

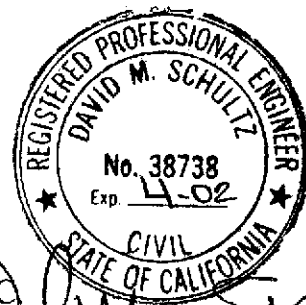


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April 30, 2001

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WORKPLAN
for an
EXCAVATION AND OFF-SITE DISPOSAL
OF LEAD-BEARING SOIL
at
Former Clawson School
3420 Peralta Street
Oakland, CA 94608



Submitted by:
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D.M. Schultz

1.0 INTRODUCTION

This submittal outlines Aqua Science Engineers, Inc. (ASE)'s workplan for excavation and off-site disposal of lead-bearing soil at the former Clawson School property located at 3420 Peralta Street in Oakland, California (Figure 1). The proposed excavation activities have been initiated by Ms. Betsey Costello, Manager of Magnolia Street, LLC, who will be developing a portion of the property into a residential community.

2.0 BACKGROUND INFORMATION

The subject site was occupied by a school from 1878 until the 1970s. Recently, the majority of the property was converted into a live-work housing development by Clawson Project Associates. The remainder of the property currently exists as a parking lot, and is the portion of the property proposed for development as a residential community.

March 1996

Elevated lead concentrations (up to 500 parts per million (ppm)) were detected in shallow soil at the site by previous consultants (see ACC Environmental Consultants (ACC) Phase II Report dated March 1996). The lead contamination was identified, for the most part, west of the main school building in the shallow, exposed soil. The lead contamination was attributed to lead-based paint used for decades on the building.

January 1998

ASE prepared a workplan for a more-defined assessment of the lead-contaminated soil identified by ACC west of the main school building. Based on information provided to ASE from the ACHCSA at that time, a cleanup level of 320 ppm was set as a cleanup goal for the site. The workplan was subsequently approved by the ACHCSA.

Also in January 1998, ASE drilled twenty (20) shallow borings on 25-foot centers using a Geoprobe for the collection of soil samples ranging from depths of 6-inches below ground surface (bgs) to 36-inches bgs. The results of this investigation identified an area totaling an estimated 160 cubic yards of lead-bearing soil with concentrations exceeding 320 ppm total lead. See the ASE Assessment Report dated February 25, 1998.

March 1998

ASE prepared a workplan for the overexcavation and off-site removal of the lead-bearing soil identified in the area west of the main school building. The workplan scoped out the methods of excavation,

stockpiling, confirmation soil sample collection, analyses, and eventual loading and off-site disposal of the affected soil. This workplan was subsequently approved by the ACHCSA.

May and June 1998

ASE overexcavated approximately 200 cubic yards of soil from the area west of the main school building. Confirmation samples verified that all of the lead-bearing soil above 320 ppm total lead had been removed.

Also in May and June 1998, the stockpiled soil was sampled on several occasions to determine its total, WET, and TCLP lead concentrations. The results indicated that the soil contained California hazardous characteristics, and would require out-of-state disposal.

July 1998

On July 22, 1998, the stockpiled soil, weighing 236.98 tons, was transported by Roger's Trucking, US EPA ID number CAD 046824910, to the East Carbon Development Company (ECDC) facility at the Pier 96 Railyard in San Francisco, California, where it was transferred onto Union Pacific Railroad cars for disposal at ECDC's Landfill in East Carbon, Utah, US EPA ID number UTC093012201.

September 1998

ASE prepared its Final Report, dated September 10, 1998, detailing all of our on-site activities as they related to the lead-contaminated soil west of the main school building.

Early 1999

The ACHCSA and RWQCB issued a No Further Action Letter for the site.

August 2000

ASE returned to the site to assess the volume of soil contaminated with total lead in the vicinity of ACC boring S23, which was located in the parking lot area which is now proposed for a residential development (Figure 2). ASE prepared a workplan for the drilling of five hand-augered soil borings in the area surrounding boring S23. The workplan was subsequently approved by the ACHCSA. On August 14, 2000, ASE drilled five soil borings to a depth of 24-inches below grade and collected soil samples at three intervals in each boring, see Figure 2. Elevated concentrations of total lead were identified in soils up to 24-inches below grade at concentrations up to 320 ppm. See ASE's assessment report dated August 22, 2000 for complete details regarding this assessment.

