



**ENVIRONMENTAL
CONTROL
ASSOCIATES, INC.**

February 20, 2007

Ms. Lisa Dernbach, P.G., C.E.G., C.H.G.
California Regional Water Quality Control Board – Lahontan Region
2501 Lake Tahoe Boulevard
South Lake Tahoe, California 96150

**RE: Work Plan for Interim Remediation
William M. Lane & Lily P. Lane Trust Property
8731 North Lake Boulevard
Kings Beach, Placer County, California**

APN: 090-192-031

Dear Ms. Dernbach:

On behalf of the William M. Lane and Lily P. Lane Trust, owners of the referenced property (site), Environmental Control Associates Inc. (ECA) has prepared work plan for interim site remediation. This work plan was prepared in response to a December 22, 2006, letter from the California Regional Water Quality Control Board – Lahontan Region (RWQCB). Figure 1 shows the site location and vicinity. Figure 2 shows the site boundaries, the footprint of the existing site building, monitoring well locations, and other selected site features.

BACKGROUND

The referenced property is a narrow parcel located between North Lake Boulevard (State Highway 28) and Minnow Avenue in a commercial district of Kings Beach, California. The southern portion of the property is occupied by a two-story wood-framed building with a raised wood floor. One-story concrete block additions with concrete slab-on-grade floors are attached to the rear (northern end) of the original structure.

The referenced property currently houses Lake Tahoe Specialty Stoves & Fire, a fireplace and fireplace accessories retail store. The store interior is currently carpeted and relatively densely furnished with product displays and merchandise. Raised wood platforms have been constructed inside the building for product displays. The eastern side yard adjacent to the building is currently used for material and product storage. Two rows of industrial shelving, covered by roofing that is attached to the main building, severely limits access to the eastern side yard area. Site access is generally limited by the building footprint, by the interior configuration of the building, and by exterior material storage.

ECA understands that a laundry business operated at the referenced property. This laundry business reportedly operated dry cleaning equipment in the building; however, no information is available regarding the precise locations of dry cleaning machines and/or chemical storage areas. No floor drains, sumps, or dry wells have been identified on the property.

Geoprobe Borings, Initial Soil and Groundwater Sampling

On April 27, 2005 three exploratory soil borings were drilled and sampled using truck-mounted Geoprobe equipment. The locations of the April 27 soil borings are shown on Figure 3. Soil and groundwater samples collected from the Geoprobe borings were analyzed for volatile organic compounds, including dry cleaning solvents, using EPA Method 8260B. No target analytes were detected in the soil samples. Tetrachloroethene (also known as tetrachloroethylene, perchloroethylene, "PERC," or PCE) was detected in groundwater sample B1:GW at 6.8 micrograms per liter ($\mu\text{g/l}$), in B2:GW at 46 $\mu\text{g/l}$, and in B3:GW at 200 $\mu\text{g/l}$. Trichloroethene (also known trichloroethylene or TCE) was detected in groundwater sample B1:GW at 27 $\mu\text{g/l}$, in B2:GW at 2.5 $\mu\text{g/l}$, and in B3:GW at 21 $\mu\text{g/l}$. Cis-1,2-dichloroethene was detected in groundwater sample B1:GW at 80 $\mu\text{g/l}$, in B2:GW at 7.2 $\mu\text{g/l}$, and in B3:GW at 47 $\mu\text{g/l}$. Trans-1,2,-dichloroethene was detected in groundwater sample B1:GW at 2.5 $\mu\text{g/l}$. No other target analytes were detected in the groundwater grab samples.

Monitoring Well Installations, Groundwater Sampling, Groundwater Elevations

Monitoring wells MW-1 and MW-2 were installed on July 29, 2005, and monitoring well MW-3 was installed on August 23, 2005. Table 1 summarizes monitoring well groundwater sample analytical data collected from the site to date. Table 2 summarizes monitoring well groundwater elevation data collected from the site to date. For monitoring well MW-1, higher tetrachloroethene concentrations appear to correlate with higher groundwater elevations. For monitoring wells MW-2 and MW-3, higher tetrachloroethene concentrations correlate with lower groundwater elevations and lower tetrachloroethene concentrations correlate with higher groundwater elevations.

Since August of 2005, groundwater elevation measurements from monitoring wells MW-1, MW-2, and MW-3 have indicated apparent groundwater flow directions to the north and northwest. These north to northwesterly flow directions are counterintuitive, given the expected south-southwesterly groundwater flow direction inferred from surface topography.

Regional Water Quality Control Board Directives

In a letter dated December 29, 2005, the RWQCB directed:

- 1) Quarterly groundwater monitoring of all monitoring wells and monthly water level measurements from site monitoring wells,
- 2) Quarterly submittal of groundwater monitoring reports,
- 3) Submittal of a work plan for a soil investigation on the property to evaluate the source of contamination to groundwater and to determine if there are residual contaminants in soil that are contributing to groundwater pollution,
- 4) Submittal of a technical report containing the results of the site investigation, and
- 5) Submittal of a remedial action plan and implementation schedule.

Soil Gas Sampling, Additional Groundwater Sampling

Between September 5 and 7, 2006, ECA installed and sampled 17 soil vapor gas sampling points and collected four groundwater grab samples. Figure 4 summarizes soil gas concentration and groundwater grab sample analytical results based on the September 6 and 7, 2006, analytical data. The highest tetrachloroethene concentrations were located around soil gas probes V-2, V-3, V-4, and V-11 (Figure 4). The soil gas sample analytical data do not appear to delineate obvious tetrachloroethene "hot spots." The site's sewer lateral and the sewer main located under North Lake Boulevard did not appear to be associated with high concentrations of tetrachloroethene. Tetrachloroethene was detected in three of four groundwater grab samples at concentrations ranging from 1.1 µg/l to 82.7 µg/l. Groundwater grab sample W10 also contained 2.1 µg/l trichloroethene. These data did not indicate a significant off-site source of chlorinated solvents. Groundwater grab samples W1 and W4 appeared to delineate the northerly extent of tetrachloroethene in shallow groundwater.

Regional Water Quality Control Board Directive

In a letter dated December 22, 2006, the RWQCB directed the William M. Lane and Lily P. Lane Trust to implement interim remediation to control off-site migration of the groundwater plume. In a February 9, 2007, telephone conversation between ECA and the RWQCB, board staff agreed to consider "source removal" as an alternative to hydraulic control of the groundwater plume.

TECHNICAL CONSIDERATION AND PROPOSED REMEDIAL APPROACH

Tetrachloroethene and related compounds are observed in site monitoring wells, and in groundwater grab samples collected at the site and vicinity. Unfortunately, the nature of the solvent release and the distribution of tetrachloroethene and related compounds in the subsurface are not well characterized.

