CAMBRIA

ENVIRONMENTAL PROTECTION
00 MAY 17 PM 3:33

To:	Tom Peacock
Company:	ACDEH
Address:	1131 Harbor Bay Parkway, 2nd Floor
	Alameda California
Phone:	

From:	David Elias
Phone:	510-420-3307
Date:	5/15/00
Re:	System Design

Transmittal

Dear Mr. Peacock, Please find attached a copy of the final System Design Package for the soil vapor extraction system to be installed at 1432 Harrison Street, Oakland, California. A copy of the design package was sent to 6 contractors for bid.

Please call me with any questions or comments.

Sincerely, David Elias

Cc: Mark Borsuk, Esq., 1626 Vallejo Street, San Francisco, CA 94123-5116

CAMBRIA

April 24, 2000

Portico Inc.
P.O. Box 2871
Aptos, CA 95001

Attention: Peck Comstock

Fax: (415) 665-9735

Re: **INVITATION FOR BID - REMEDIATION SYSTEM INSTALLATION**
1432 Harrison Street
Oakland, California

Dear Contractor:

You are invited to submit a bid to install the electrical wiring, remediation piping, and system enclosure for a vapor extraction and air sparging remediation system for the above referenced site. If you are interested in bidding, please fax your bid by June 5, 2000 at 5:00 pm. Site plans with proposed trenching locations, trench cross-sections, manifold and wellhead details, manifold support and anchor details, and technical specifications are attached.

SCOPE OF WORK

The site is currently an operating private parking lot with good access. Soil vapors will be extracted from, and air will be injected into four coaxial wells (VES-1/AS-1 through VES-4/AS-4). The scope of work includes obtaining city permits, sawcutting, trenching, and plumbing of underground piping and wiring from four extraction wells and from an electrical stub-up back to a remediation manifold, installing new well boxes, backfilling, compacting, and concrete resurfacing of trenches, constructing a well manifold, installing an electrical panel, installing above ground conduit and wiring from remediation equipment to the well manifold and electrical panel, and installing a remediation enclosure fence. The contractor will be responsible for locating any interfering utilities, scheduling permit inspections, and off-hauling concrete and clean soil to a landfill.

SCHEDULE AND SITE CONCERNS

We would like to have this system installed with the least amount of disruption to parking activities within a 1-week period. We plan to award the job within one month after the submittal due date to allow time for UST Fund pre-approval. Please propose a construction schedule in your submittal.

Oakland, CA
San Ramon, CA
Sonoma, CA
Portland, OR

Cambria Environmental Technology, Inc.

1144 65th Street
Suite B
Oakland, CA 94608
Tel (510) 420-0700
Fax (510) 420-9170

Trench plates and construction barriers will be required to enable customers access to the parking lot from Harrison Street while portions of the trench are open (see site plan). There will be no onsite bid walk, but all contractors are welcomed to visit the site. This job is part of a State UST Fund project and the winning contractor will be selected based upon several factors including costs, scheduling, responsiveness, and quality of bid.

PROJECT DETAILS

Please consider the following specific tasks and design details in your bid and complete the attached Bid Spreadsheet:

1. Submit plans and obtain permits from City of Oakland Planning and Building departments.

2. Sawcut, trench, and install underground piping ("homeruns") between the wells and the electrical stub-up to the remediation enclosure. Dedicated 2-inch Sch. 40 PVC vapor extraction piping will be needed from each of the four extraction wells back to the manifold. Dedicated 2-inch Sch. 40 PVC pipe with a ½-inch compressed air line will be needed from each of the four extraction wells back to the manifold. A 4-inch Sch. 40 PVC electrical conduit with appropriate sized electrical wiring and phone line will be needed from the 2 ½-inch metal electrical stub-up back to the enclosure. Any hydrocarbon impacted soil should be stockpiled on visqueen until proper sampling and analysis can be performed by Cambria. Trenches should be resurfaced with a minimum of 4 inches of concrete dyed black to match surrounding area. All trench backfill should be compacted to 90% and guaranteed by Contractor not to settle within first year.

3. Break out old well boxes and supply and install new 18" x 30" rectangular traffic-rated well boxes for each well and a 12" round well box at the electrical stub-up (if necessary). A City encroachment permit will likely be needed in order to access wells VES-2/AS-2 and VES-4/AS-4 which are located in the sidewalk. Obtaining an encroachment permit and scheduling any City inspections should be included in your bid.

4. Construct manifold with labeled piping tied to unistrut bracing (see piping manifold detail).

5. Supply and install an electrical panel that consists of a meter panel with a 120/208V 1-phase, 200 amp main disconnect along with a sub panel which has a 120V electrical outlet, two 20 amp breakers, and one 40 amp breaker. Obtaining final sign-off on electrical connections from the City and scheduling service hookup and meter installation with PG&E should be included in your bid.