In discussions with Ms. Susan Hugo of the ACHCSA, she informed ASE and the prospective developer of the property that the current regulatory limit for total lead in unrestricted residential usage is 147 ppm per recent DTSC risk assessment guidelines.

3.0 PROPOSED SCOPE OF WORK (SOW)

Based on the site history and requirements of the ACHCSA, ASE's proposed scope of work to eliminate soil at the site in the vicinity of boring S23 containing total lead concentrations greater than 147 ppm is to:

1. Secure permits/approval from the Alameda County Health Care Services Agency (ACHCSA), and notify both CAL-OSHA and the Bay Area Air Quality Management District (BAAQMD) of the upcoming project.
2. Secure a Certified Industrial Hygienist (CIH) to prepare a Health & Safety Plan for the site and perform on-site control measures.
3. Mark the boundaries of the excavation. Determine elevation of existing grade within excavation boundaries. Call Underground Service Alert (USA) to have all known public utilities marked.
4. Remove the asphalt on top of the excavation boundaries. This material will be stockpiled on site for future disposal by the client.
5. Excavate lead-bearing soil in two pre-determined depths within the excavation boundaries. Stockpile and cover the excavated material on-site. The first excavation will measure approximately 47-feet by 40-feet and will be 1-foot deep, totaling an estimated 70 cubic yards. The second excavation will be inside the boundary of the first excavation, and will measure 26-feet by 47-feet and will be an additional 2-feet deeper, totaling an estimated 90 cubic yards. Spoils from the first excavation will be separated from the spoils from the deeper excavation.
6. At the direction of the CIH, administer dust controlling measures by keeping excavation and spoils moist.
7. Collect confirmation soil samples from the excavation bottoms as directed by the ACHCSA.

8. Analyze each soil sample for total lead by EPA method 7420A using a Cal EPA certified on-site mobile laboratory.
9. Excavate and re-sample areas as necessary should analytical results exceed the target cleanup goal of 147 ppm.
10. Collect up to four (4) four-point composite soil samples from the excavated/stockpiled soil.
11. Analyze each stockpiled soil sample above for total lead by EPA method 7420A, and waste extraction test (WET) lead by EPA method 7420A at an offsite laboratory.
12. Profile the excavated soil into an appropriate landfill facility.
13. Load and transport the stockpiled soil to the appropriate landfill.
14. Prepare a summary report detailing the methods and findings.

Selected details of the project are presented below.

PREPARE A HEALTH AND SAFETY PLAN

Based on the site history and the analytical results of previous soil samples, ASE's subcontracted CIH will prepare a site-specific health and safety plan. A nearby hospital will be designated in the site safety plan as the emergency medical facility of first choice. A copy of the site specific Health and Safety Plan will be available on-site at all times.

SOIL EXCAVATION AND STOCKPILING

The excavation will be performed using a backhoe. Based on concentrations of total lead in the five soil samples collected by ASE in August 2000, the backhoe will be directed to remove soil in 12-inch lifts in areas identified previously as containing lead at concentrations above 147 ppm. The excavation and stockpiled soil will be kept wet as a dust control measure. The excavated soil will be placed into a dump truck and then stockpiled adjacent to the excavation, on top of asphalt. Excavation activities near the trees along 32nd Street will be performed using shovels so that root damage is maintained at a minimum.

As depicted on Figure 3, the entire excavation will be removed to a depth of 1-foot below ground surface (bgs), and this volume will be

approximately 70 cubic yards. A smaller portion of the excavation will be removed to 3-foot bgs. The volume of soil for this excavation is estimated at 90 cubic yards. ASE will continue the excavation depth until confirmation soil samples contain less than 147 ppm total lead.

