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The Commonwealth of Massachusetts

Executive Office of Environmental Affairs

Department of Environmental Quality Engineering

One Winter Street, Boston 02108

ANTHONY D. CORTESE, Sc. D.
Commissioner

OFFICE OF GENERAL COUNSEL, 9TH FLOOR, TELEPHONE 292-5568

June 16, 1982

Paul B. Galvani, Esq.
Ropes & Gray
225 Franklin Street
Boston, Massachusetts 02110

Superfund Record Number
SITE: Aerovox
BREAK: 10.3
OTHER: _____

Dear Paul:

Thank you for returning the signed Consent Agreement.
We will consider June 3, 1982 to be the effective date.

Sincerely,

Willard R. Pope
General Counsel

WRP/kas

1. Aerovox admits that it is a Massachusetts corporation organized in October, 1978, which owns property located at 760 Belleville Avenue, New Bedford, Massachusetts, and operates a factory thereon; and

2. For the purposes of this Order only, Aerovox admits that DEQE has jurisdiction to issue the Order under G. L. c. 21, and c. 21C.

Aerovox specifically denies that there is an violation of the Clean Waters Act and the Hazardous Waste Management Act arising from PCBs on Aerovox property. This Consent Order shall be issued without trial or final adjudication on the issue of endangerment or any other issue of fact or law, and Aerovox retains its right to contest allegations concerning endangerments in any other proceeding brought by DEQE or any other person.

It is further agreed between DEQE and Aerovox that implementation of all the measures called for in this Order, including implementation of an approved course of remedial action, shall constitute a full and final disposition of this proceeding and any proceeding which could have been based on the June 18, 1981, inspection. However, as provided in the Order, in the event of final disapproval of the recommended course of remedial action, DEQE retains the right to seek or require further action under relevant provisions of law, and Aerovox retains the right to raise any and all defenses, including the right to deny the jurisdiction admitted for the purposes of this Order, in any proceedings or actions brought by DEQE or any other persons.

This Order shall apply only to that portion of Aerovox' property lying to the west of the seawall separating the factory grounds from the waters of the Acushnet River estuary (see Appendix A). Aerovox does not concede any obligations, waive any defenses, or make any admissions with respect to the Acushnet River, New Bedford Harbor, or the conduct of the prior owners of the Aerovox property. DEQE retains all rights to seek or require appropriate action in such locations, pursuant to DEQE's authority under any relevant provision of law. DEQE also retains all rights against third parties which may arise out of the facts on which this Order is based.

Aerovox and DEQE shall use their best efforts in good faith to coordinate the actions required to be taken under this Order with the actions to be taken under the Order issued by EPA to Aerovox. Should any conflict arise between EPA and DEQE regarding the approval of actions under this Order and the agreement and Order entered into between EPA and Aerovox, then the EPA determination regarding such approval shall prevail.

DEQE and Aerovox shall make all reasonable efforts to coordinate all actions taken under this Order with other government agencies. Such coordination shall include provisions of notice and duplicate samples, upon request.

ORDER

Based on the foregoing, IT IS HEREBY ORDERED:

I. General Conditions

1. Designation of Coordinators

Within thirty (30) days of issuance of this Order, Aerovox shall designate a coordinator, who shall be responsible for

administration of studies called for by this Order, and shall submit the coordinator's name to DEQE. DEQE shall at the same time designate a coordinator for administration of its responsibilities and receipt of all written matter required by this Order.

2. Prior Approval; Emergency Action

Aerovox shall refrain from taking any action to abate the pollution which is the subject matter of this Order unless such action has been approved by DEQE, provided, however, first, that abatement efforts begun before the issuance of this Order may continue pending review and approval by DEQE, and second, that Aerovox may, if necessary, take reasonable measures to contain PCB materials if sudden or unexpected events have made prior consultation infeasible, under which circumstances Aerovox shall notify and consult with DEQE as soon as reasonably possible.

3. Independent Consultants

All proposals, studies, and reports required by this Order to be submitted by Aerovox shall be prepared by an independent consultant or consultants, retained by Aerovox for the purpose of this Order.