6. Install electrical conduit and wiring from the electric catalytic oxidizer and/or phase converter and also the air compressor to the electrical panel according to City code. The catalytic oxidizer/phase converter and air compressor will be supplied by others. Install 2-inch Sch. 40 PVC piping from well manifold header pipe to catalytic oxidizer. Install 3/8-inch galvanized piping from the well manifold header pipe to the air compressor.

7. Install a 15 x 20 ft remediation enclosure. The chain-link fence should be 6 ft high, constructed of new 10 gauge galvanized steel with 2 7/8" OD corner posts, 2 3/8" OD line posts, colored plastic slats, and a 10 ft double swing gate on one side. Corner posts should be surrounded with a minimum of 4 inches of concrete, approximately 36 inches deep for additional strength.

Please fax your bid to (510) 420-9170 **by June 5, 2000 at 5:00 pm.**

If you have any questions about this invitation to bid, please call David Elias at (510) 420-3307.

Sincerely,
Cambria Environmental Technology, Inc.

David Elias RG
Senior Geologist

Attachments: Bid Spreadsheet
Soil Vapor Extraction and Air Sparge System Design Plans, pgs. 1-9

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ATTACHMENTS

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BID SPREADSHEET

Contractor Name:_____

Contractor Contact Name:_____

Contractor Contact Phone No.:_____

Tasks	**Estimated Costs**
Task 1 - Permitting	$_____
Task 2 - Trenching Piping	$_____
Task 3 - Wellboxes	$_____
Task 4 - Well Manifold	$_____
Task 5 - Electrical Panel	$_____
Task 6 - Equipment Piping and Electrical Hookup	$_____
Task 7 - System Enclosure	$_____

Total Estimated Cost: $_____

REMEDIAL DESIGN PLANS

1432 Harrison Street
Oakland, California

SOIL VAPOR EXTRACTION AND AIR SPARGE SYSTEM

Prepared for:
Barbara Jean Borsuk and Sheila Siegel

Prepared by:
CAMBRIA ENVIRONMENTAL TECHNOLOGY, INC.

12/20/99

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Borsuk Properties
1432 Harrison Street
Oakland, California

Title Page

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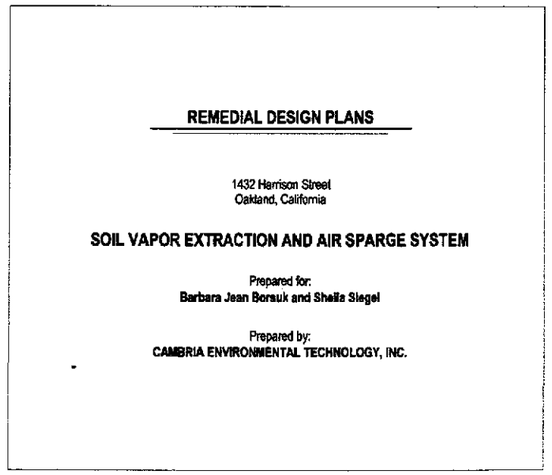
REMEDIAL DESIGN PLANS

1432 Harrison Street
Oakland, California

SOIL VAPOR EXTRACTION AND AIR SPARGE SYSTEM

Prepared for:
Barbara Jean Borsuk and Sheila Siegel

Prepared by:
CAMBRIA ENVIRONMENTAL TECHNOLOGY, INC.

FIGURE 1

SCHEDULE OF DRAWINGS

FIGURE	DRAWING TITLE
1	TITLE PAGE
2	SCHEDULE OF DRAWINGS
3	VICINITY MAP
4	SITE PLAN / SYSTEM LAYOUT
5	TRENCH SECTIONS
6	MANIFOLD SYSTEM - SOIL VAPOR EXTRACTION / AIRSPARGE WELL PIPING
7	MANIFOLD SUPPORT, FENCE AND ANCHOR DETAILS
8	SVE PROCESS AND INSTRUMENTATION DIAGRAM
9	ELECTRICAL SINGLE LINE DIAGRAM

12/20/99

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Borsuk Properties
1432 Harrison Street
Oakland, California