SOIL SAMPLE COLLECTION AND ANALYSES

The discrete soil samples collected from the bottom of the excavation will be collected directly into brass sample tubes, trimmed, sealed with Teflon tape and plastic caps, secured with duct tape, labeled with the site location, sample designation, date and time the sample was collected, and the initials of the person collecting the sample. The number and location of these samples will be determined in the field. ASE estimates that one sample will be collected for each 400 to 500 square feet of excavation area. These samples will be analyzed by a CAL EPA certified on-site mobile laboratory for total lead by EPA Method 7420A.

The soil samples collected from the excavated/stockpiled soil will be collected from up to 16 locations within the stockpile to be composited by the laboratory into as many as four samples for analyses. These samples will be collected directly into brass sample tubes, trimmed, sealed with Teflon tape and plastic caps, secured with duct tape, labeled with the site location, sample designation, date and time the sample was collected, and the initials of the person collecting the sample.

The stockpiled soil samples will be placed into an ice chest containing wet ice for delivery under chain of custody to a CAL-EPA certified analytical laboratory for analysis of total lead by EPA Method 7420A, and waste extraction test (WET) lead by EPA method 7420A.

All sampling equipment will be cleaned in buckets with brushes and a TSP or Alconox solution, then rinsed twice with tap water. Rinsates will be contained on-site in 55-gallon DOT 17H drums for future disposal by the client.

The excavation and stockpiled soil will be secured by the perimeter fence surrounding the project site. The stockpiled soil will remain covered with plastic while awaiting off-site disposal.

STOCKPILED SOIL PROFILING AND DISPOSAL

Upon receipt of the analytical results of the stockpiled soil, ASE will profile the volume of soil into an appropriate landfill facility. The soil will

then be loaded onto transportation vehicles and removed from the site. All manifests, weight tags and disposal certificates will be included in the final report.

EXCAVATION BACKFILLING

The excavation sidewalls will be sloped in a manner that will allow safe ingress and egress by field personnel. The excavation will not be backfilled as a portion of this project. The excavation will be backfilled during construction activities by the developer of the property.

PREPARE AN EXCAVATION/REMEDIATION REPORT

ASE will submit a report detailing the activities performed at the subject site during this phase of the project. The report will be submitted under the seal of state registered civil engineer or geologist. This report will include a summary of all work completed during this project including tabulated soil analytical results, soil profiling data, waste manifests, weight tags, and final conclusions.

4.0 PROJECT SCHEDULE

ASE projects the time schedule to complete the scope of services described above to be as follows:

<u>TASK</u>	<u>Days</u>
Workplan and Health and Safety Plan preparation	5-7
Approvals from agencies	5-10
Excavate and Stockpile	1-2
Sample Collection	1
Excavation Analytical Testing	1
Stockpile Analytical Testing	7
Profiling	1-2
Load and Transport Stockpiled Soil	1
Report preparation	14

ASE plans to begin field activities at this site immediately upon approval of this workplan by the ACHCSA. Excavation activities are tentatively scheduled to be completed within the month of May 2001.

Should you have any questions or comments, please call us at (925) 820-9391.

Respectfully submitted,

AQUA SCIENCE ENGINEERS, INC.