4. Advance Notice and Split Samples

Aerovox shall provide notice to DEQE of any excavating, drilling, or sampling to be conducted pursuant to this Order at least five (5) working days in advance of the date of such excavating, drilling, or sampling, and Aerovox shall provide to DEQE

upon prior request and to the extent feasible, a split of any sample taken pursuant to this Order. Aerovox and DEQE and their respective consultants shall cooperate with each other, and each will provide to the other on request any relevant information (except for information exempt from disclosure) in its possession regarding the actions called for by this Order.

II. Sampling and Analysis

Upon issuance of this Order, Aerovox shall implement the approved sampling and analysis program attached to this Order as Appendix A. Aerovox shall complete the sampling and analysis program within ninety (90) days of receipt of the Order, according to the schedule included. At any time in the course of implementation, Aerovox or its consultants may confer with DEQE concerning the program. At the conclusion of program, Aerovox shall submit the results in writing to DEQE.

III. Evaluation of Alternative Responses

1. Within ninety (90) days after submission of the results of the sampling and analysis program, Aerovox shall submit to DEQE an evaluation of alternative responses which shall be based on the results of the sampling and analysis program. The evaluation shall assess the relative costs and benefits of alternative courses of remedial action, including, but not limited to, paving of the contaminated area, excavation and removal of contaminated material, and no action.

The evaluation shall include:

- i. an engineering analysis of each remedial course of action evaluated;
- ii. estimated costs and schedules for completion for each remedial course of action evaluated;
- iii. post-cleanup monitoring and maintenance measures for each course of action evaluated;
- iv. measures for provision of recorded notice to subsequent owners and operators of Aerovox' property and facilities of any measures taken for long term containment of PCBs on the property, and any related maintenance or monitoring required to assure continued implementation of such measures.

2. Recommendation

The evaluation shall include a recommendation from among the alternative courses of action evaluated.

3. Opportunity to Confer; Delays in Completion

At any time prior to approval of the evaluation, Aerovox and its consultants may confer with DEQE respecting the evaluation. Aerovox shall inform DEQE concerning any delays in completion of the study and inform DEQE of the causes of such delays.

IV. Approval and implementation of Recommended Course of Action

If DEQE approves the course of action recommended in the evaluation, it shall so notify Aerovox in writing. Aerovox shall thereupon implement the recommended course of action within the approved schedule.

1. Opportunity to Confer; Modification

At any time in the course of implementation Aerovox or its consultants may confer with DEQE concerning the program.

Aerovox may request DEQE approval of a modification, based on new information or changed circumstances of the measures and procedures previously approved. Such a request shall be implemented upon its approval; DEQE shall provide approval or disapproval of requested modifications in writing for substantive modifications.

2. Progress Reports

While carrying out the approved course of action, Aerovox shall notify DEQE of any failure to meet any date in the approved schedule, and of any other significant delays. In the event that the approved course of action takes longer than six months to complete, Aerovox shall report on its progress at the end of six months, and quarterly thereafter.

The report shall include a statement of the causes of such delays, the date by which the delayed elements of the study will be completed, and the effect on Aerovox' ability to meet the remaining schedule for completion.

3. Procedure in the Event of Disapproval

In the event that DEQE does not approve the recommended course of action, or part thereof, as submitted by Aerovox, the disapproval shall be in writing, shall state reasons for the disapproval, and may include requests for amendments or revisions.

Within thirty (30) days after receipt of any notice of disapproval, Aerovox shall submit a revised recommendation

or shall state in writing the reasons why the recommendation, as originally submitted, should be approved. If within the 30 days (1) Aerovox has not submitted a revised recommendation and the disapproval has not been withdrawn, or (2) Aerovox has submitted a revised recommendation which has not been approved, DEQE retains the right to require such further action as it deems necessary, by issuing further administrative orders or seeking judicial recourse, pursuant to its authority under the Clean Waters Act or the Hazardous Waste Management Act, or any other relevant provision of law. Nothing in this Order shall be construed to limit Aerovox' right to contest any such further orders or judicial actions brought by DEQE, or to require Aerovox to undertake any action not set forth in this Order or submitted by Aerovox in its recommendation or a revised recommendation.

