May 1, 2018 and analyzed by Brooks Applied Labs of Bothell, Washington by ICP-QQQ_MS EPA Method 1638 with In-Bottle Digestion. These results are qualified by a J-1 Qualifier: The arsenic recovery for the Standard Reference Material (B181118-SRM3) was greater than upper control limit of 130%, at 142%; the arsenic true value for B181118-SRM3 is just above the MRL. Subsequent analyses of the SRM yielded similar biased-high results. The remaining blank spike, reference material, and MS/MSD recoveries for arsenic were within acceptable limits. However, B181118-SRM3 is the only high salinity reference material analyzed with the samples. Consequently, all arsenic results in this batch that were above the MRL have been qualified "J-1" to reflect the discrepancy.
5. "ND" indicates that the concentration of arsenic was below the analytical detection limit shown in parentheses (e.g. ND(0.004) indicates arsenic was not detected above the 0.004 mg/l detection limit).
6. The concentration of arsenic in the sample collected from well W-142 in 2016 was initially reported as 0.01 mg/l (Job No. 203884) but the original result was determined to be biased high due to carryover from a previous sample (non-conformance report N17889). The sample was retested in duplicate and results of both reanalyzed samples were less than the analytical detection limit of 0.001 mg/l.

Appendix B

Arsenic Concentrations in Monitoring Wells
1990 Bay Road Site
East Palo Alto, California

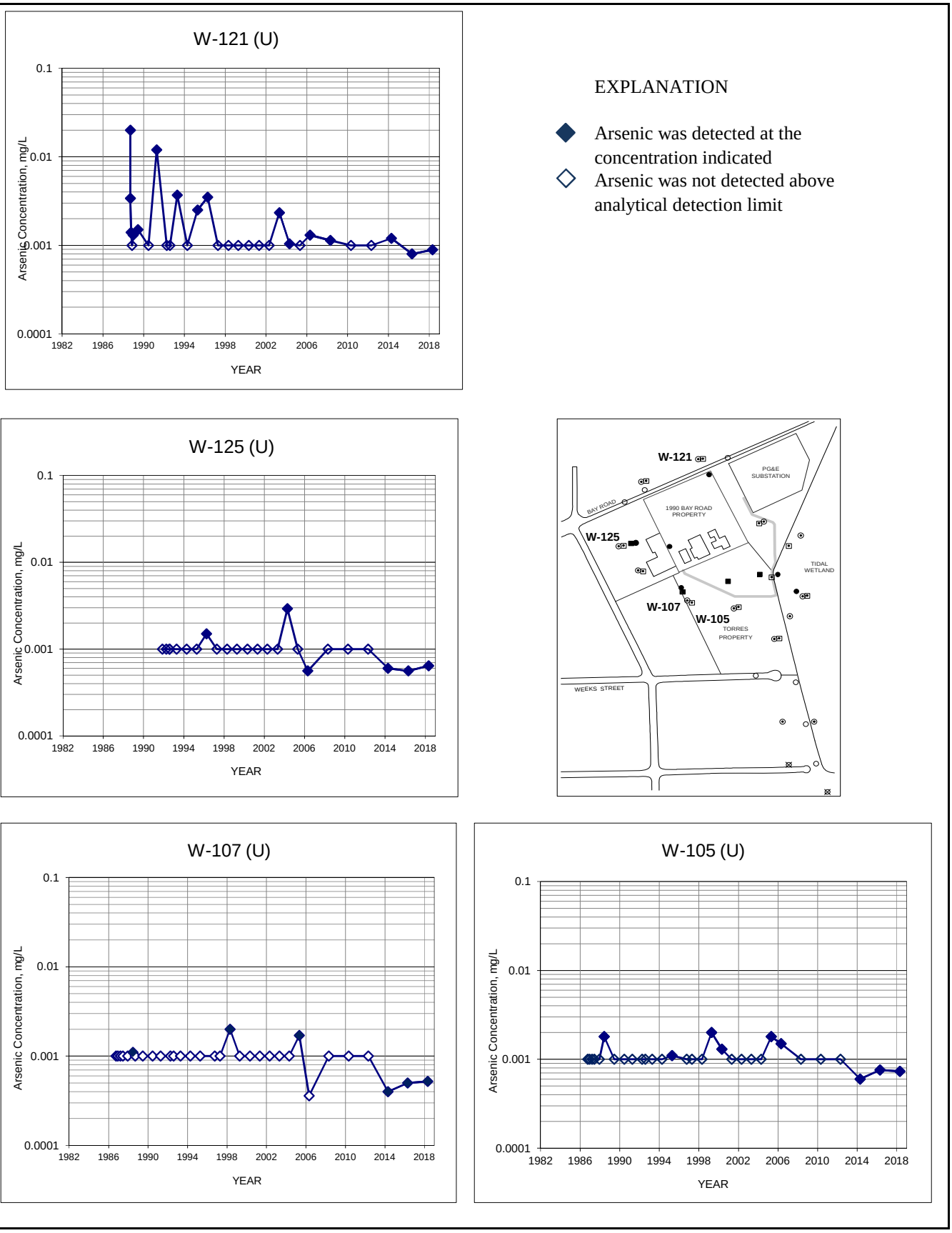
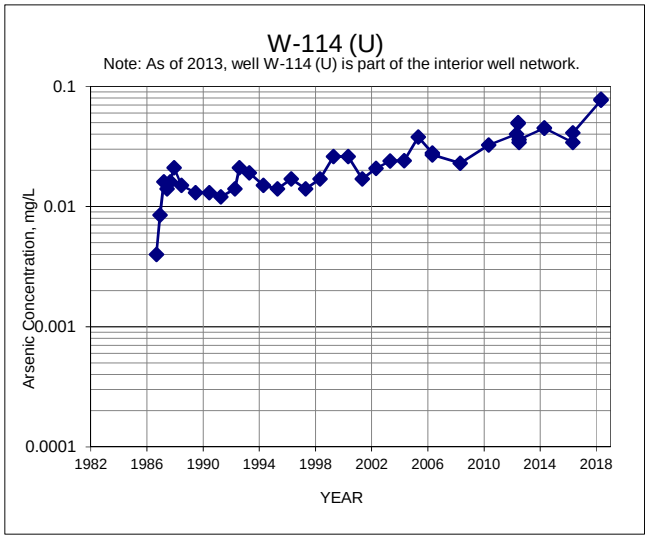
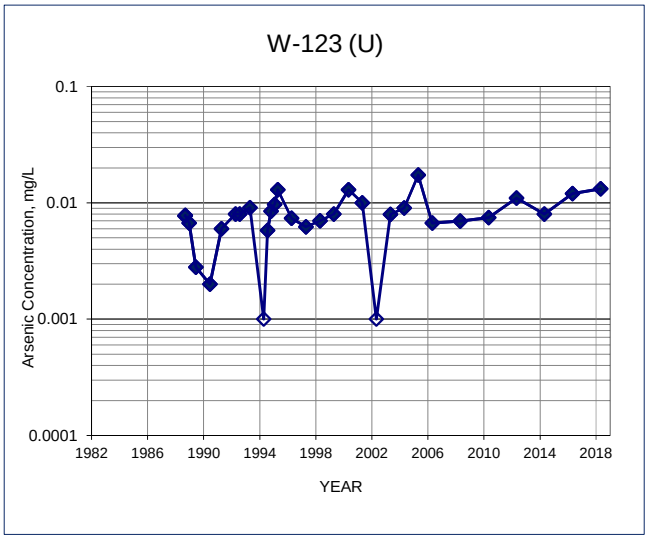


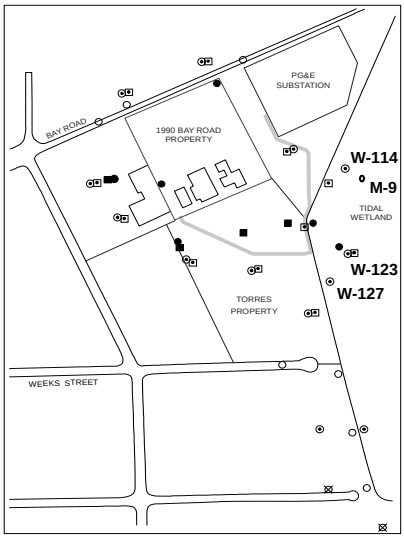
Figure B-1 Arsenic Data Upper-Shallow Perimeter Monitoring Wells, West, North and South of the Site

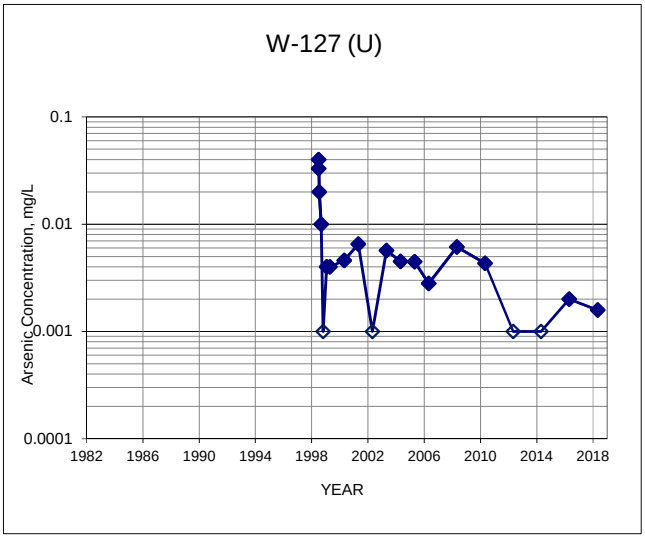


EXPLANATION

- ◆ Arsenic was detected at the concentration indicated
- ◇ Arsenic was not detected above analytical detection limit







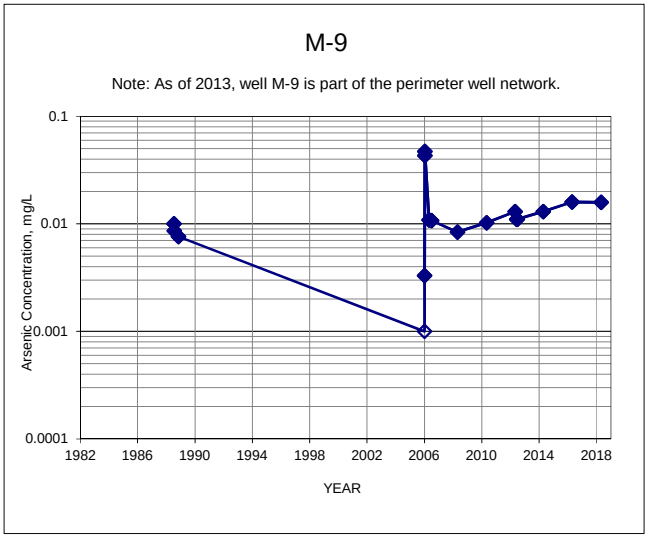


Figure B-2 Arsenic Data Upper-Shallow Perimeter Monitoring Wells, Tidal Marsh

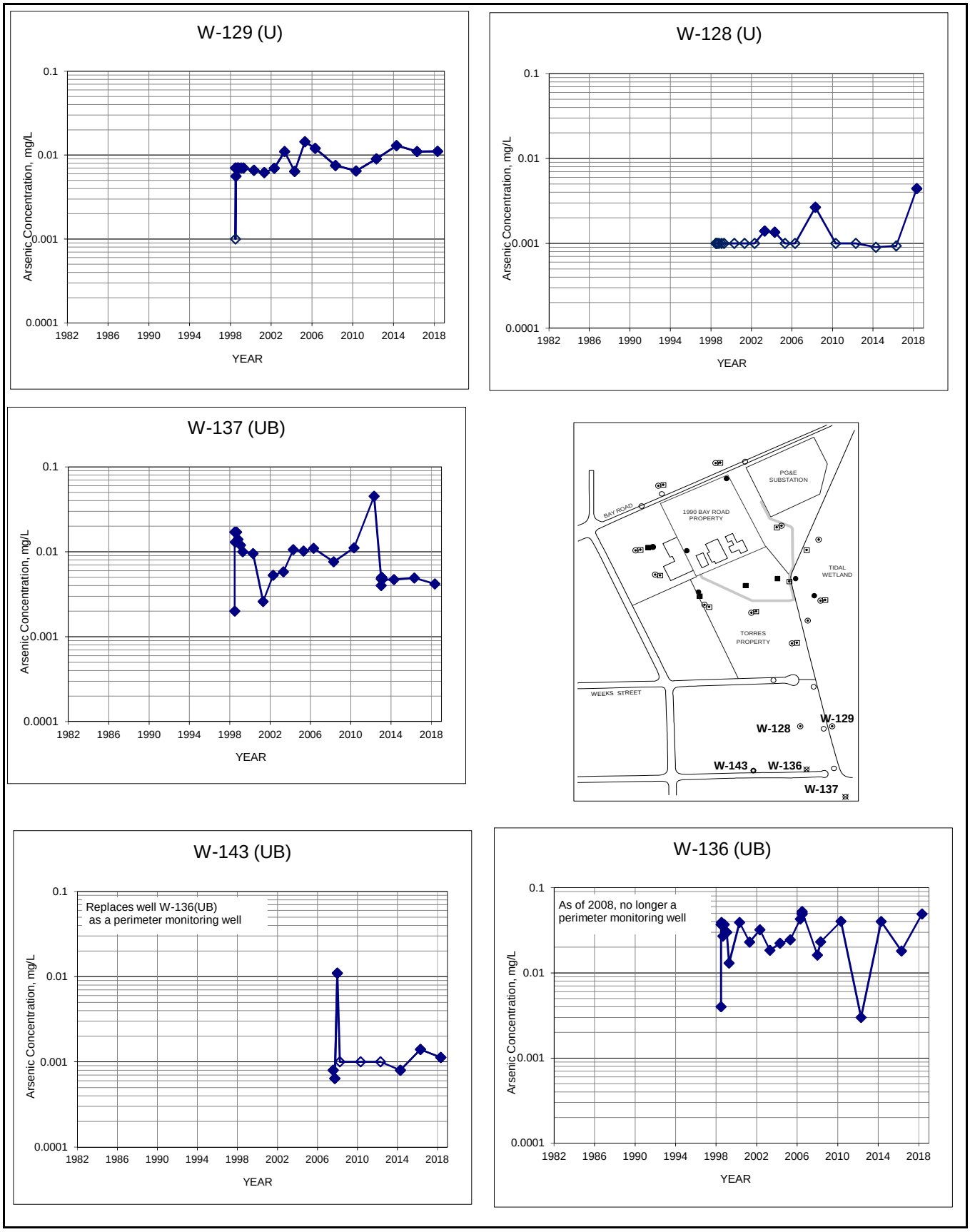
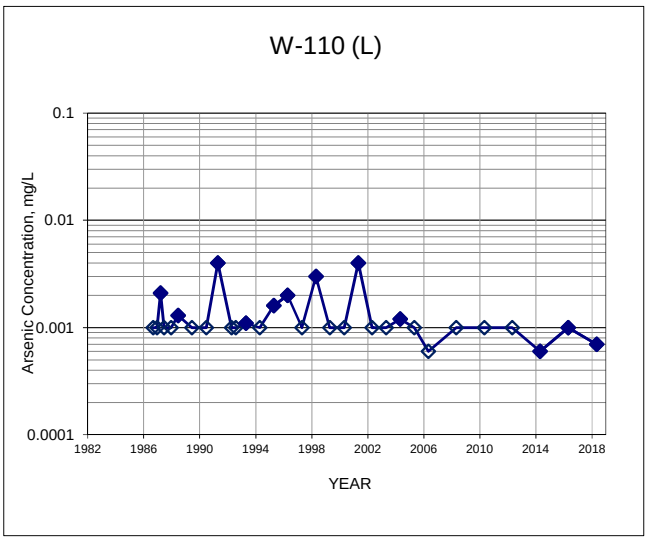
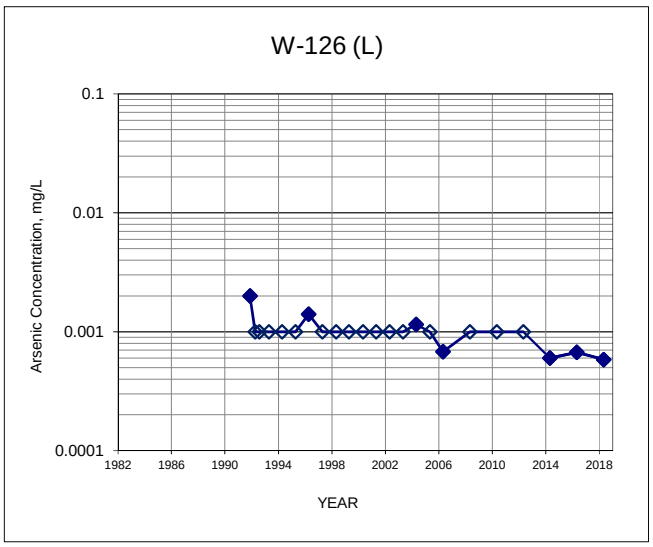
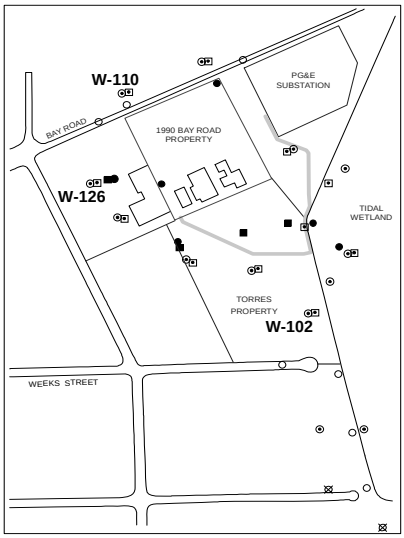
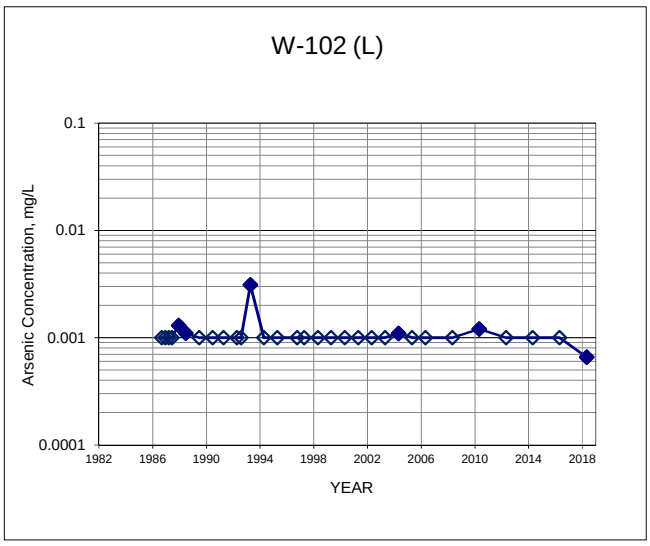


Figure B-3 Arsenic Data Upper-Shallow Perimeter Monitoring Wells, South of Weeks Street





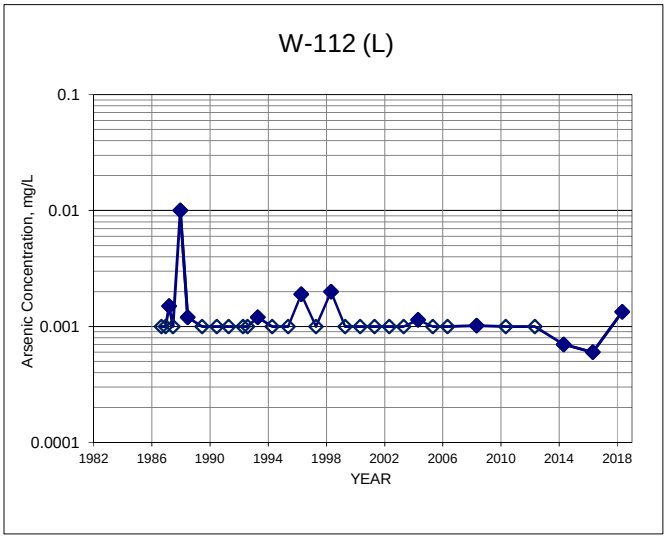


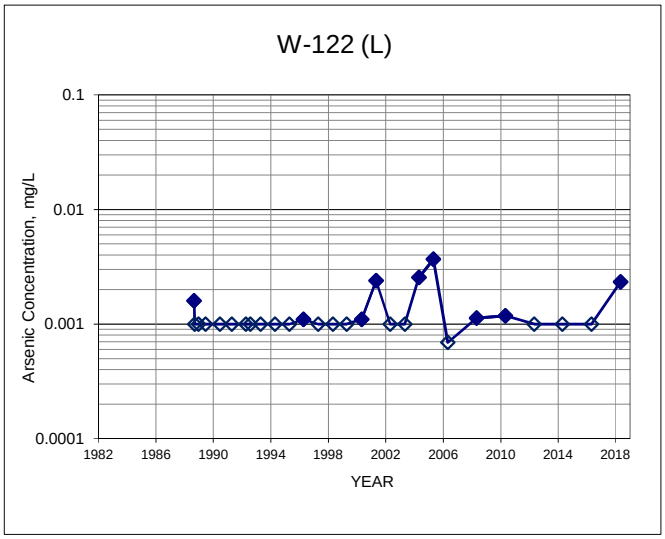


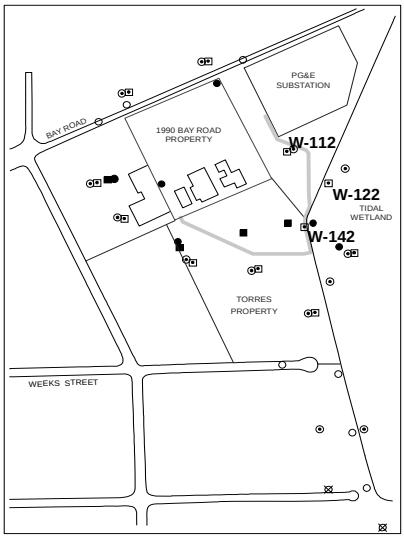
EXPLANATION

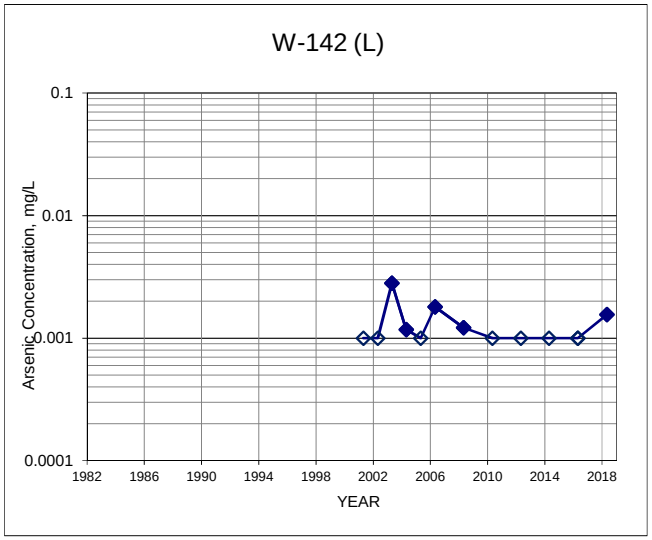
- ◆ Arsenic was detected at the concentration indicated
- ◇ Arsenic was not detected above analytical detection limit

Figure B-4 Arsenic Data Lower-Shallow Perimeter Monitoring Wells, West and South of the Site







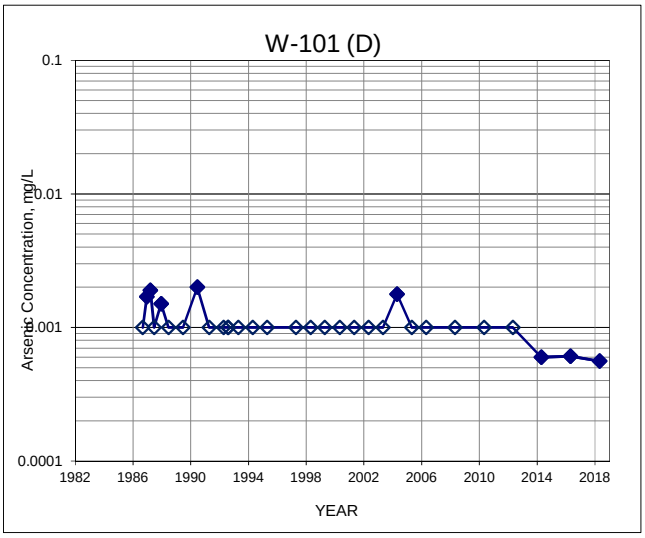


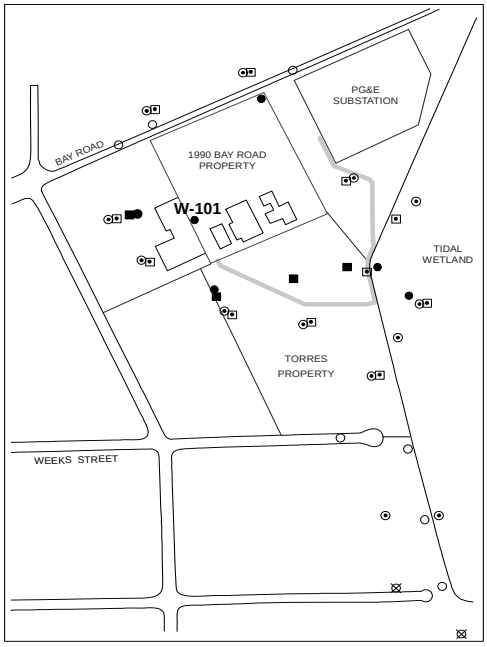
EXPLANATION

◆ Arsenic was detected at the concentration indicated

◇ Arsenic was not detected above analytical detection limit

Figure B-5 Arsenic Data Lower-Shallow Perimeter Monitoring Wells, East of the Site



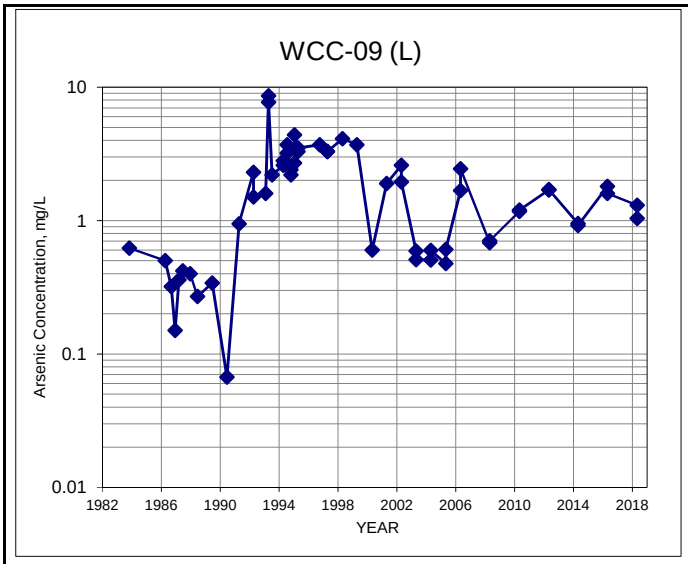


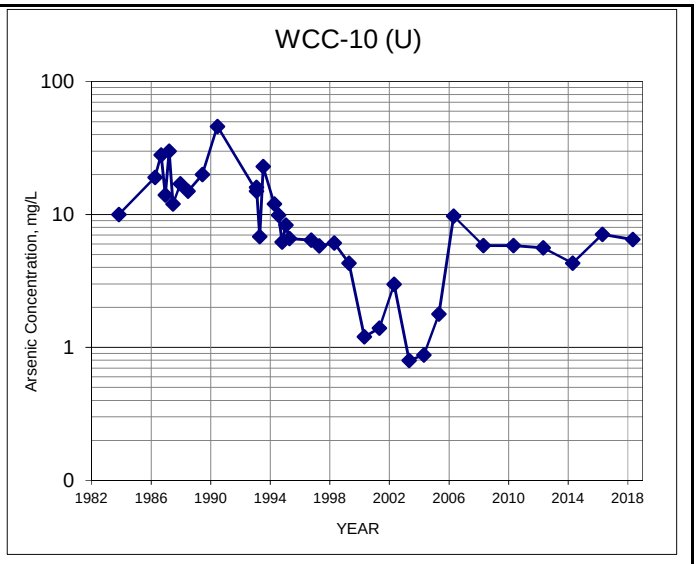
EXPLANATION

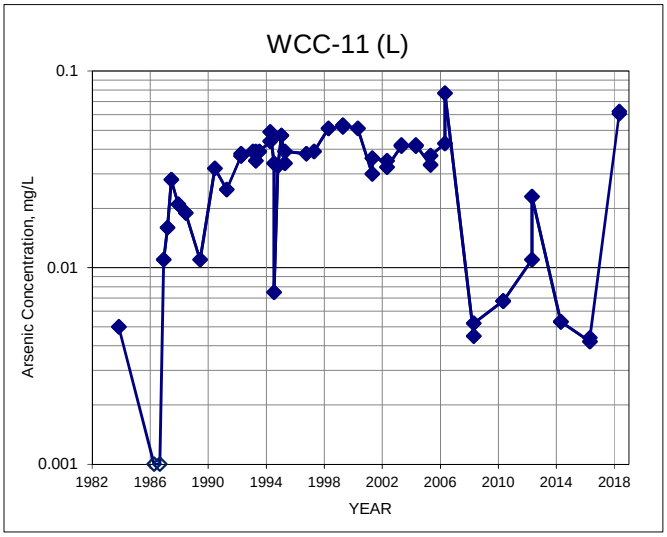
◆ Arsenic was detected at the concentration indicated

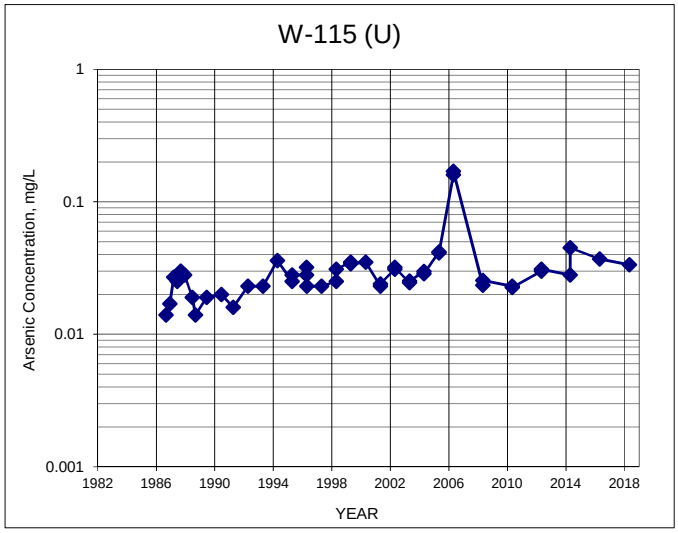
◇ Arsenic was not detected above analytical detection limit

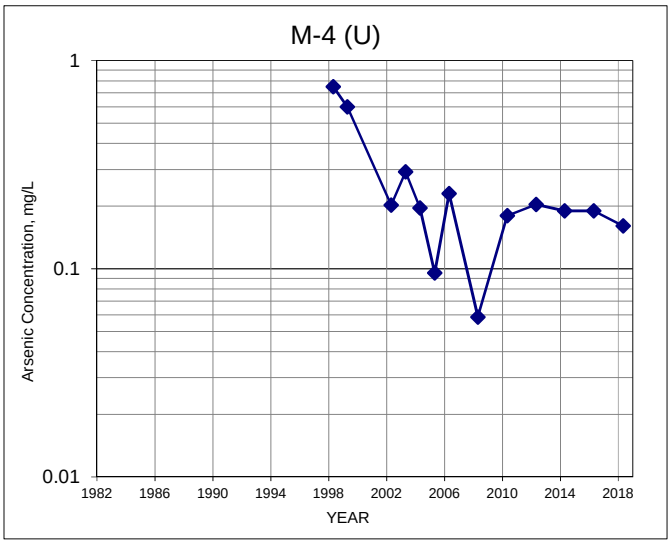
Figure B-6 Arsenic Data Deep Monitoring Well