Comparison of tetrachloroethene concentrations in monitoring wells MW-2 and MW-3 with groundwater elevations in these wells show a "reverse correlation" where high tetrachloroethene concentrations are associated with low groundwater elevations and low tetrachloroethene concentrations are associated with high groundwater elevations. ECA interprets these trends as indicating that a significant mass of tetrachloroethene is present in soil below the shallow water table. Seasonally low groundwater elevations place more groundwater volume in contact with tetrachloroethene, causing an increase in dissolved tetrachloroethene concentrations. Seasonally high groundwater elevations place more groundwater volume above the tetrachloroethene-impacted soil, causing a decrease in dissolved tetrachloroethene concentrations. ECA infers from these data trends that monitoring wells MW-2 and MW-3 are relatively close to the source of tetrachloroethene contamination.

After considering the December 22, 2006, RWQCB directive, ECA considered three general approaches to interim remediation at the site: (1) groundwater extraction and treatment, (2) combined groundwater and soil vapor extraction and treatment, and (3) soil vapor extraction and treatment. Groundwater extraction and treatment, using an extraction well and submersible pump, appeared to satisfy the December 22, 2006, RWQCB directive to control off-site migration of the groundwater plume. Groundwater extraction and treatment, however, would require pumping a significant volume of groundwater from the shallow aquifer. Disposal of treated groundwater in the

sanitary sewer would entail a significant and ongoing expense. Furthermore, operating a groundwater extraction and treatment systems in the Lake Tahoe basin requires frequent maintenance, particularly if the extracted groundwater produces iron precipitate. Finally, contaminant recovery in groundwater extraction and treatment system is typically low to very low, requiring excessively long remediation periods unless additional remedial technologies are also used.

Combined groundwater and soil vapor extraction, also known as "dual-phase" extraction, could be accomplished using a high-vacuum pump and associated air/water separator. This type of system simultaneously removes groundwater and soil vapor from one or more recovery wells. Groundwater removal lowers the water table (controlling plume migration) and allows soil vapor recovery from soil strata above the water table. If impacted soil is exposed to the dual-phase vacuum, a significant mass of contamination can be removed. Dual-phase extraction would also generate a significant volume of groundwater, with associated sanitary sewer disposal costs. Since the location and depth of the inferred contaminant mass is not well characterized, it is not known if the shallow aquifer can be sufficiently dewatered to expose contaminated soil to the dual-phase vacuum. Furthermore the dual-phase system and related groundwater and soil vapor treatment equipment require a significant amount of space and would create a significant disruption to existing business operations at the site.

Soil vapor extraction and treatment, without groundwater extraction, would require a suitable recovery well connected to a regenerative blower and soil vapor treatment equipment. Since the source of groundwater contamination is inferred to be located below the water table, air sparging would be required to mobilize contaminants into the unsaturated zone where they can be removed by the extraction well. Soil vapor extraction eliminates significant costs associated with water disposal and lowers system maintenance costs. Soil vapor extraction can potentially remove significant contaminant mass, reduce the source of contamination, and improve groundwater quality. Sparge points can be installed at depths sufficient to effect mobilization of contaminants from deeper strata. Finally, soil vapor extraction and air sparging equipment can be installed in a relatively small amount of space, does not require extraordinary protection from inclement weather, and would not significantly disrupt existing business operations at the site.

Based on an evaluation of the advantages and disadvantages of groundwater extraction and treatment, dual-phase extraction and treatment, and soil vapor extraction with air sparging, ECA concludes that soil vapor extraction with air sparging is the best interim remedial technology, given the existing site conditions. The target interim remediation treatment zone is the southerly portion of the site in the vicinity of monitoring wells MW-2 and MW-3. The target treatment zone depth is 40 feet below ground surface. This treatment depth is designed to balance interim remediation system installation costs against the lack of information about the depth of soil and groundwater contamination. Air sparge well spacing will be about 15 feet and the range of air injection operating pressures is expected to be between 14 and 20 pounds per square inch (although the actual operating pressure is expected to be about 14 pounds per square inch as steady flow conditions are approached). Soil vapor extraction will be used to control and quantify volatile organic vapors mobilized by the sparge wells.

WORK PLAN FOR INTERIM REMEDIATION

Soil Vapor Extraction Unit

Soil vapor extraction (SVE) will utilize one recovery well, shown on Figure 5. With a design radius of influence conservatively estimated at 30 feet, the SVE well should provide good coverage of the area surrounding monitoring wells MW-2 and MW-3.

The proposed SVE well will be installed using a hollow stem auger drill rig. The well boring will be drilled to about 41 feet below ground surface. The planned 41-foot well depth will allow this well to have potential utility for groundwater zone sampling and/or groundwater pumping. During drilling, soil samples will be collected on a continuous basis, beginning at 20 feet, to observe soil stratigraphy (including potential low permeability confining layers), to screen soil samples for volatile organic compounds, to collect soil samples for possible laboratory analyses, and to assist in the preparation of boring logs. As required, SVE well construction permits and grouting activities will be coordinated with Placer County Environmental Health (PCEH).

A general vapor extraction well design is illustrated on Figure 6. Four-inch diameter polyvinyl chloride (PVC) well screen and casing will be installed to the total depth of the well boring. ECA anticipates installing 0.010-inch factory-slotted PVC well screen from the total depth of the boring to 16 feet below the ground surface. To maximize soil vapor flow in the upper portion of the SVE well, 0.020-inch factory-slotted PVC well screen will be installed from 16 to 6 feet below ground surface. The annular space adjacent to the well screen will be backfilled with an appropriately graded sand pack, followed by a 2-foot (minimum) interval of hydrated bentonite pellets, and then sealed with neat cement to within about 24 inches of the ground surface. The vapor extraction wellhead will be constructed with a threaded access cap or plug for possible groundwater elevation measurements and/or groundwater sampling. Additional wellhead piping may be installed to accommodate possible groundwater pumping. The SVE well will be housed in traffic-rated vault box.

Airflow from the SVE well will be conveyed using 4-inch diameter Schedule 40 PVC piping, installed below grade. The vacuum supply header will be connected to an air/water separator placed near the inlet of the regenerative blower. ECA anticipates a typical flow of about 100 standard cubic feet per minute (scfm) at a vacuum pressure of about 30 to 50 inches of water, depending on seasonal groundwater elevations.

Soil Vapor Treatment Unit

Extracted soil vapor will be routed through an air/liquid separator, a particulate filter, the regenerative blower, and then two or three series-connected vessels, each containing 200 pounds of granular activated carbon specified for vapor phase use. Dilution air will be added to the influent soil vapor, if necessary to reduce blower loads. After treatment, the soil vapor stream will be discharged to the atmosphere under permit from the Placer County Air Pollution Control District.

