Department of Environmental Conservation

Division of Environmental Remediation

Record of Decision

"Interceram" Inactive Hazardous Waste Site
Operable Unit 1
Town of Wallkill, Orange County, New York
Site No. 3-36-045

February 1997

New York State Department of Environmental Conservation
GEORGE E. PATAKI, *Governor* John P. Cahill, *Acting Commissioner*

DECLARATION STATEMENT - RECORD OF DECISION

"Interceram" Inactive Hazardous Waste Site
Operable Unit 1
Town of Wallkill, Orange County, New York
Site No. 3-36-045

Statement of Purpose and Basis

The Record of Decision (ROD) presents the selected remedial action for the Interceram Inactive Hazardous Waste Disposal Site, Operable Unit 1, which was chosen in accordance with the New York State Environmental Conservation Law (ECL). This remedy will address the threat to human health and the environment created by the presence of solvents and cyanide in the soil. The remedial program selected is not inconsistent with the National Oil and Hazardous Substances Pollution Contingency Plan of March 8, 1990 (40CFR300).

This decision is based upon the Administrative Record of the New York State Department of Environmental Conservation (NYSDEC) for the Interceram Inactive Hazardous Waste Site and upon public input to the Proposed Remedial Action Plan (PRAP) presented by the NYSDEC. A bibliography of the documents included as a part of the Administrative Record is included in Appendix B of the ROD.

Assessment of the Site

Actual or threatened release of hazardous waste constituents from this site, if not addressed by implementing the response action selected in this ROD, presents a current or potential threat to public health and the environment.

Description of Selected Remedy

Based upon the results of the Remedial Investigation/Feasibility Study (RI/FS) for the Interceram site and the criteria identified for evaluation of alternatives the NYSDEC has selected a remedy that includes on-site soil treatment using low temperature thermal desorption (LTTD), a long term groundwater monitoring program, an indoor air sampling program and a deed restriction. The components of the remedy are as follows:

- Excavation of approximately 4,300 cubic yards of contaminated soil and the desorption of the contaminants using the LTTD technology. The soil in the vadose zone containing contaminants in concentrations above the cleanup objectives stated in the NYSDEC TAGM 4046 soil cleanup guidelines for the protection of groundwater would be removed and treated. The soil in the saturated zone that contains greater than a total of 10 ppm of VOCs or 14 ppm of cyanide would be removed and treated. All excavated soil will be treated to achieve the cleanup objectives stated in NYSDEC TAGM 4046.

- A long term groundwater monitoring program will be instituted to evaluate the effectiveness of the soil remediation with respect to the groundwater quality. If the rate of natural attenuation is determined to be unsatisfactory, operable unit 2 (OU-2) will be implemented.

- An indoor air sampling program approved by the NYSDOH. The NYSDOH will evaluate the existing data and make a determination as to the acceptability of the facility for its proposed intended use. These data will be compared to the USEPA and NYSDOH data bases for contaminants in indoor air.

- A covenant shall be incorporated into the deed(s) for the site ensuring that the premises will be serviced exclusively by public drinking water.

New York State Department of Health Acceptance

The New York State Department of Health concurs with the remedy selected for this site as being protective of human health.

Declaration

The selected remedy is protective of human health and the environment, complies with State and Federal requirements that are legally applicable or relevant and appropriate to the remedial action to the extent practicable, and is cost effective. This remedy utilizes permanent solutions and alternative treatment or resource recovery technologies, to the maximum extent practicable, and satisfies the preference for remedies that reduce toxicity, mobility, or volume as a principal element.

12/5/96
Date

Michael J. O'Toole, Jr., Director
Division of Environmental Remediation

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SECTION 1: SITE LOCATION AND DESCRIPTION

The former Interceram facility, site #336045, is located in the Town of Wallkill, Orange County, New York. This site consists of a single story building and an adjoining parking lot on approximately 5.5 acres. It is bordered to the north by an abandoned apple orchard, to the south by Fortune Road West and an industrial complex, to the east by Horizon Hill Condominiums and to the west by Rockwood Garden Apartments (Figures 1 and 2).

SECTION 2: SITE HISTORY

2.1: Operational/Disposal History

From 1971 to 1991, Ceramx Corporation owned and operated Interceram, a former manufacturing facility that assembled, cleaned and reworked fused metal and ceramic parts used for AC to DC electric conversion devices. The manufacturing processes at the facility included nickel and gold plating, and several chemical and fresh water rinses involving alkaline soap, sodium cyanide, hydrochloric acid, nitric acid and sulphuric acid. A Freon vapor degreaser unit was also used in the process for drying parts after the plating operation. Waste generated included cyanide solutions, methyl alcohol solids, neutralization/metal precipitation sludges, freon still bottoms, trichloroethylene (TCE) sludge, electrolyzed nickel solutions and gold cyanide wastes. The waste gold solutions were recovered for reuse. A wet blast/abrasive reworking process was used to clean parts with high-pressure water and abrasives. Rinse water from this reworking process was directed through a series of holding tanks for settling, diluted with tap water, and piped to the on-site storm sewer system. Reportedly, 15,000 to 20,000 gallons of wet/blast abrasive rinse water were discharged daily. The solvents used at the facility were processed through a still for reuse. The still bottoms were collected and disposed of as hazardous waste. Other wastes were stored outside of the building in an area identified as the chemical storage area. This area was completely open until 1986 when a concrete floor and an enclosure were constructed.