Schedule of Drawings

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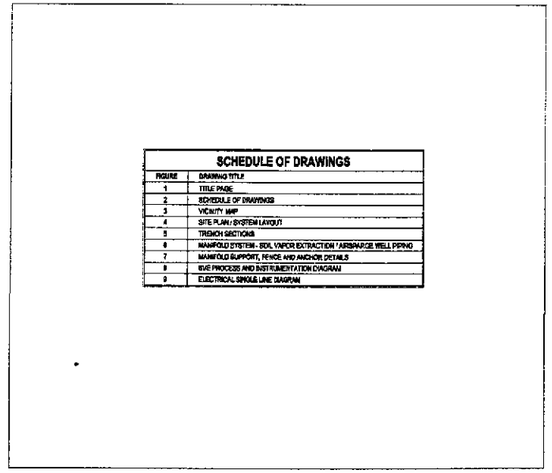
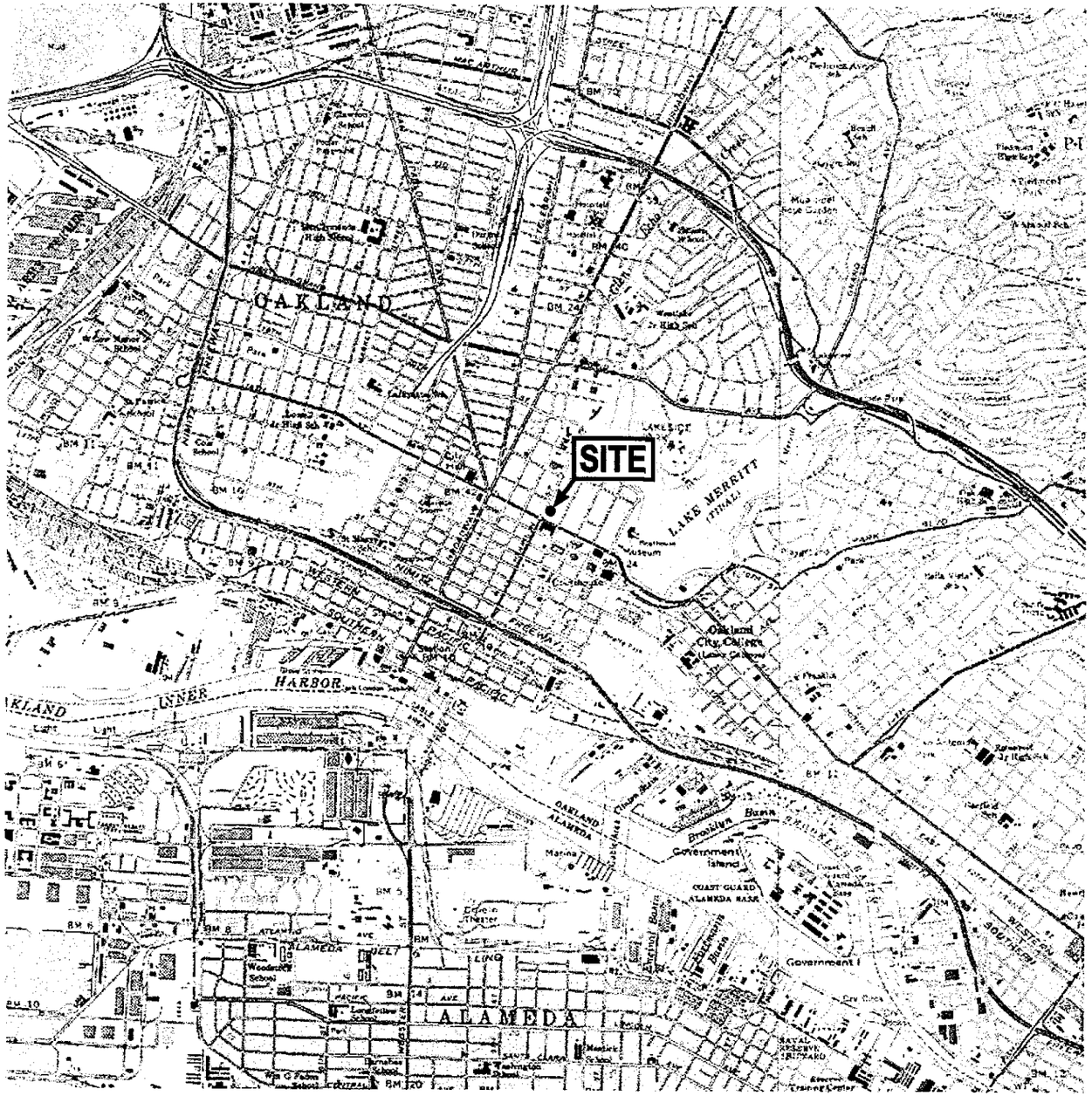


FIGURE 2



Borsuk Properties
1432 Harrison Street
Oakland, California

Vicinity Map

CAMBRIA

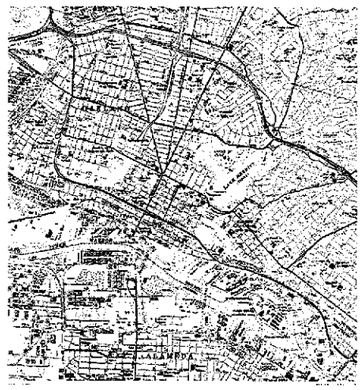


FIGURE 3

01/31/00

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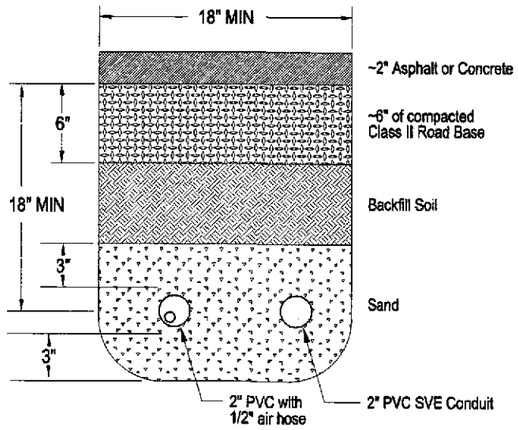
A/5 **TRENCH SECTION - SVE & AIR SPARGE**
NOT TO SCALE