Air Injection Unit

The air sparging network will consist of three sparge points to be installed at the locations shown on Figure 5. The sparge point spacing shown on Figure 5 was based on a conservative spacing of 15 feet.

A general sparge point design is illustrated on Figure 7. The proposed sparge points will be installed using a drill rig equipped with 6-inch diameter hollow-stem augers. The sparge point borings will be drilled to about 41 feet below ground surface. This depth was selected to provide a reasonable vertical influence, given the lack of available information of the distribution of tetrachloroethene contamination.

Each sparge point will consist of a porous ceramic block measuring 1-inch by 1-inch by 12-inches long. The ceramic block will be threaded to 1-inch diameter Schedule 40 PVC riser pipe that extends to the ground surface. Two feet of fine-grained "sugar sand" will be placed adjacent to the ceramic block, followed by a 3-foot (minimum) interval of hydrated bentonite pellets, followed with neat cement, placed using the tremie method, to within about 24 inches of the ground surface. The sparge points will be housed in traffic-rated vault boxes. As required, sparge point construction permits and grouting activities will be coordinated with PCEH.

Air will be conveyed to the sparge points using 1-inch diameter Schedule 80 PVC specified to contain compressed air. Filtered air will be supplied by a compressors capable of delivering a total of at least 20 scfm at an operating pressure of about 14 pounds per square inch.

Compressed air will be cycled to one sparge point at a time using solenoid valves set for a 2-hour cycle. Cycling of sparge air, also known as pulsed operation, helps to control air flow to each sparge well, more efficiently utilizes compressor output, and has been shown to improve remediation system performance.

Equipment Location

Remediation equipment will be installed on existing storage shelving located on the east side of the existing building. An electrical power distribution and control panel will be mounted adjacent to the remediation equipment. The proposed equipment layout is shown on Figure 8.

Electrical Power Distribution and Control Unit

Electrical power to drive the blower, compressor, and energize control circuitry will be acquired from a new electrical service to be located adjacent to the remediation equipment. Three-phase 120/208-volt alternating current will be used. A weather-tight panel will house the power distribution and control circuitry. Panel lights will be used to indicate equipment activity. Electrical components and wiring will be installed according to National Electrical Code specifications.

Waste Disposal

Soil cuttings from the VES well and sparge point borings will be stored on-site until analyses are completed. These materials will be properly disposed after adequate waste characterization has been completed.

TREATMENT SYSTEM OPERATION

Treatment system operation includes the following tasks: maintenance, process compliance and performance monitoring, and process sampling. Quality assurance and control (QA/QC) protocols

are used to ensure tasks are completed properly and that data are representative. Operation tasks and associated QA/QC protocols are discussed in the following sections.

Maintenance

Maintenance of the treatment system will entail visual inspection of each of the operating units describes above, carbon vessel change-outs, and control circuitry checks. These tasks are detailed below:

- **Visual System Inspection:** According to a routine maintenance schedule, a qualified technician will inspect the system noting general appearance and the condition of exposed piping joints, piping and hose, valves, and equipment. The technician will use an inspection log to guide the inspection process and document the inspection. The air/liquid separator will also be inspected and accumulated water will be drained, stored, and properly disposed, if necessary. Visual inspection points will be listed on the log and the technician will be required to note conditions in the system logbook. The project manager will be immediately notified of any system problems or malfunctions.
- **Carbon Vessel Change-Out:** For the soil vapor treatment unit, compliance sampling data will be used to ascertain when breakthrough occurs at the secondary carbon (indicating that the primary and secondary carbon vessels are spent). The carbon supplier will replace spent carbon in the former primary and secondary vessels with fresh carbon. Spent carbon will be transported under the appropriate documentation (e.g., waste manifest) and will be reactivated by the carbon supplier.
- **Control Circuitry Checks:** System control circuitry will be checked at least once per month and any irregularities will be noted in the system logbook. The project manager will be immediately notified of any control circuitry problems or malfunctions.

In addition to the routine tasks described above, system failure may require troubleshooting and repair. In such instances, and with the goal of keeping the system operational, a technician will troubleshoot the system, make repairs as necessary, and initiate normal system operation. This activity will take place as soon as possible and all work will be documented in the system logbook.

Process Compliance and Performance Monitoring

Process compliance will entail meeting discharge limitations for treated soil vapor discharge. This will require sampling the soil vapor treatment unit to monitor breakthrough and assure that petroleum hydrocarbons are not being discharged to the environment. Pending receipt of permit conditions, ECA anticipates collecting soil vapor influent, midfluent, and effluent samples on a weekly basis for the first month of VES operation. ECA anticipates collecting soil vapor influent, midfluent, and effluent samples on a monthly basis after the first month of VES operation.

Vapor samples will be collected in 1-liter Tedlar bags and will be shipped overnight to a California State-certified laboratory for analyses. Vapor samples will be analyzed for volatile organic compounds using Environmental Protection Agency (EPA) Method 8260B.

The objective of performance monitoring is to ensure that remediation systems are operating correctly and effectively. Operating parameters used to evaluate performance are: vacuum pressure, sparge pressure, flow rates, activated carbon unit pressures, total volume of soil vapor treated, and activated carbon unit effluent quality. Performance monitoring will be performed on a weekly basis until performance trends are established that allow for less frequent monitoring. All performance activities and measurements will be documented in the system logbook. The project manager will be immediately notified of any system problems or malfunctions. If data reveal inconsistencies or discrepancies, appropriate measures will be taken to explain the deviation or remedy the cause of the deviation.

A performance summary will be included in the quarterly groundwater monitoring report for the site. Where applicable, data will be tabulated or presented in figures.

SCHEDULE

ECA anticipates the following schedule for implementation of this remediation work plan:

- February 20, 2007: Submittal of Remediation Work Plan to RWQCB.
- March 23, 2007: RWQCB issues work plan approval letter (assumes minor modifications by RWQCB).
- April 1, 2007: Apply to discharge permit from Placer County Air Pollution Control District.
- May 1, 2007: VES well and sparge points installed.
- June 1, 2007: Underground piping installed.
- June 1, 2007: Electrical Service Installed
- June 15, 2007: Remediation system construction completed.
- July 2, 2007: Remediation system startup.
- August 1, 2007: Submittal of remediation system installation report to RWQCB.

If you have any questions or require additional information, please contact ECA.

Sincerely,

Environmental Control Associates, Inc.



