

2/1/00

Need revised site plan showing
all 3 proposed HPS. GW
may flow W-SW so a basin
should be in that direction

OroLoma report had statement that
General GW flow is to SW



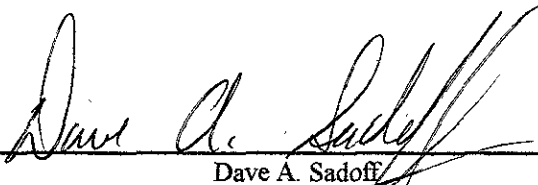
ENVIRONMENTAL BIO-SYSTEMS, INC.

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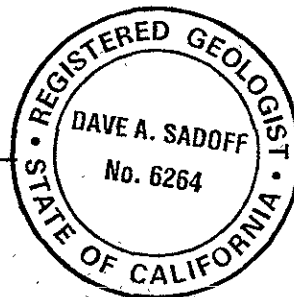
WORK PLAN:
SUBSURFACE EXPLORATION II
Project #157-544B

East Bay Dischargers Authority
2651 Grant Avenue
San Lorenzo, California

PREPARED BY ENVIRONMENTAL BIO-SYSTEMS, INC.
FOR
EAST BAY DISCHARGERS AUTHORITY



Dave A. Sadoff
Project Geologist, California R.G. No. 6264



27 January 2000

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APPENDIX

- APPENDIX A. FIGURES
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 FIGURE 2. SITE MAP



Environmental Bio-Systems, Inc.

Innovative Solutions for a Better Environment

Contractor's License A-Haz 687236

1. INTRODUCTION

Environmental Bio-Systems, Inc. (EBS) has been retained by the East Bay Dischargers Authority (the Client) to prepare and carry out this work plan at the Oro Loma Effluent Pumping Station, located at 2651 Grant Avenue in San Lorenzo, California (the Site). A site location map and site map are included as Figures 1 and 2 in Appendix A.

The site is currently owned by the Client. The principal project contacts are:

Client: Mr. Karl D. Royer, Operation and Maintenance Manager, East Bay Dischargers Authority, 2651 Grant Avenue, San Lorenzo, CA 94580-1841, (510) 278-6547.

Consultant: Mr. Dave A. Sadoff, Project Manager, Environmental Bio-Systems, Inc., P.O. Box 7171, San Jose, CA 95150-7171, (408) 979-8600.

The scope of work described in this work plan is intended to further assess the extent of petroleum hydrocarbon impact to site ground water caused by a prior diesel fuel spill. Preparation of this work plan has been requested by the Alameda County Health Care Services Agency (ACHCSA).

EBS will begin the scope of work described in this document upon contract acceptance by the Client. Fieldwork will not begin until the work plan has been approved by the ACHCSA.

2. PREVIOUS ENVIRONMENTAL WORK

February 1999

Approximately 555 gallons of diesel fuel was reportedly spilled at the Site. Approximately 75 tons of diesel-impacted soil was excavated by Foss Environmental and Infrastructure of Alameda, California. The soil was reportedly transported to the Altamont Landfill in Livermore, California. It was estimated that between 450 and 550 gallons of diesel fuel was recovered in the excavated soil.

9 September 1999

EBS directed the drilling and sampling of three soil cores (designated SC1 through SC3) at the site. None of the submitted soil samples was found to contain reportable concentrations of total petroleum hydrocarbons calculated as diesel (TPHd), benzene, toluene, ethylbenzene or total xylenes (BTEX) or methyl t-butyl ether (MTBE). Ground water samples, however, were found to contain up to 3,300 micrograms per liter ($\mu\text{g/L}$) TPHd, up to 2.9 $\mu\text{g/L}$ toluene, up to 2.8 $\mu\text{g/L}$ total xylenes, and up to 28 $\mu\text{g/L}$ MTBE.