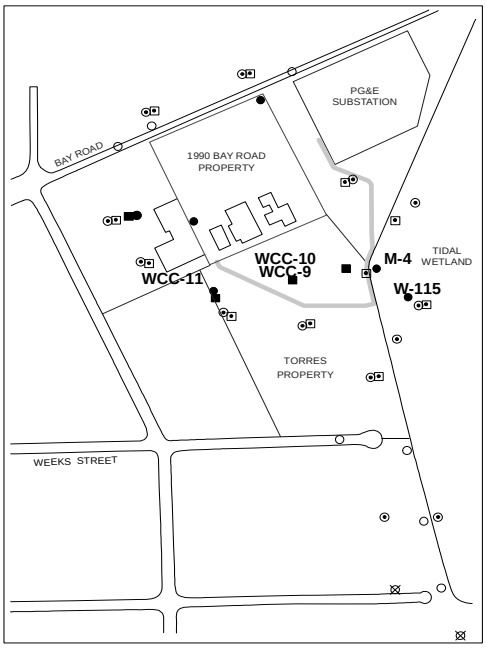
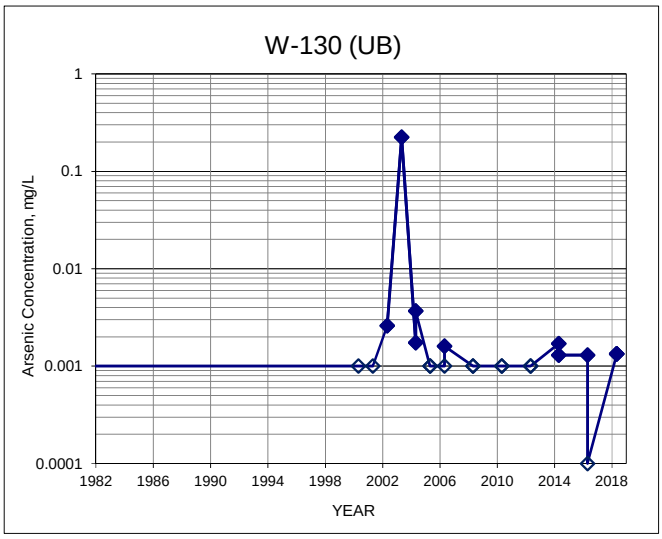
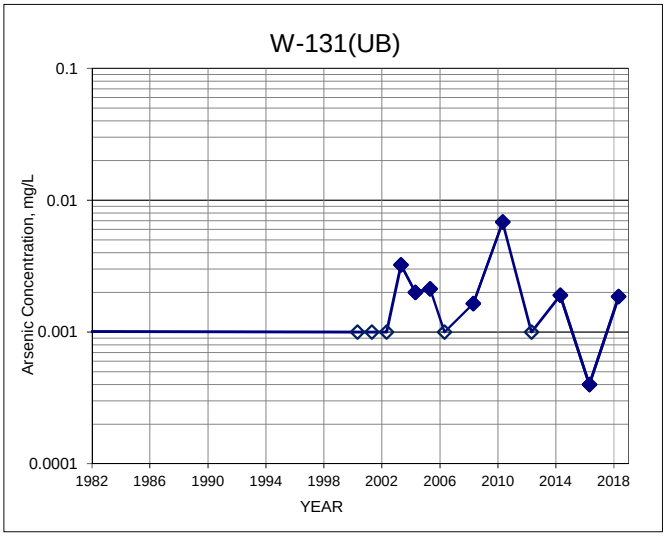
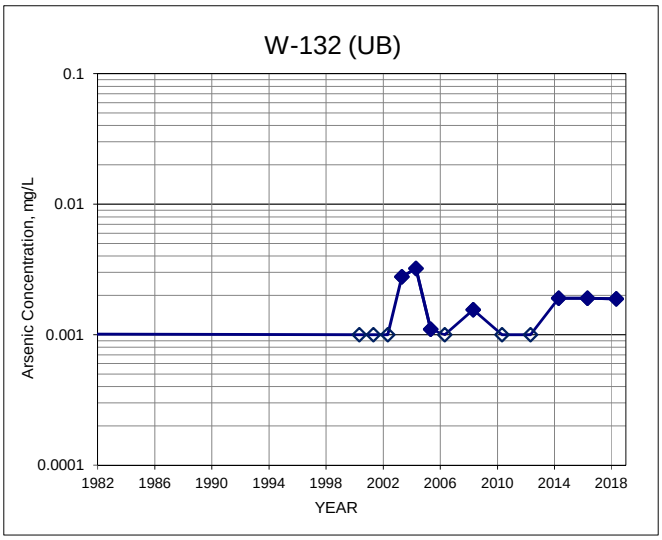
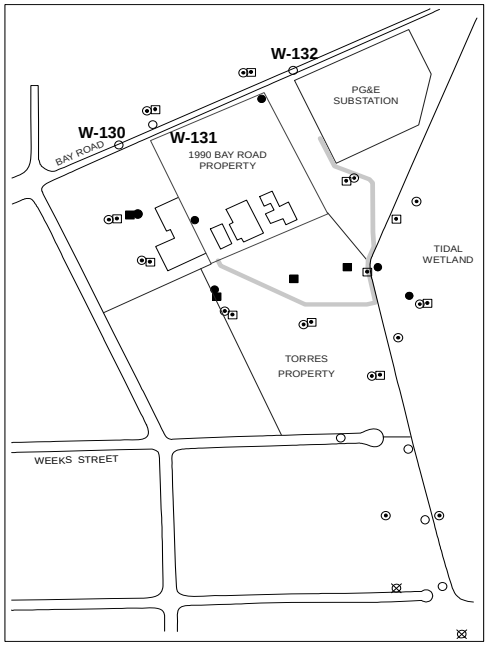


Figure B-7 Arsenic Data Interior Monitoring Wells







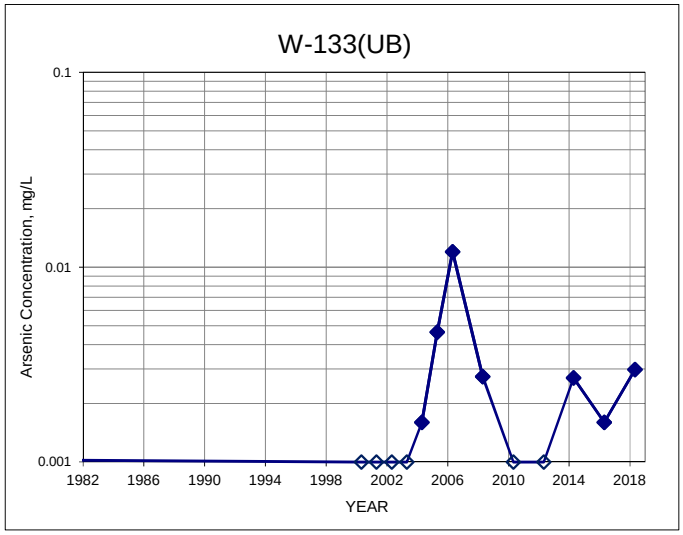


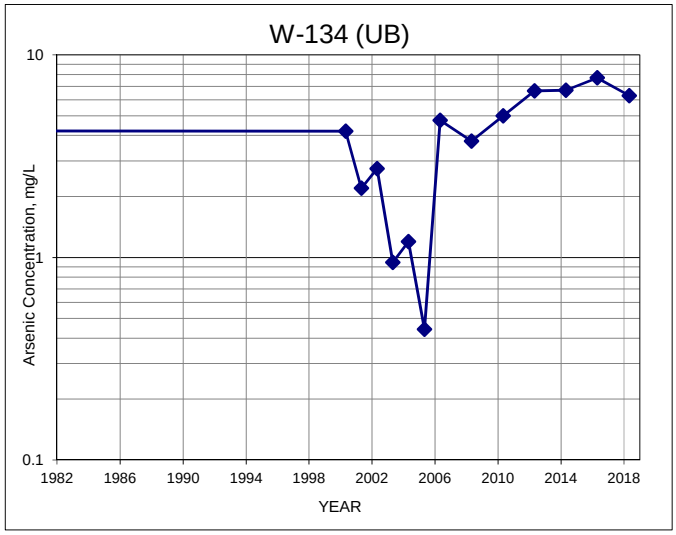
EXPLANATION

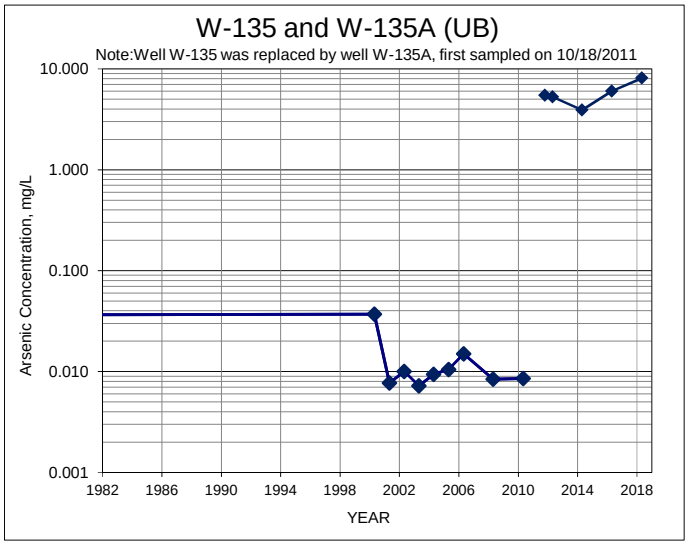
◆ Arsenic was detected at the concentration indicated

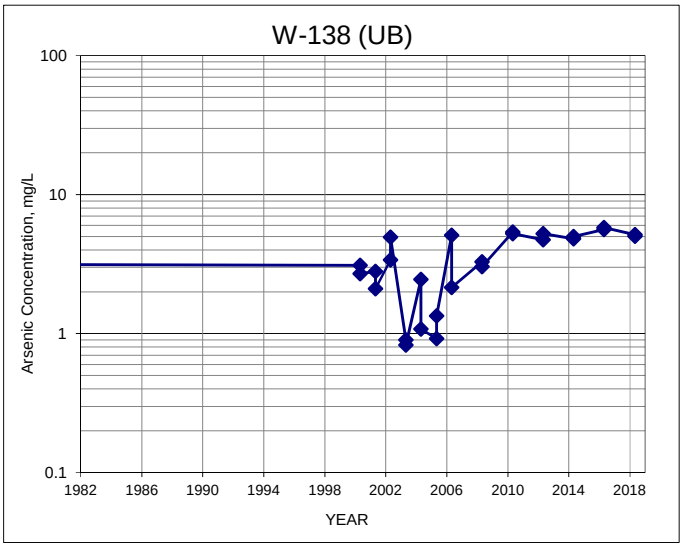
◇ Arsenic was not detected above analytical detection limit

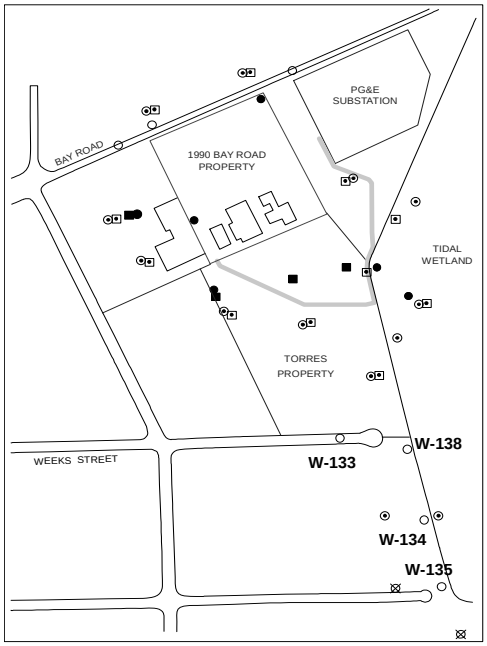
Figure B-8 Arsenic Data Utility Backfill Monitoring Wells along Bay Road











EXPLANATION

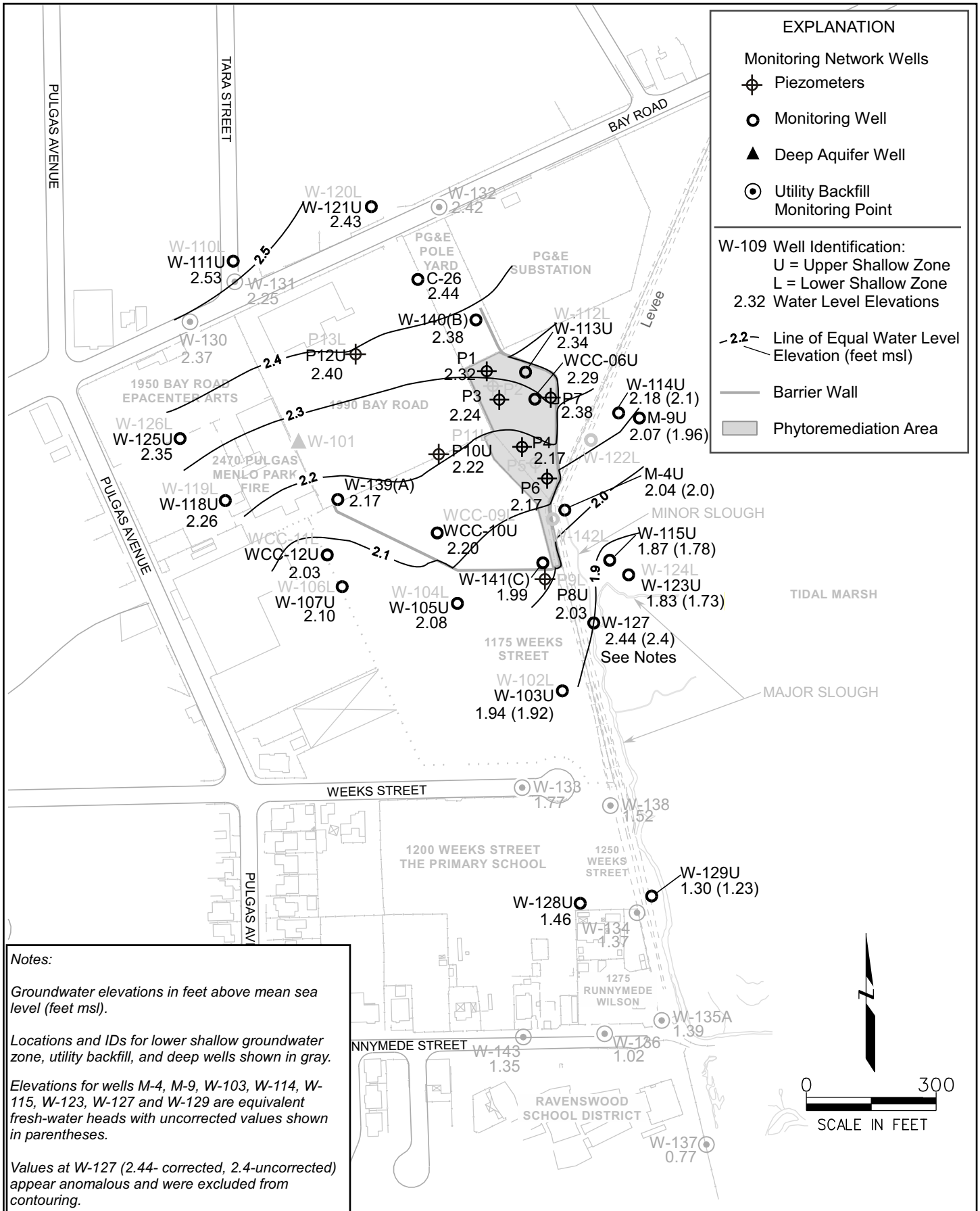
◆ Arsenic was detected at the concentration indicated

◇ Arsenic was not detected above analytical detection limit

Figure B-9 Arsenic Data Utility Backfill Monitoring Wells South of the Site

Appendix C

Potentiometric Surface Maps
2014-2018
1990 Bay Road Site
East Palo Alto, California



Notes:

Groundwater elevations in feet above mean sea level (feet msl).

Locations and IDs for lower shallow groundwater zone, utility backfill, and deep wells shown in gray.

Elevations for wells M-4, M-9, W-103, W-114, W-115, W-123, W-127 and W-129 are equivalent fresh-water heads with uncorrected values shown in parentheses.

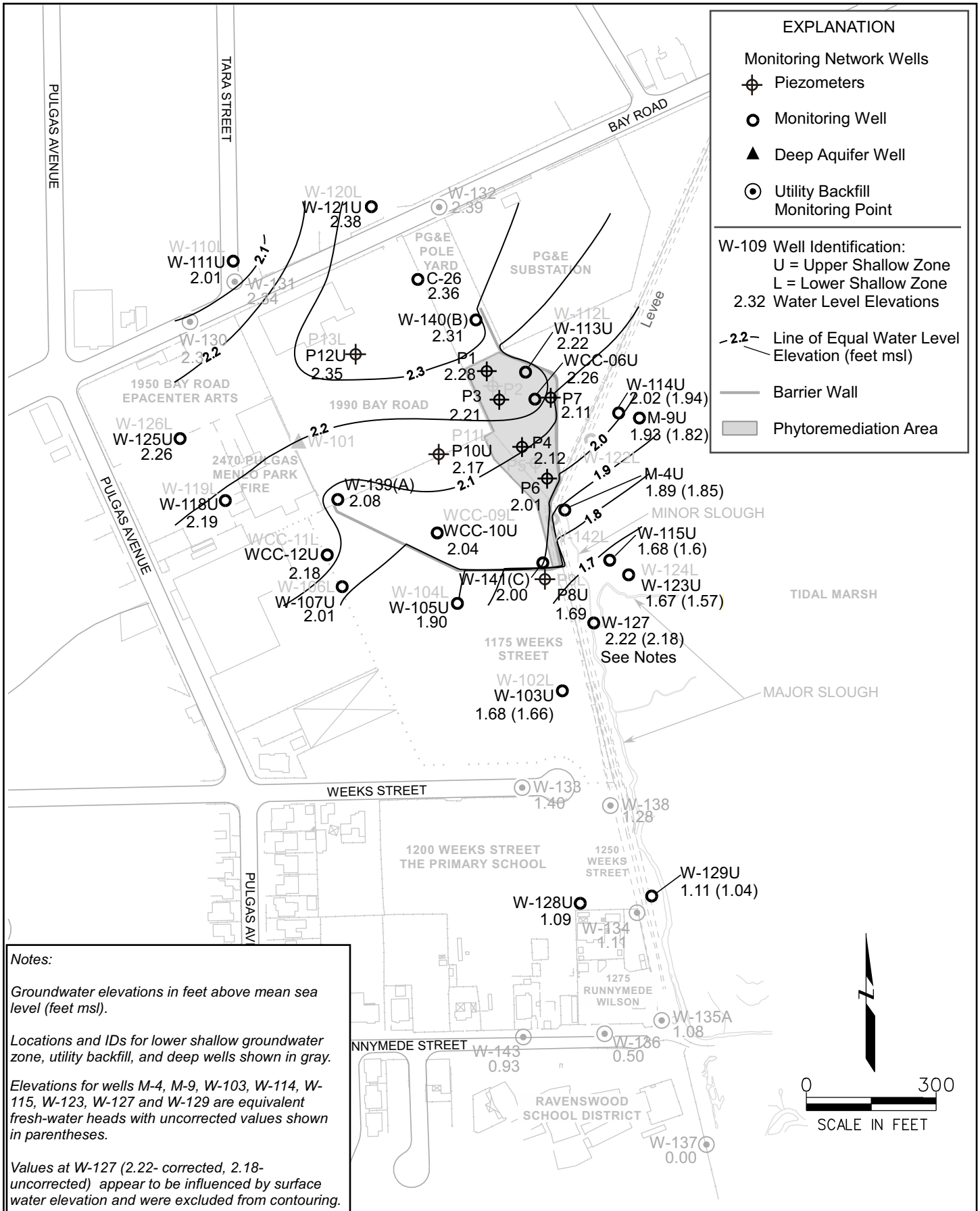
Values at W-127 (2.44- corrected, 2.4-uncorrected) appear anomalous and were excluded from contouring.

UPPER SHALLOW GROUNDWATER ZONE WATER LEVELS
APRIL 17, 2014

Figure C-1

S.S. Papadopulos & Associates, Inc.

1990 Bay Road Site Vicinity
East Palo Alto, California



Notes:

Groundwater elevations in feet above mean sea level (feet msl).

Locations and IDs for lower shallow groundwater zone, utility backfill, and deep wells shown in gray.

Elevations for wells M-4, M-9, W-103, W-114, W-115, W-123, W-127 and W-129 are equivalent fresh-water heads with uncorrected values shown in parentheses.

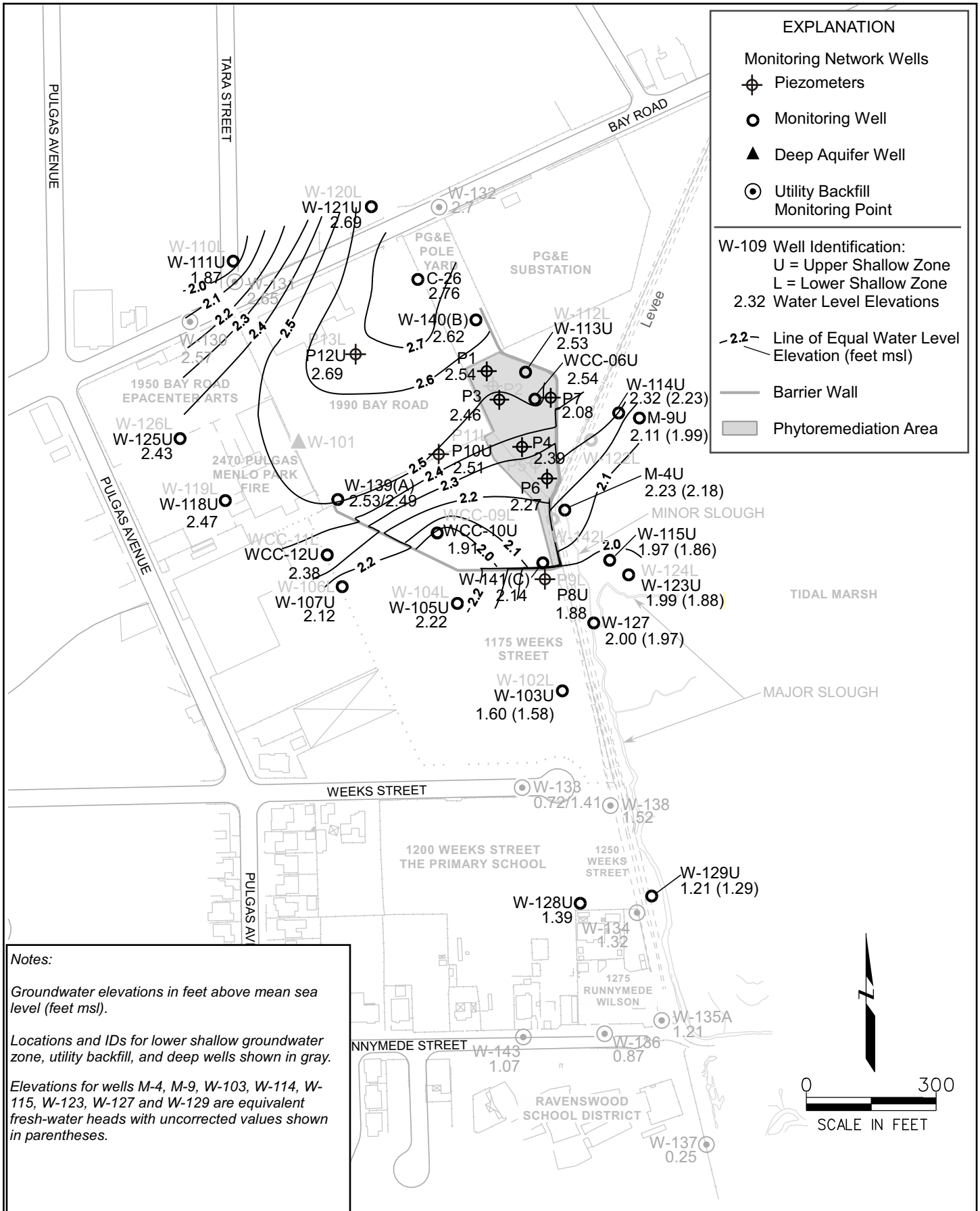
Values at W-127 (2.22- corrected, 2.18- uncorrected) appear to be influenced by surface water elevation and were excluded from contouring.

UPPER SHALLOW GROUNDWATER ZONE WATER LEVELS
APRIL 21, 2015

1990 Bay Road Site Vicinity
East Palo Alto, California

S.S. Papadopulos & Associates, Inc.

Figure C-2



Notes:

Groundwater elevations in feet above mean sea level (feet msl).

Locations and IDs for lower shallow groundwater zone, utility backfill, and deep wells shown in gray.

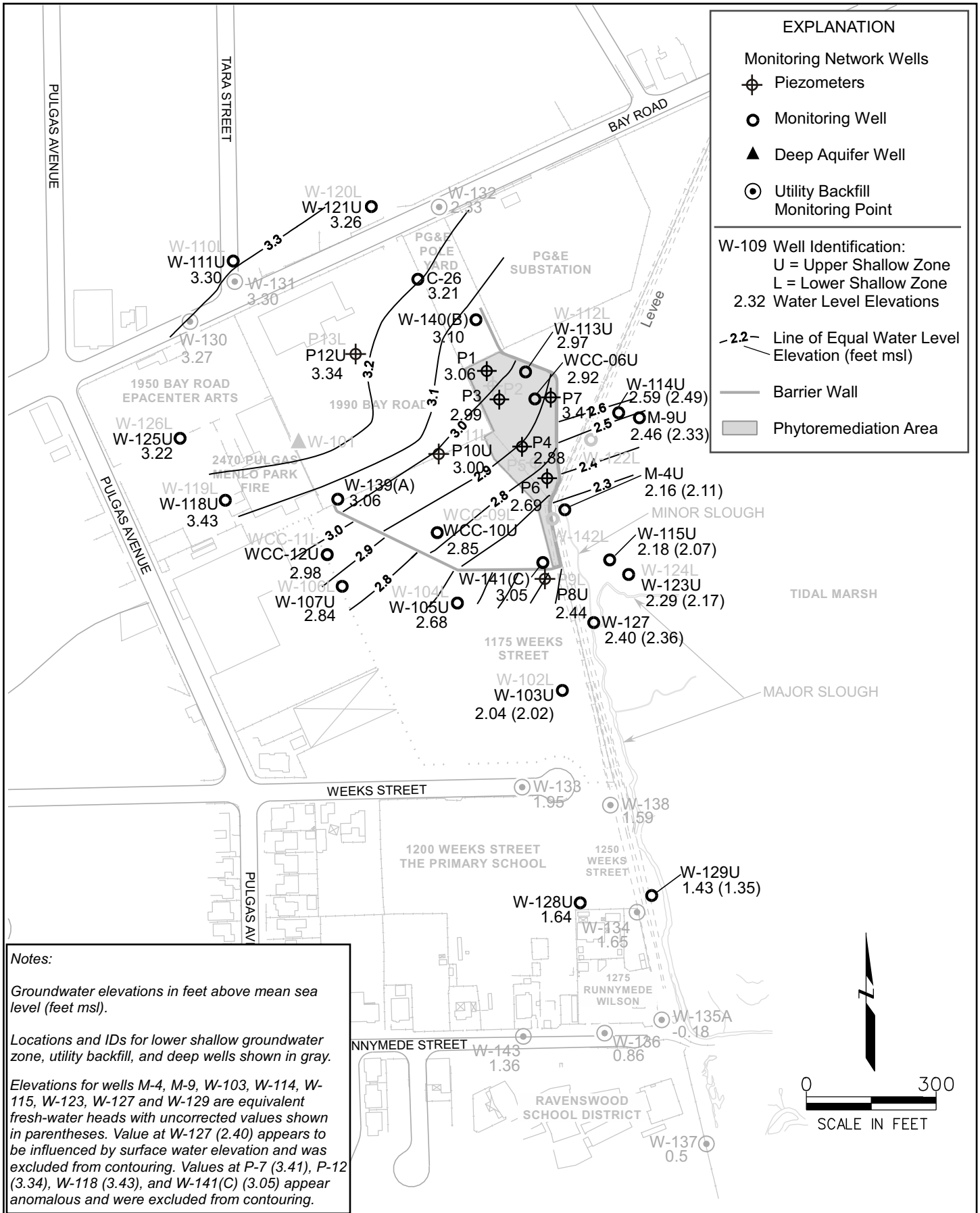
Elevations for wells M-4, M-9, W-103, W-114, W-115, W-123, W-127 and W-129 are equivalent fresh-water heads with uncorrected values shown in parentheses.

UPPER SHALLOW GROUNDWATER ZONE WATER LEVELS
APRIL 21, 2016

1990 Bay Road Site Vicinity
East Palo Alto, California

S.S. Papadopulos & Associates, Inc.

Figure C-3



Notes:

Groundwater elevations in feet above mean sea level (feet msl).

Locations and IDs for lower shallow groundwater zone, utility backfill, and deep wells shown in gray.

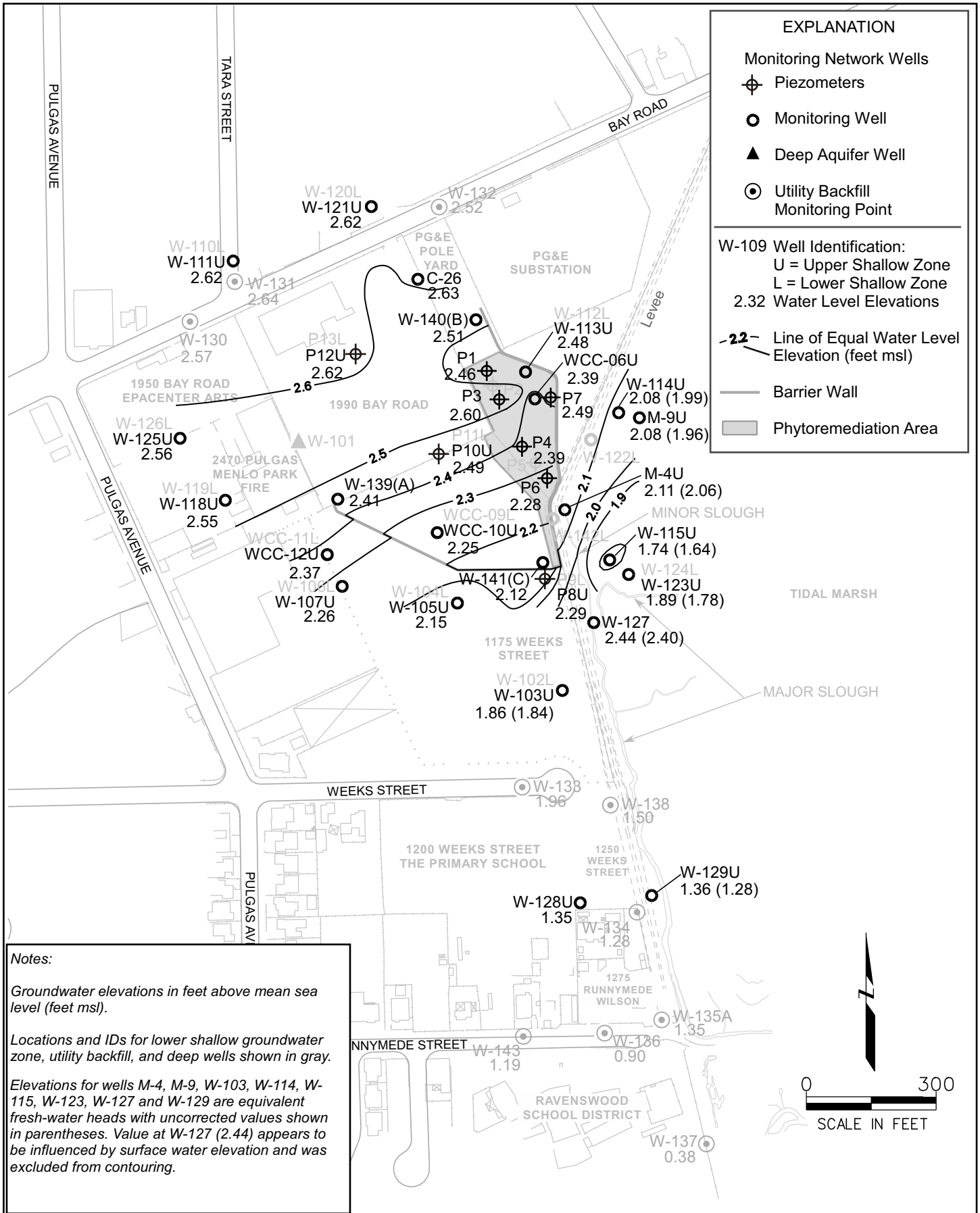
Elevations for wells M-4, M-9, W-103, W-114, W-115, W-123, W-127 and W-129 are equivalent fresh-water heads with uncorrected values shown in parentheses. Value at W-127 (2.40) appears to be influenced by surface water elevation and was excluded from contouring. Values at P-7 (3.41), P-12 (3.34), W-118 (3.43), and W-141(C) (3.05) appear anomalous and were excluded from contouring.

UPPER SHALLOW GROUNDWATER ZONE WATER LEVELS
APRIL 17, 2017

Figure C-4

S.S. Papadopulos & Associates, Inc.

1990 Bay Road Site Vicinity
East Palo Alto, California



Notes:

Groundwater elevations in feet above mean sea level (feet msl).

Locations and IDs for lower shallow groundwater zone, utility backfill, and deep wells shown in gray.