Tim Tyler
Project Manager



Peter J. Castro, C.E.G. #1993
Project Geologist

Attachments: Table 1 – Summary of Groundwater Analytical Data
Table 2 – Summary of Groundwater Elevation Measurements
Figure 1 – Vicinity Map
Figure 2 – Site Map
Figure 3 – April 27, 2005 Soil Borings
Figure 4 – Sample Location Map
Figure 5 – Proposed Extraction and Sparge Well Locations
Figure 6 – Extraction Well Construction Diagram



Figure 7 – Sparge Point Construction Diagram
Figure 8 – Proposed SVE/AS Equipment Layout

cc: Mr. Bruce Lane, William Lane Trust
Mr. John Reid, PCEH

Table 1. Summary of Groundwater Analytical Results
 William M. Lane & Lily P. Lane Trust Property
 8731 North Lake Boulevard
 Kings Beach, California

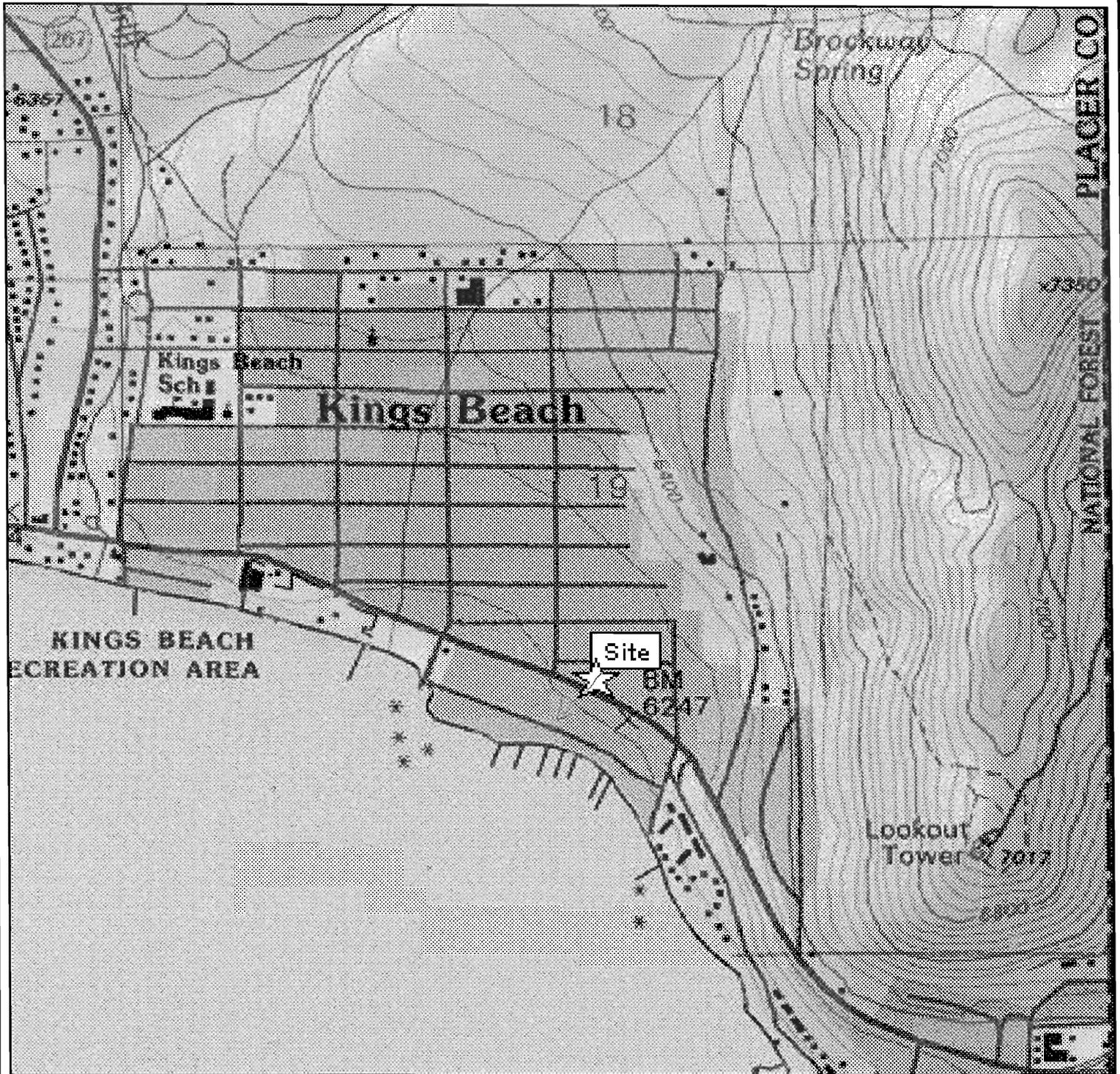
Well Number	Sample Date	Tetrachloroethene	1,1,1,2-Tetrachloroethane	Trichloroethene	trans-1,2-Dichloroethene	cis-1,2-Dichloroethene
MW-1	9/1/05	21.1	<0.5	<0.5	<0.5	<0.5
	1/17/06	17.2	<0.5	0.5	<0.5	<0.5
	4/27/06	877	<0.5	4.5	<0.5	5.6
	7/31/06	755	<10.0	<10.0	<10.0	<10.0
	10/11/06	553	<10.0	<10.0	<10.0	<10.0
	1/25/07	14.4	<0.5	<0.5	<0.5	<0.5
MW-2	9/1/05	8,490	6.2	14.3	1.0	34.3
	1/17/06	159	<0.5	4.1	0.7	20.8
	4/27/06	20.4	<1.0	7.8	<1.0	35.6
	7/31/06	2,360	<1.0	7.9	1.6	37.5
	10/11/06	6,680	1.7	7.7	<0.5	7.8
	1/25/07	7,270	<50.0	<50.0	<50.0	<50.0
MW-3	9/1/05	4,190	<0.5	4.2	<0.5	4.9
	1/17/06	40.8	<0.5	1.0	<0.5	0.9
	4/27/06	172	<5.0	17.7	<5.0	68.5
	7/31/06	922	<0.5	2.9	<0.5	8.4
	10/11/06	1,270	<10.0	<10.0	<10.0	<10.0
	1/25/07	1,280	<10.0	<10.0	<10.0	13.4
California Maximum Contaminant Level		5	--	5	10	6

All concentrations are in micrograms per liter.
 Concentrations in bold exceed California maximum contaminant level.