The investigations at this site have discovered that a portion of the sewer line leaving the building had deteriorated and thereby allowed the chemical wastes to escape into the sub-surface soil at the site. It was also determined that the soil beneath the cement floor of the chemical storage area was contaminated, indicating drums in the chemical storage area had leaked or spillage had occurred.

2.2: Remedial History

In May, 1993, the site was included on the New York State Registry of Inactive Hazardous Waste Disposal Sites as a Class 2a. A Class 2a designation is a temporary classification that indicates hazardous waste was disposed of on the site, but there was insufficient data to determine the significance of the threat to public health or the environment. In March 1993 an order on consent requiring a preliminary site assessment (PSA) was executed by Ceramx and the NYSDEC.

The PSA was conducted between April 1993 and February 1994. Four soil borings were installed, two of which were converted to permanent groundwater monitoring wells. The results from soil and groundwater sampling analysis indicated that this site presents a significant threat to the environment due to the disposal of hazardous waste.

In January 1994, Ceramx entered into an order on consent with the NYSDEC to conduct a Remedial Investigation and Feasibility Study (RI/FS) at this site.

In March 1994, this site was reclassified as Class 2 site on the Inactive Hazardous Waste Disposal Site Registry. A Class 2 site is defined as a site that poses a significant threat to human health or the environment, and where action is needed.

The RI/FS was completed in July, 1996. Based upon the results, this site has been divided into two operable units. Operable unit 1 (OU-1) would address the threat to human health and the environment created by the presence of solvents and cyanide in the soil. The NYSDEC anticipates the contaminants in the groundwater will decrease significantly after the soil remediation. However, if the rate of natural attenuation is unacceptable, operable unit 2 (OU-2) would be implemented. OU-2 would consist of additional investigation and selection of a feasible remedy to address the residual groundwater contamination.

SECTION 3: CURRENT STATUS

In response to a determination that the presence of hazardous waste at the site presents a significant threat to the environment, the PRP has recently completed a Remedial Investigation/Feasibility Study (RI/FS).

3.1: Summary of the Remedial Investigation

The purpose of the RI was to define the nature and extent of any contamination resulting from previous activities at the site.

The RI was conducted in two phases. The first phase was conducted between January 1994 and January 1995, and the second phase between February 1995 and October 1995 with a supplemental investigation performed in June 1996. A report entitled Remedial Investigation Report dated November 1995 has been prepared describing the field activities and findings of the RI in detail.

The RI included the following activities:

- Soil Vapor Survey
- Test Boring Installation and Soil Sampling Program
- On-Site Indoor Air Sampling
- Test Pit Investigation
- Monitoring Well Installation
- Groundwater and Stormwater Sampling and Analysis
- Off-Site Indoor Air Sampling
- Risk Assessment

To determine which media (soil, groundwater, surface water, or air) contain contamination at levels of concern, the RI analytical data was compared to environmental Standards, Criteria, and Guidance (SCGs). Groundwater, drinking water and surface water SCGs identified for the Interceram site were based on NYSDEC Ambient Water Quality Standards and Guidance Values and Part V of NYS Sanitary Code. NYSDEC TAGM 4046 soil cleanup guidelines for the protection of groundwater, background conditions, and

risk-based remediation criteria were used as SCGs for soil and the Division of Fish and Wildlife Technical Guidance for Screening Contaminated Sediments is used for surface water sediments. Air sample results were compared to NYSDEC Air Guide I.

Based upon the comparison of the results of the remedial investigation with SCGs and upon the potential public health and environmental exposure routes, certain areas and media of the site require remediation.

3.1.1 Nature of Contamination

As described in the RI Report, soil, groundwater, soil gas, ambient air and stormwater samples were collected at the site to characterize the nature and extent of contamination.

The contaminants of concern present at this site are volatile organic compounds (VOCs) and cyanide. Cyanide was used at this site in a plating process. The cyanide contamination exists only in the soils directly beneath the cement floor of the chemical storage area and in the parking lot area. There was no cyanide detected in the groundwater. Cyanide is present in the soil at concentrations that exceed the site specific established cleanup level and, therefore, poses a threat to the environment and a potential future threat to the public health if the site were to be converted to a residential property.