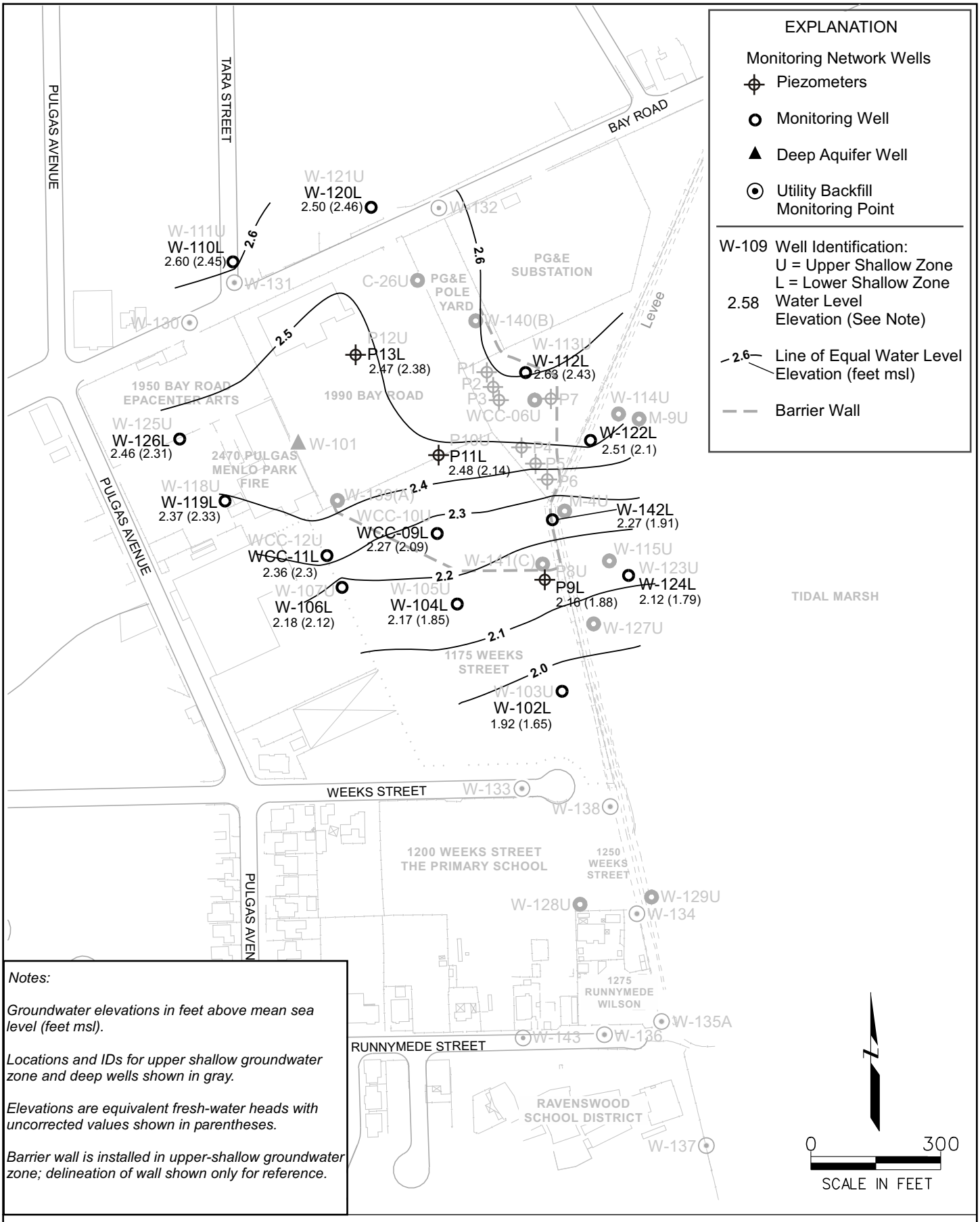
Elevations for wells M-4, M-9, W-103, W-114, W-115, W-123, W-127 and W-129 are equivalent fresh-water heads with uncorrected values shown in parentheses. Value at W-127 (2.44) appears to be influenced by surface water elevation and was excluded from contouring.

UPPER SHALLOW GROUNDWATER ZONE WATER LEVELS
APRIL 30, 2018

Figure C-5

S.S. Papadopulos & Associates, Inc.

1990 Bay Road Site Vicinity
East Palo Alto, California



Notes:

Groundwater elevations in feet above mean sea level (feet msl).

Locations and IDs for upper shallow groundwater zone and deep wells shown in gray.

Elevations are equivalent fresh-water heads with uncorrected values shown in parentheses.

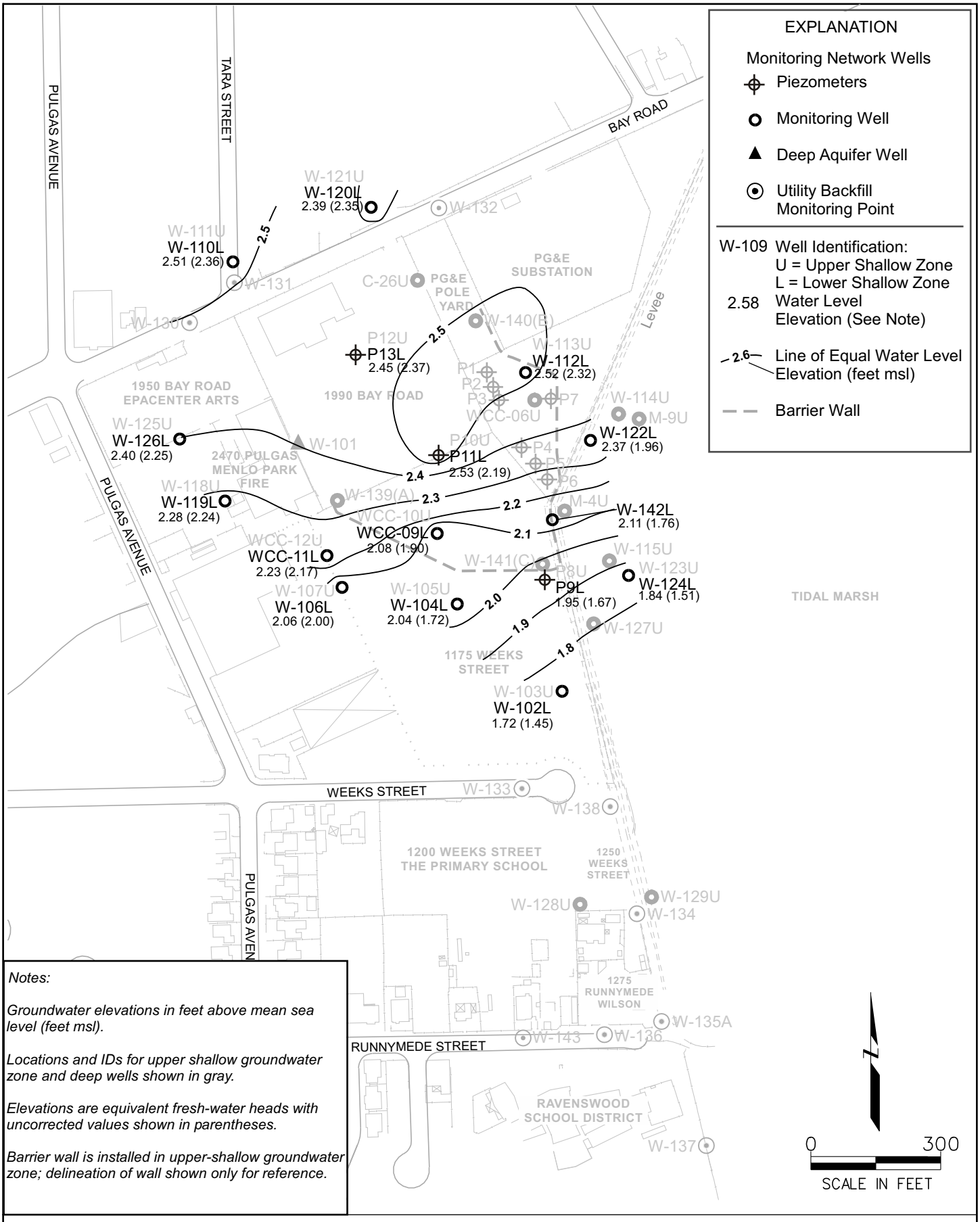
Barrier wall is installed in upper-shallow groundwater zone; delineation of wall shown only for reference.

LOWER SHALLOW GROUNDWATER ZONE WATER LEVELS
APRIL 17, 2014

1990 Bay Road Site Vicinity
East Palo Alto, California

S.S. Papadopulos & Associates, Inc.

Figure C-6



Notes:

Groundwater elevations in feet above mean sea level (feet msl).

Locations and IDs for upper shallow groundwater zone and deep wells shown in gray.

Elevations are equivalent fresh-water heads with uncorrected values shown in parentheses.

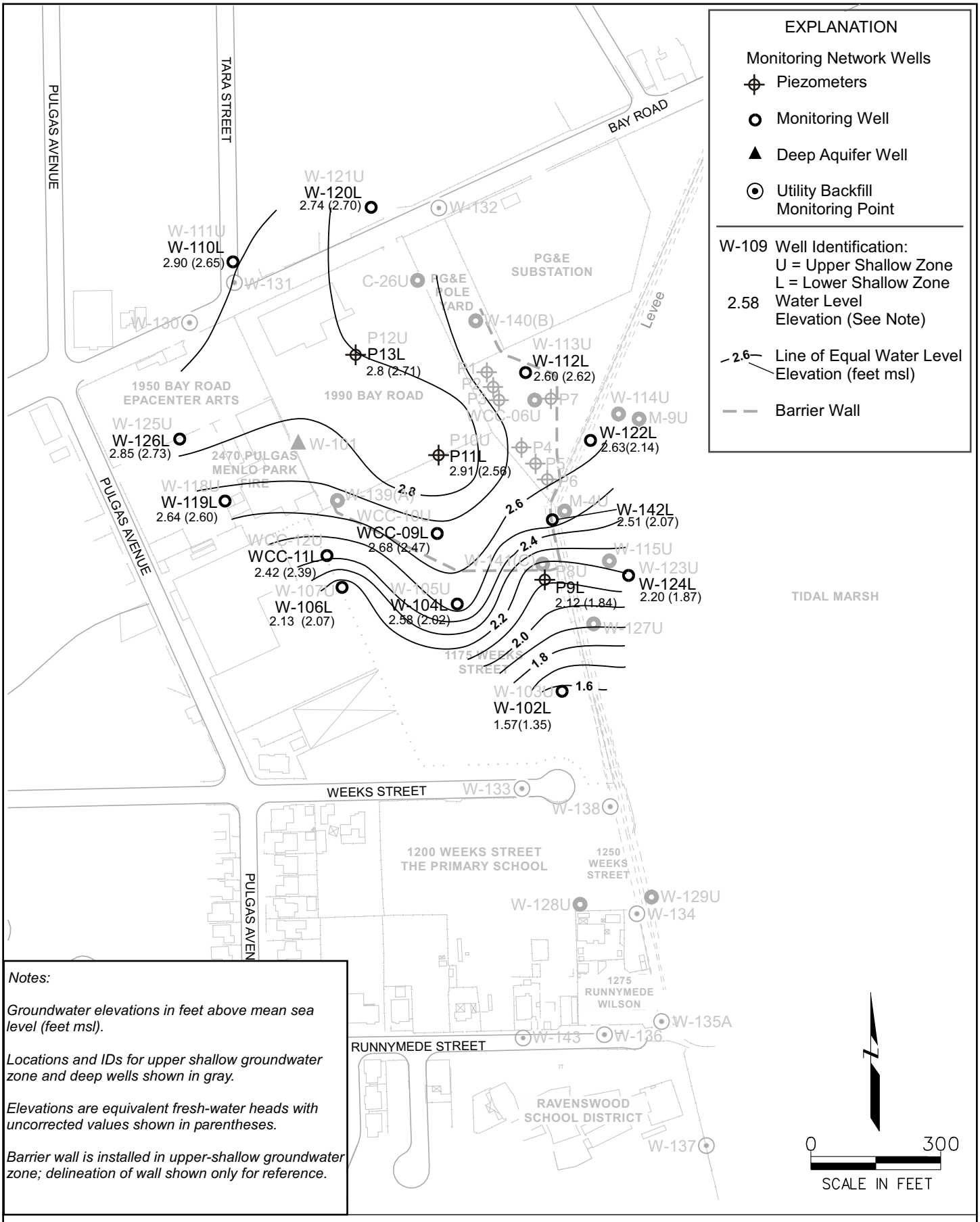
Barrier wall is installed in upper-shallow groundwater zone; delineation of wall shown only for reference.

LOWER SHALLOW GROUNDWATER ZONE WATER LEVELS
APRIL 21, 2015

1990 Bay Road Site Vicinity
East Palo Alto, California

S.S. Papadopulos & Associates, Inc.

Figure C-7

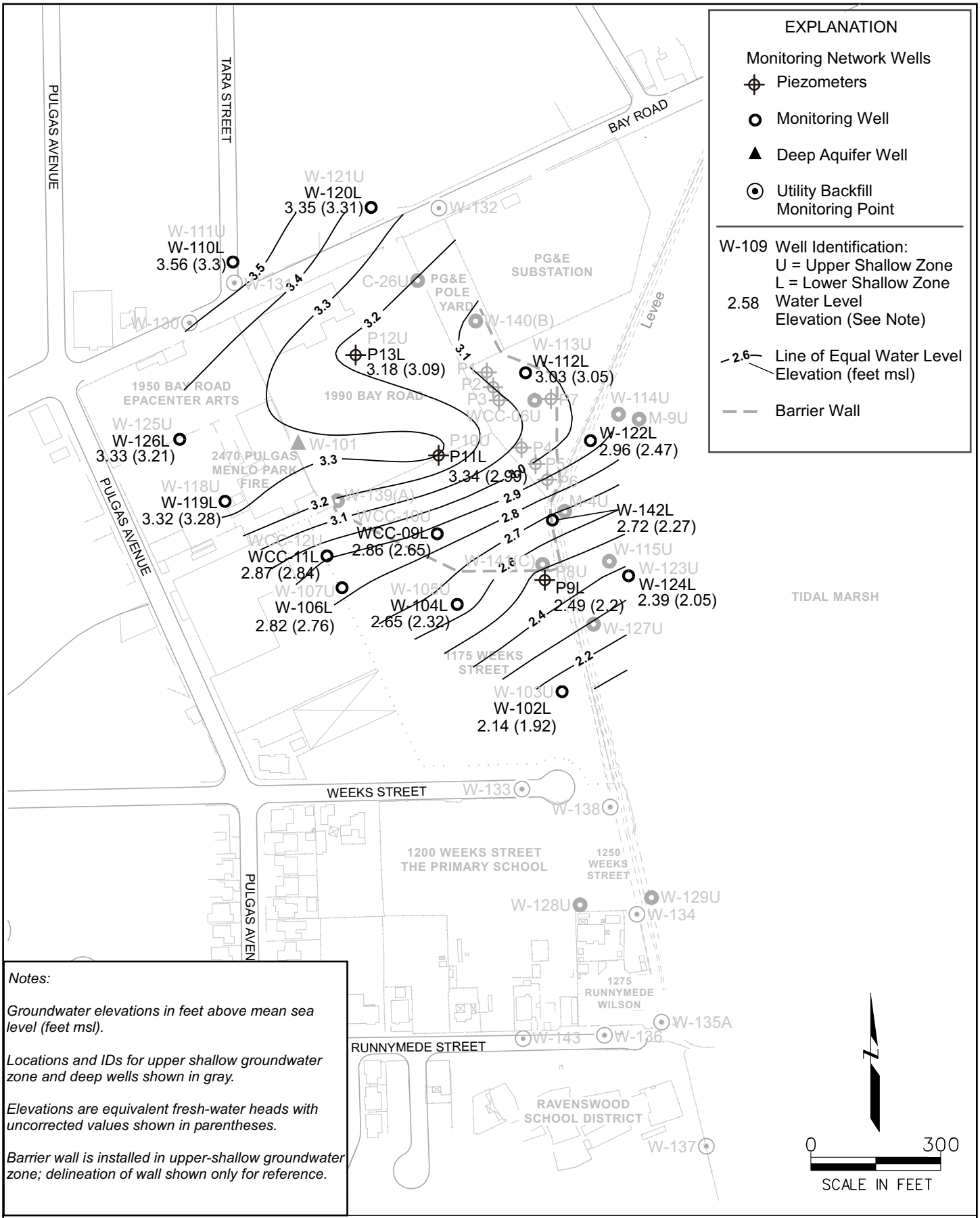


LOWER SHALLOW GROUNDWATER ZONE WATER LEVELS
APRIL 21, 2016

1990 Bay Road Site Vicinity
East Palo Alto, California

S.S. Papadopulos & Associates, Inc.

Figure C-8



Notes:

Groundwater elevations in feet above mean sea level (feet msl).

Locations and IDs for upper shallow groundwater zone and deep wells shown in gray.

Elevations are equivalent fresh-water heads with uncorrected values shown in parentheses.

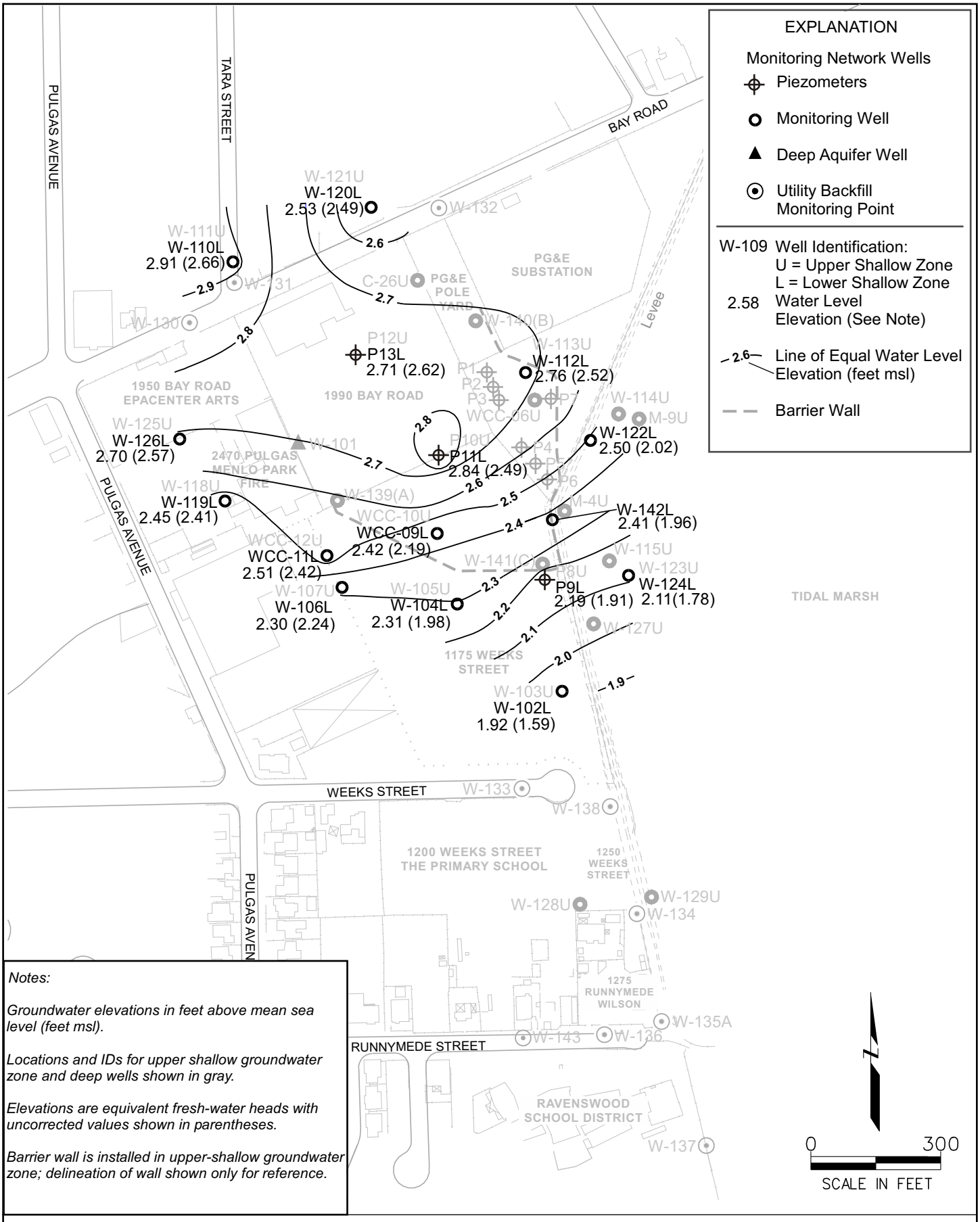
Barrier wall is installed in upper-shallow groundwater zone; delineation of wall shown only for reference.

LOWER SHALLOW GROUNDWATER ZONE WATER LEVELS
APRIL 17, 2017

1990 Bay Road Site Vicinity
East Palo Alto, California

S.S. Papadopulos & Associates, Inc.

Figure C-9



Notes:

Groundwater elevations in feet above mean sea level (feet msl).

Locations and IDs for upper shallow groundwater zone and deep wells shown in gray.

Elevations are equivalent fresh-water heads with uncorrected values shown in parentheses.

Barrier wall is installed in upper-shallow groundwater zone; delineation of wall shown only for reference.

LOWER SHALLOW GROUNDWATER ZONE WATER LEVELS
APRIL 30, 2018

1990 Bay Road Site Vicinity
East Palo Alto, California

S.S. Papadopulos & Associates, Inc.

Figure C-10

CORNERSTONE EARTH GROUP

APPENDIX E – WATER BOARD ORDERS AND DEED RESTRICTIONS

2470 Pulgas Avenue Property
Covenant of Deed Restriction
Railroad Parcel

93213452

COVENANT OF DEED RESTRICTION

Recording Requested By:
BAINS MOVING & STORAGE CORPORATION
1980 Bay Road
East Palo Alto, California

When Recorded, Mail To:
Steven Ritchie, Executive Officer
California Regional Water Quality
Control Board
San Francisco Bay Region
2101 Webster Street, Suite 500
Oakland, California 94612

COVENANT AND AGREEMENT TO RESTRICT USE OF PROPERTY

BAINS MOVING & STORAGE CORPORATION
1980 Bay Road
East Palo Alto, California

This Covenant and Agreement to Restrict Use of Property (this "Covenant") is made as of the 26th day of October, 1993 by Bains Moving & Storage Corporation ("Covenantor"), which is the Owner of record of that certain property situated in the City of East Palo Alto, County of San Mateo, State of California, which is described in Exhibit A attached hereto and incorporated herein by this reference (such portion hereinafter referred to as the "Burdened Property"), for the benefit of that certain property situated in the City of East Palo Alto, County of San Mateo, State of California, which is described in Exhibit B attached hereto and incorporated herein by this reference (hereinafter referred to as the "Benefitted Property"), and by the California Regional Water Quality Control Board for the San

Francisco Bay Region (the "Board") with reference to the following facts:

A. The Burdened Property contains hazardous substances.

B. Description of Facts.

B.1. Contamination of the Burdened Property. Soil and groundwater at the Burdened Property were contaminated by herbicide formulation operations conducted by prior owners of the adjacent property located at 1990 Bay Road, East Palo Alto. These operations resulted in contamination of soil and groundwater with inorganic chemicals including arsenic, lead, cadmium, mercury, and selenium which are believed to have migrated onto the Burdened Property. Contaminated soil containing concentrations of arsenic in excess of 500 ppm was excavated and removed from the Burdened Property in 1992, except for areas beneath existing structures.

B.2. Exposure Pathways. The contaminants addressed in this Covenant are present in soil and groundwater on the Burdened Property. Without the mitigation measures which have been performed on the Burdened Property, exposure to these contaminants could take place via in-place contact, surface-water runoff, and wind dispersal, resulting in dermal contact, inhalation, or ingestion by humans. The risk of public exposure to the contaminants has been substantially lessened by placement of an impermeable asphalt cap over the buried soils. The purpose of the restrictions on the use of the Burdened Property contained in this Covenant is to eliminate any significant risks to human

health and beneficial uses of waters of the State posed by high exposure levels. If exposure pathways are not mitigated, potential human health effects resulting from exposure to arsenic, lead, cadmium, mercury and selenium include birth defects and fetotoxicity; Central Nervous System (CNS) damage including convulsions and permanent brain damage; kidney damage; hepatic injury; blood dysplasia and anemia; and gastro-intestinal disorders.

B.3. Adjacent Land Uses and Population Potentially Affected. The Burdened Property is used for the operations of Bains Moving & Storage Corporation, and is adjacent to other industrial land uses.

C. Full and voluntary disclosure to the Board of the presence of hazardous substances on the Burdened Property has been made and extensive sampling of the Burdened Property has been conducted by a third party.

D. Covenantor desires and intends that in order to benefit the Benefitted Property, and to protect the present and future public health and safety, the Burdened Property shall be used in such a manner as to avoid potential harm to persons or property which may result from hazardous substances which may have been deposited on portions of the Burdened Property.

ARTICLE I

GENERAL PROVISIONS

1.1 Provisions to Run with the Land. This Covenant sets forth protective provisions, covenants, conditions and

restrictions (collectively referred to as "Restrictions") upon and subject to which the Burdened Property and every portion thereof shall be improved, held, used, occupied, leased, sold, hypothecated, encumbered, and/or conveyed. Each and all of the Restrictions shall run with the land, and pass with each and every portion of the Burdened Property, and shall apply to, inure to the benefit of, and bind the respective successors in interest thereof, for the benefit of the Benefitted Property, and the successors in interest thereof. Each and all of the Restrictions are imposed upon the entire Burdened Property unless expressly stated as applicable to a specific portion of the Burdened Property. Each and all of the Restrictions are imposed pursuant to Civil Code Section 1468 and Health and Safety Code Section 25356.1 and the Water Code and run with the land pursuant to Health and Safety Code Section 25356.1. All terms, time periods, and provisions not otherwise defined herein shall take the meaning ascribed to them in Health & Safety Code Sections 25233 and 25234 as of the date of this Covenant. Each and all of the Restrictions are enforceable by the Board, and the owner or owners, from time to time, of the Benefitted Property.

1.2 Concurrence of Owners Presumed. All purchasers, lessees, or possessors of any portion of the Burdened Property shall be deemed by their purchase, leasing, or possession of such Burdened Property, to be in accord with the foregoing and to agree for and among themselves, their heirs, successors, and assignees, and the agents, employees, and lessees of such owners,

heirs, successors, and assignees, that the Restrictions as herein established must be adhered to for the benefit of the Benefitted Property and the owners and successive owners thereof, and the future Owners and Occupants of the Burdened Property and that the interest of the future Owners and Occupants of the Burdened Property shall be subject to the Restrictions contained herein.

1.3 Incorporation into Deeds and Leases. Covenantor desires and covenants that the Restrictions set out herein shall be incorporated in and attached to each and all deeds and leases of any portion of the Burdened Property. Recordation of this Covenant shall be deemed binding on all successors, assigns, and lessees, regardless of whether a copy of this Covenant and Agreement has been attached to any given deed or lease.

ARTICLE II

DEFINITIONS

2.1 Board. "Board" shall mean the California Regional Water Quality Control Board for the San Francisco Bay Region and shall include its successor agencies, if any.

2.2 Improvements. "Improvements" shall mean all buildings, roads, driveways, regradings, and paved parking areas, constructed or placed upon any portion of the Burdened Property.

2.3 Occupants. "Occupants" shall mean Owners and those persons entitled by ownership, leasehold, or other legal relationship to the exclusive right to occupy any portion of the Burdened Property.

2.4 Owner or Owners. "Owner" or "Owners" shall mean the Covenantor and/or its successors in interest, who hold title to all or any portion of the Burdened Property.

ARTICLE III

DEVELOPMENT, USE AND CONVEYANCE OF THE Burdened Property

3.1 Restrictions on Development and Use. Covenantor promises to restrict the use of the Burdened Property as follows:

a. Development of the Burdened Property shall be restricted to industrial, commercial or office space;

b. No residence for human habitation shall be permitted on the Burdened Property;

c. No hospitals shall be permitted on the Burdened Property;

d. No schools for persons under 21 years of age shall be permitted on the Burdened Property;

e. No day care centers for children or day care centers for Senior Citizens shall be permitted on the Burdened Property;

f. The Burdened Property shall be posted with a bilingual sign in English and Spanish warning against undertaking of any excavation activities on the Burdened Property, and that the Owner and the Board should be contacted for further information;

g. Any contaminated soils brought to the surface by grading, excavation, trenching, or backfilling shall be managed

by Covenantor or its agent in accordance with all applicable provisions of state and federal law;

h. All uses and development of the Burdened Property shall be consistent with the Record of Decision issued by the U.S. Environmental Protection Agency, and shall preserve the integrity of any cap, any remedial measures taken or remedial equipment installed, and the groundwater monitoring system installed on the Burdened Property pursuant to the requirements of the Board, unless otherwise expressly permitted in writing by the Board.

i. The Owner shall notify the Board of each of the following: (1) The type, cause, location and date of any disturbance to any cap, any remedial measures taken or remedial equipment installed, and of the groundwater monitoring system installed on the Burdened Property pursuant to the requirements of the Board, which could affect the ability of such cap or remedial measures, remedial equipment, or monitoring system to perform their respective functions and (2) the type and date of repair of such disturbance. Notification to the Board shall be made by registered mail within ten (10) working days of both the discovery of such disturbance and the completion of repairs;

j. The Covenantor agrees that the Board, and/or any persons acting pursuant to Board orders, shall have access to the Burdened Property for the purposes of inspection, surveillance, maintenance, or monitoring, as provided for in Chapter 4 of Division 7 of the Water Code.

k. No Owners or Occupants of the Burdened Property or any portion thereof shall drill, bore, excavate or otherwise construct any well, boring or excavation on or into the Burdened Property for any purpose, except that it shall be permissible to construct wells, borings, or excavations which are (i) required by or reasonably necessary to implement a plan for remediation of groundwater contamination approved by the Board, or (ii) specifically approved in a written decision by the Board or the San Mateo County Department of Health Services. All borings and excavations shall be performed and all wells constructed in conformance with the standards of the San Mateo County Department of Health Services, and shall incorporate practicable efforts to minimize: (a) any significant threat to humans and animals and (b) any significant transfer of contaminants from the lithosphere to the atmosphere or between water-bearing, or potentially water-bearing, soil or rock zones.

3.2 Conveyance of Burdened Property. The Owner or Owners shall provide thirty (30) days advance notice to the Board and the owner or owners, from time to time, of the Benefitted Property, of any sale, lease, or other conveyance of the Burdened Property or an interest in the Burdened Property to a third person. Neither the Board nor the owner or owners, from time to time, of the Benefitted Property shall, by reason of the Covenant, have authority to approve, disapprove, or otherwise affect any sale, lease, or other conveyance of the Burdened

Property except as otherwise provided by law or by reason of this Covenant.

3.3 Enforcement. Failure of the Owner to comply with any of the restrictions, as set forth in paragraph 3.1, shall be grounds for the Board or the owner or owners, from time to time, of the Benefitted Property, by reason of this Covenant, to have the authority to require that the Owner modify or remove any Improvements constructed in violation of that paragraph. Violation of the Covenant shall be grounds for the Board, or the owner or owners, from time to time, of the Benefitted Property, to file civil actions against the Owner as provided by law.

3.4 Notice in Agreements. All Owners and Occupants shall execute a written instrument which shall accompany all purchase, lease, sublease, or rental agreements relating to the Burdened Property. The instrument shall contain the following statement: "The land described herein contains hazardous substances. Such condition renders the land and the owner, lessee, or other possessor of the land subject to requirements, restrictions, provisions and liabilities of Division 7 of the California Water Code and Chapters 6.5 and 6.8 of Division 20 of the California Health and Safety Code, and their successor provisions. This statement is not a declaration that a hazard exists."

ARTICLE IV

VARIANCE AND TERMINATION

4.1 Variance. Any Owner or, with the Owner's consent, any Occupant of the Burdened Property or any portion thereof may

apply to the Board for a written variance from the provisions of this Covenant, after having obtained the prior written consent of the owner or owners, from time to time, of the Benefitted Property.

4.2 Termination. Any Owner or, with the Owner's consent, any Occupant of the Burdened Property or a portion thereof may apply to the Board for a termination of the Restrictions as they apply to all or any portion of the Burdened Property, after having obtained the prior written consent of the owner or owners, from time to time, of the Benefitted Property.

4.3 Term. Unless terminated in accordance with paragraph 4.2 above, by law or otherwise, this Covenant shall continue in effect in perpetuity.

ARTICLE V

MISCELLANEOUS

5.1 No Dedication Intended. Nothing set forth herein shall be construed to be a gift or dedication, or offer of a gift or dedication, of the Burdened Property or any portion thereof to the general public.

5.2 Notices. Whenever any person gives or serves any notice, demand, or other communication with respect to this Covenant, each such notice, demand, or other communication shall be in writing and shall be deemed effective (1) when delivered, if personally delivered to the person being served or official of a government agency being served, or (2) three (3) business days

after deposit in the mail if mailed by United States mail, postage paid certified, return receipt requested:

If To: "Covenantor"

Bains Moving & Storage Corporation
P.O. Box 50219
Palo Alto, California 94303

and

William Green, Esq.
550 Hamilton Avenue
Suite 203
Palo Alto, California 94301

If To: "Board"

Regional Water Quality Control Board
San Francisco Bay Region
Attention: East Palo Alto Protection Officer
2101 Webster Street
Oakland, California 94612

If To: Owner or Owners of the Benefitted Property:

Sandoz Agro, Inc.
Attention: Robin DeMuth, Esq.
General Counsel
1300 East Touhy Avenue
Des Plaines, Illinois 60018

and

Anthony O. Garvin, Esq.
Brobeck, Phleger & Harrison
Spear Street Tower - 23rd Floor
One Market Plaza
San Francisco, California 94105

If notice is not initiated by the Covenantor or by the Board, copies of such notice shall be sent, in accordance with instructions of this paragraph, to both the Covenantor and the

Board. Copies of all notices, regardless of the identity of the party initiating such notice, shall also be sent to:

General Counsel
Rhone-Poulenc Inc.
Black Horse Lane
Monmouth Junction, N.J. 08852 and to

and

W. Reece Bader, Esq.
Orrick, Herrington & Sutcliffe
400 Sansome Street
San Francisco, CA 94111-3143

5.3 Partial Invalidity. If any portion of the Restrictions or terms set forth herein is determined to be invalid for any reason, the remaining portion shall remain in full force and effect as if such portion had not been included herein.

5.4 Article Headings. Headings at the beginning of each numbered article of this Covenant are solely for the convenience of the parties and are not a part of the Covenant.

5.5 Recordation. This instrument shall be executed by the Covenantor, the Owner of the Burdened Property, and by the Executive Officer of the Board. This instrument shall be recorded by the Covenantor in the County of San Mateo within ten (10) days of the date of execution.

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5.6 References. All references to Code sections include successor provisions.

IN WITNESS WHEREOF, the parties execute this Covenant as of the date set forth above.

Covenantor: Bains Moving & Storage Corporation

By: _____
Title: _____
Date: _____

Owner of the Benefitted Property: Sandoz Agro, Inc.

By: _____
Title: _____
Date: _____

Agency: State of California
Environmental Protection Agency
Regional Water Quality Board,
San Francisco Bay Region

By: _____
Steven Ritchie
Title: Executive Officer
Date: 10/26/93

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

No. 5

State of California

County of Alameda

On October 26 1993 (DATE) before me, Paul C. Stein Notary Public (NAME, TITLE OF OFFICER - E.G., "JANE DOE, NOTARY PUBLIC")

personally appeared Steven Ritchie (NAME(S) OF SIGNER(S))

☐ personally known to me - **OR** - ☒ proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

OFFICIAL SEAL
PAUL C. STEIN
Notary Public - California
ALAMEDA COUNTY
My Comm. Expires
April

WITNESS my hand and official seal.