**Table 2. Summary of Groundwater Elevation Measurements
William M. Lane & Lily P. Lane Trust Property
8731 North Lake Boulevard
Kings Beach, California**

Well Number	Date Measured	Measuring Point Elevation	Depth to Water (Feet below measuring point)	Groundwater Elevation (Arbitrary Datum)
MW-1	8/30/05	6250.96	19.90	6231.06
	9/1/05		19.88	6231.08
	1/17/06		16.44	6234.52
	2/8/06		15.34	6235.62
	3/28/06		13.79	6237.17
	4/27/06		12.89	6238.07
	7/31/06		16.72	6234.24
	10/11/06		18.90	6232.06
	1/25/07		20.04	6230.92
MW-2	8/30/05	6247.45	14.03	6233.42
	9/1/05		14.05	6233.40
	1/17/06		6.63	6240.82
	2/8/06		6.24	6241.21
	3/28/06		5.23	6242.22
	4/27/06		4.72	6242.73
	7/31/06		11.48	6235.97
	10/11/06		14.28	6233.17
	1/25/07		15.35	6232.10
MW-3	8/30/05	6248.00	14.41	6233.59
	9/1/05		14.65	6233.35
	1/17/06		4.50	6243.50
	2/8/06		5.93	6242.07
	3/28/06		5.02	6242.98
	4/27/06		4.38	6243.62
	7/31/06		11.78	6236.22
	10/11/06		14.67	6233.33
	1/25/07		16.07	6231.93

Well elevations were referenced to NAVD88 datum on 10-3-05. Well elevation measurements reported by Auerbach Engineering Corporation, October 14, 2005, 1158XTOPO.DWG



TN  /MN
15°



Map created with TOPO!® ©2003 National Geographic (www.nationalgeographic.com)

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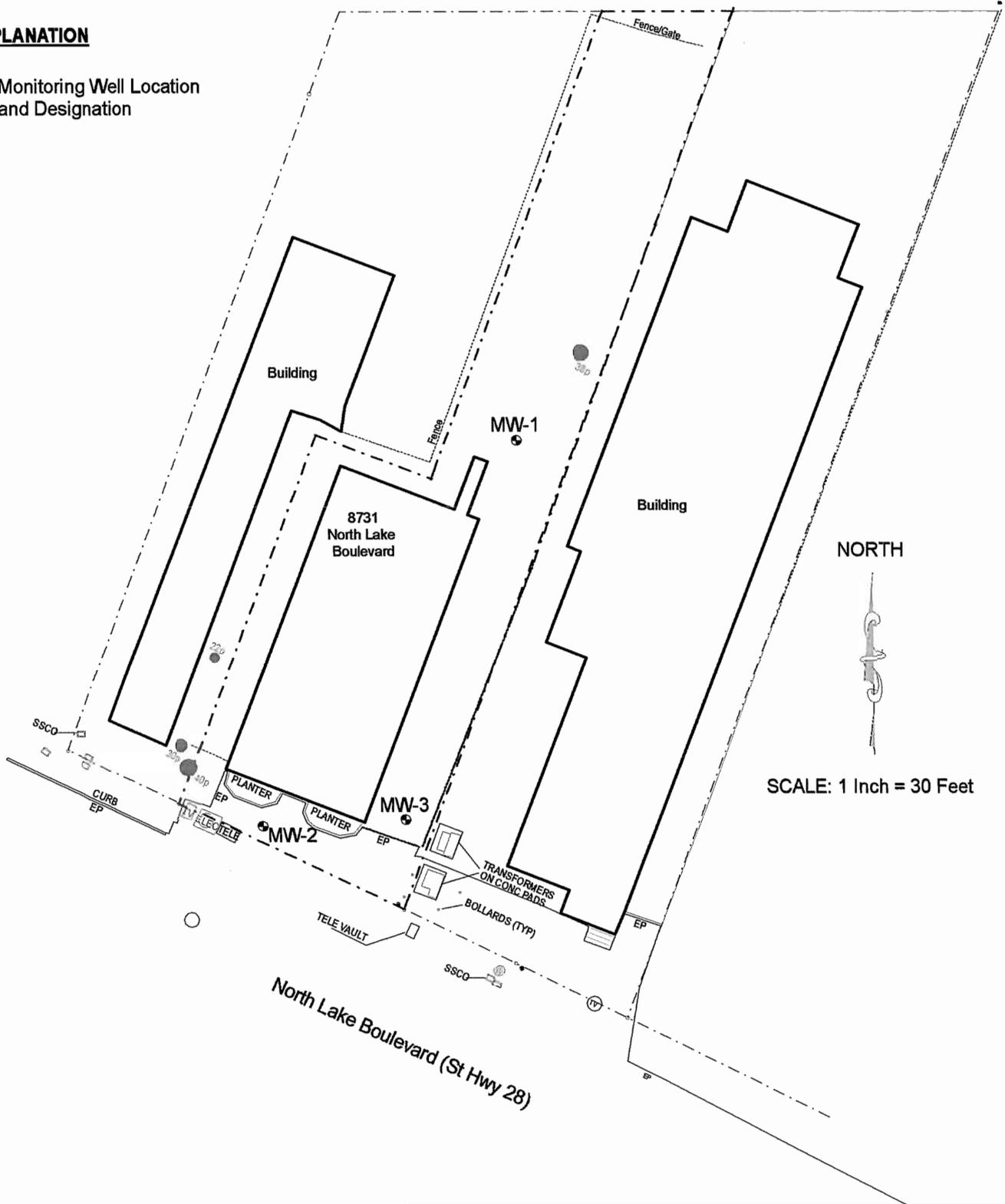
P.O. Box 52, Tahoe City, California 96145
(530) 581-0380 (530) 581-0389 FAX

Figure 1. Vicinity Map
8731 North Lake Boulevard
Kings Beach, Placer County, California

Minnow Avenue

EXPLANATION

MW-1
● Monitoring Well Location and Designation



NORTH

SCALE: 1 Inch = 30 Feet

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Figure 2. Site Map
William M. Lane & Lily P. Lane Trust Property
8731 North Lake Boulevard
Kings Beach, California

**Former Laundry
8731 North Lake Boulevard**

Storage Area

○ **B-3**
(Soil Boring)

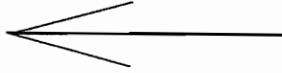
Gate Entrance



○ **B-1**
(Soil Boring)

○ **B-2**
(Soil Boring)

NORTH



**APPROXIMATE SCALE
1 INCH = 5 FEET**

EDGE OF ROADWAY (approx.)

NORTH LAKE BOULEVARD

Figure 3.