The VOCs detected at the site include trichloroethene (TCE), trichlorotriflouroethane (freon), acetone, carbon tetrachloride, 1,1 dichloroethane (1,1 DCA), 1,1 dichloroethene (1,1 DCE), 1,2 dichloroethene (1,2 DCE), methylene chloride, tetrachloroethene, toluene, 1,1,1 trichloroethane (TCA), and vinyl chloride. These compounds were used as solvents at the former Interceram facility and are present in the soil and also in the groundwater in concentrations that exceed either the NYSDEC TAGM 4046 soil cleanup guidelines or the NYS Groundwater and Drinking Water Standards.

3.1.2 Extent of Contamination

Figure 3 and Table 1 show the location of samples and summary of salient analytical results respectively. For comparison purposes, Table 1 also shows SCGs values for each of the chemicals in each of the media. Chemical concentrations are reported in this ROD in parts per billion (ppb) or parts per million (ppm).

A brief description of the investigation of each media and the respective findings follows:

Soil

A total of 12 borings were completed during the PSA and RI. Continuous split spoon samples were collected throughout each boring to determine the nature of the soil and the extent of contamination. The subsurface consists of 180 feet of a very thick dense sequence of glacial till overlying Ordovician bedrock. The glacial till immediately below the ground surface has been determined to have two distinct lithologies consisting of a brown till that extends from approximately 0 to 15 feet below ground surface and a lower gray till that extends from approximately 15 to at least 32 feet below ground surface. Based on the soil analysis results, the contamination was found at various depths ranging from just below the ground surface to a maximum depth of 30 feet under the western portion of the building, under the former chemical storage area and throughout the northwest parking area.

Several soil samples were collected from each boring and analyzed for the Target Compound List of VOCs and Semi-volatile Organic Compounds, and the Target Analyte List of metals and cyanide. The salient results for VOCs and metals are summarized in Table I. Figures 4, 5 & 6 show locations of samples and results for acetone, TCE and cyanide respectively. The maximum acetone concentration of 180 ppm is at boring SB-24 about 20 feet south of the storm drain. The maximum TCE concentration of 170 ppm is at boring IC-3 close to the storm drain. Maximum cyanide concentration of 219 ppm is at IC-1 under the former chemical storage area. Due to the number of different forms of cyanide, there is no guideline in TAGM 4046. Therefore, site specific conditions were evaluated and a subsurface cleanup value of 14 ppm was established. Trace amounts of semi-volatile organics (SVOCs) were also detected. However, all SVOCs were below the levels contained in the NYSDEC TAGM 4046 Soil Cleanup Guidelines. Copper was detected in one out of 19 samples at a concentration of 380 ppm which exceeds the natural background concentration of 50 ppm. Nickel was detected in two out of 19 samples at concentrations of 249 ppm and 293 ppm which exceed the natural background concentration of 50 ppm.

Groundwater

A total of 8 on-site and 3 off-site monitoring wells were installed during the PSA and RI. These wells were screened in the both the brown and gray till. The water level in the brown till is perched with the gray till is acting like an aquitard. Groundwater flow is toward the west-southwest consistent with the topography of the site.

Groundwater samples were collected and analyzed for the Target Compound List of VOCs, the Target Analyte List of metals and cyanide. Ten VOCs and three inorganics were detected in the groundwater above the NYS Groundwater Standards. Table I lists the salient analytical results. Figures 7, 8 & 10 show locations of monitoring wells and their respective acetone and TCE concentrations. The maximum acetone concentration of 60 ppm was detected in monitoring well MW-12 located approximately 40 feet southwest of the storm drain. The maximum TCE concentration of 160 ppm was detected in well SB-22 located 20 feet south of the storm drain. Results not listed in Table I are as follows: Iron was detected in 7 out of 7 samples at concentrations ranging from 207 ppb to 19,900 ppb; the groundwater standard is 500 ppb. Manganese was detected in 7 out of 7 samples at concentrations ranging from 677 ppb to 43,900 ppb; the groundwater standard is 300 ppb. Sodium was detected in 7 out of 7 samples at concentrations ranging from 14,300 ppb to 62,100 ppb; the groundwater standard is 20,000 ppb.

Since monitoring well S-2 located off site, west of Rockwood Gardens Apartment Building 16, is significantly contaminated (Figure 8), with TCE at 26 ppm, an additional well, FRW-1, was installed on June 12, 1996 at the corner of the apartment complex and downgradient of well S-2. No significant site related contamination was detected, thus establishing a preliminary outer boundary of the groundwater contamination.

Stormwater

Site stormwater sample was collected from a catch basin to the south of the site off Fortune Road West, and analyzed for the Target Compound List of VOCs, the Target Analyte List of metals and cyanide during the RI. Because the stormwater eventually discharges into Silver Lake, which is approximately 7000 feet from the site, the laboratory results were compared to the NYS Class B Surface Water Body Standards. TCE was detected at 1200 ppb which exceeds the standard of 11 ppb and 1,2 DCE was detected at 510 ppb which exceeds the standard of 1 ppb. This suggests that the drainage pipes are prone to infiltration of contaminated groundwater.