Paul C Stein
SIGNATURE OF NOTARY

OPTIONAL SECTION

CAPACITY CLAIMED BY SIGNER

Though statute does not require the Notary to fill in the data below, doing so may prove invaluable to persons relying on the document.

☐ INDIVIDUAL
☐ CORPORATE OFFICER(S)

TITLE(S)

☐ PARTNER(S) ☐ LIMITED ☐ GENERAL
☐ ATTORNEY-IN-FACT
☐ TRUSTEE(S)
☐ GUARDIAN/CONSERVATOR
☒ OTHER: Executive officer

SIGNER IS REPRESENTING:
NAME OF PERSON(S) OR ENTITY(IES)
State of Calif EPA

OPTIONAL SECTION

THIS CERTIFICATE MUST BE ATTACHED TO THE DOCUMENT DESCRIBED AT RIGHT:

Though the data requested here is not required by law, it could prevent fraudulent reattachment of this form.

TITLE OR TYPE OF DOCUMENT Covenant and Agreement to Restrict Use of Property

NUMBER OF PAGES 22 DATE OF DOCUMENT 10/26/93

SIGNER(S) OTHER THAN NAMED ABOVE —

STATE OF CALIFORNIA)
)
COUNTY OF ALAMEDA)

On October 26, 1993 before me, the undersigned a Notary Public in and for said state, personally appeared Steven Ritchie, personally known to me or proved to me on the basis of satisfactory evidence to be the persons who executed the within instrument as Executive Officer of the Regional Water Quality Control Board for the San Francisco Bay Region, the Agency that executed the within instrument, and acknowledge to me that the such agency executed the same.

WITNESS my hand and official seal.

OFFICIAL SEAL
PAUL C. STEIN
Notary Public-California
SAN FRANCISCO COUNTY
My Commission Expires
April 11, 1994

Notary Public in and for said
County and State

5.6 References. All references to Code sections include successor provisions.

IN WITNESS WHEREOF, the parties execute this Covenant as of the date set forth above.

Covenantor: Bains Moving & Storage Corporation

By: _____
Title: _____ President
Date: 11/2/93

Owner of the Benefitted Property: Sandoz Agro, Inc.

By: _____
Title: _____
Date: _____

Agency: State of California
Environmental Protection Agency
Regional Water Quality Board,
San Francisco Bay Region

By: _____
Steven Ritchie
Title: Executive Officer
Date: 10/26/93

ACKNOWLEDGMENT

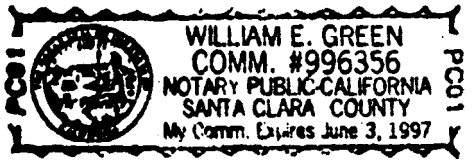
STATE OF CALIFORNIA

COUNTY OF SANTA CLARA

On November 2, before me, the undersigned Notary Public, personally appeared William D. Bains, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person whose name is subscribed to the within instrument, and acknowledged to me that he/she executed the same in his/her authorized capacity(ies) and that by his\her signature on the instrument the person(s) or the entity upon behalf of which the person acted, executed the instrument.

Wm E. Bains

Notary Public



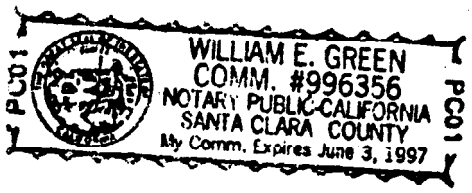
STATE OF CALIFORNIA)
)
COUNTY OF SAN MATEO)

On Nov. 2, , 1993 before me, the undersigned a Notary Public in and for said state, personally appeared William D. Bains, personally known to me or proved to me on the basis of satisfactory evidence to be the persons who executed the within instrument, and acknowledged to me that he executed the same pursuant to the Bains Moving & Storage Corporation's bylaws or a resolution of its directors.

WITNESS my hand and official seal.

Wm E. Green

Notary Public in and for said
County and State



5.6 References. All references to Code sections include successor provisions.

IN WITNESS WHEREOF, the parties execute this Covenant as of the date set forth above.

Covenantor: Bains Moving & Storage Corporation

By: _____
Title: _____
Date: _____

Owner of the Benefitted Property: Sandoz Agro, Inc.

By: _____
Title: Secretary and General Counsel
Date: November 15, 1993

Agency: State of California
Environmental Protection Agency
Regional Water Quality Board,
San Francisco Bay Region

By: _____
Steven Ritchie
Title: Executive Officer
Date: 10/26/93

State of Illinois)

)

County of Cook)

On November 15, 1993 before me, the undersigned a Notary Public in and for said state, personally appeared Robin M. Demouth, personally known to me or proved to me on the basis of satisfactory evidence that he is the Secretary and General Counsel of Sandoz Agro, Inc. and the person who executed the within instrument, and acknowledged to me that he executed the same pursuant to the Sandoz Agro, Inc. bylaws or a resolution of its directors.

WITNESS my hand and official seal.

OFFICIAL SEAL
DENISE T DAIDONE
NOTARY PUBLIC, STATE OF ILLINOIS
MY COMMISSION EXPIRES:02/14/97

Denise T. Daidone 11/23/93

Notary Public in and for said County and State

EXHIBIT A

85125-36
6/7/93
THM

LEGAL DESCRIPTION

Being all of a parcel of land as conveyed to Bains Moving and Storage Corporation by Quitclaim Deed filed June 5, 1986 at Series Number 86062241 in the Office of the Recorder, County of San Mateo situated in the City of East Palo Alto, County of San Mateo, State of California, being more particularly described as follows:

COMMENCING at a point being in the centerline of Bay Road, distant thereon North 65 deg. 11 min. 00 sec. East, 430.60 feet from the intersection of the centerline of Pulgas Avenue; thence South 24 deg. 49 min. 00 sec. East, 495.00 feet to the Northerly corner of said Bains Moving and Storage Parcel and TRUE POINT OF BEGINNING thence leaving said TRUE POINT OF BEGINNING and the Northerly corner of said Bains Moving and Storage Parcel and running along the Northeasterly line of said Bains Moving and Storage Parcel South 24 deg. 49 min. 00 sec. East, 30.00 feet to the Easterly corner of said Bains Moving and Storage Parcel, thence leaving the Easterly corner of said Bains Moving and Storage Parcel and running along the Southeasterly line of said Bains Moving and Storage Parcel South, 65 deg. 11 min. 00 sec. West, 400.60 feet to the Southerly corner of said Bains Moving and Storage Parcel, also being in the Easterly right-of-way of Pulgas Avenue; thence leaving the Southerly corner of said Bains Moving and Storage Parcel and running along the Easterly right-of-way line of Pulgas Avenue, North 24 deg. 49 min. 00 sec. West, 30.00 feet to the Westerly corner of said Bains Moving and Storage Parcel; thence leaving the Westerly corner of said Bains Moving and Storage Parcel and running along the Northwesterly line of said Bains Moving and Storage Parcel North 65 deg. 11 min. 00 sec. East, 400.60 feet to the TRUE POINT OF BEGINNING.

Containing 0.276 acres of land, more or less.

The above described parcel is for restricted or conditional use of the parcel and is not intended to create new property lines.

Prepared June 7, 1993 by

MARK THOMAS & CO. INC.

30 x 400.6

Sam J. Zullo RCE 14392
Registration Expires 3/31/97

EXHIBIT B

85125-36
8/19/93
THM

LEGAL DESCRIPTION

Being all of a parcel of land conveyed to Sandoz Crop Protection Corporation by Grant Deed filed August 7, 1987 at Series Number 87123248 in the Office of the Recorder, County of San Mateo, situated in the City of East Palo Alto, County of San Mateo, State of California, being more particularly described as follows:

BEGINNING at the Northwest corner of said Sandoz Parcel being in the centerline of Bay Road, said point also being distant North 65 deg. 11 min. 00 sec. East 430.60 feet along the centerline of Bay Road from the intersection of Pulgas Avenue; thence North 65 deg. 11 min. 00 sec. East, 430.60 feet to the Northeasterly corner of said Sandoz Parcel; thence running along the Northeasterly line of said Sandoz Parcel South 24 deg. 49 min. 00 sec. East, 525.00 feet to the Easterly corner of said Sandoz Parcel; thence leaving said Easterly corner and running along the Southeasterly line of said Sandoz Parcel South 65 deg. 11 min. 00 sec. West, 430.60 feet to the Southerly corner of said Sandoz Parcel; thence leaving the Southerly corner of said Sandoz Parcel and running along the Southwesterly line of said Sandoz Parcel North 24 deg. 49 min. 00 sec. West, 525.00 to the TRUE POINT OF BEGINNING:

Containing 5.190 acres of land, more or less.

The above described parcel is for restricted and conditional use only, and is not intended to create any new property lines.

Prepared June 7, 1993

MARK THOMAS & CO. INC.

Sam J. Zullo RCE 14392
Registration Expires 3/31/97

3

RECORDING REQUESTED BY
AND WHEN RECORDED MAIL TO:

Farella Braun + Martel LLP
235 Montgomery Street
San Francisco, California 94104
Attention: Karen Jue, Esq.

MAIL TAX STATEMENTS TO:

Starlink Logistics, Inc.
55 Corporate Drive
Bridgewater, NJ 08807
Attn: Legal Department

2012-092289 CONF
1:43 pm 08/29/12 DR Fee: 24.00
Count of pages 4
Recorded In Official Records
County of San Mateo
Mark Church
Assessor-County Clerk-Recorder

* R 0 0 0 1 4 3 9 7 7 1 *

APN: 063-240-400; 063-240-410

Space above for Recorder's Use Only

NOTICE
REGARDING COVENANT AND AGREEMENT TO RESTRICT USE OF PROPERTY

As to that certain real property located in the City of East Palo Alto, County of San Mateo, State of California, more particularly described on Exhibit A attached hereto (the "Property"), STARLINK LOGISTICS INC., a Delaware corporation, as successor-in-interest to Rhone-Poulenc Inc. with respect to its interest in receiving a copy of all Notices relative to that certain Covenant and Agreement to Restrict Use of Property recorded in the San Mateo Official Records as Document #93213452 ("Deed Restriction"), hereby provides public notice as follows:

1. Any and all notice addresses intended to be sent to Rhone-Poulenc Inc., directly or to its counsel, Orrick, Herrington & Sutcliffe, pursuant to Section 5.2 of the Deed Restriction should now be sent to the following address:

   Starlink Logistics, Inc.
   55 Corporate Drive
   Bridgewater, NJ 08807
   Attn: Legal Department

(Signature page follows)

IN WITNESS WHEREOF, the undersigned has executed this Notice as of June 19, 2012.

STARLINK LOGISTICS INC.,
a Delaware corporation,
formerly known as Aventis CropScience USA Holding Inc., a Delaware corporation

By: _____
Name: Edgar B. Gross
Its: Treasurer

ALL SIGNATURES MUST BE NOTARIZED

CERTIFICATE OF ACKNOWLEDGEMENT

STATE OF NEW JERSEY)
ss.
COUNTY OF SOMERSET)

I, Natercia R. Sousa, a notary public in the State of New Jersey, certify that on June 19, 2012, Edgar B. Grass personally came before me and acknowledged under oath, to my satisfaction, that he signed the foregoing document as the Treasurer of STARLINK LOGISTICS INC. (the "entity") and that the foregoing document was executed and made by the entity as the voluntary act and deed of the entity and by virtue of authority from its Board of Directors.

NATERCIA R. SOUSA
NOTARY PUBLIC OF NEW JERSEY
Commission Expires 6/29/2012

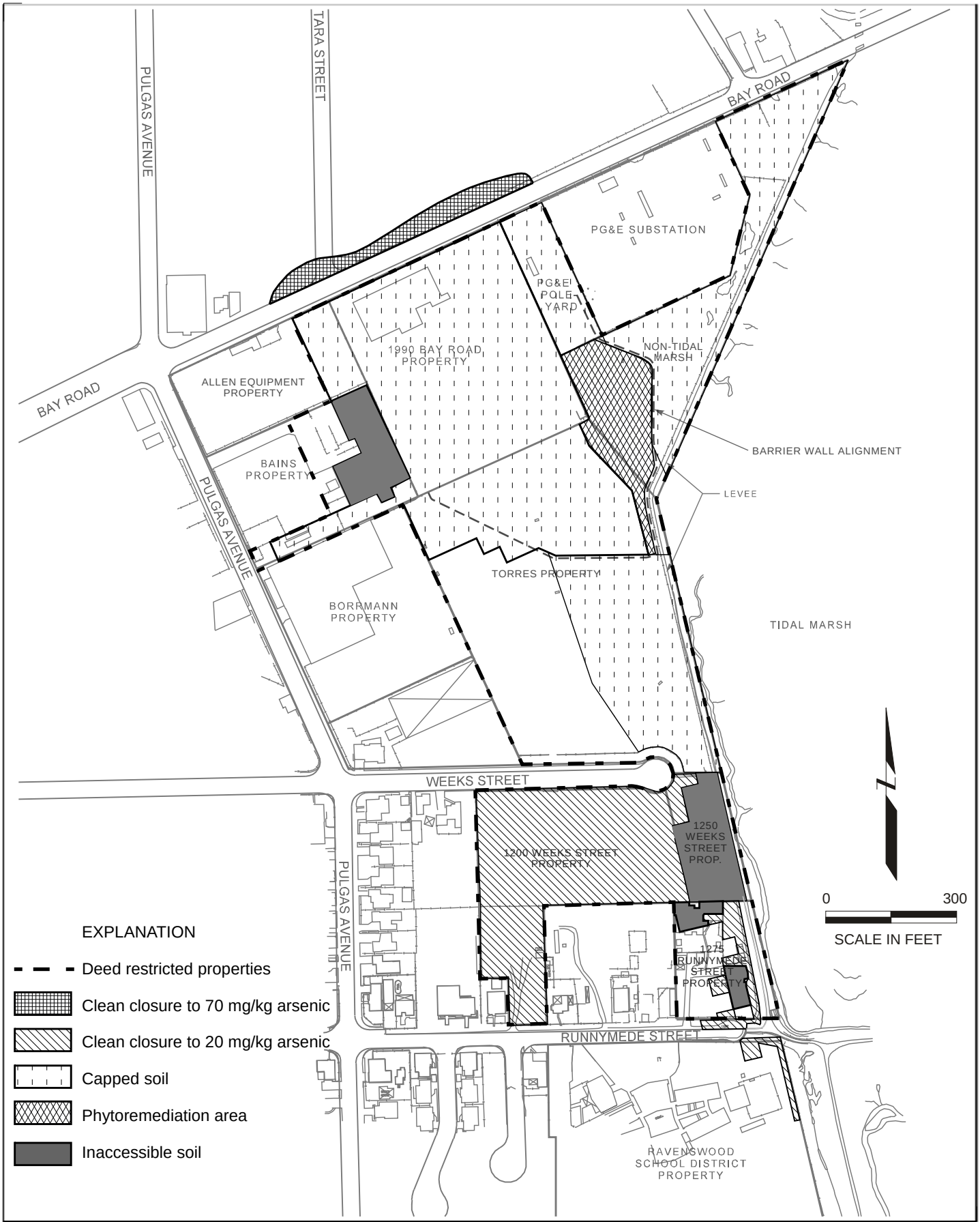
EXHIBIT A

THE LAND REFERRED TO IN THIS COMMITMENT IS SITUATED IN THE CITY OF EAST PALO ALTO, COUNTY OF SAN MATEO, STATE OF CALIFORNIA, AND IS DESCRIBED AS FOLLOWS:

THAT CERTAIN STRIP OF LAND BOUNDED ON THE NORTHWEST BY THE SOUTHEASTERLY LOT OF PARCEL 2 AS DESCRIBED IN DEED FROM HELEN M. BENNETT, A WIDOW TO ALLAN E. SORRELL AND ERNEST J. TURRE DATED DECEMBER 20, 1950 AND RECORDED DECEMBER 20, 1950 IN VOLUME 1996 OF OFFICIAL RECORDS AT PAGE 68 (FILE NO.: 7184-J) SAN MATEO COUNTY RECORDS; BOUNDED ON THE SOUTHEASTERLY BY THE NORTHWESTERLY LANE OF THAT CERTAIN PARCEL OF LAND DESCRIBED IN DEED FROM ARROW OIL COMPANY, A CORPORATION TO ROBERT E. BORRMANN, A SINGLE MAN DATED DECEMBER 3, 1946 AND RECORDED DECEMBER 31, 1946 IN VOLUME 1314 OF OFFICIAL RECORDS AT PAGE 285 (FILE NO. 43549-G) SAN MATEO COUNTY RECORDS AND BY THE NORTHWESTERLY LANE OF PARCEL I AND ITS NORTHERLY PROLONGATION AS DESCRIBED IN DEED TO ROBERT BORRMANN, A SINGLE MAN DATED OCTOBER 17, 1963 AND RECORDED OCTOBER 23, 1963 IN VOLUME 4575 OFFICIAL RECORDS AT PAGE 713 (FILE NO. 53085-W) SAN MATEO COUNTY RECORDS; ON THE NORTHEASTERLY BY THE SOUTHWESTERLY LINE OF LANDS DESCRIBED IN DECREE QUIETING TITLE A COPY OF WHICH WAS RECORDED NOVEMBER 12, 1942 IN VOLUME 1045 OF OFFICIAL RECORDS AT PAGE 33 (FILE NO.: 68361-E) SAN MATEO COUNTY RECORDS; AND ON THE SOUTHWESTERLY BY THE NORTHEASTERLY LINE OF PULGAS AVENUE.

SAID STRIP OF LAND BEING A PORTION OF PARCEL 4 OF THAT CERTAIN DEED FROM GARDEN CITY BANK AND TRUST COMPANY TO CHARLES WEEKS RECORDED NOVEMBER 4, 1919 IN VOLUME 28 OF OFFICIAL RECORDS AT PAGE 76 SAN MATEO COUNTY RECORDS.

APN: 063-240-400; 063-240-410

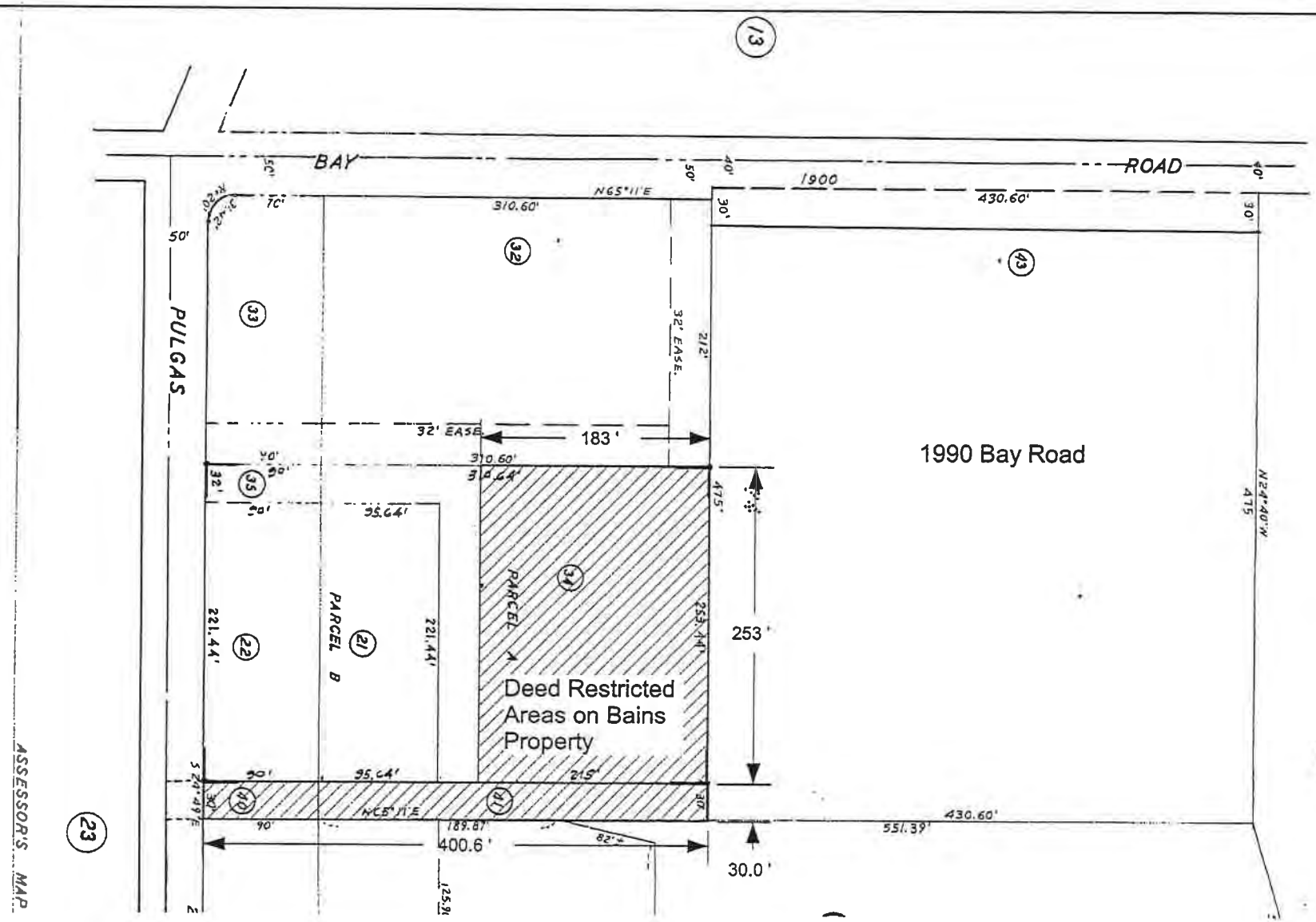


CURRENT STATUS OF REMEDIATION

1990 Bay Road Site
East Palo Alto, California

Figure 6

S.S. Papadopulos & Associates, Inc.

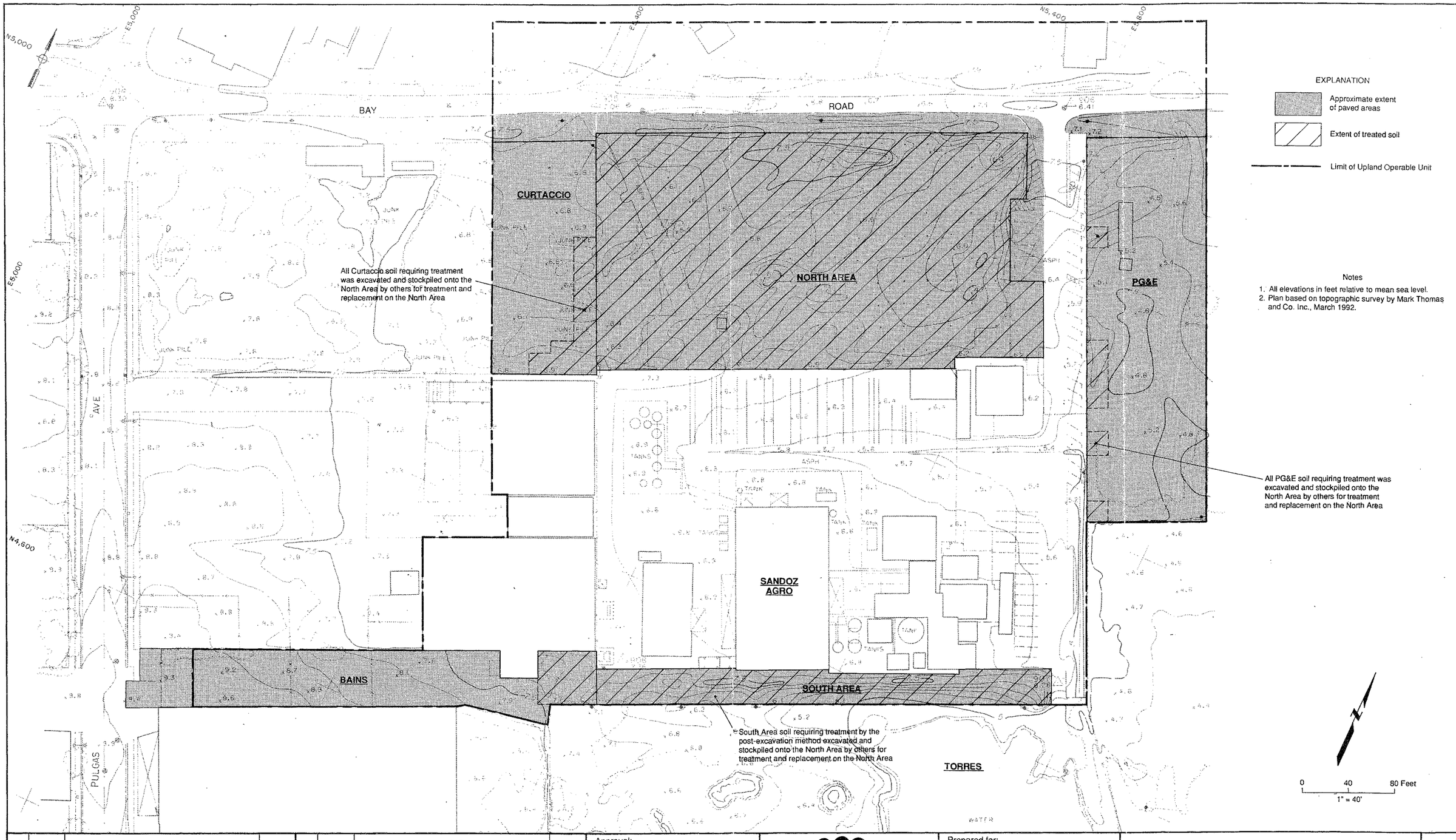


S.S. Papadopulos & Associates, Inc.

DEED RESTRICTED AREAS

1990 Bay Road Vicinity
East Palo Alto, California

Figure 1



NO.	DATE	REVISION	BY
0	5/1/92	Issued for Agency review	
1	6/23/92	Issued for Contractors' proposals	
2	7/27/92	Issued for construction	CEH
3	6/93	As constructed	

NO.	DATE	REVISION	BY

Approval:

Date:

GEOMATRIX

Geomatrix Consultants, Inc.
100 Pine Street, 10th Floor
San Francisco, California

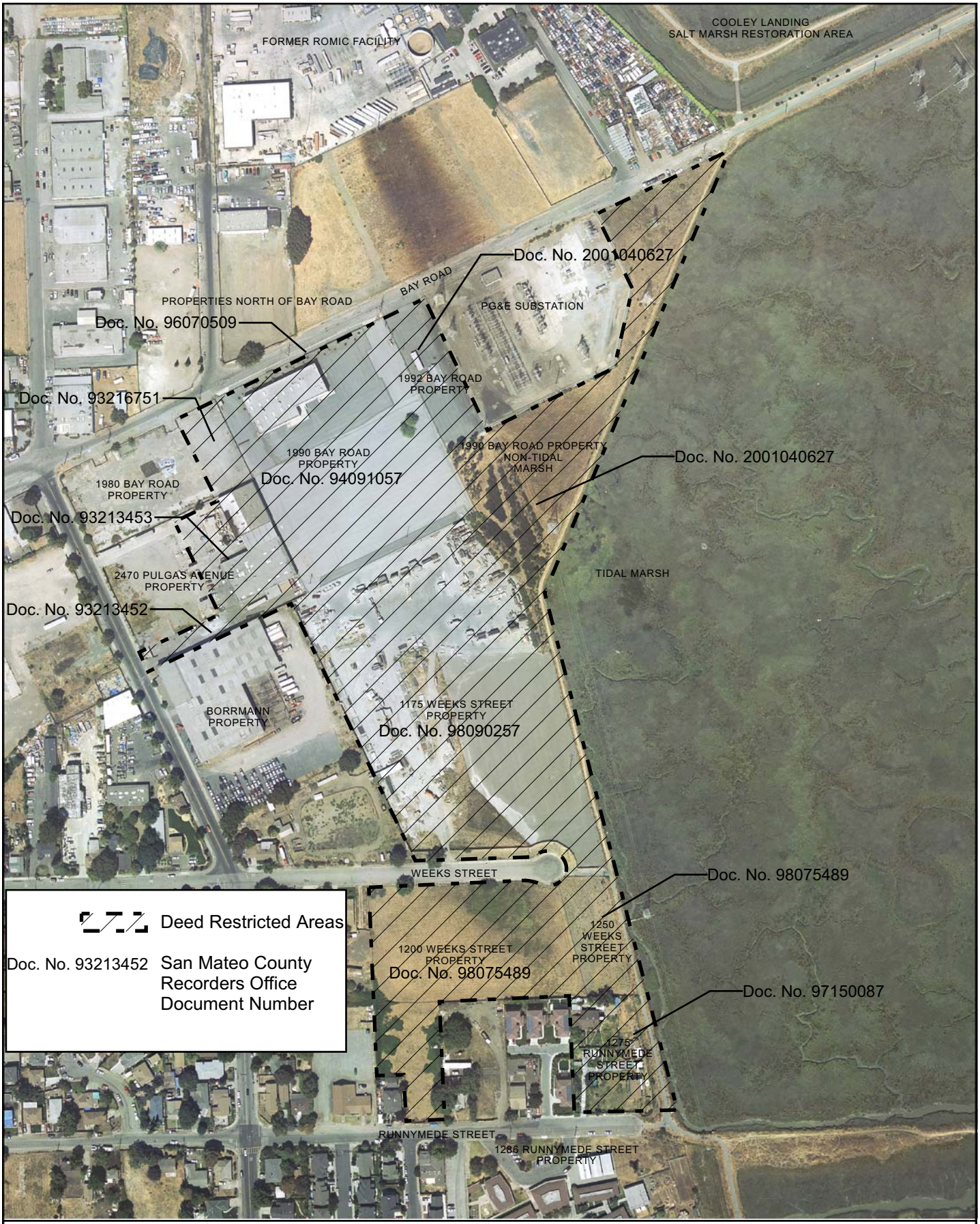
Prepared for:

Rhône-Poulenc Inc.

SITE PLAN

Upland Operable Unit Remedial Action
1990 Bay Road Site
East Palo Alto, California

1220F	
Project No.	
G-4	
Drawing	



S.S. Papadopulos & Associates, Inc.

DEED RESTRICTIONS

1990 Bay Road Site
East Palo Alto, California

Figure 6

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER 92-037

SITE CLEANUP REQUIREMENTS FOR:

EAST PALO ALTO INDUSTRIAL AREA,
MULTIPLE LANDOWNERS
EAST PALO ALTO
SAN MATEO COUNTY

DISCHARGERS: SEE ATTACHMENT 1

The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter called the Board) finds that:

I. SITE DESCRIPTION Numerous privately owned parcels or properties comprise the site, located in the Ravenswood Industrial area (RIA) of East Palo Alto, San Mateo County (Figure 1). The site includes about 70 percent of the RIA and is adjacent to wetlands along the western margin of San Francisco Bay. These properties consist generally of agricultural, manufacturing, auto wreckers and, storage facilities for most of their existence with little or no regulation of land-use.

2. SITE HISTORY The site area has been used for agricultural and industrial purposes for at least the past 60 years. All of the properties within the site are currently zoned industrial and the entire RIA is designated a redevelopment area by the East Palo Alto Redevelopment Agency. Some properties within the site are adjacent to the 1990 Bay Road Superfund site and have commingled pollution.

3. REGULATORY STATUS All individual property owners are referred to as dischargers because of their current ownership of the site properties and shall be required to comply with all requirements of this Order for their individual parcels as listed in attachment 1. There may be additional tenants or others who may also be responsible for discharge of pollutants who are not named as dischargers in this Order, but may be included in this Order or other Board action in the future.

4. OTHER REGULATORY ACTION The Sandoz/Rhone Poulenc, 1990 Bay Road site is currently under Board Order. The Romic Chemical site is being handled under the RCRA corrective action program. This Order is not intended to conflict with remedial actions on these sites. Should conflict arise, amendments to this Order may be appropriate.

5. ADJACENT PROPERTIES Adjacent properties in and around the site that comprise the remainder of the RIA, and who are not named in this Board action, may also be sources of pollution. Should investigation by the named dischargers determine that probable contribution of pollution exists from these offsite properties, further Board action may be required.

6. RATIONALE FOR ORDER Regional Board staff are initiating a sub-regional cleanup to address soil and groundwater pollution that pose a threat to surface and groundwater in the Bay margin area of East Palo Alto and also represent potential sources of delay to Board cleanup on adjacent sites. With only few exceptions, properties within the site have not had sufficient investigation to determine the extent of potential soil and groundwater pollution.

   Site inspections by Board staff and local agencies indicate soil pollution exists on many of the parcels within the site area. Pollutants not related to the chemicals of concern at the 1990 Bay Road site have been detected in groundwater samples from monitoring wells at the site. Surface runoff from properties within the RIA drains into the wetland where Board staff have observed hydrocarbon sheens on the surface runoff. Because the extent of soil, surface and groundwater pollution has not been determined and these pollutants are impacting the cleanup operations on other sites within the area as well as wetland and surface waters of the bay, staff consider this site to be of high priority.

7. REDEVELOPMENT AGENCY The East Palo Alto Redevelopment Agency adopted resolution 148, on December 17, 1991 to contract with the Board for oversight under Article 12.5 (commencing with Section 33459) of Chapter 4 of the Community Redevelopment Law (Part 1 of Division 24 of the Health and Safety Code) to remedy or remove a release or hazardous substances from property within a redevelopment area.

   To expedite remedial action the Board shall, through this Order, work directly with the property owners. Requirements of this Order shall be in compliance with Health and Safety Code (HSC) Section 33459.3. However, until such time that the East Palo Alto Redevelopment Agency contracts directly with the Board, approval of this action under Section 33459.3 HSC will not be given.