IV. Confidentiality

Aerovox may, if it desires, assert a business confidentiality claim covering part or all of the information requested by this Order, in the manner described by G. L. c. 21C, §12. Information covered by such a claim will be disclosed by DEQE only to the extent, and by means of the procedures in the Department's Regulations. If no such claim accompanies the information when it is received by DEQE, it may be made available to the public by DEQE without further notice to Aerovox. Aerovox should read the above-cited regulations carefully before asserting a business confidentiality claim, since certain categories are not properly the subject of such a claim.

Date: May 27, 1982

issued by: Paul T. Anderson
Regional Environmental Engineer
For the Commissioner

Thomas C. W. Mahoney
Director of Water Pollution
Control

Date: June 9, 1982
Assented to:

[Signature]
President
Aerovox, Inc.

Appendix A

SCOPE OF WORK

SAMPLING AND ANALYSIS PROGRAM FOR THE AEROVOX PROPERTY, NEW BEDFORD, MASSACHUSETTS (REVISED APRIL 9, 1982)

PURPOSE AND SUMMARY

The purpose of this project is to develop information for use in determining the need for, and the most cost-effective method of, remedial action at the Aerovox property. The specific objectives of the proposed sampling and analysis program are to:

1. Determine the extent of surface and subsurface soil contamination, if any, in the study area;
2. Define groundwater characteristics in the study area, particularly quality and flow parameters; and,
3. Determine whether groundwater discharged through the subject property into the Acushnet River represents a source of PCB contamination.

The project will consist of a two-phased field investigation followed by a compilation and interpretation of findings for the purpose of establishing a remedial action plan acceptable to both Aerovox and the cognizant state and federal regulatory agencies. Phase 1 of the field investigation will consist of an evaluation of PCB levels in soils at the surface and to depths of up to 2 feet below the surface throughout the approximately 0.55-acre study area. Based on the Phase 1 test results, locations for further soil sampling at depth via borings and test pits will be selected. The Phase 2 subsurface investigation will include the installation of four groundwater monitoring wells.