B/5 **TRENCH SECTION - SVE & AIR SPARGE**
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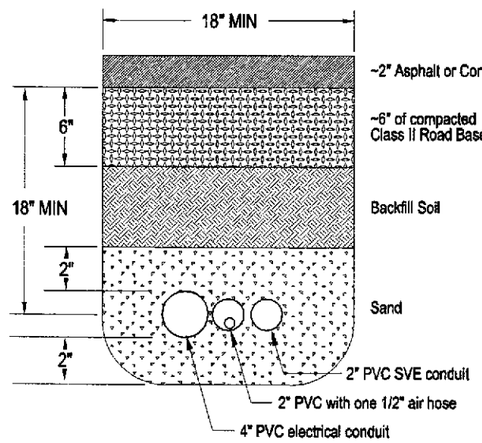

02/02/00

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Borsuk Properties
1432 Harrison Street
Oakland, California

Trench Cross Sections

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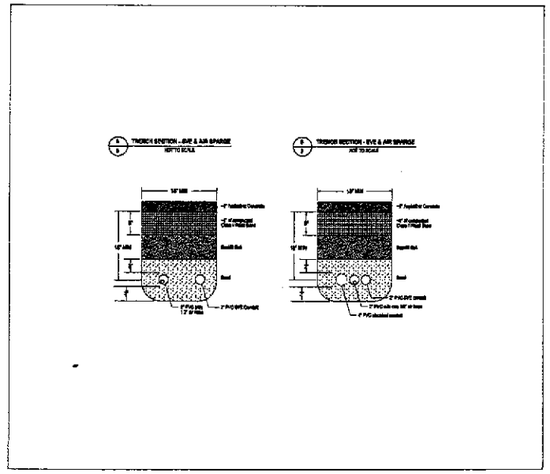
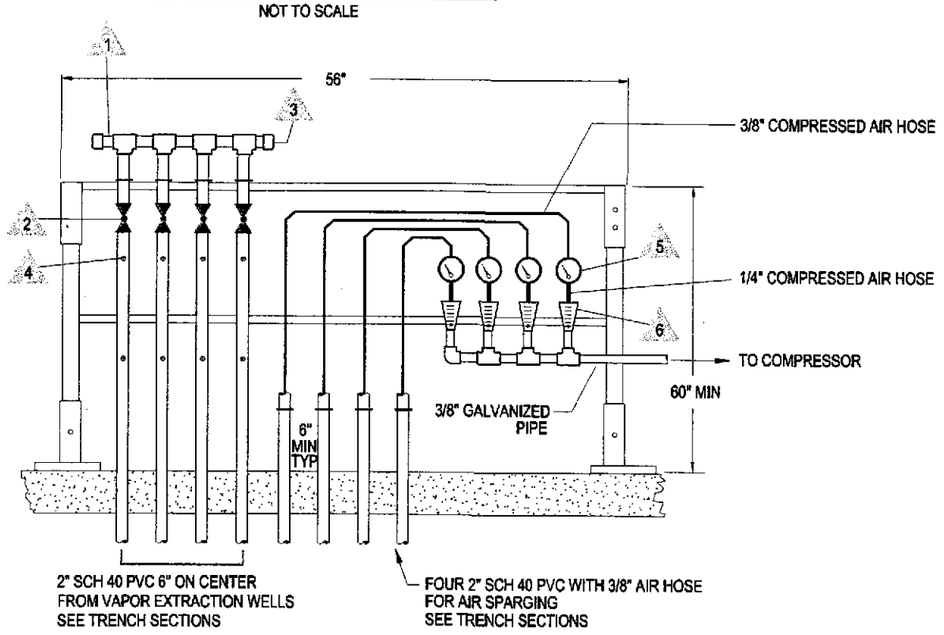