April 27, 2005 Soil Borings
Former Laundry
8731 North Lake Boulevard,
Kings Beach, California

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(530) 581-0380 (530) 581-0389 (Fax)

EXPLANATION

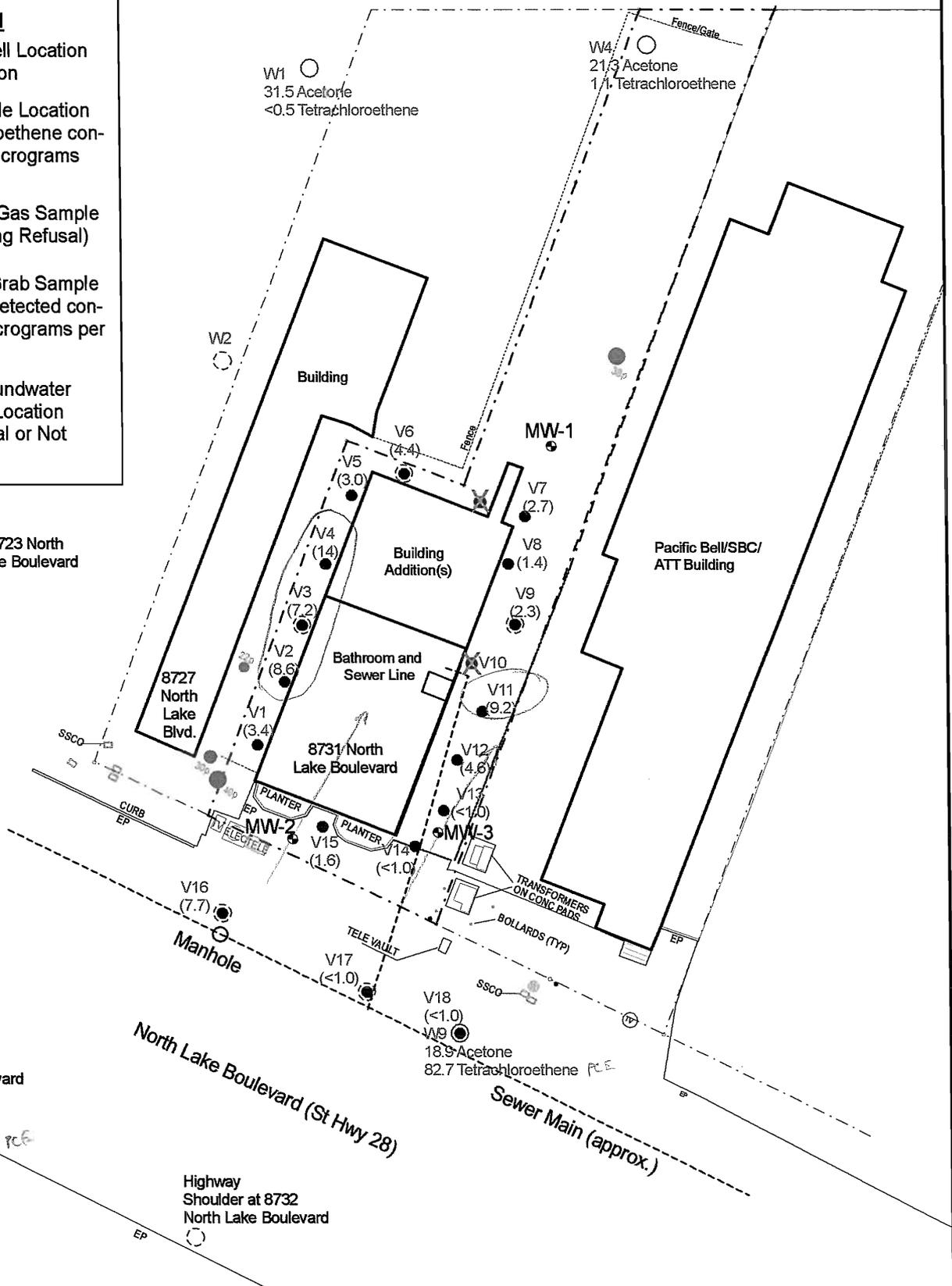
- MW-1 ● Monitoring Well Location and Designation
- V6 (4.4) ● Soil Gas Sample Location with Tetrachloroethene concentration in micrograms per liter
- ✕ Proposed Soil Gas Sample Location (Drilling Refusal)
- Groundwater Grab Sample Location with detected constituents, in micrograms per liter, indicated
- Proposed Groundwater Grab Sample Location (Drilling Refusal or Not Attempted)

NORTH



8723 North Lake Boulevard

SCALE: 1 Inch = 30 Feet



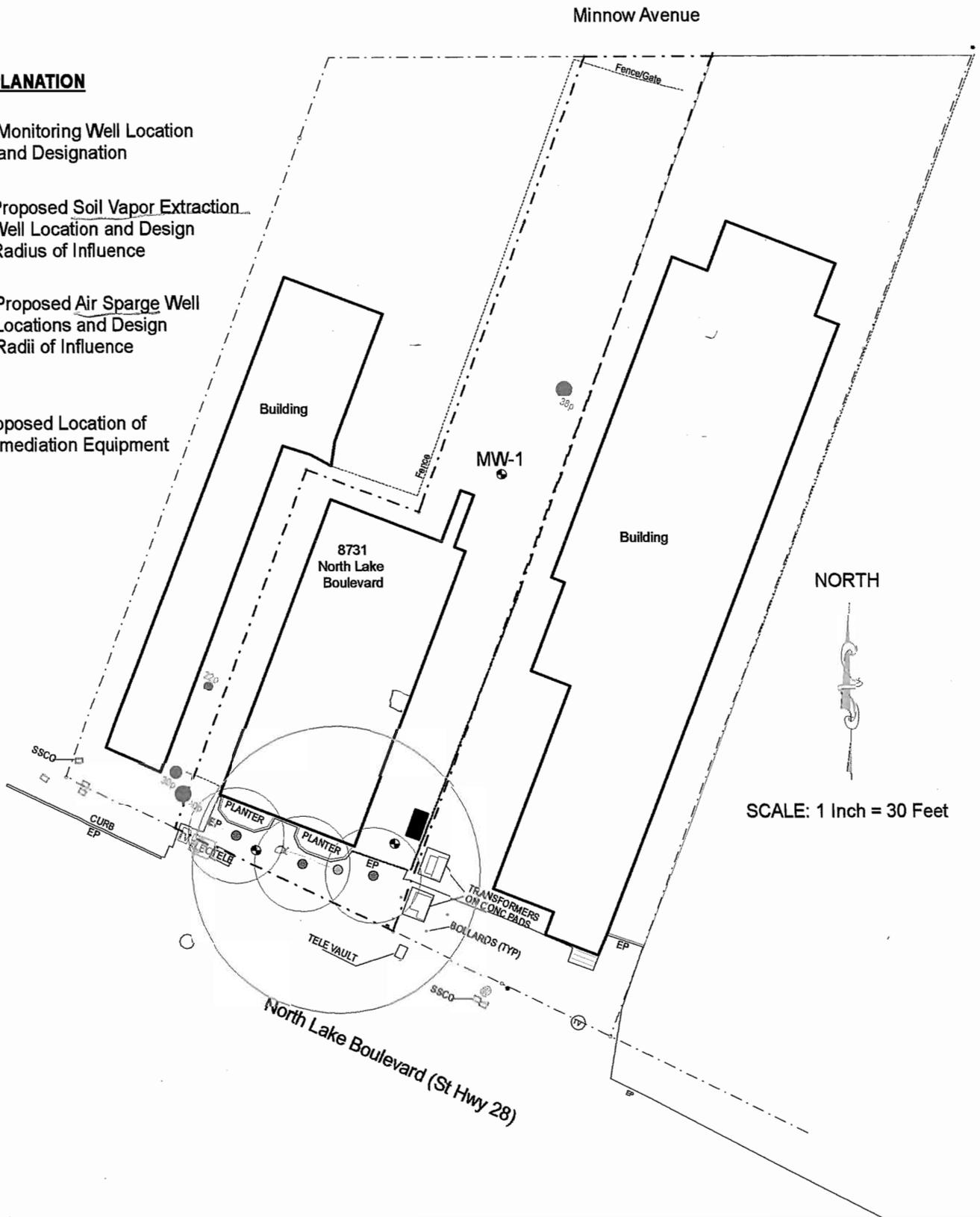
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Figure 4. Sample Location Map
William M. Lane & Lily P. Lane Trust Property
8731 North Lake Boulevard
Kings Beach, California