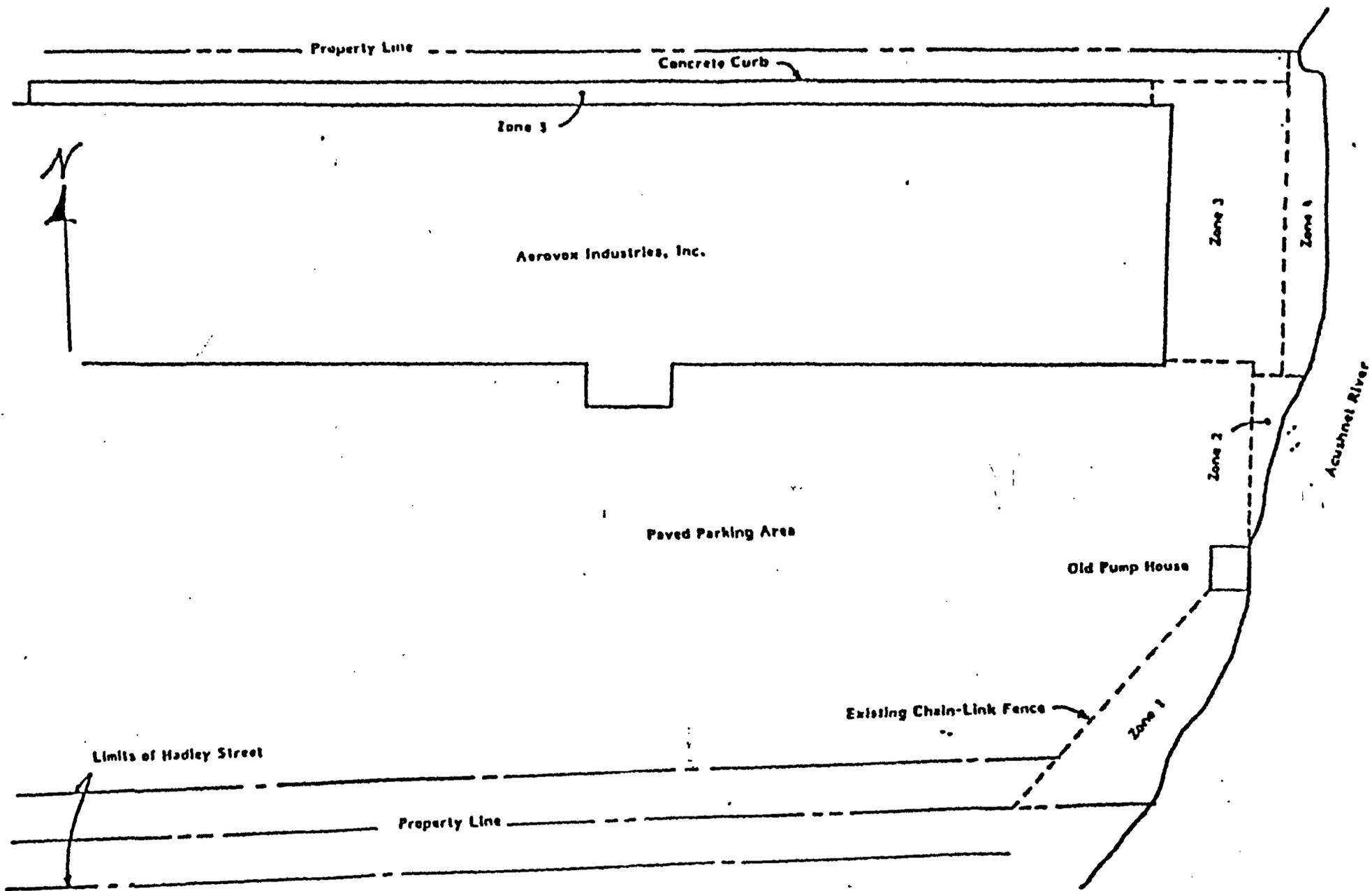


FIGURE 1

Detailed Work Description: Phase 1

During the first phase of the study, field sampling and laboratory testing will focus on defining the extent of PCB contamination, if any, in surface and near-surface (up to 2-feet in depth) soils in presently unpaved areas behind and adjacent to the Aerovox plant. The study area consists of five sampling zones as shown on Figure 1. The sampling to be done during Phase 1 will include the following:

- Zone 1 - 3 surface and 3 subsurface (2-foot depth) soil samples
- Zone 2 - 2 surface and 2 subsurface soil samples
- Zone 3 - 6 surface and 6 subsurface soil samples
- Zone 4 - 3 surface and 3 subsurface soil samples
- Zone 5 - 3 surface and 3 subsurface soil samples

Each sampling zone will be partitioned into smaller sampling areas from which the samples will be collected. Individual grab samples as well as composites of grab samples will be tested for PCB levels according to U.S. EPA Method 608-Organochlorine Pesticides and PCBs. Soil samples will be prepared for PCB analysis using the Soxhlet extraction procedure. In addition to PCB testing, some soil samples will be tested for pH and oil and grease, and a limited number of soil gradation tests will also be performed. For budgeting purposes, the total number of soil samples to be analyzed for PCB levels during Phase 1 is estimated to be as many as 40 samples.

The Phase 1 sampling will be conducted by hand using shovels and stainless steel trowels. The specific sample collection points will be surveyed to establish firm locations. The sampling equipment will be cleaned and rinsed between sampling stations, using soap and water and acetone, to prevent

any cross-contamination of samples. Laboratory testing will be done to determine total PCB concentrations as well as concentrations of individual aröchlors, particularly 1242 and 1254.

Detailed Work Description: Phase 2

The second phase of the project will proceed upon the basis of the results of Phase 1 showing PCB levels in soils at 0 to 2-foot levels. At locations to be selected from the Phase 1 data, borings will be executed using a hollow-stem auger rig. Subsurface soil samples will be collected during drilling by means of split-spoon samplers driven through and in advance of the auger. Boring logs will be maintained and gradation analyses of soil samples will be performed.