FIGURE **5**

SVE & AIR SPARGE MANIFOLD

NOT TO SCALE



TRENCH SECTION - SVE & AIR SPARGE

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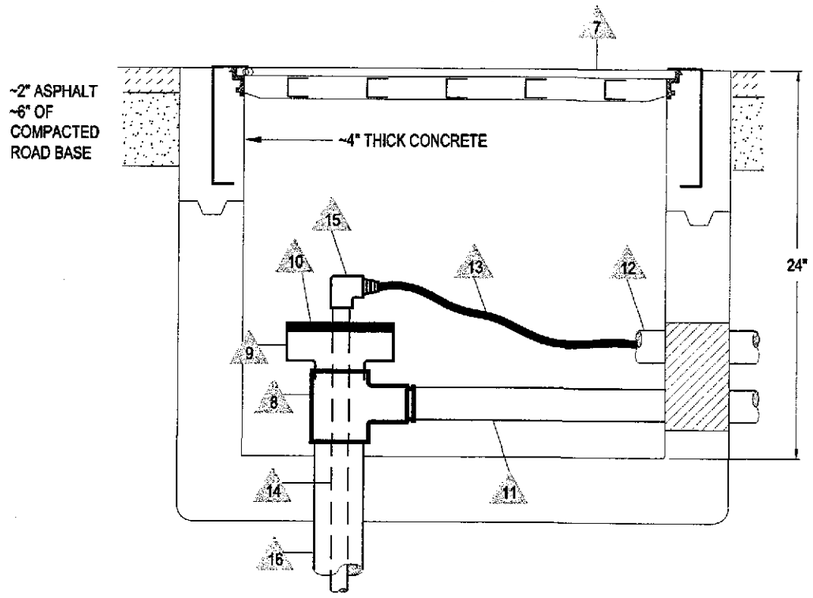

NOTES:

1. 2" DIA SCH. 40 PVC VAPOR EXTRACTION PIPING MANIFOLD
2. 2" DIA SCH. 40 PVC BALL VALVE TYPICAL OF 4
3. 2" DIA SCH. 40 SLIP CAP
4. 1/4" NPT MALE x HOSE PVC LABCOCK SAMPLE PORT - TYPICAL OF 4
5. 0-50" H2O PRESSURE GUAGE
6. 0-10 CFM FLOW METER (GRAINER STOCK NO. 4UM97 OR EQUIVALENT)
7. 24" UNIVERSAL MODEL #78-2410 TRAFFIC RATED VAULT OR EQUIVALENT
8. 3" x 3" x 2" REDUCING TEE SCH 40 PVC
9. 3" MALE SLIP TO 4" FEMALE SLIP ADAPTER
10. 4" x 1" SANITARY WELL SEAL (GRAINGER)
11. BLANK 2" DIA SCH 40 PVC SVE PIPE
12. BLANK 2" DIA SCH 40 PVC AIR SPARGE PIPE
13. 3/8" COMPRESSED AIR HOSE
14. 1" DIA SCH 40 AIR SPARGE WELL CASING
15. 1" FEMALE SLIP TO FEMALE THREAD ELBOW AND ATTACHED HOSE BARB TO FIT COMPRESSED AIR HOSE
16. 3" DIA SCH 40 VAPOR EXTRACTION WELL CASING

Borsuk Properties
1432 Harrison Street
Oakland, California

Manifold System - Soil Vapor Extraction / Air Sparge Well Piping

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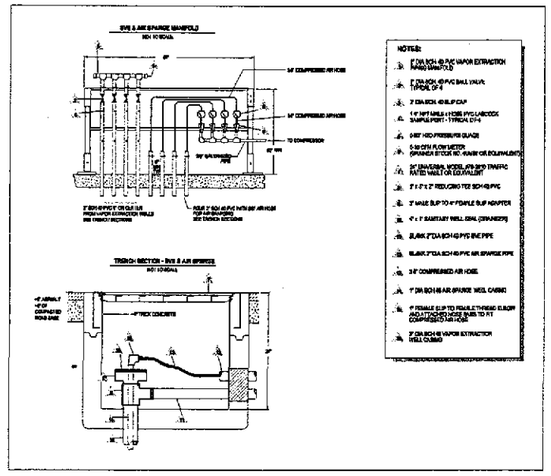