Soil Vapor

A total of 20 soil vapor samples were collected on site and at the Rockwood Garden Apartments. Samples were collected from 1.5 foot and 5 feet below ground surface and analyzed for VOCs. The laboratory results indicated 1,1 DCE, 1,2 DCE and TCE were present along the northeast side of the facility, the southwest portion of the property, and in five of the deep samples collected at the Rockwood Garden Apartments. There are no standards for soil vapor. Based on the low concentrations detected, there is no evidence the soil vapor is impacting the ambient air and is not considered to be a threat to the public health or the environment.

Indoor Air

Indoor air samples were collected from the inside of the former Interceram facility, two basement storage areas in Building 16 at the Rockwood Garden Apartments Complex and an apartment in Building 5 at the Rockwood Garden Apartments Complex. The sample from Building 5 was considered a control sample. Several VOCs were detected in Building 16 all of which were also detected in the control sample except for carbon disulfide, 2-butanone and hexane. These VOCs are not considered attributable to the site but rather household products such as cleaners and glues. Low concentrations of VOCs including freon, TCE and 1,2 DCE were detected in the former Interceram building and are attributed to the contamination at the facility. There are no standards for household indoor air and therefore the concentrations were compared to the Occupational Safety and Health Administration Permissible Exposure Limit - Time Weighted Average (OSHA PEL-TWA) which was developed to protect workers 8 hours a day in a 40 hour work week. All VOC concentrations were 3 to 6 orders of magnitude less than the allowable concentration. It should be noted that the use of OSHA PEL-TWA values may be inappropriate for evaluating potential inhalation exposure risks to future occupants of the former Interceram facility.

3.2 Summary of Human Exposure Pathways

This section describes the types of human exposures that may present added health risks to persons at or around the site. A more detailed discussion of the health risks can be found in Section 5 of the RI Report.

An exposure pathway is how an individual may come into contact with a contaminant. The five elements of an exposure pathway are 1) the source of contamination; 2) the environmental media and transport mechanisms; 3) the point of exposure; 4) the route of exposure; and 5) the receptor population. These elements of an exposure pathway may be based on past, present, or future events.

The risk assessment in Section 5 of the RI Report demonstrates that under current conditions, the site does not pose an unacceptable threat to the public. VOC contamination in the indoor air of the former Interceram facility warrants a potential exposure concern for future occupants of the building. Although the levels of VOCs detected do not present an occupational exposure concern for an industrial/manufacturing workplace, these levels may pose an exposure concern to individuals who may occupy the building in other than an occupational/manufacturing capacity, such as commercial office space or a day care center. Therefore, future occupancy of the building for other than industrial/manufacturing purposes involving similar operations as in the past, will be considered only after additional evaluations of indoor air quality are performed. There are no exposure pathways to the contaminated soils or groundwater. The groundwater in the area does not have a sufficient yield to supply water to private residences, and therefore eliminates the potential for possible future exposure. The Risk Assessment does however demonstrate that if the existing structures were to be removed, exposing the contaminated soil, an exposure pathway to the cyanide and TCE could be created, and this would produce an unacceptable risk. Completed pathways that could be created and cause an unacceptable

risk include possible ingestion of the cyanide through vegetable uptake, possible ingestion of TCE contaminated soil, possible dermal contact with the TCE contaminated soil and possible inhalation of the TCE from the contaminated soil. Without remedial action, exposure to the contaminants in the soil and groundwater could pose a significant risk in the future.

3.3 Summary of Environmental Exposure Pathways

This section summarizes the determinations made on possible environmental exposures presented by the site.

The NYS Division of Fish and Wildlife have concluded there are no appreciable wildlife habitat on the site and consequently no wildlife exposures. The discharge of the stormwater into Silver Lake was identified as another possible environmental exposure pathway but was later eliminated. This lake is more than one mile away, and it was determined that the concentration of the contaminants would be insignificant at the discharge point.

SECTION 4: ENFORCEMENT STATUS

Potentially Responsible Parties (PRPs) are those who may be legally liable for contamination at a site. This may include past or present owners and operators, waste generators, and haulers.

The NYSDEC and the Ceramx Corporation entered into a Consent Order on January 19, 1994. The Order obligates the responsible parties to implement a RI/FS. Upon issuance of the Record of Decision the NYSDEC will approach the PRPs to implement the selected remedy under an Order on Consent.

The following is the chronological enforcement history of this site.

Orders on Consent

Date	Index No.	Subject of Order
February 25, 1993	---	Preliminary Site Assessment
January 19, 1994	W306669311	RI/FS

SECTION 5: SUMMARY OF THE REMEDIATION GOALS

Goals for the remedial program have been established through the remedy selection process stated in 6 NYCRR Part 375-1.10. The overall remedial goal is to meet all Standards, Criteria, and Guidance (SCGs) and be protective of human health and the environment.

At a minimum, the remedy selected should eliminate or mitigate all significant threats to the public health and to the environment presented by the hazardous waste disposed of at the site through the proper application of scientific and engineering principles.