3. FIELD PROCEDURES

The scope of work described in this work plan outlines the drilling of 2 exploratory soil cores (to be designated SC4 and SC5), the collection and analysis of water samples, and the generation of a brief project summary letter report. All work will be performed by, or under, the direct supervision of a California Registered Geologist.

3.1. HEALTH AND SAFETY PLAN

A site-specific health and safety plan will be produced prior to commencement of fieldwork. This plan will include anticipated hazards, personal protective equipment requirements for site workers, and emergency procedures.

3.2. SOIL CORE LOCATIONS AND DRILLING METHODS

Two Three soil cores will be advanced via direct push technology using a truck mounted Geoprobe (or similar) rig. The borings will be drilled at or near the locations depicted on Figure 2.

3.2.1. Drill Cuttings

All soil cuttings generated during drilling will be contained within Department of Transportation (DOT) approved 5-gallon buckets. The labeled buckets will be staged on-site pending analytical results.

3.3. WATER SAMPLING

Water samples will be collected from each of the three soil cores through temporary well screens that will be inserted into the cores. A small diameter bailer will then be used to retrieve samples of accumulated water within the temporary screens. Water samples will be placed into appropriate containers and labeled with unique designations for this project.

All samples intended for chemical analysis will be stored inside an insulated cooler on top of crushed ice immediately after collection and held there until acceptance by the analytical laboratory. A chain of custody will be initiated in the field and will accompany all samples to the laboratory.

3.4. SAMPLE ANALYSES

All soil and ground water samples will be analyzed by Analytical Sciences, (AS) of Petaluma, California. AS is certified by the California environmental laboratory accreditation program (ELAP) for the requested analyses.

All soil and water samples submitted for laboratory analysis will be analyzed for the following:

- TPHd using Environmental Protection Agency (EPA) Method 8015
- BTEX using EPA Method 8020
- MTBE using EPA Method 8020 (confirmed by Method 8260)

3.5. DECONTAMINATION PROCEDURES

All downhole drilling and sampling equipment will be cleaned using an Alconox solution, tap water rinse, and deionized water rinse prior to the drilling of each boring. All decontamination water will be stored in a labeled drum approved by the Department of Transportation (DOT) for this purpose. The drum will be staged on-site pending receipt of analytical results.

4. DOCUMENTATION

A final report documenting the observations, results, conclusions, and recommendations will be prepared and submitted upon completion of fieldwork. The report will include scaled diagrams, laboratory analytical reports, and chain of custody documentation.

5. CONDITIONS

The scope of work described in this work plan will be conducted in accordance with generally accepted standards of current environmental practice in California. All documentation generated during the project, including but not limited to additional Work Plans and reports with all conclusions, and recommendations contained therein, shall be time-dependent and should not be considered valid after a 1-year period from their issue. After 1 year from issue, site conditions and recommendations contained within Work plans and reports should be reviewed.

Evaluation of the condition of the Site, for the purpose of this study, will be made from a limited number of observation points. Subsurface conditions may deviate away from these points. Additional work, including further study of the subsurface, can reduce the inherent uncertainties associated with this type of work.

This study will be performed, and the report prepared for the sole use of our client, East Bay Dischargers Authority. All reports and the findings contained within are not to be disclosed to nor used by any other party without the prior written consent of Environmental Bio-Systems, Inc. It will be the responsibility of the client to convey any and all recommendations to regulatory agencies and other parties, as appropriate.

The recommendations to be provided in the summary project report will be professional opinions that our firm has endeavored to provide with competence and reasonable care. We are not able to eliminate the risks associated with environmental work. No guarantees or warranties, express or implied, are provided regarding our recommendations.

All hazardous wastes generated during this work are to remain the property of the Client to be disposed of properly. The maximum liability of EBS for any reason attendant to the services provided shall not exceed \$10,000.00.

It is the clients' responsibility to identify property lines and easements. EBS is not responsible for the accuracy of any property line, easement, or other markers identified by the client.

It is the clients' sole responsibility to inform EBS of any hazardous materials or conditions relating to the UST or the work area in general prior to the progression of fieldwork, or immediately upon their subsequent discovery.