8. COST RECOVERY The dischargers have been advised that the Regional Board intends to enter into cost recovery pursuant to Section 13304 of the California Water Code. This will entitle the Board to seek reimbursement for, all reasonable costs actually incurred by the Board to investigate unauthorized discharges of wastes and to oversee cleanup of

such waste, abatement of the effects thereof, or other remedial action, required by this Order. The Industrial Property Owners Association, DBA Industrial Development Employment Association (IDEA) shall be the contact for cost recovery billing by the State Water Resources Control Board. IDEA is a privately held corporation for area redevelopment whose membership includes all dischargers named herein. If the City of East Palo Alto Redevelopment Agency becomes involved in this Regional Cleanup Action, the Regional Board intends to continue cost recovery with the dischargers pursuant to requirements of Assembly Bill 3193. Staff began recording time spent on this project beginning February 1, 1992. When billing is initiated, it is anticipated that all time expended on this project beginning on February 1, 1992 shall be recoverable.

9. SCOPE OF THIS ORDER This Order is intended to be the primary document by which a sub-regional cleanup of the Ravenswood Industrial Area will be regulated. The Order contains tasks to submit a site use history, a workplan to determine the extent of soil and groundwater pollution and results of the preliminary investigation, and propose tasks and time schedule for further characterization of pollutants. It is anticipated that this Order shall be updated periodically, as appropriate, and further tasks shall be added which shall lead to the remediation of pollutants within the site or inclusion of additional dischargers.

10. The Board adopted a revised Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) on December 17, 1986. The Basin Plan contains water quality objectives and beneficial uses for South San Francisco Bay and contiguous surface and groundwater.

11. The existing and potential beneficial uses of the groundwater underlying and in the vicinity of the site include:

    a. Industrial process water supply
    b. Industrial service water supply
    c. Municipal and Domestic water supply
    d. Agricultural water supply

12. The existing and potential beneficial uses of the surface waters (San Francisco Bay and San Francisquito Creek) and wetland include:

    a. Contact and non-contact water recreation
    b. Warm and cold fresh water habitat
    c. Fish migration and spawning
    d. Commercial and sport fishing
    f. Preservation of rare and endangered species

g. Estuarine habitat
h. Wildlife habitat
i. Salt marsh habitat
j. Navigation
k. Shellfish harvesting
l. Industrial service supply

13. The dischargers have caused or permitted, and threaten to cause or permit, waste to be discharged or deposited where it is or probably will be discharged to waters of the State and create or threaten to create a condition of pollution or nuisance as defined in Section 13050(m) of the California Water Code.

14. This action is an order to enforce the laws and regulations administered by the Board. This action is categorically exempt from the provisions of the CEQA pursuant to Section 15321 of the Resources Agency Guidelines.

15. The Board has notified the dischargers and interested agencies and persons of its intent under California Water Code Section 13304 to prescribe Site Cleanup Requirements for the discharge and has provided them with the opportunity for a public hearing and an opportunity to submit their written views and recommendations.

16. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED, pursuant to Section 13304 of the California Water Code, that the dischargers, their agents, successors and assigns, shall cleanup and abate the effects described in the above findings as follows:

A. PROHIBITIONS

1. The discharge of wastes or hazardous materials in a manner which will degrade water quality or adversely affect the beneficial uses of the waters of the State, is prohibited.

2. Significant migration of pollutants through surface or subsurface transport to waters of the State, is prohibited.

3. Activities associated with the subsurface investigation and cleanup which will cause significant adverse migration of pollutants, are prohibited.

4. The storage, handling treatment or disposal of soil or groundwater containing pollutants shall not create a

nuisance as defined in Section 13050(m) of the California Water Code.

B. CLEANUP SPECIFICATIONS

1. The dischargers shall conduct site investigation and monitoring activities as needed to define the current local hydrogeologic conditions and the lateral and vertical extent of soil and groundwater pollution. Should monitoring results show evidence of pollutant migration, additional characterization of pollutant extent may be required.

2. The cleanup standards for source-area soils shall be health-based and protective of human health and the environment. A human health risk assessment shall be the basis for establishing soil cleanup standards, and shall follow EPA guidance. If levels higher than those set by health-based parameters for pollutants are proposed, the discharger must demonstrate that cleanup to lower levels is infeasible, that the alternate levels will not threaten the quality of waters of the State, and that human health and the environment are protected. If levels higher than those set by health-based parameters are proposed, institutional controls shall be considered. If any pollutants are left in the soil, a program of continued groundwater monitoring may be required.

3. Final cleanup standards for polluted groundwater, onsite and offsite, shall be in accordance with State Water Resources Control Board Resolution No. 68-16, "Statement of Policy with Respect to Maintaining High Quality of Waters in California". Proposed final cleanup standards shall be based on a feasibility study of remedial alternatives that compare implementability, cost, effectiveness, time to achieve cleanup goals and an assessment of risk to determine affect on beneficial uses, human health and the environment. Assessment of human health risk shall follow EPA guidance. Cleanup standards shall also have the goal of reducing the mobility, toxicity, and volume of pollutants.

4. If groundwater extraction and treatment is considered as an alternative, the feasibility of water reuse, reinjection, and disposal to the sanitary sewer must be evaluated. Based on the Regional Board Resolution 88-160, the dischargers shall optimize, with a goal of 100%, the reclamation or reuse of groundwater extracted as a result of cleanup activities. The dischargers shall not be found in violation of the Order if documented factors beyond the discharger's control prevent the dischargers from attaining this goal,

provided the dischargers have made a good faith effort to attain this goal by feasible and practicable means. If reuse or reinjection is part of a proposed alternative, an application for Waste Discharge Requirements may be required. If discharge to waters of the State is part of a proposed alternative, an application for an NPDES permit must be completed and submitted in a timely manner, and must include the evaluation of the feasibility of water reuse, reinjection, and disposal to the sanitary sewer.

C. PROVISIONS

1. The dischargers shall comply with the Prohibitions and Specifications above, in accordance with the following time schedule and tasks.

a. TASK: SUBMIT SITE USE HISTORY
DUE DATE: August 1, 1992

Description: The dischargers shall submit a technical report acceptable to the Executive Officer containing a site use history for each of the properties to include property ownership, use, tenancy, and chemical use, handling storage and disposal practices.

b. TASK: SUBMIT WORKPLAN FOR SITE INVESTIGATION AND SCHEDULE FOR IMPLEMENTATION AND SUBMITTAL OF FINAL REPORT
DUE DATE: September 15, 1992

Description: The dischargers shall submit a technical report acceptable to the Executive Officer containing all elements of the workplan for characterization of soil and groundwater pollution at the site. This workplan shall also include a time schedule for implementation and as well as a Sampling and Analysis Plan (SAP), Quality Assurance Project Plan (QAPP) and a Site Health and Safety Plan.

c. TASK: SUBMIT RESULTS OF INVESTIGATION AND PROPOSE FURTHER INVESTIGATION NECESSARY
DUE DATE: as proposed in task C.1.b. and approved by the Executive Officer

Description: The dischargers shall submit a technical report acceptable to the Executive Officer containing the results of the investigation as specified in the Workplan. The dischargers shall also propose further investigation necessary to fully characterize the pollutants. A comprehensive program for groundwater

monitoring and schedule for sampling shall also be proposed.

2. The dischargers shall submit to the Regional Board acceptable reports on compliance with the requirements of this Order that contain descriptions and results of work and analyses performed. It is not Board intent to duplicate any reports due, therefore any reports due concurrently may be combined. These reports prescribed below:

   a. The dischargers shall submit bi-monthly status reports on compliance with this Order. The first report shall be for the months of May and June, 1992 and shall be due on July 15, 1992. Thereafter reports shall be due on the 15th day of every other month to cover the previous 2 months. The report shall include at least the following:

      1) Summary of work completed since submittal of the previous report, and work projected to be completed before submittal of next report.

      2) Identification of any obstacles which may threaten compliance with the schedule of this Order and what actions are being taken to overcome these obstacles.

   b. A program of groundwater monitoring shall be established based on the site investigation report proposal of task C.1.c. The dischargers shall submit reports to the Board on results of groundwater monitoring. Groundwater monitoring reports shall be submitted in accordance with the schedule proposed in Provision C.1.c. and approved by the Executive Officer. All compliance and monitoring reports shall include at least the following:

      1) Cumulative tabulated results of water quality sampling analyses for all wells and groundwater pollution plume maps based on these results.

      2) A cumulative tabulation of all well construction details, water level measurements and updated piezometric maps based on these results.

      3) Reference diagrams and maps including any updated geologic cross sections describing the hydrogeologic setting of the site, and appropriately scaled and detailed base maps showing the location of all monitoring wells and extraction wells, and identifying facilities and structures.

c. The dischargers shall submit annual summary status reports on the progress of compliance with all requirements of this Order and propose modifications which could increase the effectiveness of final cleanup actions. The first report shall be due on January 31, 1993, and would cover the previous calendar year. The report shall include at least: progress on site investigation and remediation, operation and effectiveness of remediation actions and systems, and an evaluation of the feasibility of meeting groundwater and soil cleanup goals.

3. The dischargers may, by written request, seek modifications or revisions of this Order or any program or plan submitted pursuant to this Order at any time. This Order and any applicable program, plan, or schedule may be modified, terminated or revised by the Board.

4. If the dischargers may be delayed, interrupted or prevented from meeting one or more of the completion dates specified in this Order, the dischargers shall promptly notify the Executive Officer. If, for any reason, the dischargers are unable to perform any activity or submit any document within the time required under this Order, the dischargers may make a written request for a specified extension of time. The extension request shall include a justification for the delay, and shall be submitted in advance of the date on which the activity is to be performed or the document is due. The Board staff may propose an amendment to the Order and bring the matter to the Board for consideration.

5. Nothing in this Order is intended or shall be construed to limit or preclude any right the dischargers have or may have to seek administrative and/or judicial review of any orders or determinations of the Board and/or its staff.

6. All hydrogeological plans, specifications, technical reports and documents shall be signed by or stamped with the seal of a State registered geologist, registered civil engineer, or certified engineering geologist.

7. All samples shall be analyzed by State certified laboratories or laboratories accepted by the Board using approved EPA methods for the type of analysis to be performed. All laboratories or the consultant shall maintain quality assurance/quality control records for Board review for a period of six years.

8. The dischargers shall maintain in good working order, and operate in the normal standard of care, any facility or control system installed to achieve compliance with the requirements of this Order.

9. Copies of all correspondence, reports, and documents pertaining to compliance with the Prohibitions, Specifications, and Provisions of this Order shall be provided to the following agencies:

   a. San Mateo County Health Department
   b. City of East Palo Alto
   c. Cal-EPA, Department of Toxic Substances Control
   d. Regional Water Quality Control Board

10. The dischargers shall permit, within the scope of each of their authorities, the Board or its authorized representative, in accordance with Section 13267 (c) of the California Water Code:

   a. Entry upon dischargers' premises in which any pollution sources exist, or may potentially exist, or in which any required records are kept, which are relevant to this Order.

   b. Access to copy any records required to be kept under the terms and conditions of this Order.

   c. Inspection of any monitoring equipment or methodology implemented in response to this Order.

   d. Sampling of any groundwater or soil which is accessible, or may become accessible, as part of any investigation or remedial action program undertaken by the discharger.

11. The dischargers shall file a report in a timely manner on any changes in site occupancy and ownership associated with the facility described in this Order.

12. If any hazardous substance is discharged in or on any waters of the State, or discharged and deposited where it is, or probably will be discharged in or on any waters of the State, the dischargers shall report such a discharge to this Board, at (415) 464-1255 on weekdays during office hours from 8 a.m. to 5 p.m., and to the Office of Emergency Services at (800) 852-7550 during non-office hours. A written report shall be filed with the Board within five (5) working days and shall contain information relative to: the nature of the waste or pollutant, quantity involved, duration of incident, cause of spill, Spill Prevention, Control and Countermeasure Plan in effect, if any, estimated size of affected area, nature of effects, corrective measures that have been taken or planned, and a schedule of these activities, and persons notified.

13. Any provisions of this Order substantially identical to provisions which the State Water Board or a court of law

determines to be in excess of the Board's legal authority shall have no force or effect in this Order.

14. This Order is intended to be the primary regulating document by which site cleanup shall proceed on a regional basis for the dischargers and properties named herein, with the Board as lead agency, and IDEA Corporation as the recoverers contact representing the named dischargers.

15. The Board would like to remind dischargers that a General Industrial Storm Water Permit was adopted by the State Water Resources Control Board on November 19, 1991. This permit will apply storm water discharge from many of the industries located within the Ravenswood Industrial Area. The permit requires dischargers to submit a Notice of Intent to the State Water Resources Control Board by March 30, 1992. To determine if this permit applies to your particular operation or if you have not filed a Notice of Intent, please contact the Division of Water Quality at (916) 657-0756 immediately.

16. The Board will review this Order periodically and may revise the requirements when necessary.

I, Steven R. Ritchie, Executive Officer, do hereby certify that the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on April 15, 1992.

Steven R. Ritchie
Executive Officer

Attachments:
1 - List of Dischargers

Attachment 1

LIST OF LANDOWNERS/DISCHARGERS
EAST PALO ALTO INDUSTRIAL AREA
East Palo Alto, San Mateo County

No.	PROPERTY OWNER	PARCEL NUMBER
1.	Dante Bains P.O. Box 50219 Palo Alto, CA 94303	063-240-350, 063-240-400, 063-240-340
2.	Mike Baker P.O. Box 368 Redwood City, CA 94064	063-121-400, 063-121-410
3.	Bruce Baron 255 Demeter St. East Palo Alto, CA 94303	063-123-070
4.	Michael Berthiaume 2536 Pulgas Ave East Palo Alto, CA 94303	063-132-190
5.	Jennie J. Bishop 220 Emerson St. Palo Alto, CA 94301	063-231-180
6.	Robert Borrman 2450 Pulgas Ave East Palo Alto, CA 94303	063-240-390, 063-240-310
7.	Lee Clemons 1800 Bay Road East Palo Alto, CA 94303	063-231-220
8.	Melvin Curtaccio 1925 Bay Road East Palo Alto, CA 94303	063-121-050, 063-121-060, 063-132-100, 063-132-160, 063-132-170, 063-132-120, 063-132-130, 063-132-110, 063-240-320, 063-240-330
9.	Michael Demeter 160 Demeter St. East Palo Alto, CA 94303	063-121-330, 063-121-340, 063-121-360, 063-121-290, 063-121-430, 063-121-120, 063,121-290, 063-132-090
10.	Robert Facciola P.O. Box 50548 Palo Alto, CA 94303-0548	063-050-030

11.	John Garcia 1905 Bay Road East Palo Alto, CA 94303	063-132-140
12.	Harry Higaki P.O. Box 941 Half Moon Bay, CA 94019	063-121-020, 063-121-200, 063-121-210
13.	Saturo and Emma Iwasaki 2519 Pulgas Ave. East Palo Alto, CA 94303	063-131-220
14.	Richard Lake and Mabel Cordes P.O. Box 50367 Palo Alto, CA 94303	063-122-016, 063-122-015, 063-231-240
15.	Helen Engelbert 615 Glouchester Lane Foster City, CA 94404	063-123-010
16.	Menlo Foods 175 Demeter St. East Palo Alto, CA 94303	063-133-080, 063-133-070, 063-133-100
17.	Russ Peck and Thomas O'Conner 1965 Latham Mountain View, CA 94040	063-231-190, 063-231-200
18.	O.B. Ray 225 Demeter St. East Palo Alto, CA 94303	063-123-030, 063-123-080
19.	Ron Rogge 1987 Bay Road East Palo Alto, CA 94303	063-132-220, 063-121-150
20.	Vincent Romelfanger 2520 Pulgas Ave. East Palo Alto, CA 94303	063-132-150
21.	Philip Wang 5 Miller Court Redwood City, CA 94061	063-133-110, 063-133-110
22.	Richard Russel Brown Wood Products 325 Demeter St. East Palo Alto, CA 94303	063-123-060

23.	Henry Wong 1045 Weeks St. East Palo Alto, CA 94303	063-232-240
24.	Don Sevy 3820 Park Blvd. Palo Alto, CA 94303	063-131-300, 063-131-320, 063-131-330
25.	Denny Sibbert 163 Highland Ave. San Carlos, CA 94070	063-132-210, 063-231-260
26.	Tara Association Ted Thompson 410 Cambridge Ave. East Palo Alto, CA 94303	063-132-060
27.	Jess Torres P.O. Box 1270 Mountain View, CA 94042	063-240-420
28.	Charles Touchatt 2535 Pulgas Ave. East Palo Alto, CA 94303	063-121-370
29.	Edward Green 811 Hamilton Menlo Park, CA 94025	063-231-170

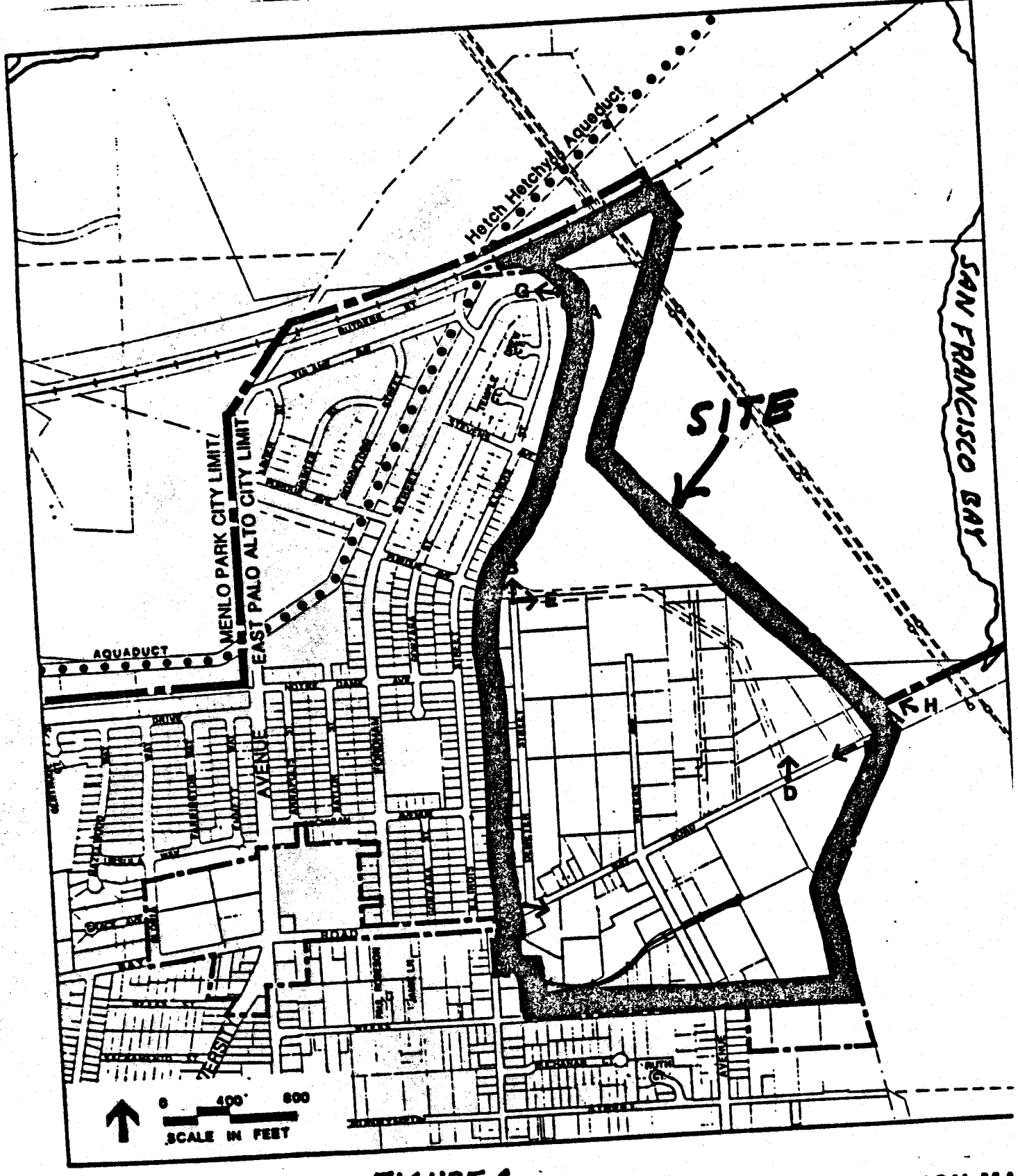


FIGURE 1

PHOTOGRAPH LOCATION MA

Ravenswood Industrial Ar
Redevelopment Plan & GPA Program E
Wallace Roberts & To

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER 92-086
(AMENDING ORDER 92-037)

SITE CLEANUP REQUIREMENTS FOR:

EAST PALO ALTO INDUSTRIAL AREA,
MULTIPLE LANDOWNERS
EAST PALO ALTO
SAN MATEO COUNTY

DISCHARGERS: SEE ATTACHMENTS 1 AND 1A

The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter called the Board) finds that:

I. SITE DESCRIPTION The Ravenswood Industrial area (site) of East Palo Alto, consists of numerous privately owned parcels or properties which are located adjacent to wetlands along the western margin of San Francisco Bay (Figure 1). These properties consist generally of agricultural, manufacturing, auto wreckers, and storage facilities for most of their existence with little or no regulation of land-use. The site area has been used for agricultural and industrial purposes for at least the past 60 years.

2. SITE HISTORY On April 15, 1992, the California Regional Water Quality Control Board, San Francisco Bay Region, adopted Site Cleanup Requirements (Order 92-037) for several parcels (Attachment 1) in the Ravenswood Industrial Area. These parcels comprise about 70 percent of the total acreage. The Order contains tasks required to evaluate if soil and or groundwater pollution has occurred by past or present site use activities. The Order named each of the individual property owners as dischargers because of their current ownership of the site properties and required they comply with all requirements of the Order for their individual parcels.

3. RATIONALE FOR ORDER The Regional Board, pursuant to Order 92-037, is initiating a sub-regional cleanup to address soil and groundwater pollution that pose a threat to surface and groundwater in the Bay margin area of East Palo Alto and also represent potential sources of delay to Board cleanup on adjacent sites. As part of this action, Board staff have conducted visual inspections of the site. Board staff have also reviewed the Phase 1 Hazardous Materials Site Assessment that was prepared (in November, 1989) by ERC Environmental and Energy Services Company for the City of

East Palo Alto Redevelopment Agency. From the visual inspections and data presented in the above referenced report, a basis exists for including the remaining 30 percent of the properties located in the Ravenswood Industrial Area to Order 92-037.

4. SCOPE OF ORDER This Order shall amend Order 92-037 to include those property owners (Attachment 1A) in the Ravenswood Industrial area, who are not currently named in the Order, as dischargers. The Order amendment shall require the dischargers listed in Attachments 1 and 1A to comply with all requirements set forth in Order 92-037 as amended by this Order. This Order shall also revise due dates for tasks required by Order 92-037.

Board Order 92-037 is amended as follows:

1. The following property owners are added as named dischargers for their individual parcels:

   See Attachment 1A.

2. Submittal of reports required by Provisions C.1.a. and C.1.b. are revised to October 1, 1992 and November 15, 1992 respectively.

3. Corrections as to ownership and parcel numbers of Attachment 1.

I, Steven R. Ritchie, Executive Officer, do hereby certify that the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on July 15, 1992.

Steven R. Ritchie
Executive Officer

Attachments:

1 - List of Dischargers from Order 92-037
1A - List of Dischargers added by this amendment

Figure:

Figure 1, Site Location Map

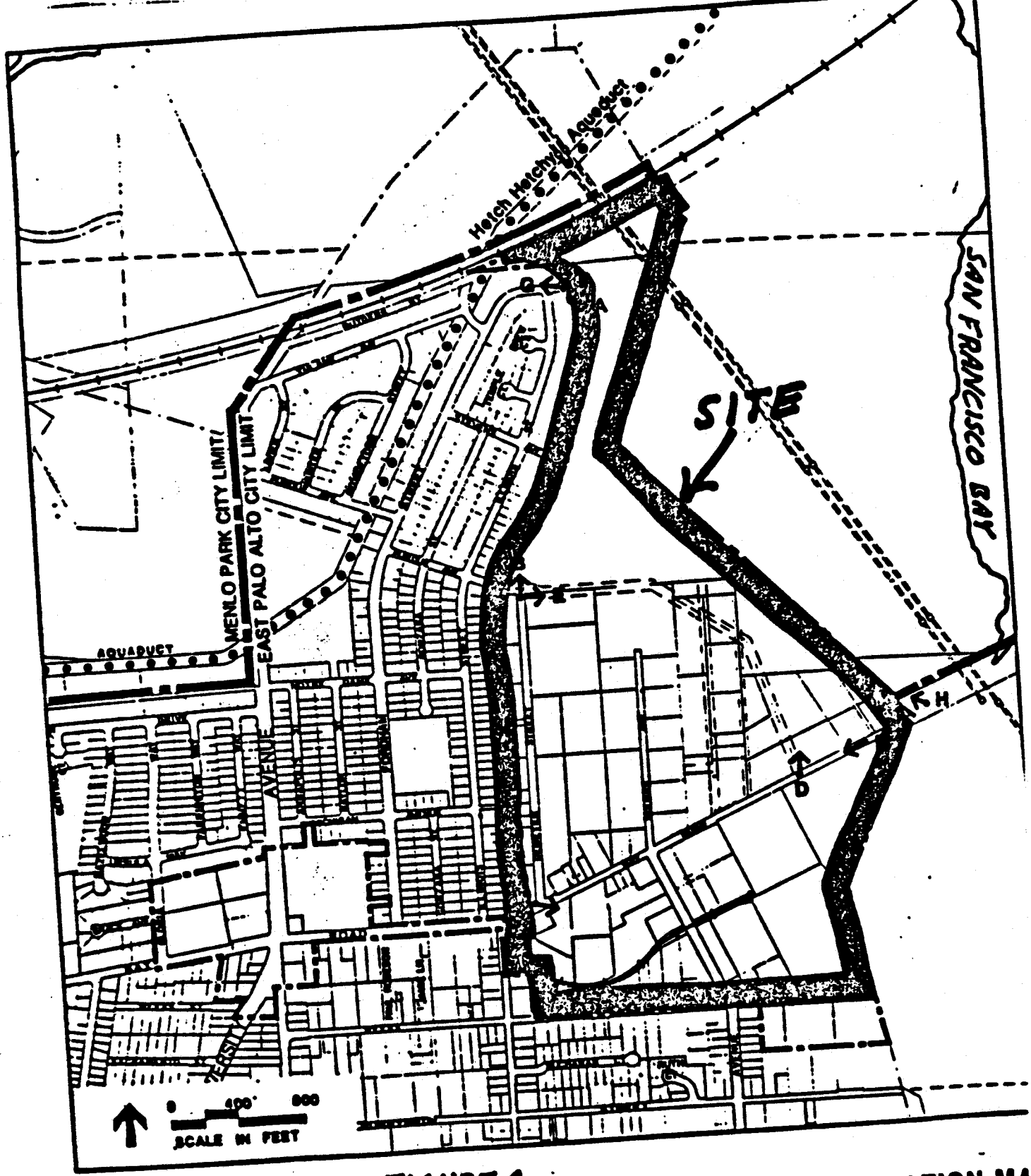


FIGURE 1

PHOTOGRAPH LOCATION MA
Ravenswood Industrial Ar
Redevelopment Plan & GPA Program E
Wallace Roberts & To

Attachment 1

LIST OF LANDOWNERS/DISCHARGERS
EAST PALO ALTO INDUSTRIAL AREA
East Palo Alto, San Mateo County

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2.	Mike Baker P.O. Box 368 Redwood City, CA 94064	063-121-400, 063-121-410
3.	Bruce Baron 255 Demeter St. East Palo Alto, CA 94303	063-123-070
4.	Michael Berthiaume 2536 Pulgas Ave East Palo Alto, CA 94303	063-132-190
5.	Jennie J. Bishop 220 Emerson St. Palo Alto, CA 94301	063-231-180
6.	Robert Borrman 2450 Pulgas Ave East Palo Alto, CA 94303	063-240-390, 063-240-310
7.	Lee Clemons 1800 Bay Road East Palo Alto, CA 94303	063-231-220
8.	Melvin Curtaccio 1925 Bay Road East Palo Alto, CA 94303	063-121-050, 063-121-060, 063-132-100, 063-132-160, 063-132-170, 063-132-120, 063-132-130, 063-132-110, 063-240-320, 063-240-330
9.	Michael Demeter 160 Demeter St. East Palo Alto, CA 94303	063-121-330, 063-121-340, 063-121-360, 063-121-290, 063-121-430, 063-121-120, 063,121-290, 063-132-090
10.	Robert Facciola P.O. Box 50548 Palo Alto, CA 94303-0548	063-050-030

11.	John Garcia 1905 Bay Road East Palo Alto, CA 94303	063-132-140
12.	Harry Higaki P.O. Box 941 Half Moon Bay, CA 94019	063-121-020, 063-121-200, 063-121-210
13.	Saturo and Emma Iwasaki 2519 Pulgas Ave. East Palo Alto, CA 94303	063-131-220
14.	Richard Lake and Mabel Cordes P.O. Box 50367 Palo Alto, CA 94303	063-122-016, 063-122-015, 063-231-240
15.	Helen Engelbert 615 Glouchester Lane Foster City, CA 94404	063-123-010
16.	Menlo Foods 175 Demeter St. East Palo Alto, CA 94303	063-133-080, 063-133-070, 063-133-100
17.	Russ Peck and Thomas O'Conner 1965 Latham Mountain View, CA 94040	063-231-190, 063-231-200
18.	O.B. Ray 225 Demeter St. East Palo Alto, CA 94303	063-123-030, 063-123-080
19.	Ron Rogge 1987 Bay Road East Palo Alto, CA 94303	063-132-220, 063-121-150
20.	Vincent Romelfanger 2520 Pulgas Ave. East Palo Alto, CA 94303	063-132-150
21.	Philip Wang 5 Miller Court Redwood City, CA 94061	063-133-110, 063-133-110
22.	Richard Russel Brown Wood Products 325 Demeter St. East Palo Alto, CA 94303	063-123-060

23.	Henry Wong 1045 Weeks St. East Palo Alto, CA 94303	063-232-240
24.	Don Sevy 3820 Park Blvd. Palo Alto, CA 94303	063-131-300, 063-131-320, 063-131-330
25.	Denny Sibbert 163 Highland Ave. San Carlos, CA 94070	063-132-210, 063-231-260
26.	Tara Association Ted Thompson 410 Cambridge Ave. East Palo Alto, CA 94303	063-132-060
27.	Jess Torres P.O. Box 1270 Mountain View, CA 94042	063-240-420
28.	Charles Touchatt 2535 Pulgas Ave. East Palo Alto, CA 94303	063-121-370
29.	Edward Green 811 Hamilton Menlo Park, CA 94025	063-231-170

Attachment 1A

LIST OF LANDOWNERS/DISCHARGERS
EAST PALO ALTO INDUSTRIAL AREA
East Palo Alto, San Mateo County

No.	PROPERTY OWNER	PARCEL NUMBER
1.	Allen, Robert 1003 Weeks Street East Palo Alto, CA 94303	063-232-090
2.	Barajas Samuel and Maria 1896 Bay Road East Palo Alto, CA 94303	063-231-230
3.	Barajas, Samuel and Ibarr 1896 Bay Road East Palo Alto, CA 94303	063-231-280
4.	Barnes, Jack H. 611 12th Ave Menlo Park, CA 94025	063-133-090
5.	Beer, Deen R. and Jean 1885 Bay Road East Palo Alto, CA 94303	063-133-230, 063-131-240, 063-131-310
6.	Bernard, William 1711 Westport Road Kansas City, MO 64111	063-272-100
7.	County of San Mateo County Government Center Redwood City, CA 94063	063-121-190
8.	Duca and Hanley Properties 19312 Athos Place Saratoga, CA 95070	063-240-210, 063-240-220
9.	East Palo Alto Sanitary District 2524 Pulgas Ave. East Palo Alto, CA 94303	063-232-350
10.	Gheith, Yousef 521 3rd Street San Francisco, CA 94107	063-232-300
11.	Green, Edward and Ann 600 Crane Ave. Foster City, CA 94404	063-231-290

12.	Harmony Investment Co. P.O. Box 186 Half Moon Bay, CA 94019	063-121-020, 063-121-200, 063-121-210
13.	Ingram, Bobbie 325 Hazen Street Milpitas CA, 95035	063-131-250
14.	Iwasaki, Chiyoko and Han 1001 Waverly Ave Palo Alto, CA 94301	063-232-200, 063-232-210, 063-232-220, 063-232-230
15.	Lakeshore Financial 1915 Alum Rock Ave. San Jose, CA 95116	063-271-043, 063-271-430
16.	Marilyn Lemmon 486 Diamond Ct. Palo Alto, CA 94306	063-131-260, 063-131-270
17.	William Leonhart 69 Finger ve Redwood City, CA 94062	063-121-060
18.	Lopez and Guadnecio 1103 Weeks St. East Palo Alto, CA 94303	063-240-270, 063-240-360
19.	M, A & R P.O. Box 50367 Palo Alto, CA 94303	063-232-150, 063-232-160
20.	Mo, Yoke K & Ngoc Uan 2121 Old Page Mill Rd. Palo Alto, CA 94304	063-133-100, 063-133-070 063-133-080
21.	Price, Dallas and Berth 810 Schembri Lane Palo Alto, CA 94303	063-232-340
22.	Park, Ray & Sons 225 Demeter St. East Palo Alto, CA 94303	063-123-030, 063-123-080
23.	Roblake, Inc. P.O. Box 50065 Palo Alto, CA 94303	063-231-240
24.	Salzburg, David 815 N. Humbolt, 303 San Mateo, CA 94401	063-231-210

25.	Joseph Scianacalapore 3390 Alder Ave. Fremont, CA 94536	063-121-030, 063-121-040, 063-121-350, 063-132-020, 063-132-040
26.	Simon, Bertrand A. 57 Edgemont Way Oakland, CA 94605	063-231-270
27.	Tanklage, Don & Carole 1025 Tanklage Rd. San CArlos, CA 94070	063-231-250
28.	Tupou, Takivaha E. 1001 Weeks St. East Palo Alto, CA 94303	063-232-260
29.	Tyson, Herbert P., Jr. 2509 Pulgas Ave. East Palo Alto, CA 94303	063-131-340
30.	Wade, Robert 831 Bay Ave, Suite C Capatola, CA 95010	063-271-220

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. R2-2016-0037

ADOPTION OF FINAL SITE CLEANUP REQUIREMENTS AND RESCISSION OF ORDER Nos. 91-016, 91-095, 92-022, 92-127, 94-042, 96-162, 97-015, 97-095, and R2-2005-0033 for:

STARLINK LOGISTICS, INC. (FORMERLY, RHONE-POULENC, INC.)

for:

1990 BAY ROAD SITE
EAST PALO ALTO, SAN MATEO COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter Water Board), finds that:

1. **Site Location**: The formulation of agricultural chemicals at a facility formerly located at 1990 Bay Road in East Palo Alto caused soil and groundwater pollution at both the facility and adjoining properties. Together, these properties make up the "Site" (see Figure 1). The entire Site is approximately 23 acres, encompassing all areas with arsenic concentrations greater than 20 milligrams per kilogram (mg/kg) of undried (wet) soil and sediment. This includes the 4.9-acre 1990 Bay Road property; partly-developed commercial properties to the north, south, and west; residential and mixed-use properties to the south; a portion of a Pacific Gas & Electric (PG&E) electrical substation (hereinafter the PG&E Poleyard) property to the east; and a small portion of a tidal wetland located beyond a levee east of the 1990 Bay Road property (Figure 2). For investigative and remedial purposes, the Site has been divided into Operable Units as described in finding 4 below. The Site is located about 2,000 feet west of San Francisco Bay and is bordered by a tidal wetland of the Don Edwards San Francisco Bay National Wildlife Refuge to the east.