The goals selected for this site are:

- Reduce, control, or eliminate, to the extent practicable, the contamination present within the soils on site.
- Eliminate the threat to surface waters by eliminating its contact with the contaminated soils on site.
- Eliminate the potential for direct human contact with the contaminated soils on site.
- Mitigate the impacts of contaminated groundwater to the environment.
- Provide for attainment of SCGs for groundwater quality at the limits of the area of concern (AOC), to the extent practicable.

SECTION 6: SUMMARY OF THE EVALUATION OF ALTERNATIVES

The selected remedy should be protective of human health and the environment, be cost effective, comply with other statutory laws and utilize permanent solutions, alternative technologies or resource recovery technologies to the maximum extent practicable. Potential remedial alternatives for the Interceram site were identified, screened and evaluated in a Feasibility Study. This evaluation is presented in the report entitled "Feasibility Study, Former Interceram Property", dated January 1996 in conjunction with a July 25, 1996 letter from William L. Going & Associates, Inc.

A summary of the analysis follows. As used in the following text, the time to implement reflects only the time required to implement the remedy, and does not include the time required to design the remedy, procure contracts for design and construction or to negotiate with responsible parties for implementation of the remedy.

6.1: Description of Alternatives

The potential remedies are intended to address the contaminated soil and groundwater that may be encountered during the treatment of the soil at the site.

Alternative 1 - No Action

The no action alternative is evaluated as a procedural requirement and as a basis for comparison. This alternative would leave the site in its present condition and would not provide any additional protection to human health or the environment.

Alternative 2 - Soil Removal with On-site Low-Temperature Thermal Desorption (LTTD) Treatment/ Replacement of the On-site Storm Sewer System/ Institutional Controls/ Groundwater Monitoring

Present Worth :	$1,800,000
Capital Cost :	$1,600,000
Annual O&M :	$ 15,000
Time to Implement :	3 - 6 months

This alternative is identified as Alternative 2, Option A in the FS Report.

This alternative includes the installation of fencing around the area of concern, the excavation of the contaminated soils and on-site treatment through LTTD, the replacement of the on-site storm sewer system, indoor air monitoring and a long term groundwater monitoring program with periodic reviews. An ambient air monitoring program would be implemented prior to excavation and continue throughout the remedial action. The LTTD process would take place inside of the former Interceram facility and include an air emission control system. The treated soils would then be analyzed to determine if the soil cleanup levels have been met. If the soil contains contaminants above the cleanup levels, additional on-site thermal treatment would be required. The treated soil satisfying the cleanup levels would be returned to the excavated area as backfill. Any groundwater encountered in the excavation area during the soil removal would be extracted and treated on site and discharged to the local POTW. A covenant would be incorporated into the deed(s) for the site ensuring that the premise would be serviced exclusively by public drinking water.

Alternative 3 - Soil Removal with On-site Ex-Situ Soil Vapor Extraction Treatment/ Replacement of the On-site Storm Sewer System/ Institutional Controls/ Groundwater Monitoring

Present Worth :	$1,700,000
Capital Cost:	$1,400,000
Annual O&M :	
SVE System (2 Yrs) :	$ 48,000
GW Monitoring (30 Yrs) :	$ 15,000
Time to Implement :	2 years

This alternative is identified as Alternative 2, Option B in the FS Report.

This alternative includes the installation of fencing around the area of concern, the excavation of the contaminated soils and on-site treatment through ex-situ soil vapor extraction, the replacement of the on-site storm sewer system, indoor air monitoring and a long term groundwater monitoring with program with periodic reviews. An ambient air monitoring program would be implemented prior to excavation and continue throughout the remedial action. The ex-situ soil vapor extraction system would operate for an estimated two years. The impacted area would be backfilled immediately after the excavation. The treated soils would then be analyzed to determine if the soil cleanup levels have been met. If the soil contains contaminants above the cleanup levels, additional on-site treatment would be required. After the soil met the cleanup levels, it would be taken off-site for disposal as a non-regulated solid waste at a solid waste landfill. Any groundwater encountered in the excavation area during the soil removal would be extracted and treated on site and discharged to the local POTW. A covenant would be incorporated into the deed(s) for the site ensuring that the premise would be serviced exclusively by public drinking water.

Alternative 4 - Soil Removal with Off-site Treatment at a Permitted Treatment, Storage, and Disposal Facility (TSDF)/ Replacement of the On-site Storm Sewer System/ Institutional Controls/ Groundwater Monitoring

Present Worth :	$10,700,000
Capital Cost :	$10,500,000
Annual O&M :	$ 15,000
Time to Implement :	3 - 6 months

This alternative is identified as Alternative 2, Option C in the FS Report.