EBS will contact Underground Service Alert (USA), a public utilities locating service that is provided by the utility companies. USA will mark the location of utilities on public property. USA is not responsible for the location of utilities on private property. EBS will not be liable for any damages to underground structures as a result of subsurface activities.

6. REFERENCES

Environmental Bio-Systems, Inc., Soil and Ground Water Sampling Letter Report, East Bay Dischargers Authority, 2651 Grant Avenue, San Lorenzo, California, 15 October 1999.

United States Geological Survey, San Leandro, California Quadrangle Map, 7.5-Minute Series, Topographic, 1959, Photorevised 1980.

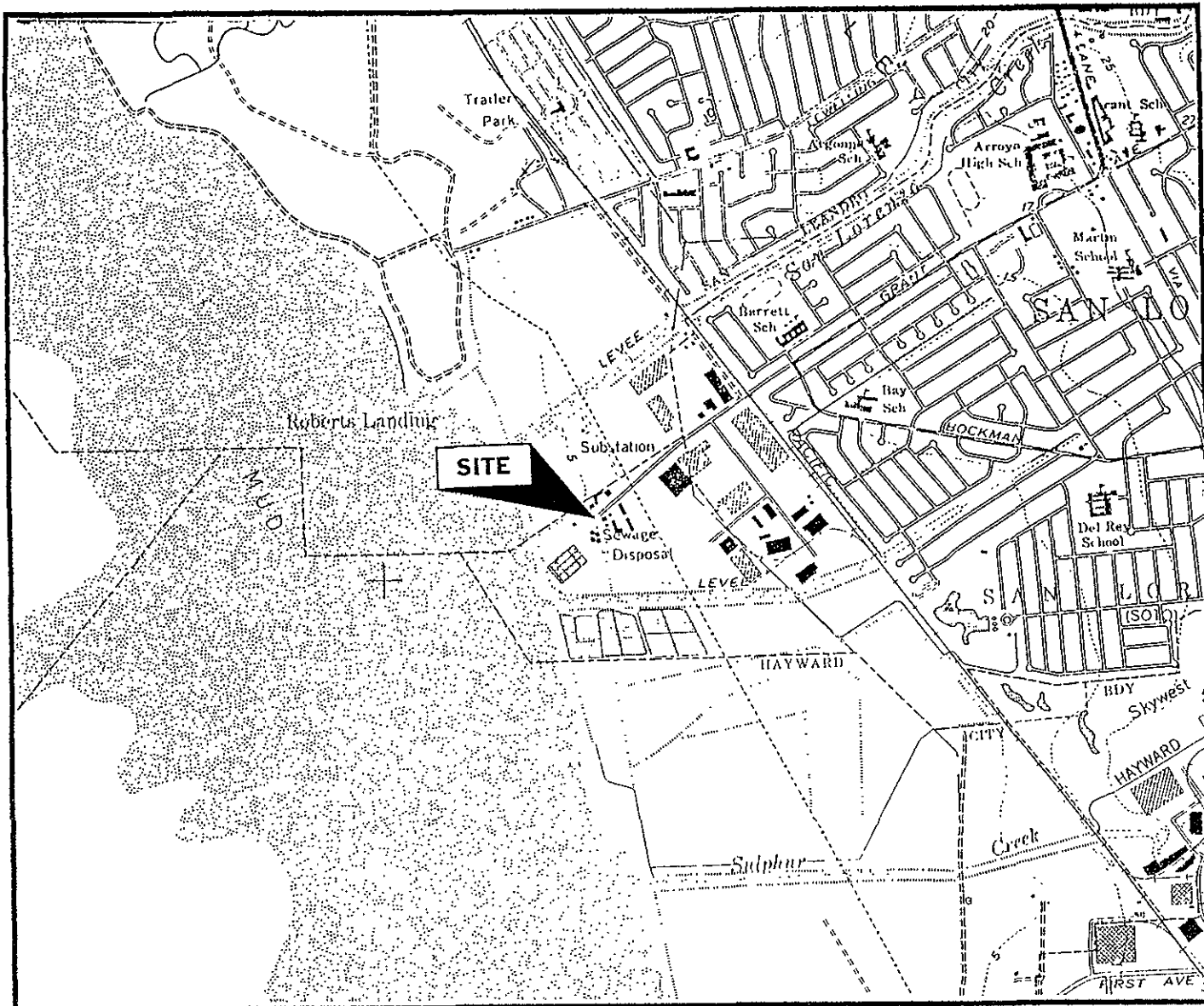
27 January 2000

Work Plan: Subsurface Exploration
East Bay Dischargers Authority
2651 Grant Avenue, San Lorenzo, California

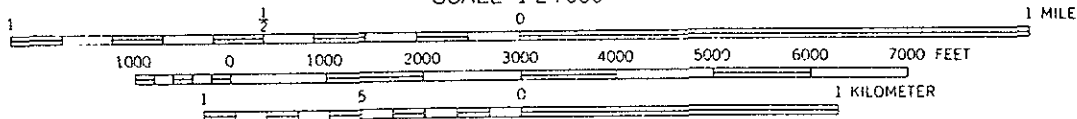
Appendix A

APPENDIX A:

FIGURES



SCALE 1:24,000



CONTOUR INTERVAL 20 FEET
 DOTTED LINES REPRESENT 5-FOOT CONTOURS
 NATIONAL GEODETIC VERTICAL DATUM OF 1929
 DEPTH CURVES IN FEET—DATUM IS MEAN LOWER LOW WATER
 SHORELINE SHOWN REPRESENTS THE APPROXIMATE LINE OF MEAN HIGH WATER
 THE MEAN RANGE OF TIDE IS APPROXIMATELY 5 FEET