2. **Site History:** Arsenic-based agricultural chemicals, such as weed control compounds, were manufactured at the 1990 Bay Road property from the 1920s until the late 1960s, first by Chipman Chemical Company (Chipman) and then by Rhodia Inc. (Rhodia), which acquired Chipman in 1964. Rhodia stopped using arsenic in the late 1960s and sold the property to Zoecon Corporation (Zoecon) in 1971. Zoecon, which later became Sandoz Agro Inc. (Sandoz), manufactured non-arsenic based bio-rational insect controls at the facility from 1972 to 1994. In 1994, Rhône-Poulenc, Inc. (Rhône-Poulenc), formerly known as Rhodia, repurchased the real property from Sandoz. Catalytica, Inc. (Catalytica) leased the real property from Rhône-Poulenc and manufactured non-arsenical chemicals and pharmaceutical intermediates from 1994 until mid-2001, when the facility closed. In 2001, the property was transferred to StarLink Logistics, Inc. (SLLI), a successor to Rhône-Poulenc. The manufacturing plant and office facilities were demolished in the spring of 2002 to facilitate remaining site cleanup work. The 1990 Bay Road property is now vacant, except for an empty warehouse structure adjacent to Bay Road.

3. **Named Dischargers**: SLLI is named as a discharger because it is the successor-in-interest to Chipman and Rhodia. Substantial evidence demonstrates that Chipman and Rhodia discharged pollutants, primarily arsenic, to soil and groundwater during their manufacturing operations at the Site. SLLI is also named a discharger because it currently owns the property upon which

discharges occurred and the discharged chemicals remain present in soil and groundwater. SLLI has knowledge of the discharges, and it has the legal ability to control the discharge.

4. Site Description and Operable Unit Designations: The Site, as previously stated, is defined as areas with arsenic concentrations greater than 20 mg/kg of undried (wet) soil and sediment (Figure 2). While arsenic is the primary contaminant of concern at the Site, other metals, including cadmium, lead, zinc, mercury, and selenium, have been found at elevated concentrations as well. Arsenic is also found in shallow groundwater at the Site (Figure 3) in an area smaller than the affected soil area. No arsenic has been found in deeper groundwater aquifers.

For purposes of remedy selection and remedial planning, the Site, pursuant to Order No. 91-016, was divided into Upland and Wetland Operable Units (OUs) within the meaning of section 300.430(a)(ii) of the National Contingency Plan (NCP), 40 C.F.R. Part 300. The attached Table 1 and Figure 4 identify current OUs, subareas, and individual properties affected. Table 1 also summarizes the remedial status of properties within the Site.

a. Upland OU

The Upland OU, pursuant to Order No. 91-016, is defined to include:

- 1990 Bay Road property (approximately 4.9 acres);
- 2470 Pulgas Avenue, former Bains property (a portion of the 1.5 acre parcel);
- PG&E Poleyard, adjacent to PG&E substation (approximately 0.8 acres);
- 1950 Bay Road (aka 1980 Bay Road), former Curtaccio property (0.4 acre portion of the 1.5 acre property); and,
- North of Bay Road [0.2 acres comprised of portions of 1923 (Curtaccio), 1987 (Rogge) and 2005 (Bay Road Holdings/former Romic) Bay Road].

b. Upland OU Annex

Order No. 94-042 extended the boundary of the Upland OU, annexing portions of the Wetland OU and extending the Upland OU remedy into this area. This portion of the Site is referred to as the Upland OU Annex and consists of:

- 1175 Weeks Street, Torres property (a portion of the approximately 8.4 acre property); and,
- Non-Tidal Marsh area, which were formerly part of the PG&E property but were made part of the 1990 Bay Road property by lot line adjustment (a portion of the approximately 3.6 acre parcel).

c. South of Weeks Subarea

Additional contamination was discovered in the mid-1990s outside the previously defined southern site boundary. Order No. 97-095 expanded the Upland OU Annex to include affected properties south of Weeks Street, referred to as the South of Weeks Subarea. This area includes portions of the following properties totaling approximately 3.6 acres:

- 1200 Weeks Street (a portion of the 3.4 acre property);
- 1250 Weeks Street (approximately 0.8 acres);

- 1275 Runnymede, Wilson property (a portion of the 1.2 acre property); and,
- Ravenswood School District property (a 0.1 acre portion of the property).

d. Wetland OU

The Wetland OU (Figure 4) consists of approximately 1.9 acres of tidal wetlands, owned by the City of Palo Alto and located beyond the levee southeast of the 1990 Bay Road property. Order No. R2-2005-0033 for the Wetland OU was adopted in 2005.

A portion of the drainage canal owned by the City of Palo Alto located south of Runnymede Street was addressed in Order No. 97-095 and at that time included in the Wetland OU. Since that time, extensive sampling on this property indicated that arsenic concentrations in soil are less than 20 mg/kg. Therefore, this area is no longer considered part of the Wetland OU, and this Order formally documents removal of the area from the Wetland OU. In addition, the installation of an underground barrier wall (slurry wall) was required by the Upland OU remedy but was scheduled to be installed after implementation of the Wetland OU remedy. This schedule was modified and the underground barrier wall was installed in 2001 pursuant to a 13267 directive letter issued by the Executive Officer on February 18, 2000.

5. Regulatory History and Status: Remedial activities began at the Site in 1981, when an initial investigation of the extent of arsenic in soil and groundwater was conducted. In 1985, the Site was proposed for inclusion on the National Priorities List (NPL) under the federal Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). Also in 1985, the California Department of Health Services issued Sandoz, the facility owner and operator at the time, a permit to store and treat hazardous waste under the U.S. Environmental Protection Agency's (U.S. EPA) Resource Conservation and Recovery Act (RCRA) authority (permit No. CAT000611350). In 1989, U.S. EPA formally removed the Site from consideration for the NPL.

From 1987 to 1991, the Site was under the jurisdiction of the Department of Toxic Substances Control (DTSC) pursuant to a Consent Order between DTSC, the Water Board, and Rhône-Poulenc. Lead agency status changed in January 1991 to the Water Board, and the provisions of the Consent Order were vacated by stipulation, except those referencing cost recovery.

A Record of Decision (ROD) was issued by U.S. EPA for the Upland OU in March 1992, and the selected remedial actions were incorporated into Order No. 92-022. In 1994, Order No. 94-042 modified the boundaries of the Upland OU to incorporate an additional 11.8 acres of the Site referred to as the Upland OU Annex. Order No. 94-042 served as an explanation of significant difference, thereby amending the ROD to include the Upland OU Annex. In 1997, remedial actions for an additional 3.6 acres, referred to as the South of Weeks Subarea, were required by Order No. 97-095. Order No. 97-095 also served as an explanation of significant difference, thereby further amending the ROD to include the South of Weeks Subarea.

A portion of the tidal marsh comprises the Wetland OU. Order No. 92-127 required an Ecological Assessment of the tidal marsh, which was finalized in 1998. A Feasibility Study was prepared for the Wetland OU in 2005, which was finalized in 2007. Order No. R2-2005-0033 for the Wetland OU was adopted in 2005.

In 2009, the United States Department of Justice, on behalf of U.S. EPA and the Department of the Interior, entered into a Consent Decree with SLLI to, among other things, release and agree to a covenant not to sue with SLLI with respect to Natural Resource Damages (NRD) and NRD Claims relating to the Site.

The following Water Board orders have been adopted for the Site:

- Cleanup and Abatement Order No. 82-001, adopted April 15, 1982 (requiring investigation and abatement of the vertical and lateral extent of soil, surface, and groundwater pollution);
- Cleanup and Abatement Order No. 82-002, adopted April 21, 1982;
- Cleanup and Abatement Order No. 82-005, adopted October 13, 1982;
- Cleanup and Abatement Order No. 83-012, adopted December 20, 1983;
- Waste Discharge Requirements Order No. 85-67, adopted May 15, 1985 (rescinding Order Nos. 82-001, 82-002, 82-005, and 83-012 and requiring the dischargers to conduct further site characterization, construct monitoring well systems in the shallow and deep aquifers, and submit results of groundwater sample analyses);
- Site Cleanup Requirements Order No. 91-016, adopted February 20, 1991 (rescinding and replacing Order No. 85-67 to reflect change in lead agency, to include tasks necessary to complete the Feasibility Study/Remedial Action Plan process, to update groundwater monitoring, and to ensure design of an adequate groundwater mitigation response for final site cleanup);
- Site Cleanup Requirements Order No. 91-095, adopted June 19, 1991 (amending Order No. 91-016 to add provisions for implementing an Early Action Removal Plan (EARP));
- Site Cleanup Requirements Order No. 92-022, adopted February 22, 1992 (containing the Remedial Action Plan for the Upland OU);
- Site Cleanup Requirements Order No. 92-127, adopted October 21, 1992 (amending Order Nos. 92-022, 91-095, and 91-016, to revise and consolidate tasks and due dates);
- Site Cleanup Requirements Order No. 94-042, adopted March 16, 1994 (amending Order Nos. 92-127, 92-022, 91-095, and 91-016, extending the Upland OU remedy into the Upland OU Annex area);
- Site Cleanup Requirements Order No. 96-162, adopted December 18, 1996 (amending Order Nos. 94-042, 92-127, 92-022, 91-095, and 91-016, removing Sandoz Crop Protection Corporation as a discharger);
- Cleanup and Abatement Order No. 97-015, issued March 26, 1997 (naming Torres as a discharger and setting forth the time schedule for completion of remedial action on Torres property);
- Cleanup and Abatement Order No. 97-095, issued July 16, 1997 (amending Order No. 92-022, extending the Upland OU remedy into the South of Weeks Subarea and revising the residential soil cleanup standard for arsenic from 70 mg/kg to 20 mg/kg); and,
- Cleanup and Abatement Order No. R2-2005-0033, adopted July 20, 2005 (containing the selected remedy for the Wetland OU).

6. **Site Hydrogeology**: Two distinct water-yielding groundwater zones exist at and around the Site: a shallow zone that occurs from a depth of about 5 to 40 feet and a deep aquifer that occurs below a depth of about 160 feet. The shallow zone consists of interbedded silts, clayey silts, and sand lenses. A relatively continuous sand lens occurs at a depth of about 5 to 15 feet, and a second relatively continuous sand lens occurs at a depth of about 20 to 35 feet. The depth

interval from about 5 to 15 feet is referred to as the upper shallow groundwater zone, and the depth interval from about 20 to 35 feet is referred to as the lower shallow groundwater zone. The direction of groundwater flow in the shallow groundwater zone is generally toward the southeast to discharge areas along the sloughs in the tidal wetlands. During the dry summer months, the direction of groundwater flow shifts to a more southerly direction. Beneath the shallow groundwater zone to a depth of about 160 feet is a silty-clay and clay interval that acts as an aquitard separating the shallow zone from the deep aquifer.

7. Remedial Investigation: Remedial activities began at the Site in 1981, when an initial investigation of the extent of arsenic in soil and groundwater was conducted. Arsenic is the primary contaminant of concern at the Site. Although other metals (cadmium, lead, mercury, and selenium) have been found at elevated concentrations at the Site, arsenic has been determined to be a reliable indicator of other compounds. The Remedial Investigation (RI) report for the Site was completed in 1989. The RI report contained sufficient information to select a remedy for the Upland OU but not to design and implement the remedy. As a result, extensive data collection programs were conducted in the Upland OU and the Upland OU Annex to accurately define the horizontal and vertical extent of arsenic in soil above the three threshold levels established in the 1992 ROD: 5000 mg/kg; 500 mg/kg; and 70 mg/kg.

While the results of the additional soil investigations conducted in the Upland OU, the Upland OU Annex, and the Wetland OU indicated that the northern, eastern, and western extents of arsenic in soil were defined in the RI and ROD, sampling conducted to the south indicated that arsenic existed in soil below several feet of clean fill on the southern part of the Torres property. In 1995, soil investigations were initiated in the South of Weeks Subarea to evaluate the southern extent of arsenic. Based on these investigations, the area of known arsenic concentrations in soil and groundwater expanded to include about 2.5 acres in a narrow strip along the landward side of the levee from Weeks Street to just south of Runnymede Street. Arsenic in soil in this area, for the most part, occurs beneath fill materials.

Since the 1992 ROD, samples from thousands of locations have been collected and analyzed for arsenic and other site-related constituents. Generally, soil sampling events performed on the Site since the initial investigations have been associated with the design and implementation of remedial actions on the Site. The results of these additional soil investigations did not significantly change the previously defined extent of arsenic concentration in soil. As a result of site investigations, the total areal extent of soil with arsenic concentrations in excess of 20 mg/kg prior to remediation is estimated to be about 23 acres, as shown on Figure 2. Due to the high density of sampling points, there is a high degree of confidence in the estimated extent of arsenic in soil.

The RI did not contain sufficient information to select a remedy for the Wetland OU, and, as a result, a detailed Ecological Assessment of the tidal wetlands was conducted. The Ecological Assessment of the tidal wetlands was submitted in 1994 and the Ecological Risk Assessment was finalized in 1998. Additional sampling was conducted in the tidal wetlands in April and May 2000 to define the lateral and vertical extent of arsenic and zinc within the slough sediments and in the underlying subsurface materials in the vicinity of a location of concern identified in the Ecological Assessment referred to as Slough Station 2. A total of 136 sediment samples were collected in the tidal sloughs, 41 soil samples were collected from 5 borings

advanced to 8 or 9 feet below ground surface in the immediate vicinity of Slough Station 2, and 6 additional shallow soil samples were collected for analysis of total organic carbon and particle size analysis. The sampling results indicated that the average arsenic concentrations in the slough sediments calculated from the data collected in the Ecological Assessment slightly overestimated the actual arsenic concentrations and confirmed the conclusion of the Ecological Risk Assessment that arsenic and zinc do not occur in the tidal wetlands at levels likely to cause adverse effects.

In 1985, the Water Board required that SLLI install a monitoring well network to monitor the extent of groundwater with arsenic concentrations greater than 0.05 mg/L and to confirm that contaminated groundwater is not migrating to the deep groundwater zone. Deep groundwater is monitored with respect to the background arsenic concentration in groundwater, which is 0.005 mg/L. SLLI has maintained and monitored a system of perimeter groundwater monitoring wells since 1986. The perimeter monitoring system was originally designed to meet the requirements of Order No. 85-67, which required that a system of perimeter monitoring well pairs completed in the upper and lower shallow aquifer be located within 100 feet of the 0.05 mg/L contour for arsenic.

Arsenic is found in shallow groundwater at the Site (Figure 3). Impacted groundwater only occurs in areas where soil arsenic concentrations are greater than 20 milligrams per liter (mg/L); therefore, the areal extent of arsenic in groundwater is similar, but smaller, than the areal extent in soil. Groundwater in the upper and lower shallow groundwater zones contains arsenic concentrations in excess of 0.05 mg/L. In the upper shallow groundwater zone, arsenic concentrations exceed 0.05 mg/L in an approximately 12-acre area centered on the 1990 Bay Road property and in an additional 0.5-acre narrow strip on the west side of the levee from Weeks Street to Runnymede Street. In the lower shallow groundwater zone, the areal extent of arsenic concentrations in excess of 0.05 mg/L is only about 5 acres. Thirty years of data have consistently indicated that arsenic has not migrated to the deep groundwater zone.

8. **Risk Assessment:** Risk assessments have been performed for the Site to develop site-specific screening levels for site-related constituents that were protective of human health. A risk assessment performed for the site in 1991 by PRC Environmental Management on behalf of U.S. EPA developed Health Based Goals (HBGs) for soil at the Site based on potential future residential scenarios. The protective HBGs for arsenic ranged from 20 mg/kg to 70 mg/kg depending on exposure pathways. Based on this risk assessment, an HBG of 70 mg/kg was originally selected as the cleanup standard for the Upland OU and later applied to the Upland OU Annex. The site HBG was amended in 1997 by Order No. 97-095, which concluded that the more protective cleanup standard of 20 mg/kg was appropriate for residential areas (South of Weeks Subarea) while the cleanup standard of 70 mg/kg would be appropriate for non-residential areas (Upland OU and Upland OU Annex). The residential HBG of 20 mg/kg was based on assumptions regarding residential exposure and is also consistent with background concentrations.

As part of the Five-Year Status Report in 2014, the HBGs were re-evaluated using current screening levels published by regulatory agencies. As summarized in the Five-Year Status Report, the current U.S. EPA and Water Board residential screening levels for arsenic adjusted for the site-specific $1x10^{-4}$ target risk are 34 mg/kg and 22 mg/kg, respectively, which are

greater than the site criterion of 20 mg/kg. However, DTSC has developed a California-specific screening level of 6.2 mg/kg adjusted for a $1x10^{-4}$ target risk, which is lower than the site-specific HBG. Based on a review of background concentrations in unaffected areas in the San Francisco Bay Region, the Water Board concluded that for the purpose of this cleanup, 20 mg/kg is considered background for arsenic (Order No. 92-022). Therefore, accessible arsenic in residential areas was essentially remediated to background conditions so no revision to the approach for residential areas was required.

For the industrial areas, the 2014 report summarized that the U.S. EPA and Water Board commercial/industrial screening levels for arsenic adjusted for a $1x10^{-4}$ target risk were 240 mg/kg and 160 mg/kg, respectively, which are above the HBG of 70 mg/kg. DTSC's California-specific screening level for arsenic is 25 mg/kg adjusted for a $1x10^{-4}$ target risk. All commercial/industrial areas with soil that contained arsenic concentrations greater than 70 mg/kg were capped and deed restrictions were placed on the properties, except for a small area north of Bay Road. Soil containing arsenic concentrations greater than 70 mg/kg was excavated on three properties north of Bay Road in 1992. A small area adjacent to these excavations contains soil with concentrations between 25 and 70 mg/kg. This area is in or next to the Bay Road right of way and does not present a significant risk of exposure to soil. Therefore, it was concluded that the commercial/industrial areas do not present a significant risk of exposure to soil, and no change in the site-specific commercial/industrial cleanup criterion for soil north of Bay Road was necessary.

The Ecological Assessment, the Ecological Risk Assessment, and the Endangered Species Risk Calculations that were summarized in the Feasibility Study for the Wetland OU concluded that the wetlands are healthy, and there is no evidence of significant risks to ecological receptors (including Ridgway's rail and the salt marsh harvest mouse) from the Site. The dry weight Target Low Levels in sediment were calculated based on no adverse effects to be 24 mg/kg arsenic for the marsh and 16 mg/kg arsenic for the sloughs, and 201 mg/kg zinc for the marsh and 158 mg/kg zinc for the sloughs. The area of marsh surface and slough that exceeds the Target Low Levels in soil is limited to 1.3 acres of the 90-acre Laumeister Tract. In this area, the U.S. Fish and Wildlife Service determined that there is a 25 percent loss of habitat service. The completed remedial actions in the Upland OU have eliminated or minimized the potential for future site impacts on the tidal wetlands. Other elevated sediment concentrations have been found at depths greater than 5 feet, but these sediments are not accessible to ecological receptors, which forage primarily in the top 6 inches of sediment. Therefore, quantitative remedial objectives for sediment were not developed.

Based on these conditions, remedies were selected and implemented for the five site sub-areas: the Upland OU, the Upland OU Annex, the South of Weeks Subarea, the Wetland OU, and the Groundwater Unit. These measures minimize the potential for human and environmental exposures to contaminated soil, groundwater, surface water, and dust and minimize the risk of continued spread of contamination.

9. **Feasibility Study:** The Feasibility Study report was completed for the Upland OU in 1991. The Feasibility Study developed the selected remedy for the Upland OU, which was incorporated into the ROD. This remedy was later extended to the Upland OU Annex and, with more protective residential HBGs, to the South of Weeks Subarea.

The Feasibility Study for the Wetland OU was finalized in 2007. The Feasibility Study for the Wetland OU presented ecological and human health risk assessments for surface water and sediment in the tidal wetlands and concluded that based on the HBGs for commercial/industrial receptors, concentrations of arsenic in sediment do not represent a public health risk requiring remedial action.

10. Selected Remedies: The components of the selected remedies for soil in each of the OU and for the groundwater at the Site are described below:

a. Upland OU and Upland OU Annex Remedial Action Plan - Soil

The remedy for the Upland OU was specified in the ROD and in Order Nos. 92-022 and 94-042 for the Upland OU Annex. The remedy includes the following components:

- Remove accessible soil containing arsenic concentrations greater than 5,000 mg/kg;
- Treat accessible soil containing arsenic concentrations of 500 mg/kg or greater by means of fixation technology, with treatability goals of 5 milligrams per liter (mg/L) arsenic, 1 mg/L cadmium, 5 mg/L lead, 0.02 mg/L mercury, and 1 mg/L selenium, as measured by the federal Toxicity Characteristic Leaching Procedure (TCLP);
- Record deed restrictions for properties where soil greater than 70 mg/kg arsenic is left in place;
- Remove soil containing arsenic concentrations above 70 mg/kg from any properties that will not be deed restricted and dispose at an appropriate facility; and,
- Cap areas that contain surface soil with arsenic concentrations greater than 70 mg/kg after grading to control surface ponding and maintain surface water drainage to the southeast.

The definition of the Upland OU was modified by subsequent Water Board orders to include the Upland OU Annex and the South of Weeks Subarea.

b. South of Weeks Subarea Remedial Action Plan - Soil

The remedy for the soil in the South of Weeks Subarea (Figure 4), which was specified in Order No. 97-095, modified the existing cleanup standard for the Upland OU and Upland OU Annex of 70 mg/kg to 20 mg/kg. The plan calls for removal of soil containing greater than 20 mg/kg arsenic unless consent by the property owner is obtained. Capping, deed restrictions, and a site management plan are required where arsenic concentrations greater than 20 mg/kg remain in soil.

c. Wetland OU Remedial Action Plan – Soil

The remedy for the Wetland OU was described in Order No. R2-2005-0033 and includes the following components:

- Conduct topographic monitoring of the wetland surface near the bend in the levee every five years for thirty years. If the results indicate that natural erosion is exposing elevated concentrations of arsenic, a contingency plan will be developed. If, in 2036, after 30 years of monitoring, the results indicate that erosion is not occurring, topographic monitoring will cease; and
- Offset the reduction of wetland function due to the migration of arsenic into the sediment of the tidal wetlands by implementing 1.3 acres of the Cooley Landing Salt Pond restoration.

d. Remedial Action Plan for Groundwater

The remedy for groundwater was specified in Order Nos. 92-022 and 85-67 and included the following components:

- Groundwater monitoring of 17 perimeter shallow zone wells with a contingency plan for plume containment should further migration occur;
- Installation of a slurry wall to contain soil and shallow zone groundwater with high concentrations of arsenic after soil remediation, and phytoremediation within the slurry wall to uptake groundwater and maintain an inward hydraulic gradient; and
- Groundwater monitoring of the deep aquifer and maintain concentrations of arsenic and other chemicals of concern at background concentrations.

The contingency plan for groundwater at the Site, the Aquifer Characterization and Contingency Plan (ACCP), describes the monitoring program for the perimeter wells, the deep aquifer well, and the groundwater containment system monitoring wells as well as the criteria used to determine if monitoring data indicates potential migration of arsenic. The ACCP describes the additional investigative and statistical procedures that are required to determine if there is statistical evidence that migration of arsenic has occurred and presents the schedule for the implementation of investigations and the evaluation of data. If results of investigations indicate corrective action is appropriate, a Corrective Action Plan will be submitted to the Water Board that will specify the remedial measures that will be taken and will propose a schedule for implementation of proposed remedial actions.

11. **Status of Remediation:** A brief description of the remedial activities completed and remedial activities which remain to be implemented for the distinct OUs and subareas are presented in Table 1 and depicted on Figure 5. A more detailed account of remediation is presented in the April 16, 2014, Site Management Plan, which is part of the record for the Site.

12. **Basis for Cleanup Standards**.

a. General

State Water Resources Control Board (State Water Board) Resolution No. 68-16, "Statement of Policy with Respect to Maintaining High Quality of Waters in California," applies to this discharge. It requires maintenance of background levels of water quality unless a lesser water quality is consistent with maximum benefit to the people of the State, will not unreasonably affect present and anticipated beneficial uses, and will not result in exceedance of applicable water quality objectives. This Order and its requirements are consistent with Resolution No. 68-16.

State Water Board Resolution No. 92-49, "Policies and Procedures for Investigation and Cleanup and Abatement of Discharges Under Water Code section 13304," applies to this discharge. It directs the Regional Water Boards to set cleanup levels equal to background water quality or the best water quality which is reasonable, if background levels cannot be restored. Here, background levels cannot be restored, and the cleanup levels established in this Order are consistent with the maximum benefit to the people of the State, will not unreasonably affect present and anticipated beneficial uses of such water, and will not result in exceedance of applicable water quality objectives. This Order and its requirements are consistent with the provisions of Resolution No. 92-49, as amended.

b. Basis for Soil Cleanup Standards

The risk assessment performed in 1991 developed HBGs ranging from 20 mg/kg to 70 mg/kg for arsenic in soil at the Site based on potential future residential scenarios. An HBG of 70 mg/kg was originally selected for the Upland OU in 1992 and later applied to the Upland OU Annex. The HBG was amended in 1997 by Order No. 97-095, which concluded that the more protective HBG of 20 mg/kg was appropriate for residential areas (South of Weeks Subarea), while the HBG of 70 mg/kg was appropriate for non-residential areas (Upland OU and Upland OU Annex). The residential HBG of 20 mg/kg is also consistent with background concentrations. These HBGs were re-evaluated in subsequent Five-Year Status Reports and no revision was found to be necessary.

c. Basis for Sediment Cleanup Standards

The Ecological Assessment, the Ecological Risk Assessment, and the Endangered Species Risk Calculations concluded that the tidal wetlands are healthy, and there is no evidence of significant risks to ecological receptors (including Ridgway's rail and the salt marsh harvest mouse) from the Site. Therefore, quantitative remedial objectives for sediment were not developed.

d. Beneficial Uses

The Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) is the Water Board's master water quality control planning document. The Basin Plan was duly adopted by the Water Board and approved by the State Water Board, U.S. EPA, and the Office of Administrative Law where required. The Basin Plan defines beneficial uses and water quality objectives for waters of the State, including surface waters and groundwater.

Water Board Resolution No. 89-39, "Sources of Drinking Water," defines potential sources of drinking water to include all groundwater in the State, except where the groundwater source contains more than 3,000 mg/kg Total Dissolved Solids (TDS), high contaminant levels, or is low yield. The shallow aquifer underlying the Site, including the Wetland OU, is naturally saline and has TDS in excess of 3,000 mg/kg, and therefore would not be a suitable or potentially suitable municipal and domestic supply, even if it had not been impacted by arsenic. There are no onsite wells currently drawing water from the shallow zone for drinking water supply or other purposes.

The deep aquifer that underlies the Site is a source of drinking water and is monitored closely to ensure that it remains uncontaminated by arsenic.

The Basin Plan designates the following potential beneficial uses of groundwater underlying and adjacent to the Site:

- Industrial service supply (IND)
- Municipal and domestic water supply (MUN)
- Industrial process water (IND)
- Agricultural water supply (AG)

The existing and potential beneficial uses of nearby surface waters (San Francisco Bay, San Francisquito Creek, and associated wetlands) include:

- Industrial service supply (IND)
- Commercial and Sport Fishing (COMM)
- Water contact and non-contact recreation (REC-1)/(REC-2)
- Wildlife habitat (WILD)
- Cold freshwater and warm freshwater habitat (COLD)/(WARM)
- Fish migration and spawning (MIGR)/(SPWN)
- Navigation (NAV)
- Estuarine habitat (EST)
- Shellfish harvesting (SHELL)
- Preservation of rare and endangered species (RARE)

e. Basis for Groundwater Cleanup Standards

The groundwater cleanup standards for the Site are based on applicable water quality objectives. Cleanup to this level will protect the beneficial use of groundwater and will result in acceptable residual risk to humans. In 1985, the Water Board required that SLLI install a monitoring well network in the shallow zone to monitor the extent of groundwater with arsenic concentrations greater than 0.05 mg/L and to confirm that contaminated groundwater is not migrating laterally. A deep zone well has also been installed and monitored to ensure the deep zone remains at background levels.

13. **Reason for this Order**: Site investigation and cleanup activities have been ongoing at the Site since the early 1980s. Since that time, the Water Board has adopted several orders to regulate investigation and cleanup activities. Substantial remedial activities have been implemented and completed for the Site. This Order supersedes and rescinds the previous orders and compiles a comprehensive set of tasks for ongoing remedial measures, long-term monitoring, and management of the Site.

14. **Risk Management**: The Water Board considers the following human health risks to be acceptable at remediation sites: a cumulative hazard index of 1.0 or less for non-carcinogens and a cumulative excess cancer risk of 10^{-6} to 10^{-4} or less for carcinogens. The selected remedies for the Site allow for management in-place of soil exceeding these health-based criteria. This requires application of risk management measures including engineering controls (such as engineered caps on soil) and institutional controls (deed restrictions prohibiting certain land uses and requiring compliance with engineered controls) be maintained. Risk management will be required in perpetuity.

15. **Future Changes to Cleanup Standards**: If new technical information indicates that the established cleanup standards are significantly over-protective or under-protective, the Water Board will consider revising those cleanup standards.

16. **Basis for 13304 Order:** Water Code section 13304 authorizes the Water Board to issue orders requiring a discharger to cleanup and abate waste where the discharger has caused or permitted waste to be discharged or deposited where it is or probably will be discharged into waters of the State and creates or threatens to create a condition of pollution or nuisance.

17. **Cost Recovery:** Pursuant to Water Code section 13304, the discharger is hereby notified that the Water Board is entitled to, and may seek reimbursement for, all reasonable costs actually incurred by the Water Board to investigate unauthorized discharges of waste and to oversee cleanup of such waste, abatement of the effects thereof, or other remedial action, required by this order.

18. **California Safe Drinking Water Policy:** It is the policy of the State of California that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes. This Order promotes that policy by requiring continued groundwater monitoring to ensure that pollution stabilization measures, including treatment, capping, subsurface barrier construction, and phytoremediation, remain effective at impeding the flow of groundwater in the shallow zone. It also requires the maintenance of background levels of contaminants in the deep zone, which is used as a drinking water source, and contains requirements for a contingency plan should background be exceeded.

19. **California Environmental Quality Act (CEQA):** This Order rescinds and replaces previous orders applicable to this Site, requires ongoing remediation to continue, and consolidates remaining deadlines in a single document. Therefore, the Order does not require additional remedial measures or tasks. The action to rescind previous orders and consolidate remaining tasks is not a project with the potential to cause a direct or reasonably foreseeable indirect physical change in the environment (Cal. Code Regs., tit. 14, § 15378). There is no possibility that the activity in question may have a significant effect on the environment (Cal. Code Regs., tit. 14, § 15061(b)(3)) .

20. **Lead Agency**: The Water Board has been acting as the lead agency pursuant to a stipulation between Rhone-Poulenc, Inc., DTSC, and the Water Board dated February 1991, vacating the August 1987 Consent Order for the Site, and to various interagency agreements. Pursuant to the South Bay Multi-Site Cooperative Agreement (MSCA) and the South Bay Ground Water Contamination Enforcement Agreement, entered into on May 2, 1985 (as subsequently amended) by the Water Board, U.S. EPA, and DTSC, the Water Board has been acting as the lead agency for the Site. MSCA terminated in July 1996. The Water Board will continue as appropriate to regulate the discharger's remediation and administer enforcement actions in accordance with CERCLA as amended by Superfund Amendments Reauthorization Act (SARA), the Water Code, the Health and Safety Code, and regulations adopted thereunder. Pursuant to CERCLA sections 104 and 122, 42 U.S.C.A. §§9604 and 9622, U.S. EPA will allow SLLI to conduct the remediation described herein.