This alternative includes the installation of fencing around the area of concern, the removal of the contaminated soils and off-site treatment at a permitted TSDF, the replacement of the on-site storm sewer system, indoor air monitoring and a long term groundwater monitoring program with periodic reviews. An ambient air monitoring program would be implemented prior to excavation and continue throughout the remedial action. The impacted area would be backfilled immediately after the excavation with imported clean fill. Any groundwater encountered in the excavation area during the soil removal would be extracted and treated on site and discharged to the local POTW. A covenant would be incorporated into the deed(s) for the site ensuring that the premise would be serviced exclusively by public drinking water.

6.2 Evaluation of Remedial Alternatives

The criteria used to compare the potential remedial alternatives are defined in the regulation that directs the remediation of inactive hazardous waste sites in New York State (6NYCRR Part 375). For each of the criteria, a brief description is provided followed by an evaluation of the alternatives against that criterion. A detailed discussion of the evaluation criteria and comparative analysis is contained in the Feasibility Study.

The first two evaluation criteria are termed threshold criteria and must be satisfied in order for an alternative to be considered for selection.

1. Compliance with New York State Standards, Criteria, and Guidance (SCGs). Compliance with SCGs addresses whether or not a remedy will meet applicable environmental laws, regulations, standards, and guidance.

The most significant SCGs associated with this site are the New York State Surface and Groundwater Quality Standards (6NYCRR Part 703) for the groundwater and the NYSDEC TAGM 4046 soil cleanup guidelines for the protection of groundwater, background conditions and risk based remediation criteria for the soil. Under current conditions there are VOCs in the groundwater that exceed groundwater standards. Over time the groundwater is expected to achieve the SCGs through the removal and treatment of the contaminated soils and natural attenuation.

Alternative 1 would not provide for the attainment of groundwater or soil SCGs. Alternatives 2, 3 and 4 would meet the SCGs for the soil thereby eliminating a significant portion of the contaminant source and would allow the groundwater to achieve the SCGs through natural attenuation.

2. Protection of Human Health and the Environment. This criterion is an overall evaluation of the health and environmental impacts to assess whether each alternative is protective.

Alternatives 1 would not be protective of human health and the environment. This alternative would not provide for the reduction in TCE and cyanide in the on-site soils which have been determined to present a risk to the public health if the site were to become residential property. Alternatives 2, 3 and 4 provide protection of human health and the environment through the removal of the contaminated soil and the natural attenuation of the groundwater.

The next five "primary balancing criteria" are used to compare the positive and negative aspects of each of the remedial strategies.

3. Short-term Effectiveness. The potential short-term adverse impacts of the remedial action upon the community, the workers, and the environment during the construction and/or implementation are evaluated. The length of time needed to achieve the remedial objectives is also estimated and compared against the other alternatives.

Alternative 1 would not require any construction and would not have any impacts on the community, the workers and the environment. Alternatives 2, 3 and 4 would require a construction period that would cause short term impacts to the community, the workers and the environment. These impacts would be mitigated through controls using a Health and Safety Program in accordance with Occupational Health and Safety Standards and standard construction practices to avoid nuisance conditions.

4. Long-term Effectiveness and Permanence. This criterion evaluates the long-term effectiveness of the remedial alternatives after implementation. If wastes or treated residuals remain on site after the selected remedy has been implemented, the following items are evaluated: 1) the magnitude of the remaining risks, 2) the adequacy of the controls intended to limit the risk, and 3) the reliability of these controls.

Alternative 1 would provide no effective or permanent remedy for this site. All existing and potential future risks would remain unchanged. Alternatives 2, 3 and 4 would provide for the removal of the contaminated soil to a concentration below which it would no longer present a threat to human health. These alternatives would not actively reduce the groundwater concentration but would allow for the natural attenuation by removing the source of the contamination.

5. Reduction of Toxicity, Mobility or Volume. Preference is given to alternatives that permanently and significantly reduce the toxicity, mobility or volume of the wastes at the site.

Alternative 1 would not reduce the toxicity, mobility or volume of the wastes at the site. Alternatives 2, 3 and 4 would reduce the volume of the waste on site and leaving the site.

6. Implementability. The technical and administrative feasibility of implementing each alternative are evaluated. Technical feasibility includes the difficulties associated with the construction and the ability to monitor the effectiveness of the remedy. For administrative feasibility, the availability of the necessary personnel and material is evaluated along with potential difficulties in obtaining specific operating approvals, access for construction, etc..

The technologies and construction methods proposed in all of the alternatives have been well established and have been implemented at other hazardous waste sites. The materials and services would not pose a problem. There does not appear to be any unusual administrative difficulties with any of these alternatives.

7. Cost. Capital and operation and maintenance costs are estimated for each alternative and compared on a present worth basis. Although cost is the last balancing criterion evaluated, where two or more alternatives have met the requirements of the remaining criteria, cost effectiveness can be used as the basis for the final decision. The costs for each alternative are presented in Table 2.

This final criterion is considered a modifying criterion and is taken into account after evaluating criteria 1 through 6. It is focused upon after public comments on the Proposed Remedial Action Plan have been received.