FIGURE **6**

03/02/00

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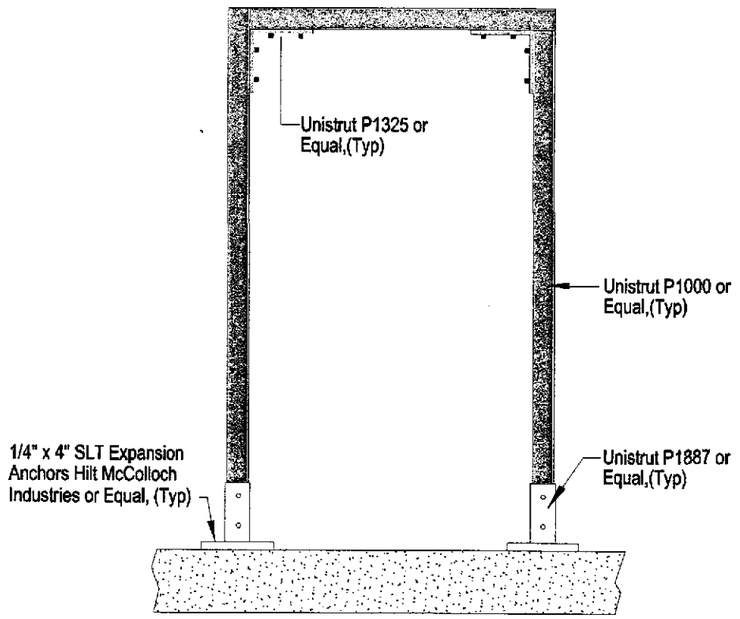
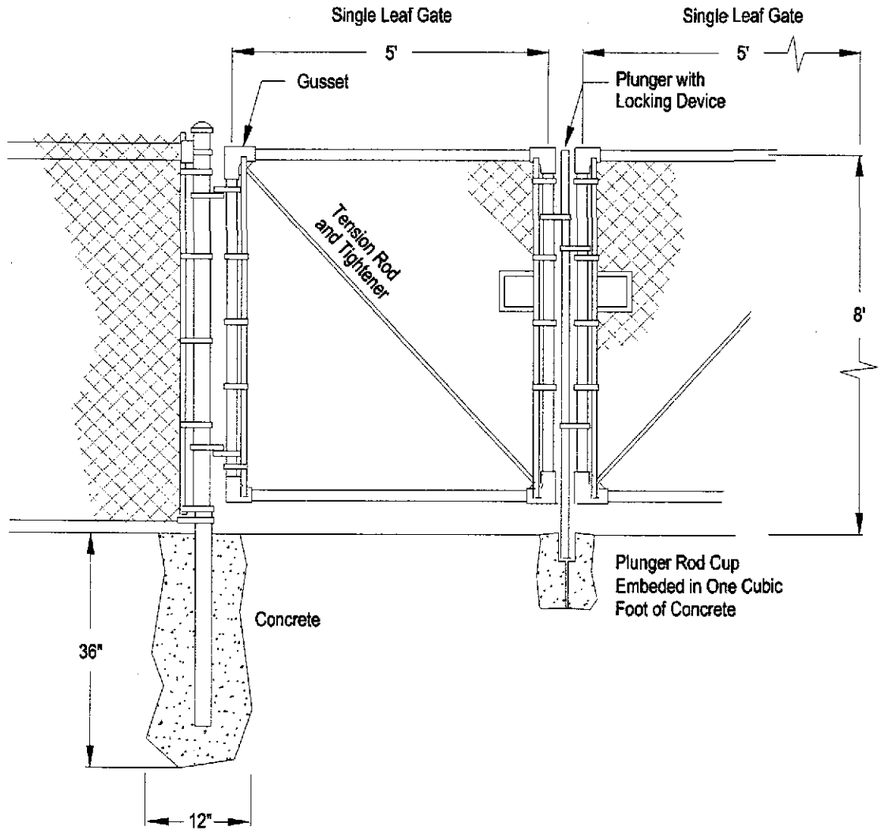
MANIFOLD SUPPORT AND ANCHORS

NOT TO SCALE



FENCE DETAIL

NOT TO SCALE



ANCHOR DETAIL

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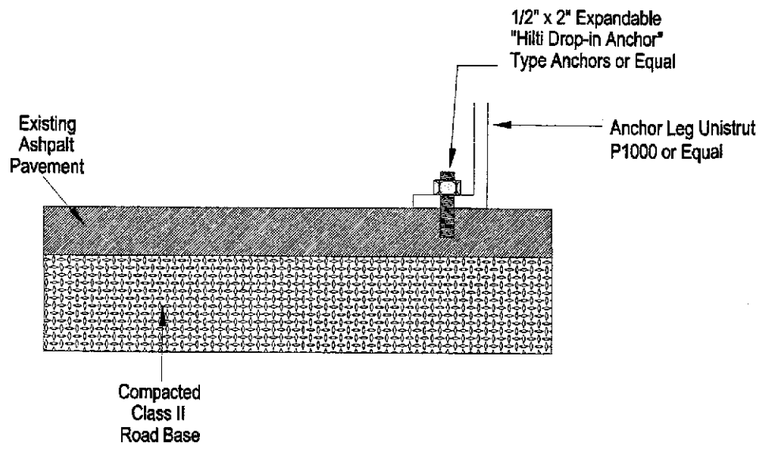

NOTES:

1. Fence Post Specifications:

Terminals:	2 7/8" OD, 5.79 lb/ft SCH 40 Steel
Line Posts:	2 3/8" OD, 2.8 lb/ft SCH 40 Steel
Top Posts:	1 5/8" SCH 40
Fence Fabric:	10 Gauge, Galvanized Steel