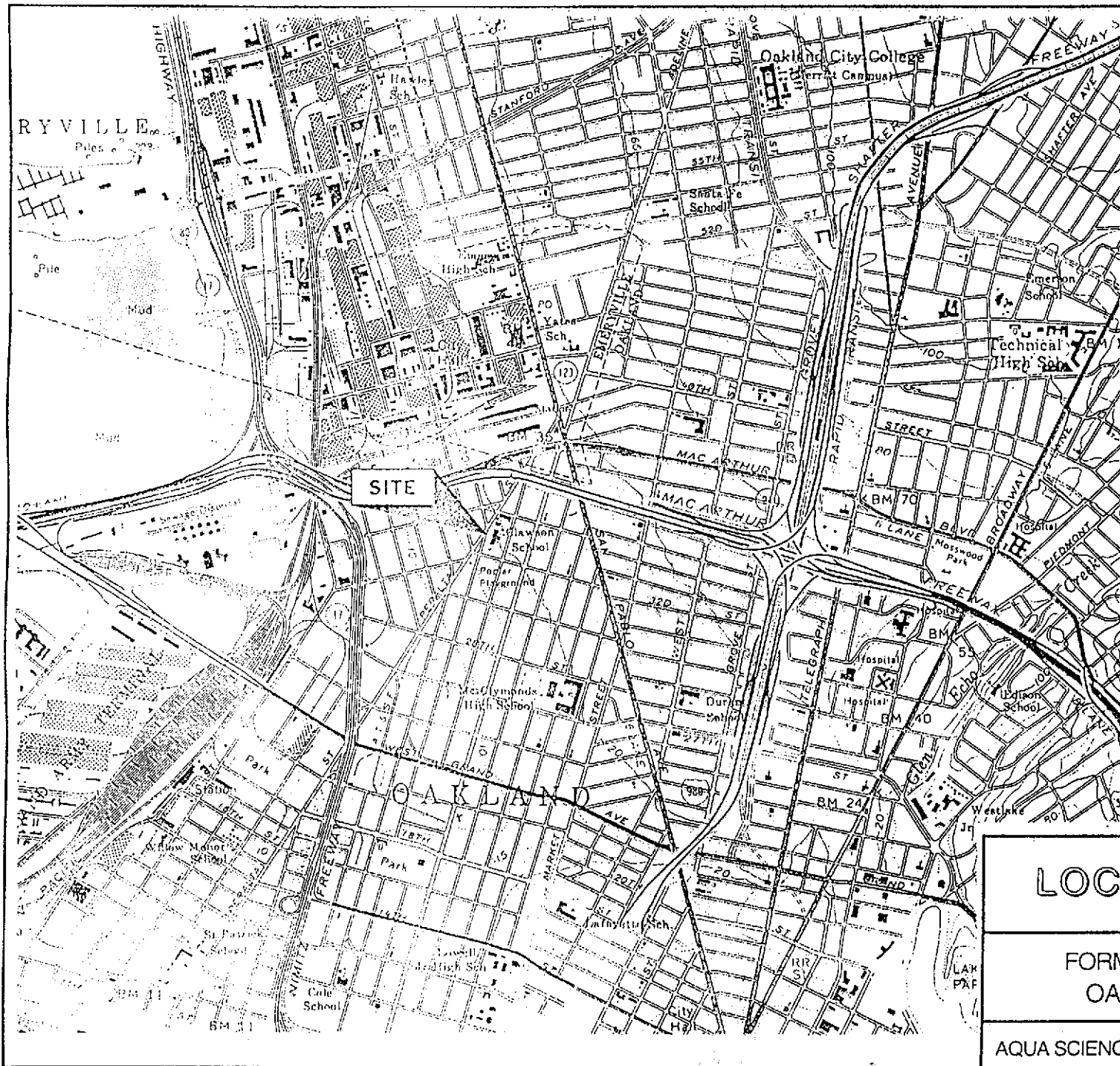


David Allen
Senior Project Manager

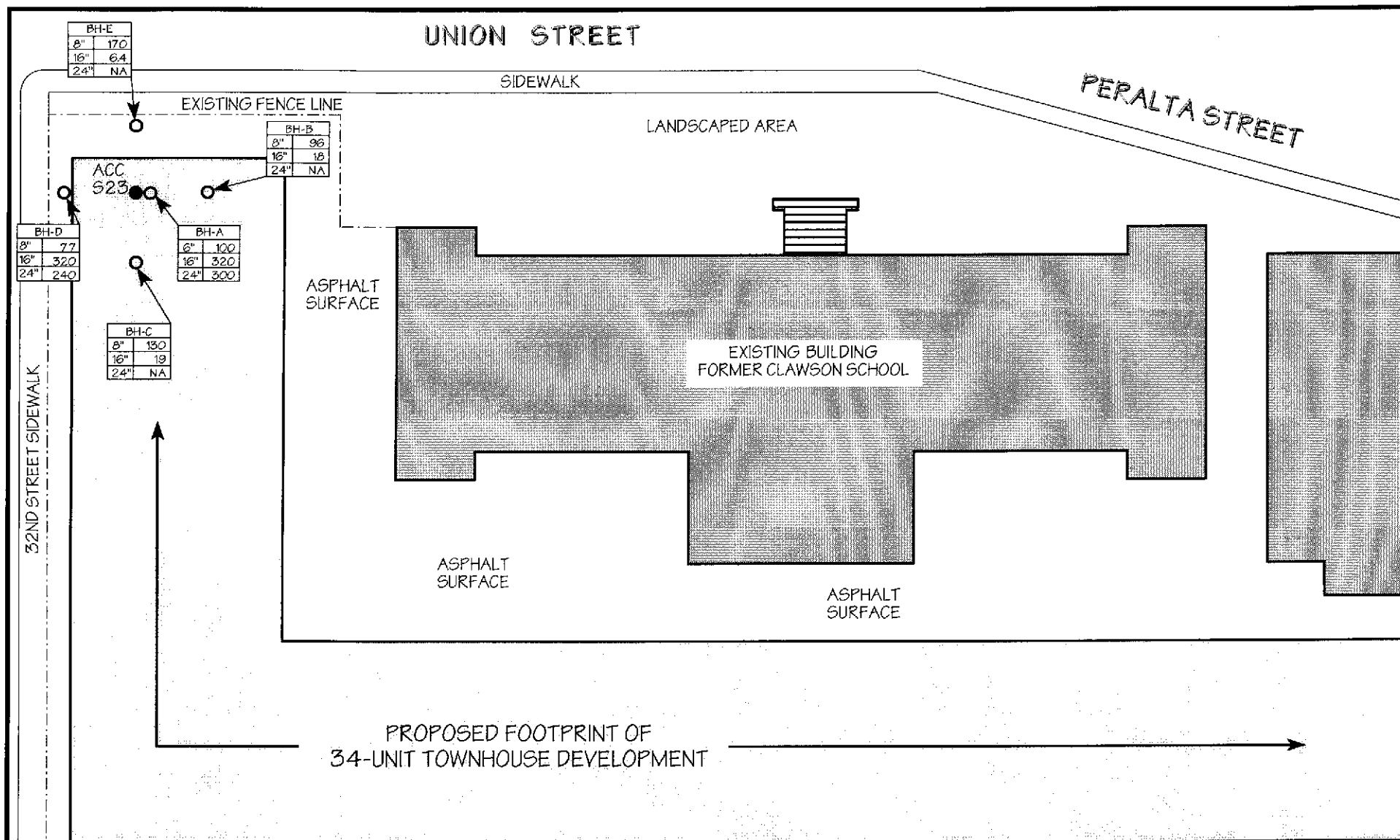
cc: Ms. Betsey Costello, Magnolia Street, LLC, 615 Front Street, San Francisco, CA 94111

Ms. Susan Hugo, Alameda County Health Care Services Agency, 1131 Harbor Bay Parkway, Suite 250, Alameda, CA 94502-6577

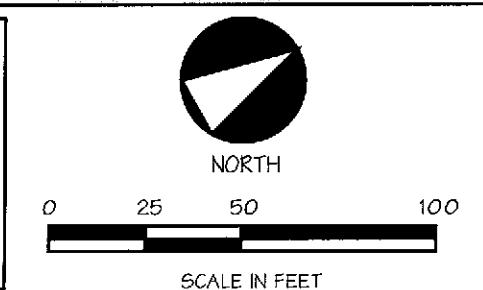
California Regional Water Quality Control Board, San Francisco Bay Region, 2101 Webster Street, Suite 500, Oakland, CA 94612



<h1>LOCATION MAP</h1>	
<h2>FORMER CLAWSON SCHOOL OAKLAND, CALIFORNIA</h2>	
AQUA SCIENCE ENGINEERS, INC.	Figure 1



LEGEND	
ACC 523	SOIL BORING, DRILLED BY ACC IN 1996 WITH A TOTAL LEAD CONCENTRATION OF 410 PPM AT 6-INCHES BELOW GRADE.
BH-E	SOIL BORING DRILLED BY ASE, AUGUST 2000



SOIL BORING LOCATION MAP	
FORMER CLAWSON SCHOOL 3420 PERALTA STREET OAKLAND, CALIFORNIA	
DATE: 4-30-01	
AQUA SCIENCE ENGINEERS, INC.	Figure 2