EXPLANATION

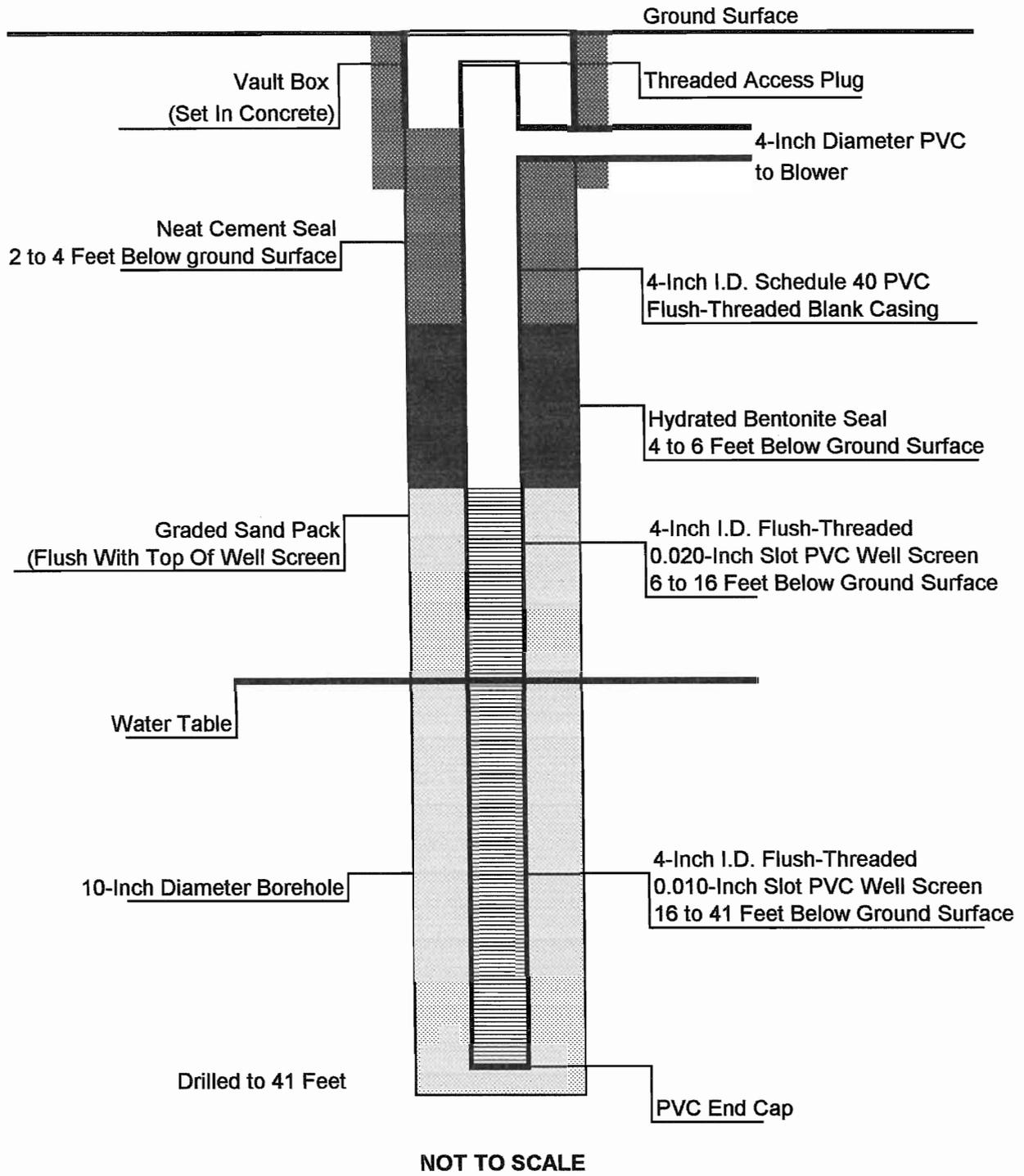
- MW-1  Monitoring Well Location and Designation
-  Proposed Soil Vapor Extraction Well Location and Design Radius of Influence
-  Proposed Air Sparge Well Locations and Design Radii of Influence
-  Proposed Location of Remediation Equipment