For estimating purposes, it is assumed that up to 8 borings will be executed. Four of the borings will be relatively shallow, terminating within the top 2 feet of the water table or upon encountering organic peat deposits. These shallow borings will be used solely for subsurface soil sampling. In at least 4 on-site locations, borings will also be used to install groundwater observation wells (1 upgradient, 3 downgradient). These borings will be executed in two steps: (1) a shallow boring will extend only to the peat layer (if encountered) and a wellscreen will be set to extend from the peat layer up to approximately 2 feet above the water table; and (2) an adjacent deeper boring will be extended through the peat layer (if encountered) to approximately 10-15 feet below the water table and the wellscreen will be set to encounter the water table zone below the peat layer. This "tandem-well" approach will be followed regardless of whether or not the anticipated peat layer is encountered.

The observation wells will be constructed of PVC materials with flush-threaded joints. Suitable porous materials will be placed around the wellscreens and bentonite seals will be installed at the level of the organic peat strata and at the surface. Each well will be surveyed to establish firm locations and reference elevations.

During the boring and split-spoon sampling operation, the equipment used will be thoroughly cleaned and rinsed to prevent cross-contamination of samples within each boring and from one boring to another. A portable steam generator and rinse tank will be used to decontaminate auger flights, split-spoon samplers and drive casing. Soap and water and acetone will be used in rinsing. The rinsate will be collected in 55-gallon drums for transfer to a licensed hauler for disposal (estimated 1 to 2 drums of rinsate, plus an additional container of PCB-contaminated items such as gloves, rags, disposable clothing, etc.).

Prior to conducting the borings, a limited test pit examination of the study area will be performed. The primary purpose of the test pits (an estimated 2 to 3 pits) will be to inspect subsurface materials in the study area, although subsurface samples may also be collected from the test pits if this can be done safely without excessively large excavations. Also, the test pits will enable visual inspection of the water table for the presence of an oily film or layer on the phreatic surface.

Soil samples collected from borings (and test pits) will be analyzed for pH, total organic carbon, volatile solids, oil and grease and PCBs. Grain-size tests will also be done as needed.

The groundwater monitoring wells will be used to obtain water level data (including data reflecting tidal cycles) and to obtain groundwater samples for analysis for PCBs, volatile organic solvents, salinity and oil and grease. The testing program for groundwater will include an innovative approach designed to enable the evaluation of: (1) whether or not an oily film or layer is present on the top of the water table; and (2) if so, the relative concentrations of PCBs, if any, in the oily layer and the groundwater.

The method to be used will involve the insertion into the wells of a specially designed sampler containing an oil-absorbing, hydrophobic material. The special sampler will be cylindrical in shape and 10 to 12 inches in length. It will be set at an elevation in the wells that will maintain contact with the water table surface during the period of sampling (which may be from 4 to 24 hours depending upon the results of initial field tests that will be conducted to evaluate the proposed sampling approach). A peristaltic pump will be used to create a small cone of depression in the wells, thus establishing a hydraulic gradient into the wells and promoting the flow of the oily layer (if any) to the absorber. The oil absorbant material will be tested for total oil content and PCB content, using the same extraction procedures used for soil samples.

Groundwater samples will be collected using either a peristaltic pump or stainless steel bailers with teflon fittings. The wells will be evacuated prior to sample collection (at least three volumes of water will be removed) to avoid the sampling of stagnant well water. Where a pump is used for sample collection, all tubing will be either polypropylene or teflon and tubing will be discarded after each well is sampled. Where bailers are used, a separate bailer will be used at each well.

Groundwater samples will be filtered through glass fiber filters in the laboratory prior to PCB analysis to remove silt and suspended particulates in the sample. This will provide a more representative analysis of PCB levels in the groundwater by removing from the sample the small solid particles to which PCBs are known to adhere.

It is estimated that the Phase 2 program will yield up to 30 subsurface soil samples for laboratory testing for PCB levels, with some samples being also tested for soil pH, oil and grease, and grain-size distribution. The Phase 2 program is also estimated to include up to 8 groundwater samples and 4 oil-absorbant samples for PCB and related analyses.