8. **Community Acceptance.** Concerns of the community regarding the RI/FS reports and the Proposed Remedial Action Plan have been evaluated. The " Responsiveness Summary" included as Appendix B presents the public comments received and the Department's response to the concerns raised. No significant public comments were received.

SECTION 7: SUMMARY OF THE SELECTED ALTERNATIVE

Based upon the results of the RI/FS, and the evaluation presented in Section 6, the NYSDEC is selecting Alternative 2, Soil Removal with On-site Low-Temperature Thermal Desorption (LTTD) Treatment/ Replacement of the On-site Storm Sewer System/ Institutional Controls/ Indoor Air and Groundwater Monitoring, as the remedy for operable unit 1 for this site.

This alternative meets the two threshold criteria, and compares favorably with other alternatives with respect to the five balancing criteria.

This alternative will reduce the volume of cyanide in the surficial soil whereas Alternative 3 will not. Alternative 4 is considerably more costly than Alternative 2, and will not provide any additional benefit. Since the treatment of soil under Alternative 2 will be conducted inside the building with all necessary emission controls and monitoring, the community has accepted this selection. No active remedial measures will take place with respect to the groundwater at this time. NYSDEC anticipates that the contaminants in the groundwater will decrease significantly once the source of the contamination is removed during the proposed soil remediation. Groundwater remedies, such as a pump and treat system, will be ineffective and are not feasible at this time due to the existing site conditions which include low permeable soil, a low yielding aquifer and the absence of groundwater exposure routes. Post-remedial monitoring of groundwater quality will provide the tool to determine the need for operable unit 2 and future remedial action.

The estimated present worth of costs to implement the remedy is $1,800,00. The cost to construct the remedy is estimated to be $1,600,000 and the estimated average annual operation and maintenance cost for 30 years is $15,000.

The elements of the selected remedy are as follows:

- A remedial design program to verify the components of the conceptual design and provide the details necessary for the construction, operation and maintenance, and monitoring of the remedial program. Any uncertainties identified during the RI/FS would be resolved.

- Installation of LTTD and emission control equipments in the building on site.

- A pilot scale test to verify the effectiveness of the LTTD to treat the cyanide on site.

- Excavation, in stages, of approximately 4,300 cubic yards of contaminated soil and the desorption of the contaminants using the LTTD technology (Figure 9). The extent of excavation will be determined by a combination of on-site soil screening tests, laboratory analysis of a representative set of samples and the physical constraints and structural safety considerations of existing buildings. The soil in the vadose zone containing contaminants in concentrations above the cleanup objectives stated in the NYSDEC TAGM 4046 soil cleanup guidelines for the protection of groundwater will be removed and treated. These concentrations are 1ppm for TCE, 0.5 ppm for acetone, and 14 ppm for cyanides. NYSDEC TAGM 4046 applies only to soil above the saturated zone. The soil in the saturated zone that contains greater than a total of 10 ppm of VOCs or 14 ppm of cyanide will be removed and treated to achieve the cleanup objectives stated in NYSDEC TAGM 4046.

- Groundwater encountered in the excavation area during the soil removal will be extracted and treated on site and discharged to the local POTW.

- Backfill of the excavated area with granular fill to a depth of approximately 3 feet to improve groundwater recovery should a groundwater collection and treatment system in the vicinity of the excavated area be deemed necessary in the future.

- Return of soils meeting SCGs to the excavated area.

- Disposal of any surplus soil, resulting from the use of granular backfill, to a facility authorized to receive it.

- A long term groundwater monitoring program will be instituted. This will be used to evaluate the effectiveness of the soil remediation with respect to the groundwater quality. The results generated will be evaluated annually using sound engineering judgement. If the rate of natural attenuation is determined to be unsatisfactory, OU-2 will be implemented.

- After the completion of OU-1, if the groundwater quality is determined to be acceptable, no further remedial action will be undertaken nor will operable unit 2 be implemented

- An indoor air sampling program approved by the NYSDOH. Test data and future reoccupancy proposals will be provided to the NYSDOH by the owner of the former Interceram building. The NYSDOH will evaluate the existing data and make a determination as to the acceptability of the facility for its proposed intended use. This evaluation will apply to every proposed reoccupancy until such time that site-related contaminants in the indoor air have decreased to acceptable background concentrations. For evaluation purposes, these data will be compared to the USEPA and NYSDOH data bases for contaminants in indoor air.