Source: USGS San Leandro, California 7.5-Minute Quadrangle Map



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 BIO-SYSTEMS, INC

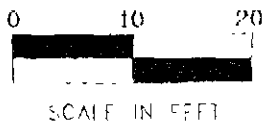
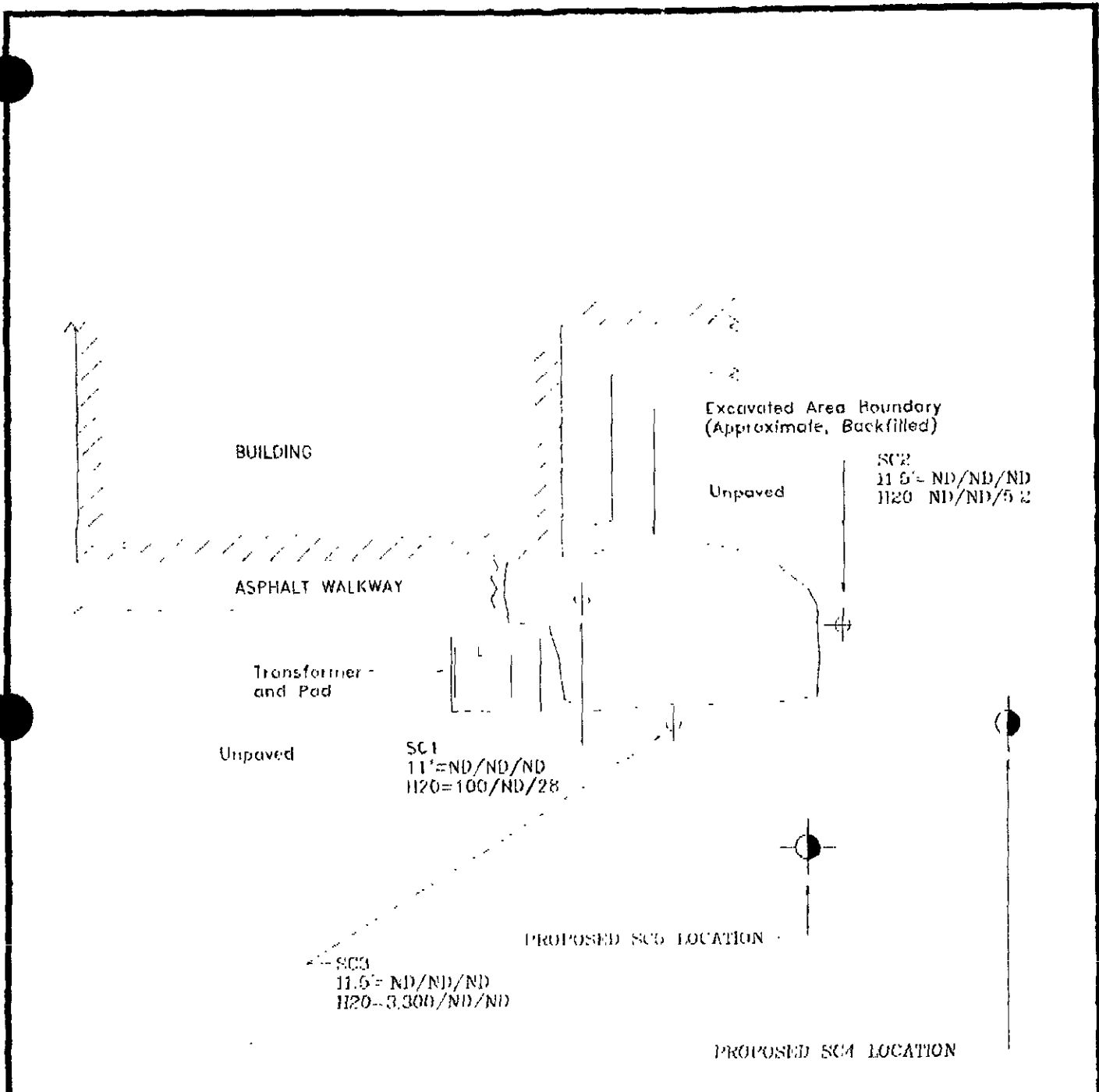
DATE
 8/9/99

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SCALE
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FIGURE 1
 SITE LOCATION MAP

E. BAY DISCHARGERS AUTH
 2651 GRANT AVENUE
 SAN LORENZO CALIFORNIA



NOTES

SC3 BOREHOLE LOCATION AND DESIGNATION
 SOIL SAMPLE IN PPM (PHENOL/BENZENE/MTBE)
 WATER SAMPLE IN UG/L (PHENOL/BENZENE/MTBE)
 ALL RESULTS IN UG/L (WATER) OR UG/G (SOIL)



ENVIRONMENTAL
BIO-SYSTEMS, INC.