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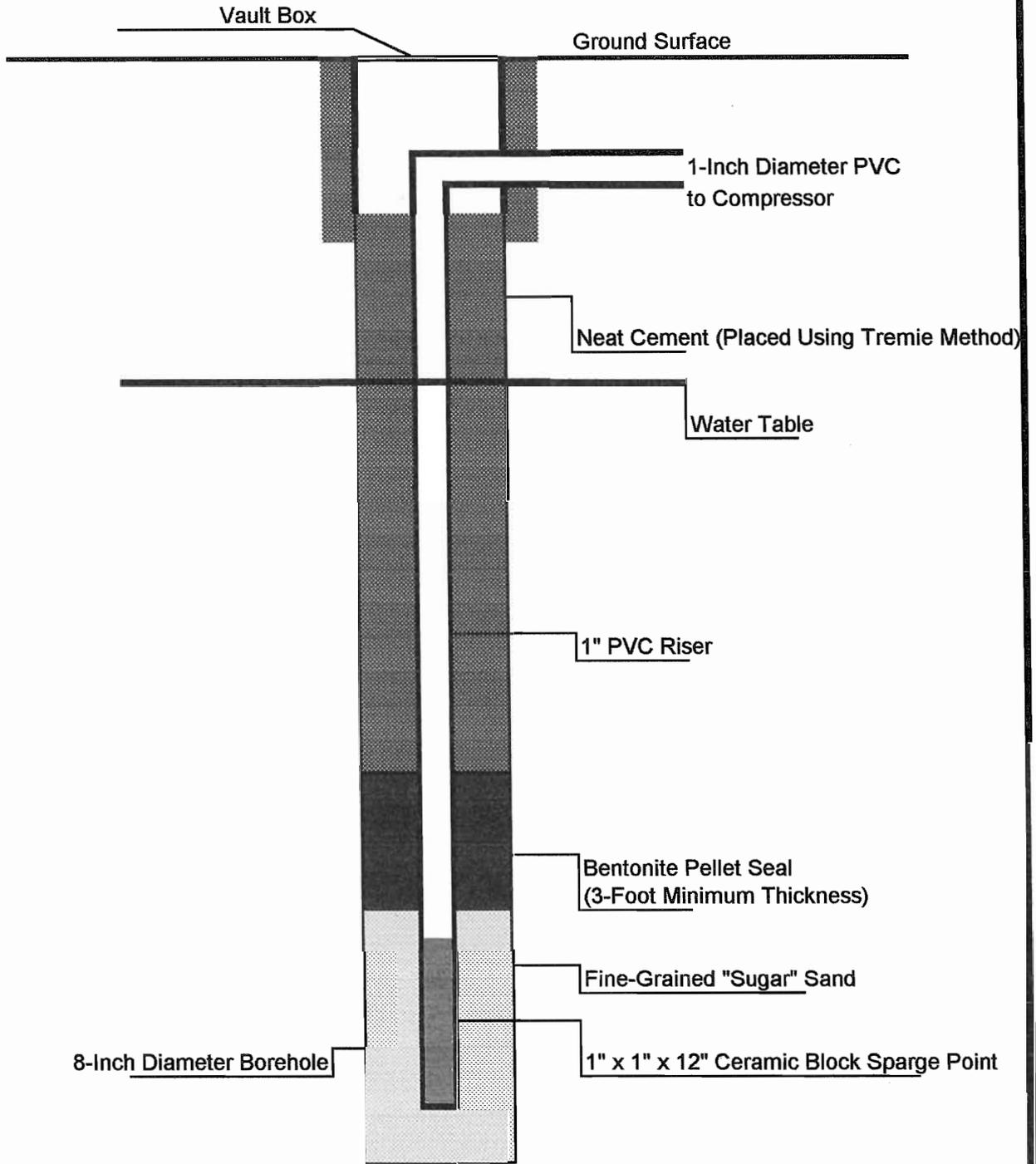
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Figure 5. Proposed Extraction and Sparge Well Locations
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Figure 6. Extraction Well Construction Diagram
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Kings Beach, Placer County, California

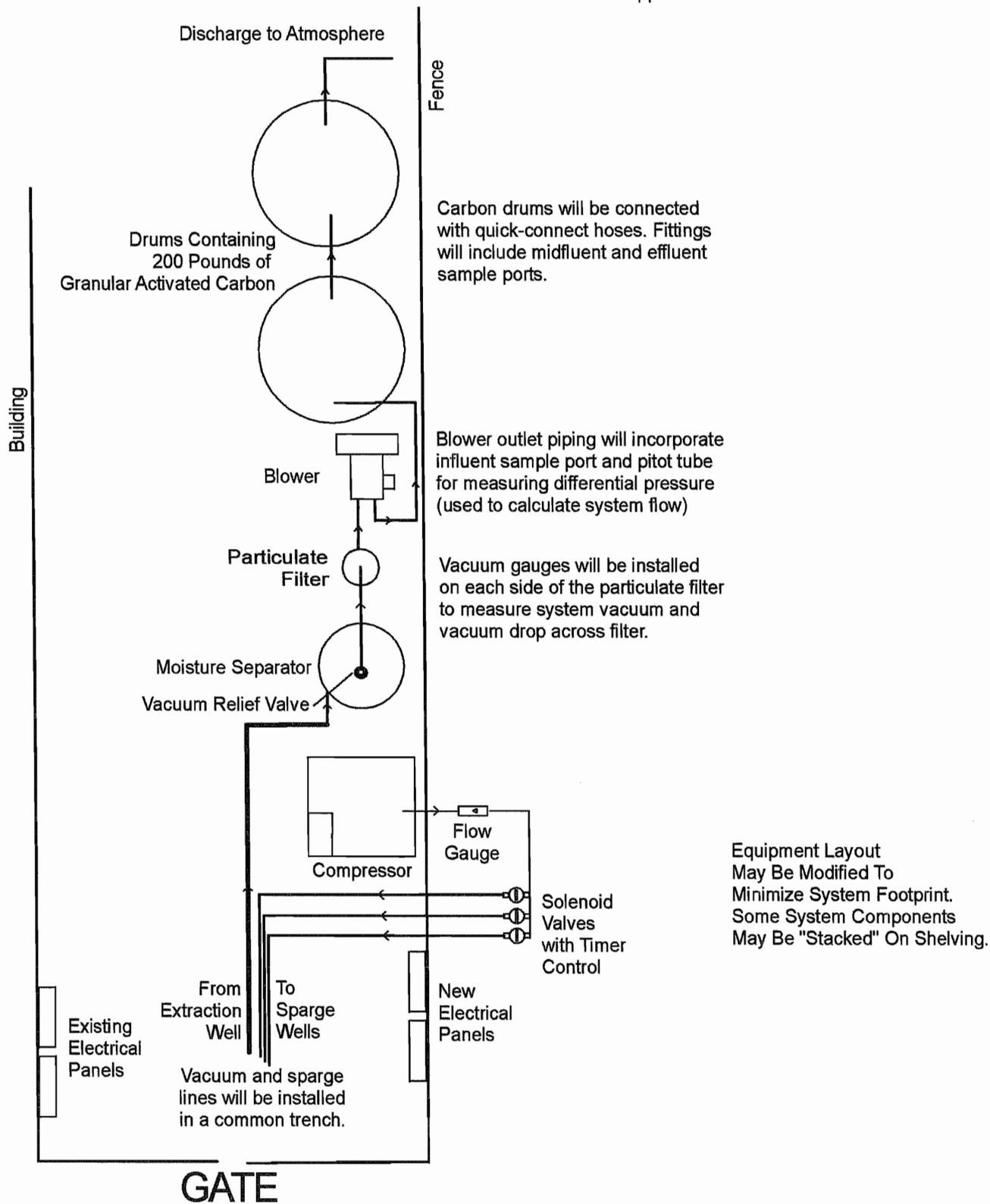


NOT TO SCALE

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Figure 7. Sparge Point Construction Diagram
William M. Lane & Lily P. Lane Trust Property
8731 North Lake Boulevard
Kings Beach, Placer County, California

Approximate Scale: 1 Inch = 3 Feet



ENVIRONMENTAL CONTROL ASSOCIATES, INC.

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Figure 8 Proposed SVE/AS Equipment Layout
William M. Lane & Lily P. Lane Trust Property
8731 North Lake Boulevard
Kings Beach, Placer County, California