Project Report

Upon completion of all laboratory analyses, a report on the work performed and the results obtained will be prepared. The report will include:

- description of field procedures, including sampling methods;
- description of laboratory procedures and equipment used in analyzing the various samples;
- site plan showing soil sampling, test pit and well locations;
- subsurface profiles, based on boring logs, showing soil types encountered and any other relevant features;
- graphical and tabular summaries of chemical testing data for soil and groundwater;
- test pit and well logs, and grain-size analysis curves;

- groundwater monitoring data (water level fluctuation and gradients);
- an assessment of the extent of subsurface PCB contamination (if any) and the potential for PCB movement through the subsurface under existing conditions and under the condition where the surface of the site is capped with highly impermeable material.

Project Schedule

The proposed schedule for the project provides for a 90-day period of performance from the date of execution of the Agreement for Services between GHR Engineering and Aerovox. The schedule includes the following sequence of work:

Work Description	To Be Completed
Start Up; Finalize Field Work Plan and Procedures for Phase 1	Within 1 week*
Phase 1 Soil Sampling	Within 2 weeks
Evaluation and Report on Phase 1 Investigation	Within 6 weeks
Finalize Field Work Plan and Procedures for Phase 2	Within 7 weeks
Phase 2 Borings, Soil Sampling and Well Installation	Within 8 weeks
Phase 2 Groundwater Sampling	Within 9 weeks
Evaluation and Report on Phase 2 Investigation	Within 13 weeks

* Time periods measured from date of contract execution.

The proposed schedule assumes that laboratory analyses of samples will be completed on a normal turnaround basis of not more than 4 weeks. However, it must be noted that, where outside commercial laboratories are utilized (in this project, for PCB analyses), GHR Engineering cannot guarantee the time period required to complete the testing. In addition, the proposed schedule assumes that interested parties and agencies will be readily available when requested to attend any meetings that may be necessary to review progress and findings as the project proceeds. With these considerations in mind, every effort will be made to complete the project on schedule.

John J. Gushue

John J. Gushue
Director, Environmental Services
GHR Engineering Corporation

4/13/82

Date

ESTIMATED COST

The estimated cost of the work outlined above is \$34,529.00. An itemized breakdown of costs is provided below:

Direct Labor and Overhead

Chief Engineer	16 hrs.	@ \$50/hr.	\$ 800.00	
Engineer	144 hrs.	@ \$45/hr.	6,480.00	
Chemist	130 hrs.	@ \$35/hr.	4,200.00	
Asst. Engineer	120 hrs.	@ \$32/hr.	3,840.00	
2-Man Survey Crew	16 hrs.	@ \$42/hr.	672.00	
Draftsperson	16 hrs.	@ \$22/hr.	352.00	
Clerical	32 hrs.	@ \$15/hr.	480.00	
			<u>\$16,824.00</u>	(1)

Other Direct Costs and Expenses

Driller - 40 hrs.	@ \$125/hr.	\$5,000.00	
Well Construction Materials		1,200.00	
Sampling Equipment & Miscellaneous		800.00	
		<u>\$7,000.00</u>	(2)

Laboratory Analysis

Phase 1:	40 PCB in soil @ \$90.	\$3,600.00	
	5 grain-size on soil @ \$25.	125.00	
	5 pH and oil/grease on soil @ \$30.	150.00	
		<u>\$3,875.00</u>	(3)

Phase 2:	30 PCB in soil @ \$90.	\$2,700.00	
	12 PCB in water @ \$100.	1,200.00	
	4 volatile organics in water @ \$200.	800.00	
	4 salinity in water @ \$10.	40.00	
	4 oil and grease in water @ \$20.	80.00	
	8 pH, TOC, volatile solids grain-size and oil and grease on soil @ \$120.	960.00	
		<u>\$5,780.00</u>	(4)

<u>General and Administrative on Expenses and Other Direct Costs</u>		<u>\$1,050.00</u>	(5)
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TOTAL ESTIMATED COST		<u>\$34,529.00</u>	
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This cost estimate does not include the costs of a backhoe and operator (for 1 day), or the testing and disposal costs associated with disposal of rinsate collected from decontamination of boring and sampling equipment. These costs are assumed to be borne directly by Aerovox.

John J. Gushue

John J. Gushue
Director, Environmental Services
GHR Engineering Corporation

4/13/82

Date