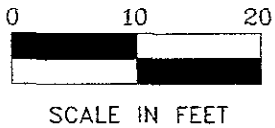
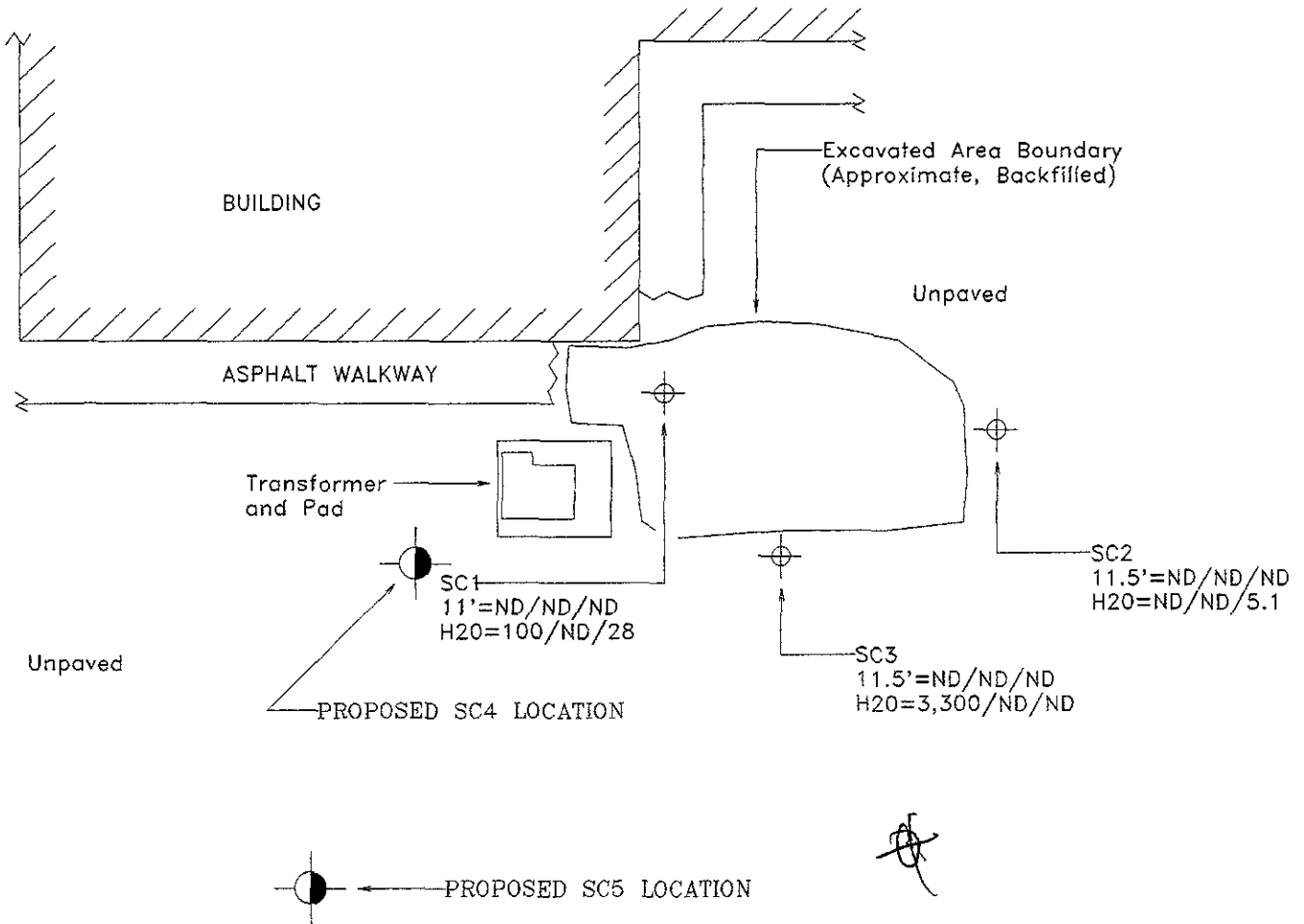
DATE:
10/15/99

PROJECT #
157-531E

SCALE:
AS SHOWN

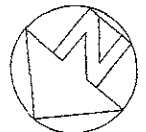
FIGURE 2: SITE MAP
AND ANALYTICAL RESULTS

E BAY DISCHARGERS AUTH.
2651 GRANT AVENUE
SAN LORENZO, CALIFORNIA



NOTES

<p>SC3 11.5' = ND/ND/ND H2O = 3,300/ND/ND</p>	<p>BOREHOLE LOCATION AND DESIGNATION SOIL SAMPLE DEPTH TPHd/BENZENE/MTBE WATER SAMPLE TPHd/BENZENE/MTBE ALL RESULTS IN $\mu\text{g/L}$ (WATER) OR $\mu\text{g/KG}$ (SOIL)</p>
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ENVIRONMENTAL
BIO-SYSTEMS, INC.

DATE: 10/16/89
PROJECT: S-155-8
FILE: 10/16/89

<p>ANALYST: J. J. ...</p>
<p>LABORATORY: ...</p>