2. New fence post fabric shall be chain link with plastic slat inserts.

Borsuk Properties

1432 Harrison Street

Oakland, California

Manifold Support, Fence and Anchor Details

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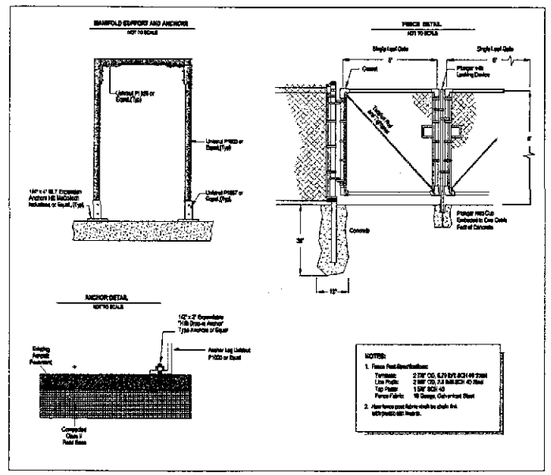

FIGURE 7

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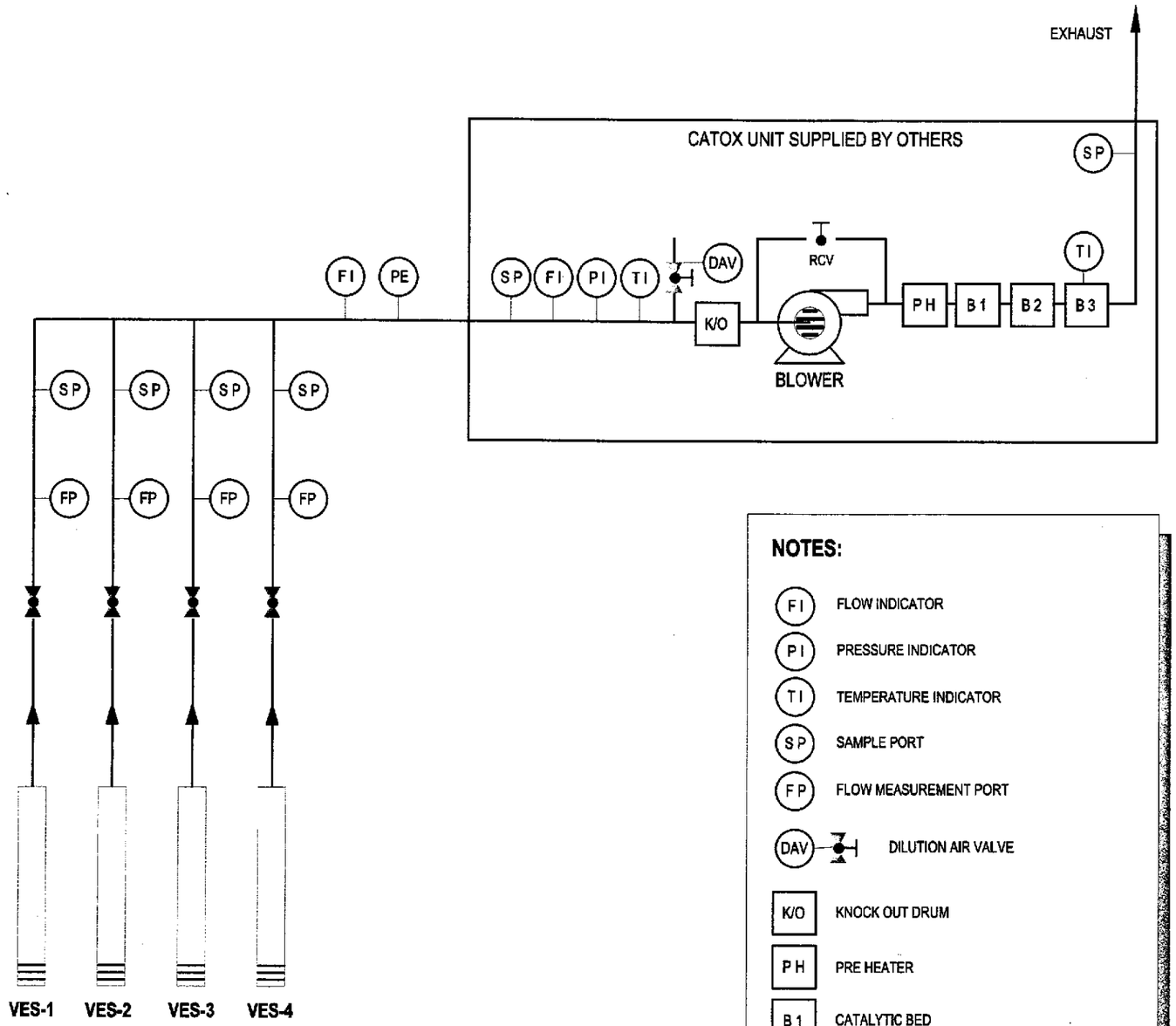

SOIL VAPOR EXTRACTION WELLS

NOTES:

- FI — FLOW INDICATOR
- PI — PRESSURE INDICATOR
- TI — TEMPERATURE INDICATOR
- SP — SAMPLE PORT
- FP — FLOW MEASUREMENT PORT
- DAV — DILUTION AIR VALVE
- K/O — KNOCK OUT DRUM
- PH — PRE HEATER
- B1 — CATALYTIC BED
- S-1 — SOIL VAPOR EXTRACTION PIPING
- BALL VALVE
- RCV — RECIRCULATION VALVE

Borsuk Properties
1432 Harrison Street
Oakland, California

SVE Process and Instrumentation Diagram

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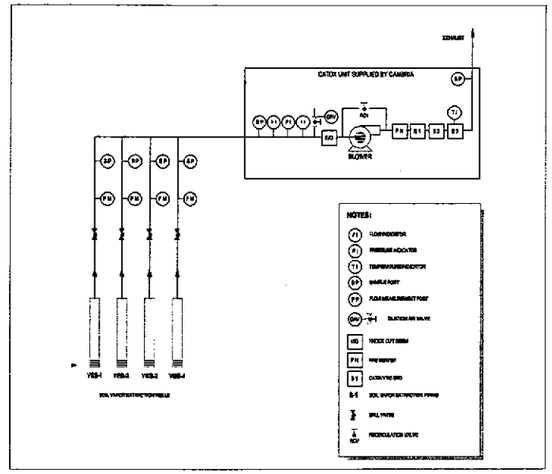

FIGURE 8

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Borsuk Properties

1432 Harrison Street
Oakland, California

Single Line Diagram

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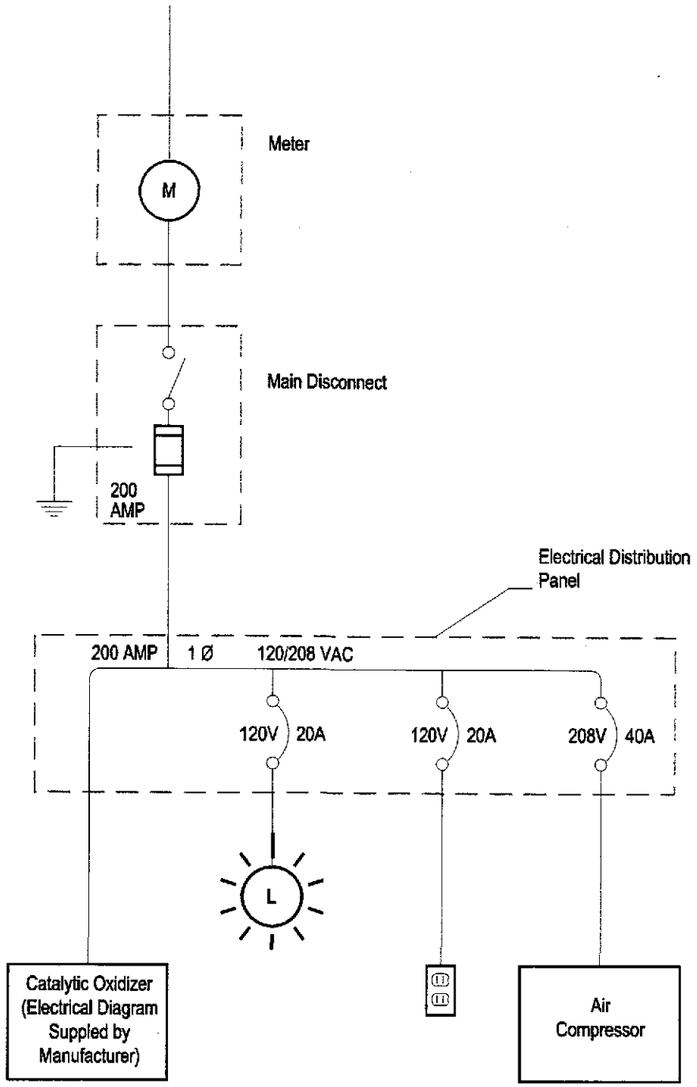

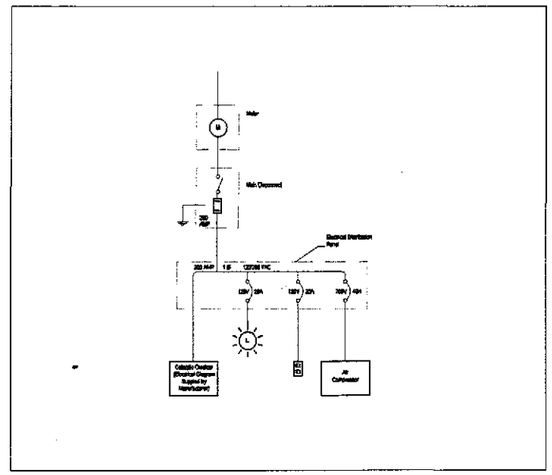

FIGURE 9

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