21. **Notification:** The Water Board has notified the discharger and known interested agencies and persons of its intent under Water Code section 13304 to update site cleanup requirements for the discharge and has provided them with an opportunity to submit their written comments. U.S. EPA, DTSC, and the City of East Palo Alto have been notified regarding the requirements of this Order.

22. **Public Hearing:** The Water Board, at a public meeting, heard and considered all comments pertaining to this Order.

IT IS HEREBY ORDERED, pursuant to sections 13304 and 13267 of the California Water Code and section 25356.1 of the California Health and Safety Code, that the discharger (or its agents, successors, or assigns) shall clean up and abate the effects described in the above findings as follows:

A. PROHIBITIONS

1. The discharge of wastes or hazardous substances in a manner which will degrade water quality or adversely affect beneficial uses of waters of the State is prohibited.

2. Further significant migration of wastes or hazardous substances through subsurface transport to waters of the State is prohibited.

3. Activities associated with the subsurface investigation and cleanup that will cause significant adverse migration of wastes or hazardous substances are prohibited.

B. REMEDIAL ACTION PLANS AND CLEANUP STANDARDS

The discharger shall continue to implement the remedial actions and cleanup standards selected for the Site as described in finding 10 of this Order (Selected Remedies).

C. TASKS

1. IMPLEMENT AQUIFER CHARACTERIZATION AND CONTINGENCY PLAN (ACCP) AND SUBMIT SITE STATUS REPORTS

COMPLIANCE DATE: January 31, 2017, and annually thereafter

Comply with the ACCP (SSP&A 2014, including any amendments or revisions that have been approved by the Executive Officer), which describes the approved Groundwater Self-Monitoring Program and establishes a procedure for mitigation of groundwater if significant migration of pollutants is detected in the monitoring well network. The results of the groundwater monitoring shall be submitted in data transmittals and the Site Status and Groundwater Self-Monitoring Reports to the Water Board. On an annual basis or as specified by the Executive Officer, submit summary status reports on the progress of compliance with the requirements of this Order and propose modifications that could increase the effectiveness of final cleanup actions. The report shall be due on January 31 of each year, or as required by the Executive Officer, and shall cover the previous calendar year(s). The report shall include a summary of technical and groundwater monitoring program activities performed, community relations work performed, any issues of non-compliance with the requirements of this Order, and technical documents submitted since submittal of the previous summary report. Reports shall include information regarding the groundwater monitoring program including a tabulation of arsenic data and water-level data, plots of arsenic concentrations versus time for monitoring wells, and recommendations for modifications to monitoring and reporting.

2. IMPLEMENT WETLAND TOPOGRAPHIC MONITORING WORK PLAN AND SUBMIT REPORT

COMPLIANCE DATE: January 31, 2021, and every 5 years until 2036

Conduct and report monitoring of the wetland surface near the bend in the levee in accordance with the Wetland Topographic Monitoring Work Plan. Submit the results of the topographic monitoring in the annual groundwater monitoring reports included in Task 1.

3. IMPLEMENT SITE MANAGEMENT PLAN AND DEED RESTRICTIONS AND SUBMIT REPORT

COMPLIANCE DATE: January 31, 2017, and annually thereafter and within 15 days after becoming aware of conditions of non-compliance or as required by Executive Officer

Implement the April 17, 2014, Site Management Plan and Addendum, including subsequent amendments, addendums or revisions thereto, which have been approved in writing by the Executive Officer. Ensure that restrictions and engineering controls for the Site's properties are continuously maintained. Monitor for compliance with the conditions of the deed restrictions and Site Management Plan and report non-compliance to the Water Board within 15 days of becoming aware of the conditions of non-compliance for the following properties:

a. 1990 Bay Road
b. 1992 Bay Road
c. 1980 Bay Road (portions of)
d. 2470 Pulgas Avenue (portions of)
e. 1175 Weeks Street
f. 1200 Weeks Street
g. 1250 Weeks Street
h. 1275 Runnymede Street (portions of)

Annual summary reports shall document actions taken to comply with the Site Management Plan and Deed Restrictions and may be combined with the Annual Site Status Report.

4. SUBMIT FIVE-YEAR STATUS REPORT

COMPLIANCE DATE: January 31, 2019, and every five years thereafter

Submit a technical report acceptable to the Executive Officer containing:

a. Results of any investigative work completed since the submission of the previous Five-Year Status Report;
b. An evaluation of the effectiveness of the installed final cleanup measures including but not limited to:
    i. An evaluation of the performance of the barrier wall and of phytoremediation as a dewatering system;
    ii. An evaluation of monitoring data including a cumulative tabulation of arsenic and water level data and plots of arsenic concentrations versus time for all of the monitoring wells;
    iii. An evaluation of compliance with the Site Management Plan;

iv. A evaluation of compliance with deed restrictions; and
v. Additional recommended measures to achieve final cleanup objectives and goals;

c. Tasks and time schedule necessary to implement any additional final cleanup measures; and
d. Recommended measures for reducing Water Board oversight.

5. IMPLEMENT REMEDIAL ACTION PLAN FOR THE 2470 PULGAS AVENUE PROPERTY (FORMER BAINS PROPERTY) AND SUBMIT REPORT

COMPLIANCE DATE: 120 days after soil becomes accessible (building demolition) or 60 days after requested by the Executive Officer, whichever comes first

When inaccessible soil beneath the warehouse structure on the 2470 Pulgas Avenue property becomes accessible (defined by building demolition), conduct an investigation and submit a technical report acceptable to the Executive Officer containing the recommended plan for remediation of soil, which implements the selected remedy for the Upland OU. The Remedial Action Plan shall include a schedule for the completion of the remedial action and the submittal of an Implementation Report.

6. IMPLEMENT REMEDIAL ACTION PLAN FOR THE 1275 RUNNYMEDE STREET PROPERTY (WILSON PROPERTY) AND SUBMIT REPORT

COMPLIANCE DATE: 120 days after soil becomes accessible (building demolition) or 60 days after requested by the Executive Officer, whichever comes first

When inaccessible soil beneath structures on the 1275 Runnymede property becomes accessible (defined by building demolition), conduct an investigation and submit a technical report acceptable to the Executive Officer containing the recommended plan for remediation of soil, which implements the selected remedy for the South of Weeks Subarea. The Remedial Action Plan shall include a schedule for the completion of the remedial action and the submittal of an Implementation Report.

7. EVALUATE NEW HEALTH CRITERIA OR NEW TECHNICAL INFORMATION

COMPLIANCE DATE: 90 days after evaluation report required by Executive Officer

Submit a technical report acceptable to the Executive Officer evaluating new health criteria or new technical information that bears on the approved remedial action plan and cleanup standards for the Site. The report shall evaluate the effect on the approved remedial action plans of revising one or more cleanup levels in response to any revisions of drinking water standards, maximum contaminant levels, or other health-based criteria. In the case of a new cleanup technology, the report should evaluate the technology using the same criteria used in the Feasibility Study. Such technical reports shall not be required unless the Executive Officer determines that the new information is reasonably likely to warrant a revision in the approved remedial action plan or cleanup levels.

8. DELAYED COMPLIANCE

If the discharger is delayed, interrupted, or prevented from meeting one or more of the completion dates specified for the above tasks, the discharger shall promptly notify the Executive Officer, and the Water Board may consider revision to this Order.

D. PROVISIONS

1. **No Nuisance**: The storage, handling, treatment, or disposal of polluted soil or groundwater shall not create a nuisance as defined in Water Code section 13050(m).

2. **Good O&M**: The discharger shall maintain in good working order and operate as efficiently as possible any facility or control system installed to achieve compliance with the requirements of this Order.

3. **Cost Recovery**: The discharger shall be liable, pursuant to Water Code section 13304, to the Water Board for all reasonable costs actually incurred by the Water Board to investigate unauthorized discharges of waste and to oversee cleanup of such waste, abatement of the effects thereof, or other remedial action, required by this Order. If the Site addressed by this Order is enrolled in a State Water Board-managed reimbursement program, reimbursement shall be made pursuant to this Order and according to the procedures established in that program. Any disputes raised by the discharger over reimbursement amounts or methods used in that program shall be consistent with the dispute resolution procedures for that program.

4. **Regulatory Authority**: The Water Board will continue as appropriate to regulate the discharger's remedial activities and administer enforcement actions in accordance with CERCLA as amended by SARA, the Water Code, the Health and Safety Code, and regulations adopted thereunder. Pursuant to CERCLA sections 104 and 122, 42 U.S.C.A. sections 9604 and 9622, U.S. EPA will allow SLLI to conduct the remediation described herein.

5. **Access to Site and Records**: In accordance with Water Code section 13267(c), the discharger shall permit the Water Board or its authorized representative:

   a. Entry upon premises in which any pollution source exists, or may potentially exist, or in which any required records are kept, which are relevant to this Order;
   b. Access to copy any records required to be kept under the requirements of this Order;
   c. Inspection of any monitoring or remediation facilities installed in response to this Order; and
   d. Sampling of any groundwater or soil that is accessible, or may become accessible, as part of any investigation or remedial action program undertaken by the discharger.

6. **Groundwater Self-Monitoring Program**: The discharger shall comply with the Groundwater Self-Monitoring Program as attached to this order and as may be amended or revised by the Executive Officer.

7. **Contractor / Consultant Qualifications**: All technical documents shall be signed by a California registered geologist, a California certified engineering geologist, or a California registered civil engineer.

8. **Lab Qualifications**: All samples shall be analyzed by State-certified laboratories or laboratories accepted by the Water Board using approved U.S. EPA methods for the type of analysis to be performed. All laboratories shall maintain quality assurance/quality control (QA/QC) records for Water Board review. This provision does not apply to analyses that can only reasonably be performed on-site (e.g., temperature).

9. **Document Distribution**: Copies of all correspondence, technical reports, and other documents pertaining to compliance with this Order shall be provided to the following agencies. The Executive Officer may modify this distribution list as needed.

    a. Water Board
    b. U.S. EPA
    c. DTSC
    d. City of East Palo Alto- City Manager
    e. City of East Palo Alto- Public Works Department
    f. San Mateo County Health Services Agency
    g. East Palo Alto Sanitary District

10. **Reporting of Changed Owner or Operator**: The discharger shall file a technical report on any changes in site occupancy or ownership associated with the properties described in this Order.

11. **Reporting of Hazardous Substance Release**: If any hazardous substance is discharged in or on any waters of the State, or discharged or deposited where it is, or probably will be, discharged in or on any waters of the State, the discharger shall report such discharge to the Water Board by calling (510) 622-2369.

    A written report shall be filed with the Water Board within five working days. The report shall describe: the nature of the hazardous substance, estimated quantity involved, duration of incident, cause of release, estimated size of affected area, nature of effect, corrective actions taken or planned, schedule of corrective actions planned, and persons/agencies notified.

    This reporting is in addition to reporting to the Office of Emergency Services required pursuant to the Health and Safety Code.

12. **Rescission of Existing Orders:** Water Board Orders Nos. 91-016, 91-095, 92-022, 92-127, 94-042, 96-162, 97-015, 97-095, and R2-2005-0033 are hereby rescinded.

13. **Periodic Review of SCR**: The Water Board will review this Order periodically and may revise it when necessary.

I, Bruce H. Wolfe, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on July 13, 2016.

_____

Bruce H. Wolfe
Executive Officer

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Failure To Comply With The Requirements Of This Order May Subject You To Enforcement Action, Including But Not Limited To: Imposition Of Administrative Civil Liability Under Water Code Sections 13268 Or 13350, Or Referral To The Attorney General For Injunctive Relief Or Civil Or Criminal Liability

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Attachments: Table 1, Site Remediation Summary
Figures 1-5
Groundwater Self-Monitoring Program

TABLES

TABLE 1

SITE REMEDIATION SUMMARY

1990 Bay Road Site
East Palo Alto, California

Operating Unit	Property/Area	Description of Remedial Action	Date Completed
Upland Operable Unit	1990 Bay Road Property-North Area and Railroad Tracks	Removed Soil with >5000 mg/kg Arsenic	1991
		Treated Soil with >500 mg/kg Arsenic	1992
		Capped Soil with >70 mg/kg Arsenic	1993
		Recorded Deed Restriction (Number[1] 94091057)	May 23, 1994
	1990 Bay Road Property-Plant Area	Removed Soil with >5000 mg/kg Arsenic	2002 - 2003
		Treated Soil with >500 mg/kg Arsenic	2002 - 2003
		Capped Soil with >70 mg/kg Arsenic	2003
		Recorded Deed Restriction (Number[1] 94091057)	May 23, 1994
	PG&E Poleyard Property (1992 Bay Road)	Removed Soil with >500 mg/kg Arsenic	1992
		Capped Soil with >70 mg/kg Arsenic	1992
		Recorded Deed Restriction (Number[1] 2001040627)	March 27, 2001
	Curtaccio Property (1980 Bay Road)	Removed Soil with >500 mg/kg Arsenic	1992
		Capped Soil with >70 mg/kg Arsenic	1993
		Recorded Deed Restriction (Number[1] 93216751)	December 13, 1993
	Bains Property (2470 Pulgas)	Removed Accessible Soil with >500 mg/kg Arsenic	1992
		Capped Soil with >70 mg/kg Arsenic	1992
		Remove Remaining Soil with >500 mg/kg Arsenic	To Be Completed When Building Removed
		Recorded Deed Restriction (Number[1] 93213452)	December 8, 1993
	Soil Under Bay Road Adjacent to 1990 Bay Road Property	Capped Soil with >70 mg/kg Arsenic within Easement (Pavement)	Existing
		Agreement with City on Excavation in Easement	1992
		Recorded Deed Restriction (Number[1] 96070509)	June 12, 1996
	Properties North of Bay Road	Removed Soil with >70 mg/kg Arsenic	1992

TABLE 1

SITE REMEDIATION SUMMARY

1990 Bay Road Site
East Palo Alto, California

Operating Unit	Property/Area	Description of Remedial Action	Date Completed
Upland Operable Unit Annex	Torres Property (1175 Weeks Street)	Removed Soil with >5000 mg/kg Arsenic	1991
		Treated Soil with >500 mg/kg Arsenic	1994
		Capped Soil with >70 mg/kg Arsenic	1998 & 2002
		Recorded Deed Restriction (Number[1] 98090257)	June 12, 1998
	Former PG&E Non-tidal Marsh (now part of the 1990 Bay Road Property)	Removed Soil with >5000 mg/kg Arsenic	1991
		Removed Soil with >500 mg/kg Arsenic	1994
		Capped Soil with >70 mg/kg Arsenic	1999
		Recorded Deed Restriction (Number[1] 2001040627)	March 27, 2001
		Restored Cooley Landing Salt Pond	2000
South of Weeks Street Subarea	Wilson Property (1275 Runnymede Street)	Removed Accessible soil with > 20 mg/kg Arsenic	1997-1998
		Remove Remaining soil with > 20 mg/kg Arsenic	To Be Completed When Building Removed
		Recorded Deed Restriction (Number[1] 97150087)	Nov. 19, 1997
	Ravenswood School District Property (1286 Runnymede)	Removed Soil with >20 mg/kg Arsenic	1997
	Shorebreeze Property (1200 Weeks Street)	Removed Accessible Soil with >20 mg/kg Arsenic	1999
		Recorded Deed Restriction (Number[1] 9807589)	May 20, 1998
	1250 Weeks Street Property	Removed Accessible Soil with >20 mg/kg Arsenic	1999
		Capped Inaccessible Soil with >20 mg/kg Arsenic	1999
		Recorded Deed Restriction (Number[1] 9807589)	May 20, 1998
Wetland Operable Unit	Tidal Wetland	Provided 1.3-Acre Wetland Off-Set in Cooley Landing Restoration Area	2005
		Performed Baseline and Year-5 Topographical Monitoring	2006 and 2011

TABLE 1

SITE REMEDIATION SUMMARY

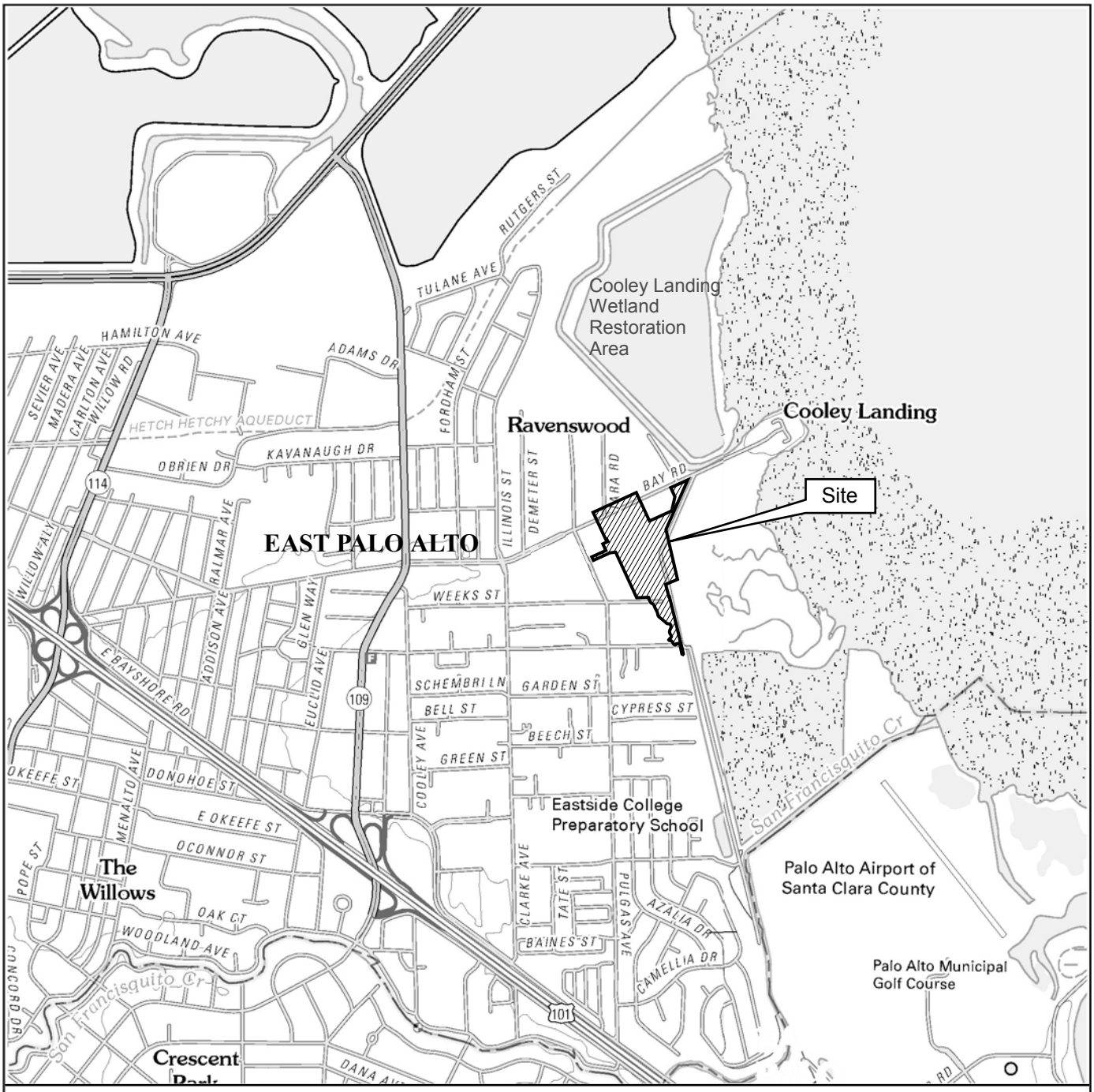
1990 Bay Road Site
East Palo Alto, California

Operating Unit	Property/Area	Description of Remedial Action	Date Completed
Ground-water	PG&E Non-tidal Marsh and Torres Property	Phytoremediation Implemented and Expanded	1997 - Present
		Barrier Wall Installed	2001
	1250 Weeks Street Property	Sewer Backfill Barrier Installed	1999
	Plant Area Entrance	Sewer Backfill Barrier Installed	2001
	Site-Wide	Deep Aquifer Monitoring Plan Submitted	1991[2]
		Aquifer Characterization and Contingency Plan Submitted	1995 and 2013(draft)/ 2014(final)
		Groundwater Monitoring	1986-Present
	1990 Bay Road Property, Torres Property, 1250 Weeks Street Property, and 1275 Runnymede Property	Remediation of Abandoned Wooden Sewer Implemented	2011

Notes:

1. Document Recording Number for Official Records, County of San Mateo, California.
2. Subsequent revisions to the Deep Aquifer Monitoring Plan were included in the Aquifer Characterization and Contingency Plans.

FIGURES



Basemap from USGS National Map
Palo Alto and Mountain View, California
Quadrangle 2012

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0 1000 2000

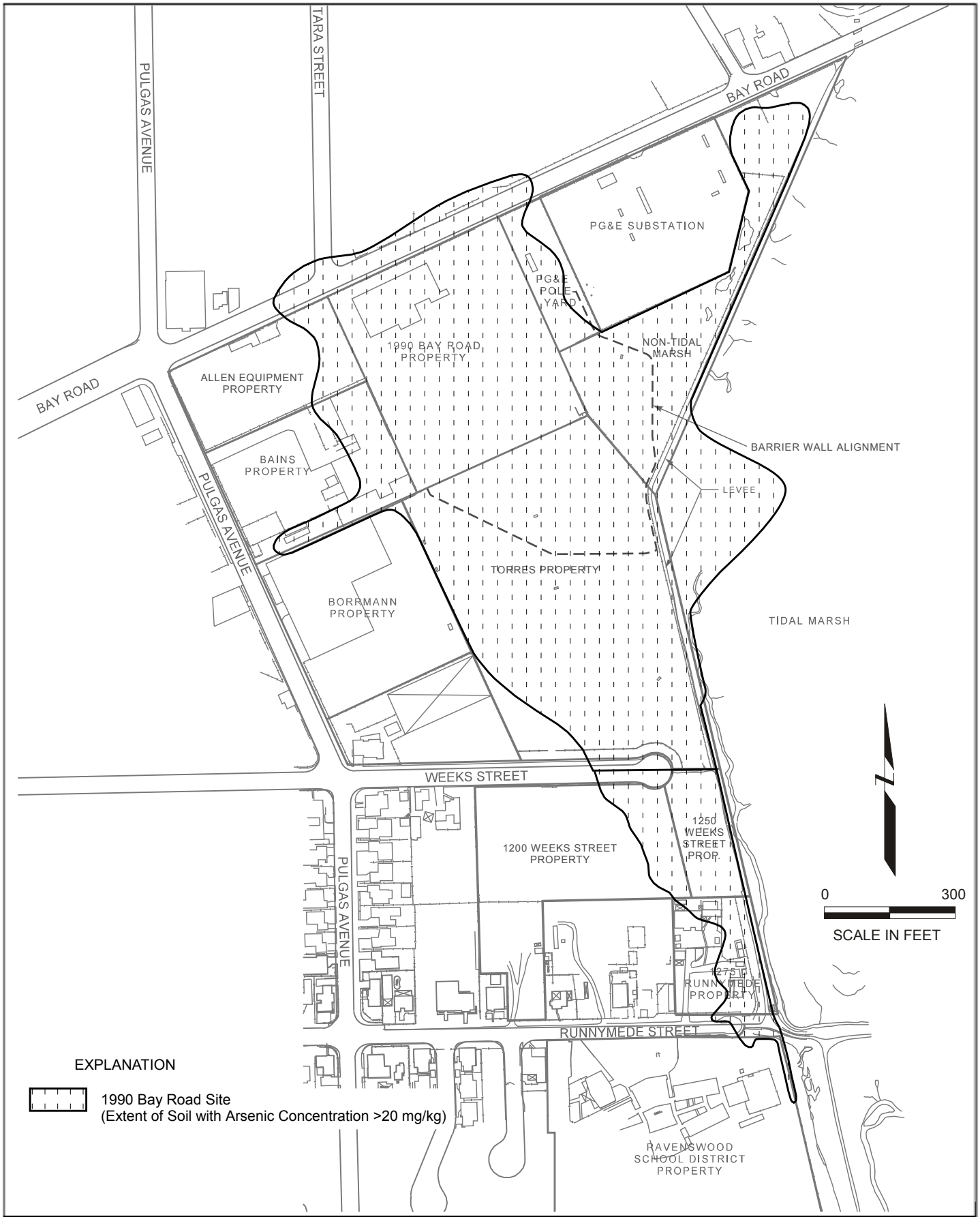
SCALE IN FEET

SITE LOCATION MAP

1990 Bay Road Site
East Palo Alto, California

Figure 1

S.S. Papadopulos & Associates, Inc.

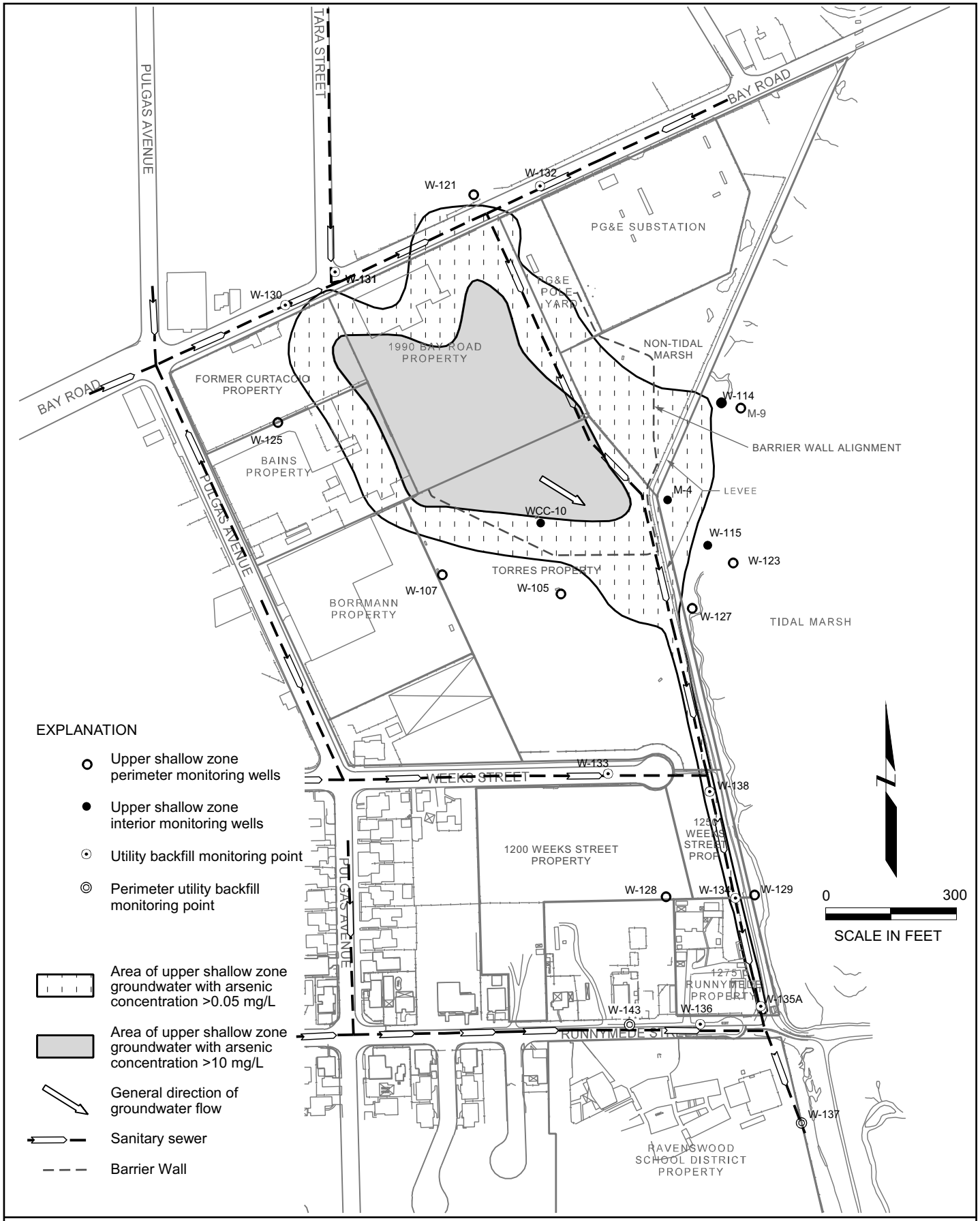


S.S. Papadopulos & Associates, Inc.

SITE BOUNDARIES

1990 Bay Road Site
East Palo Alto, California

Figure 2

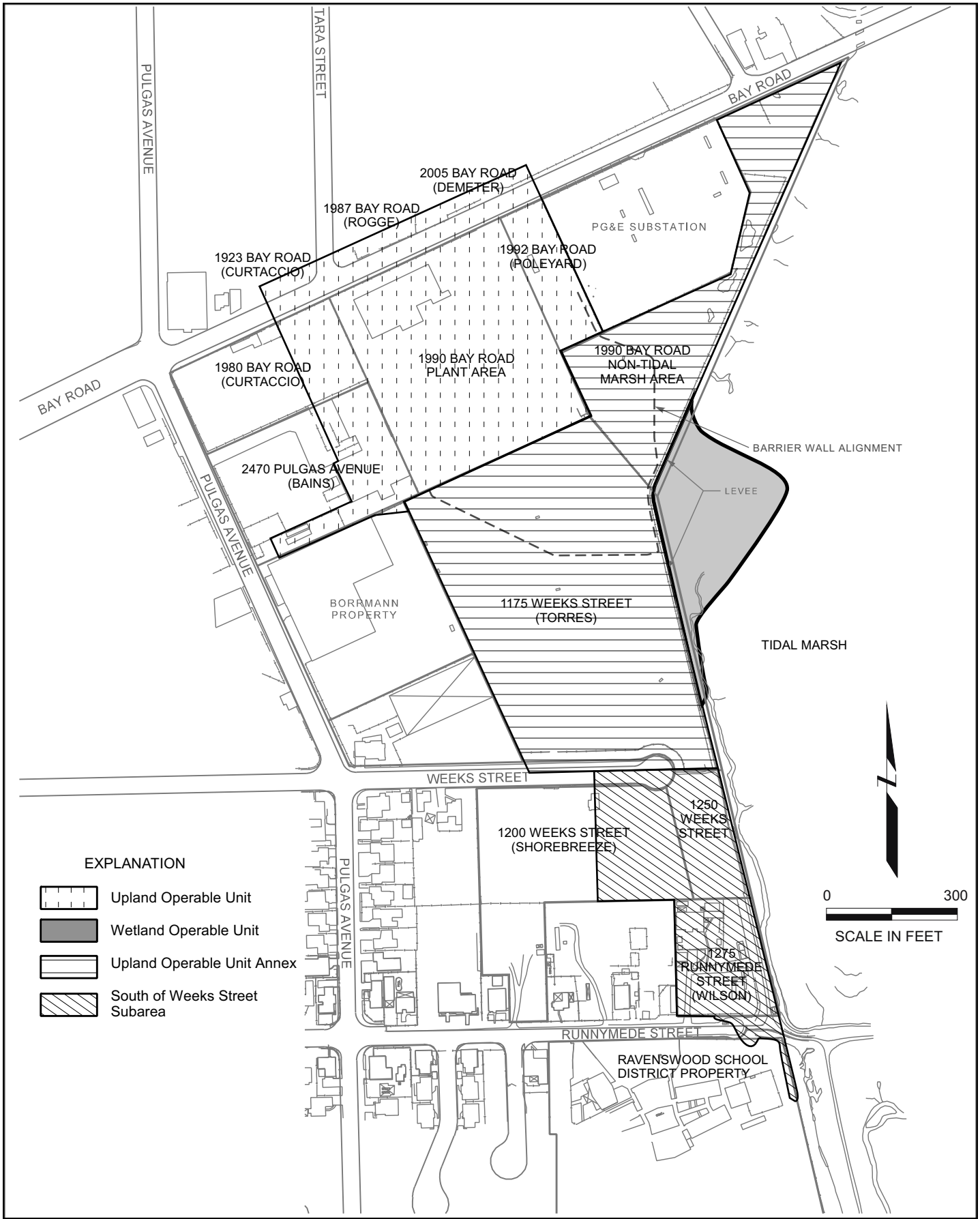


EXTENT OF ARSENIC IN GROUNDWATER IN UPPER SHALLOW ZONE

1990 Bay Road Site
East Palo Alto, California

Figure 3

S.S. Papadopulos & Associates, Inc.

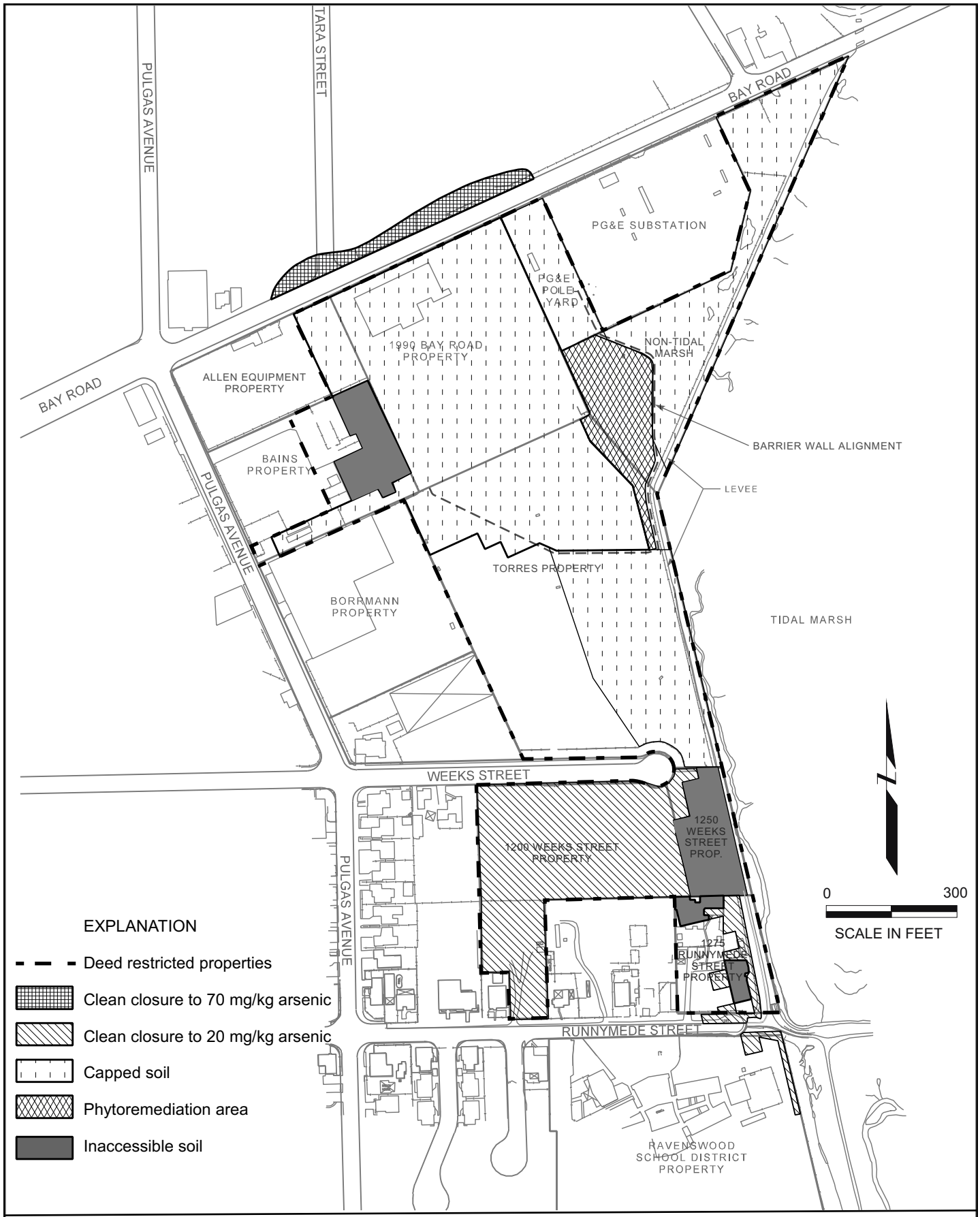


OPERABLE UNITS AND SUBAREAS

1990 Bay Road Site
East Palo Alto, California

Figure 4

S.S. Papadopulos & Associates, Inc.

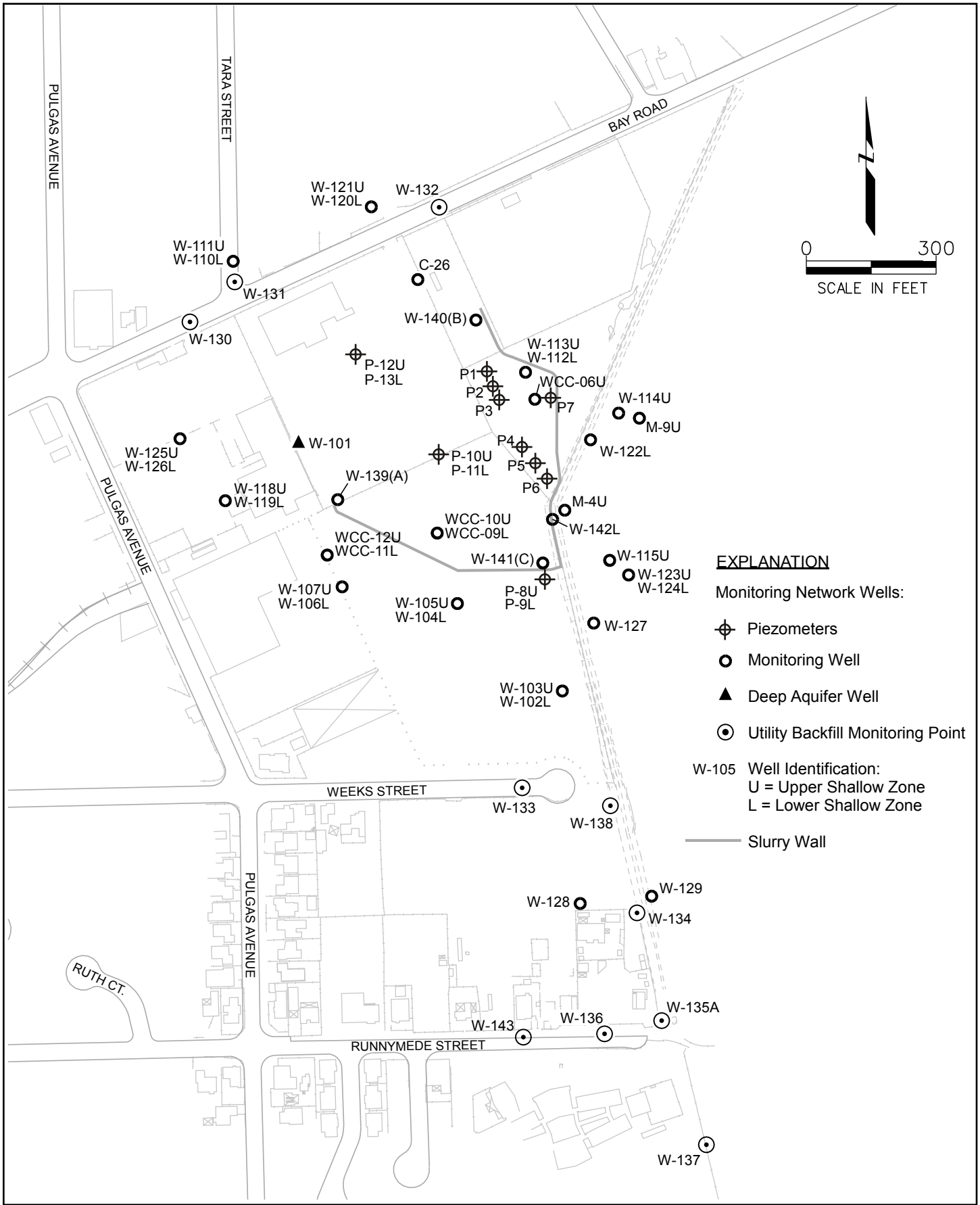


CURRENT STATUS OF REMEDIATION

1990 Bay Road Site
East Palo Alto, California

Figure 5

S.S. Papadopulos & Associates, Inc.

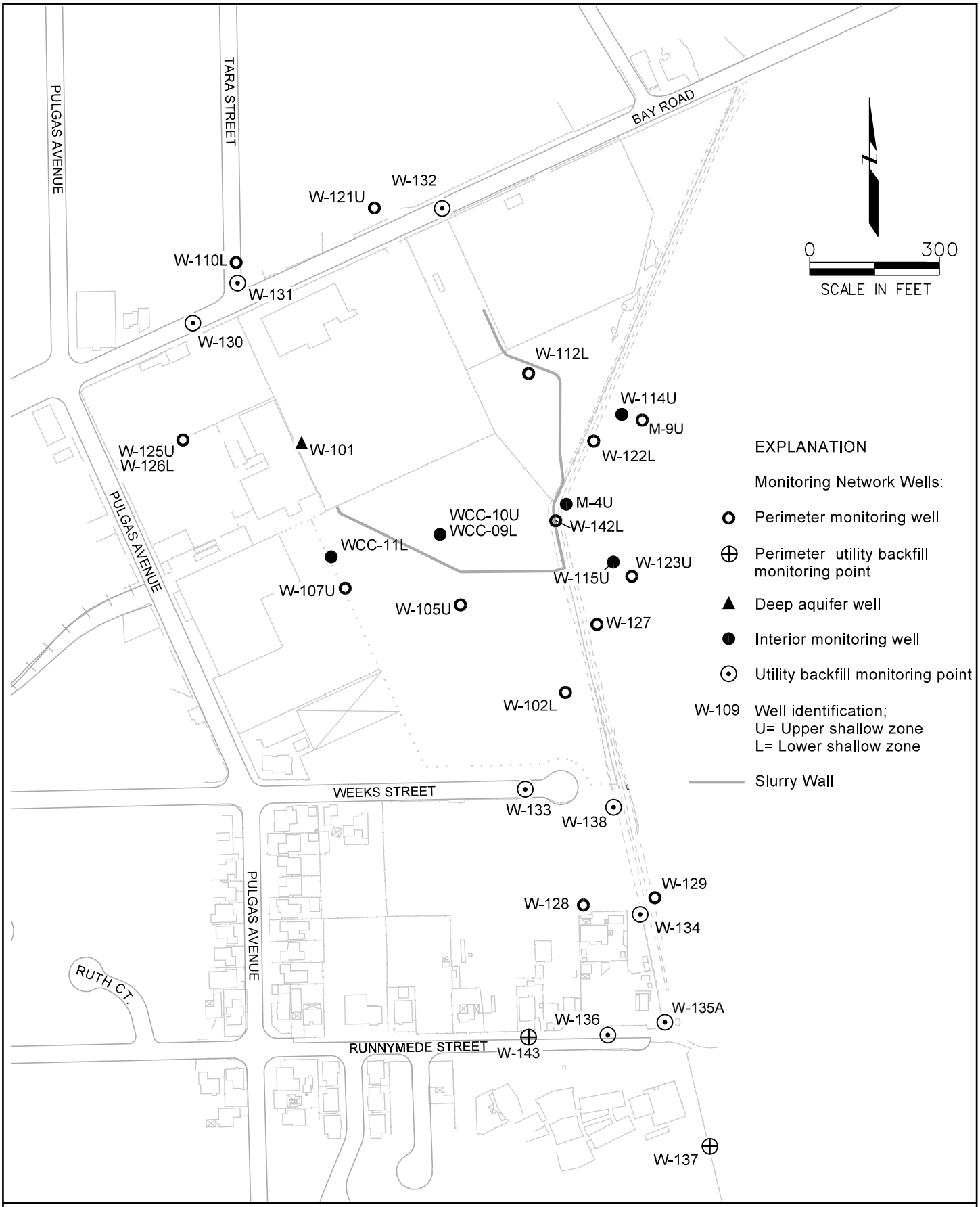


S.S. Papadopulos & Associates, Inc.

GROUNDWATER LEVEL MONITORING WELLS

1990 Bay Road Site Vicinity
East Palo Alto, California

Figure 1



S.S. Papadopulos & Associates, Inc.

GROUNDWATER CHEMISTRY MONITORING NETWORK
1990 Bay Road Site
East Palo Alto, California

Figure 2

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

GROUNDWATER SELF-MONITORING PROGRAM for:

STARLINK LOGISTICS, INC.

for the property located at

1990 BAY ROAD
EAST PALO ALTO
SAN MATEO COUNTY

1. **Authority and Purpose**: The Regional Water Board requires the technical reports identified in this Groundwater Self-Monitoring Program pursuant to Water Code sections 13267 and 13304. This Groundwater Self-Monitoring Program is intended to document compliance with Regional Water Board Order No. R2-2016-0037 (final site cleanup requirements).

2. **Monitoring**: The discharger shall measure groundwater elevations and collect and analyze representative samples of groundwater according to the following table:

Well ID	Groundwater Zone	Elevation Measurement Frequency	Sampling Frequency
DEEP WELL			
W-101	Deep	Annually	Biennially
PERIMETER WELLS			
M-9	Upper Shallow	Annually	Biennially
W-102	Lower Shallow	Annually	Biennially
W-105	Upper Shallow	Annually	Biennially
W-107	Upper Shallow	Annually	Biennially
W-110	Lower Shallow	Annually	Biennially
W-112	Lower Shallow	Annually	Biennially
W-121	Upper Shallow	Annually	Biennially
W-122	Lower Shallow	Annually	Biennially
W-123	Upper Shallow	Annually	Biennially
W-125	Upper Shallow	Annually	Biennially
W-126	Lower Shallow	Annually	Biennially
W-127	Upper Shallow	Annually	Biennially
W-128	Upper Shallow	Annually	Biennially
W-129	Upper Shallow	Annually	Biennially
W-137	Utility Backfill	Annually	Biennially
W-142	Lower Shallow	Annually	Biennially
W-143	Utility Backfill	Annually	Biennially

Well ID	Groundwater Zone	Elevation Measurement Frequency	Sampling[1] Frequency
INTERIOR WELLS			
M-4	Upper Shallow	Annually	Biennially
W-114	Upper Shallow	Annually	Biennially
W-115	Upper Shallow	Annually	Biennially
WCC-09	Lower Shallow	Annually	Biennially
WCC-10	Upper Shallow	Annually	Biennially
WCC-11	Lower Shallow	Annually	Biennially
UTILITY BACKFILL MONITORING POINT			
W-130	Utility Backfill	Annually	Biennially
W-131	Utility Backfill	Annually	Biennially
W-132	Utility Backfill	Annually	Biennially
W-133	Utility Backfill	Annually	Biennially
W-134	Utility Backfill	Annually	Biennially
W-135A	Utility Backfill	Annually	Biennially
W-136	Utility Backfill	Annually	Biennially
W-138	Utility Backfill	Annually	Biennially
WATER LEVEL MONITORING WELLS			
C-26	Upper Shallow	Annually	None
W-103	Upper Shallow	Annually	None
W-104	Lower Shallow	Annually	None
W-106	Lower Shallow	Annually	None
W-111	Upper Shallow	Annually	None
W-113	Upper Shallow	Annually	None
W-118	Upper Shallow	Annually	None
W-119	Lower Shallow	Annually	None
W-120	Lower Shallow	Annually	None
W-124	Lower Shallow	Annually	None
WCC-06	Upper Shallow	Annually	None
WCC-12	Upper Shallow	Annually	None
PIEZOMETERS			
P1	Upper Shallow	Annually	None
P3	Upper Shallow	Annually	None
P4	Upper Shallow	Annually	None
P6	Upper Shallow	Annually	None
P7	Upper Shallow	Annually	None
P8	Upper Shallow	Quarterly	None
P9	Lower Shallow	Quarterly	None
P10	Upper Shallow	Quarterly	None
P11	Lower Shallow	Quarterly	None
P12	Upper Shallow	Quarterly	None
P13	Lower Shallow	Quarterly	None
CONTAINMENT/PERFORMANCE WELLS			
W-139(A)	Upper Shallow	Quarterly	None
W-140(B)	Upper Shallow	Quarterly	None
W-141(C)	Upper Shallow	Quarterly	None

1. Samples are analyzed for arsenic by EPA Method 200.8

The discharger may propose changes in the above table; any proposed changes are subject to Executive Officer approval.

3. **Annual Monitoring Reports**: The discharger shall submit a groundwater monitoring report to the Regional Water Board as part of the annual Site Status and Groundwater Monitoring Report. As required in Task 1 of the order, the report will be due on January 31st of each year and cover the previous calendar year. The reports shall include:

   a. Groundwater Elevations: Groundwater elevation data shall be presented in tabular form, and a groundwater elevation map shall be prepared for each monitored water-bearing zone.

   b. Groundwater Analyses: Groundwater sampling data shall be presented biennially in tabular form, and a map shall be prepared showing concentrations of arsenic, the key contaminant, for each monitored water-bearing zone, as appropriate. The report shall indicate the analytical method used, detection limits obtained for each reported constituent, and a summary of QA/QC data. Historical groundwater sampling results shall be included in the Five-Year reports. The report shall describe any significant increases in contaminant concentrations since the last report, and any measures proposed to address the increases. Supporting data, such as lab data sheets, need not be included (however, see record keeping below).

   c. Status Report: The annual report shall describe relevant work completed during the reporting period and work planned for the following quarter.

4. **Violation Reports**: If the discharger violates requirements in the Site Cleanup Requirements, then the discharger shall notify the Regional Water Board office by telephone as soon as practicable once the discharger has knowledge of the violation. Regional Water Board staff may, depending on violation severity, require the discharger to submit a separate technical report on the violation within five working days of telephone notification.

5. **Other Reports**: The discharger shall notify the Regional Water Board in writing prior to any Site activities, such as construction or underground tank removal, which have the potential to cause further migration of contaminants or which would provide new opportunities for site investigation.

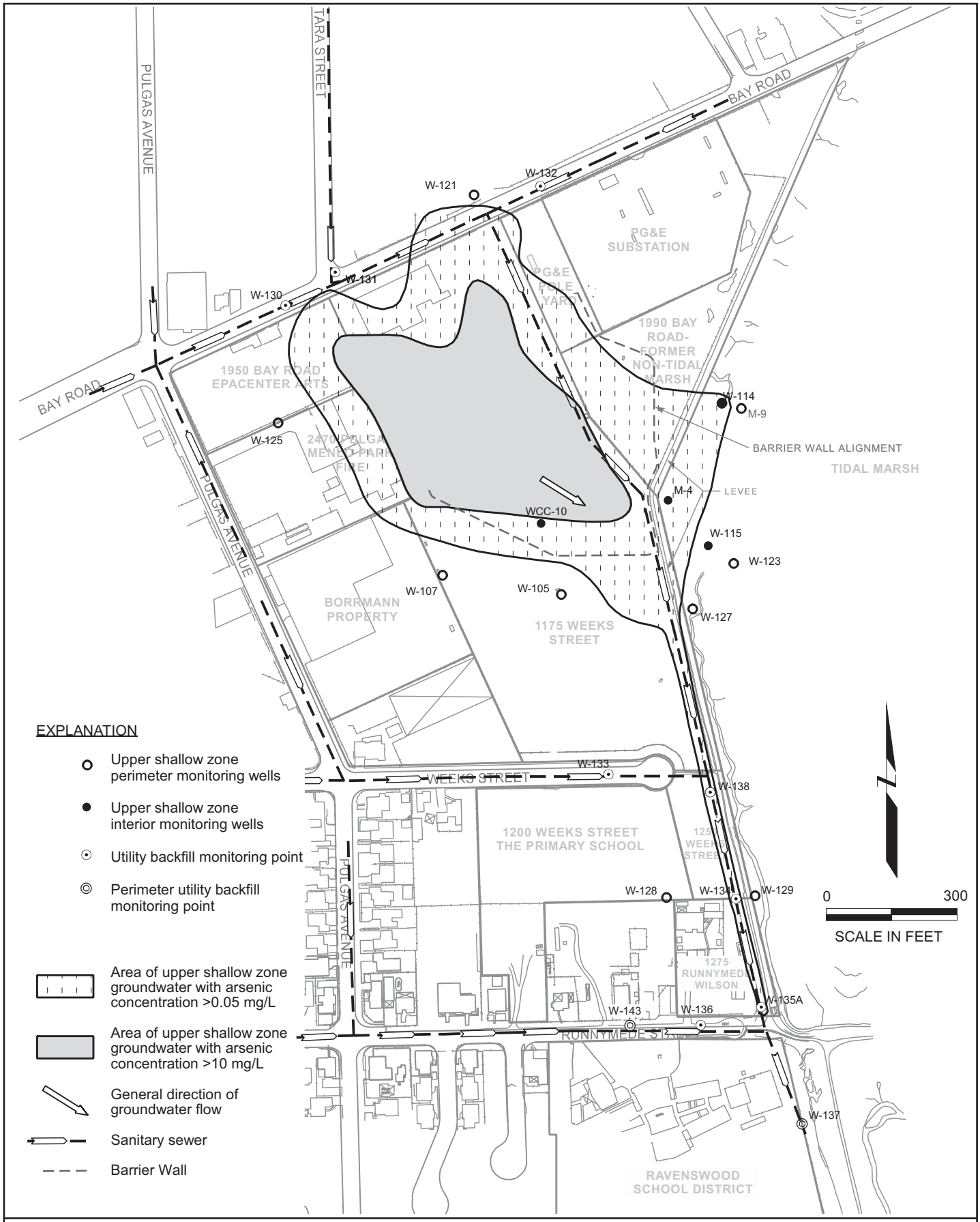
6. **Record Keeping**: The discharger or his/her agent shall retain data generated for the above reports, including lab results and QA/QC data, for a minimum of six years after origination and shall make them available to the Regional Water Board upon request.

7. **Groundwater Monitoring Program Revisions**: Revisions to the Groundwater Self-Monitoring Program may be ordered by the Executive Officer, either on his/her own initiative or at the request of the discharger. Prior to making revisions, the Executive

Officer will consider the burden, including costs, of associated self-monitoring reports relative to the benefits to be obtained from these reports.

CORNERSTONE
EARTH GROUP

APPENDIX F – MONITORING WELL LOCATION FIGURES

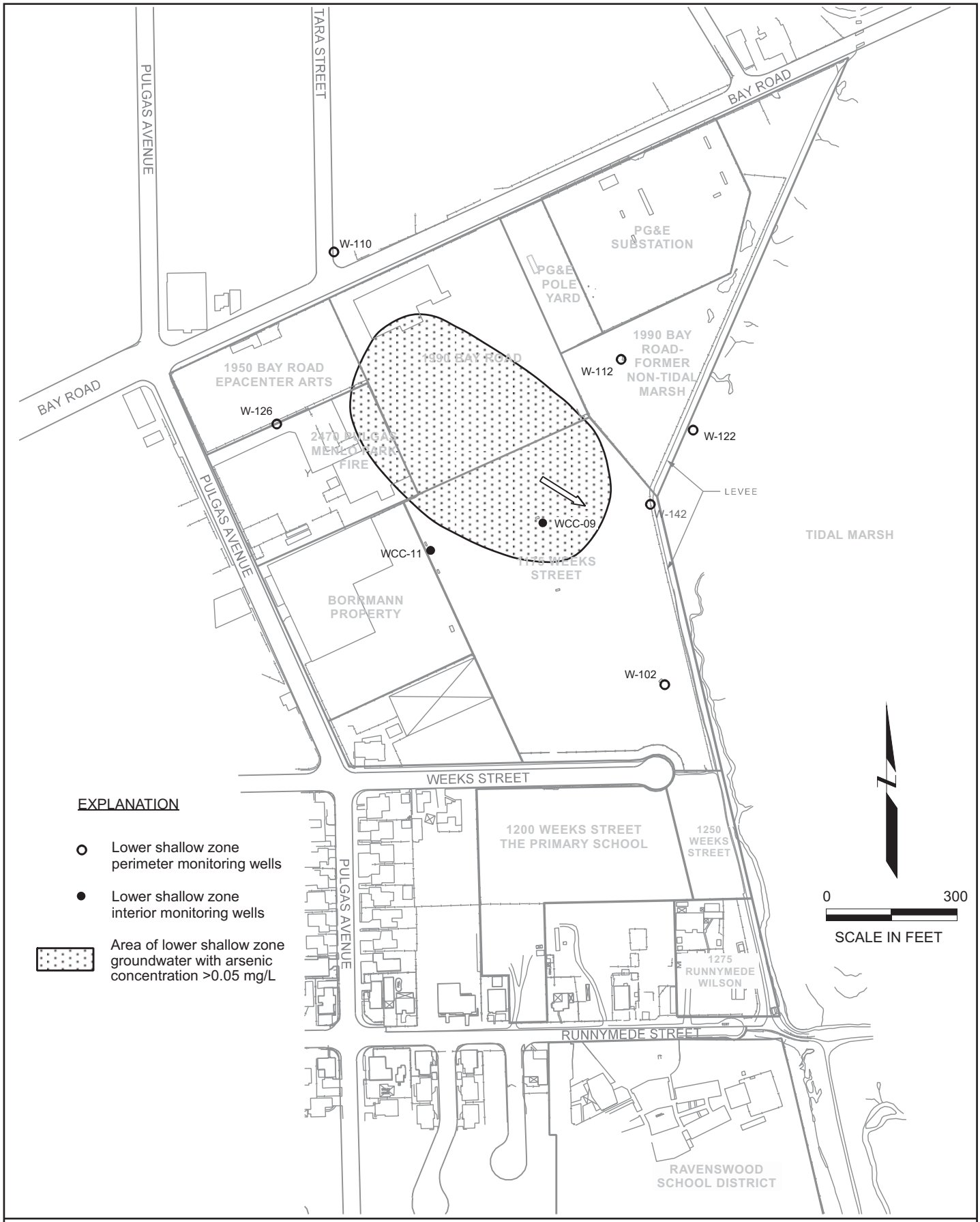


EXTENT OF ARSENIC IN GROUNDWATER IN UPPER SHALLOW ZONE

1990 Bay Road Site
East Palo Alto, California

Figure 4

S.S. Papadopulos & Associates, Inc.

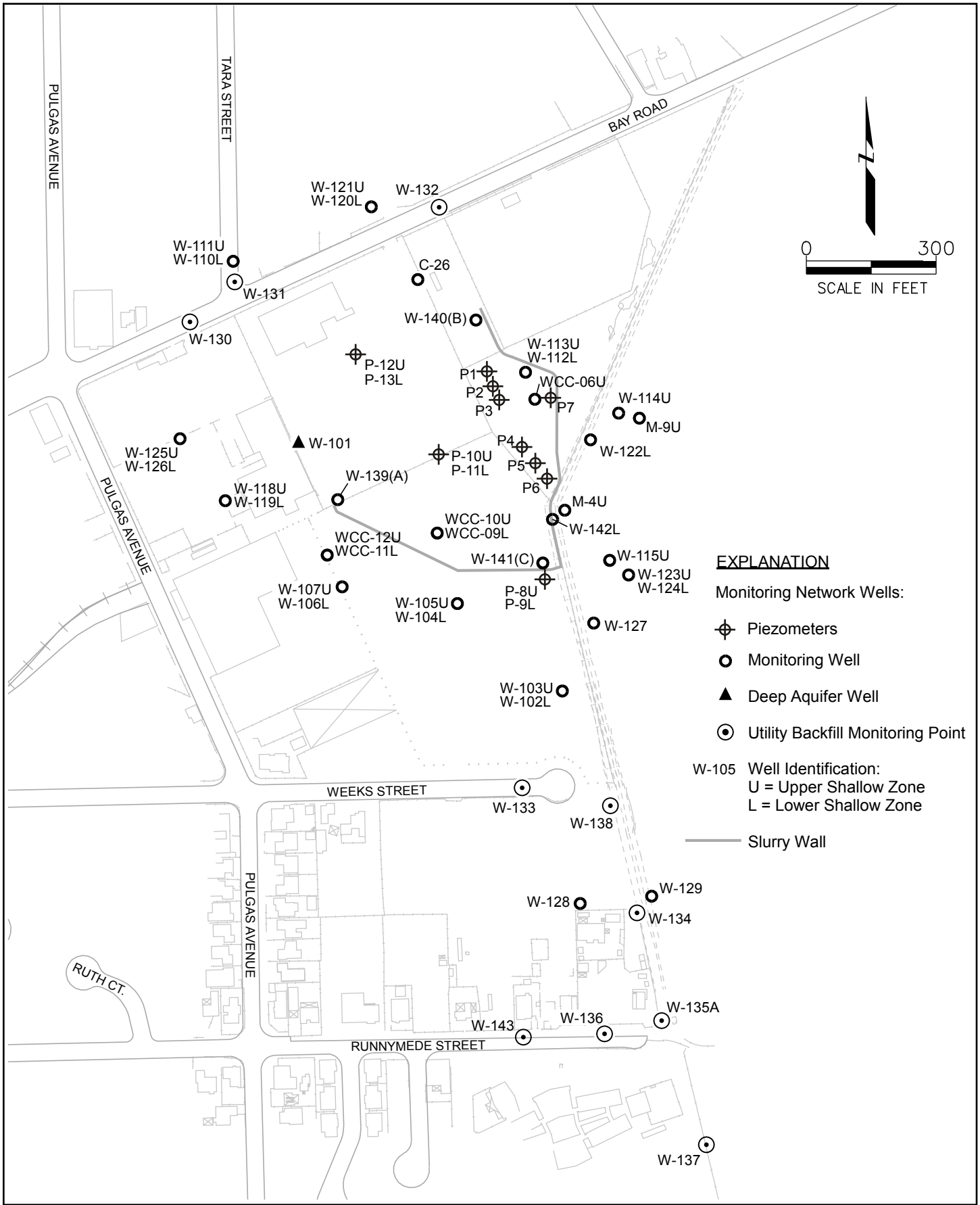


EXTENT OF ARSENIC IN GROUNDWATER IN LOWER SHALLOW ZONE

1990 Bay Road Site
East Palo Alto, California

Figure 5

S.S. Papadopulos & Associates, Inc.

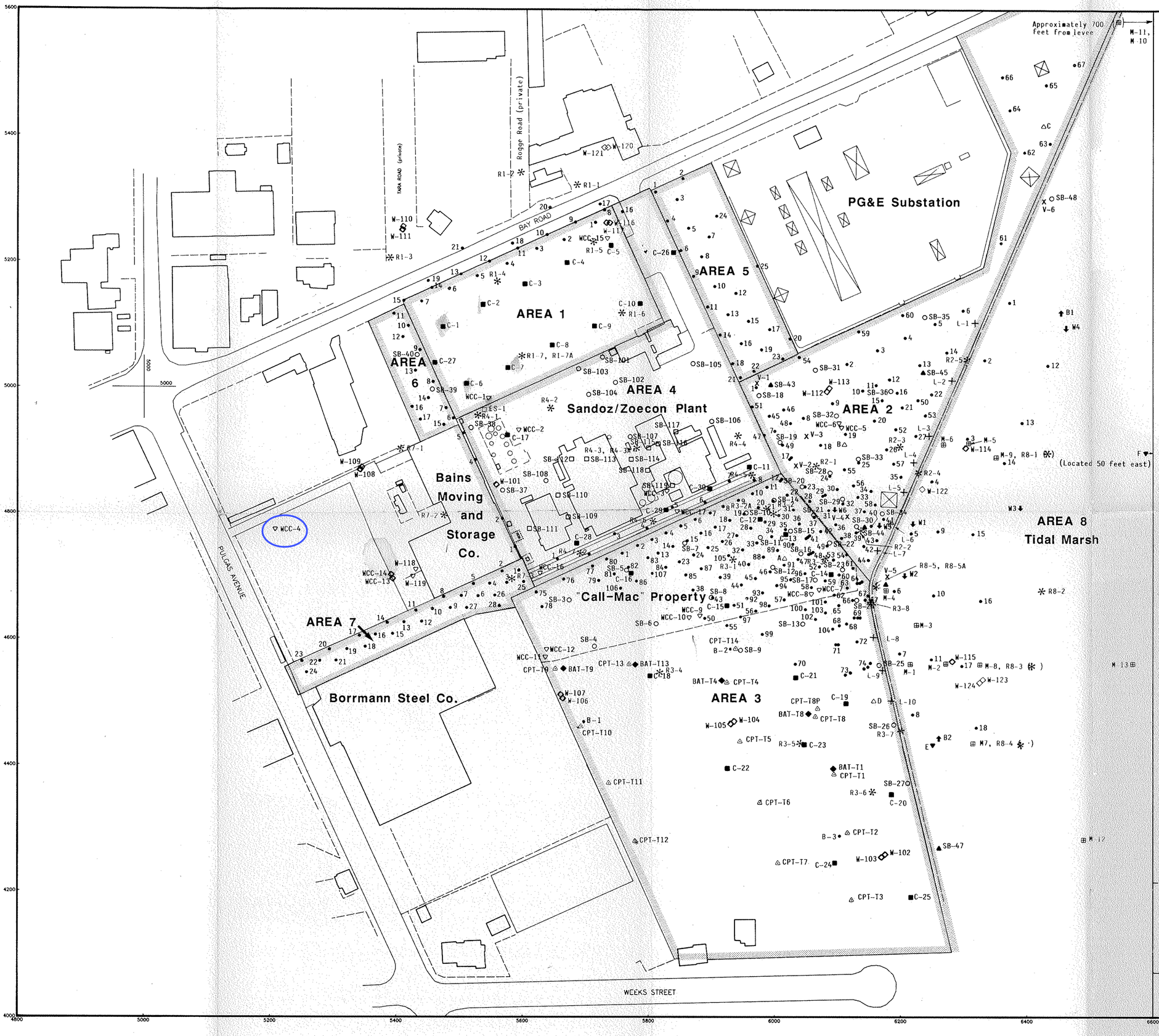


S.S. Papadopulos & Associates, Inc.

GROUNDWATER LEVEL MONITORING WELLS

1990 Bay Road Site Vicinity
East Palo Alto, California

Figure 12



EXPLANATION

- ■ Converse/TenEch monitoring well
- □ Converse Consultants soil boring
- ▽ Woodward-Clyde Consultants monitoring well
- ○ Woodward-Clyde Consultants soil boring
- x Woodward-Clyde Consultants vegetation sample
- ▲ Woodward-Clyde Consultants piezometer
- ◇ Geomatrix Consultants monitoring well
- ⊞ Geomatrix Consultants temporary monitoring well
- • Geomatrix Consultants soil boring
- ✻ Geomatrix Consultants 1988 soil boring
- + Geomatrix Consultants 1988 surface soil sample
- ◇ Geomatrix Consultants BAT groundwater sample
- ◬ Geomatrix cone pentrometer test (CPT)
- △ Geomatrix surface water sample
- ♥ Geomatrix tidal channel sample
- ⬆ WESCO benthic sample
- ⬇ WESCO soil sample
- ▒ Site and vicinity area boundary

Notes

1. Geomatrix tidal channel sample G located 320 feet southeast of Bay Road along transmission line boardwalk and 5 feet east of boardwalk.
2. For complete 1987 and 1988 surface water sampling locations see Figures B-2 and B-3.
3. Base map adapted from Aelytek, Inc. map of 1990 Bay Road and Vicinity based on aerial photographs taken on December 11, 1985 and April 18, 1986, and computer generated by Freeman, Sillivan & Company.
4. Project cooordinate system based on 5000N, 5000E at intersection of Bay Road and Pulgas Avenue. Geomatrix Consultants temporary monitoring well

0 100 200 Feet

SOIL, WATER, BIOTA, AND VEGETATION SAMPLING LOCATIONS 1981-1988 1990 Bay Road Site and Vicinity East Palo Alto, California

GEOMATRIX

Project No.	Plate
1220A-1500	1