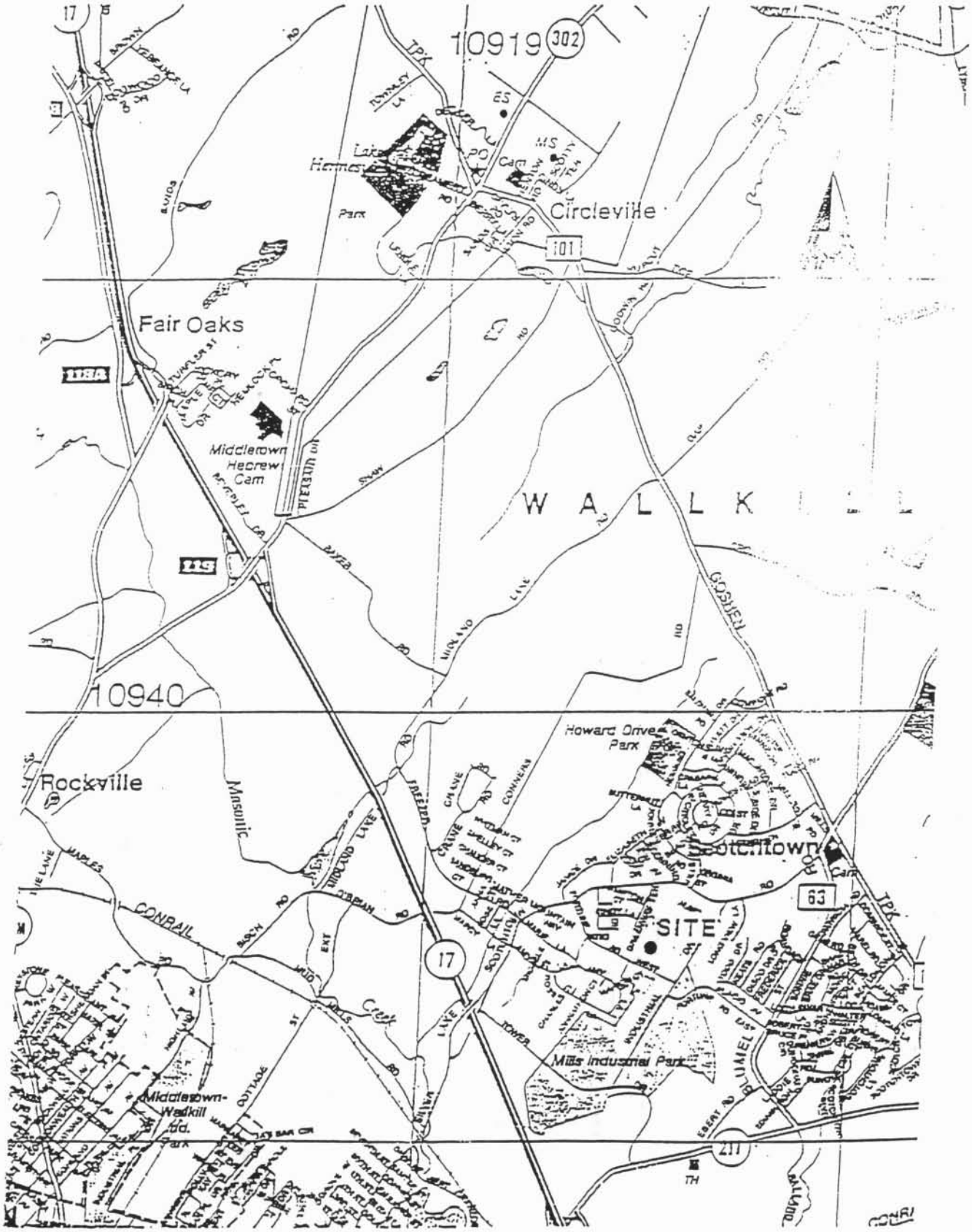
- A covenant shall be incorporated into the deed(s) for the site ensuring that the premises will be serviced exclusively by public drinking water.

SECTION 8: HIGHLIGHTS OF COMMUNITY PARTICIPATION

As part of the remedial investigation process, a number of Citizen Participation (CP) activities were undertaken in an effort to inform and educate the public about conditions at the site and the potential remedial alternatives. The following public participation activities were conducted for the site:

- A Citizen Participation Plan was developed for this site.
- A repository for documents pertaining to the site was established.
- A site mailing list was established which included nearby property owners, local political officials local media and other interested parties.
- A fact sheet was sent to the parties included on the mailing list in October, 1994 that summarized the site history and the details for the first phase of the remedial investigation.
- A fact sheet was sent to the parties included on the mailing list in June, 1995 that summarized the results of the first phase of the remedial investigation and provided the details for the second phase of the remedial investigation.
- A fact sheet was sent to the parties included on the mailing list on December 4, 1995 that announced a public meeting and summarized the results of the remedial investigation.
- A public meeting was held on December 21, 1995 to discuss the results of the remedial investigation.
- A fact sheet was sent to the parties included on the mailing list on October 4, 1996 that announced the proposed remedial action plan, the dates for the public comment period and the date of the public meeting to discuss the proposed remedial action plan.
- The public comment period on the proposed remedial action plan extended from October 7, 1996 to November 8, 1996.
- A public meeting was held on October 28, 1996 that discussed the proposed remedial action plan.
- In November, 1996 a Responsiveness Summary was prepared and made available to the public to address the comments received during the public comment period for the proposed remedial action plan.

SITE LOCATION MAP

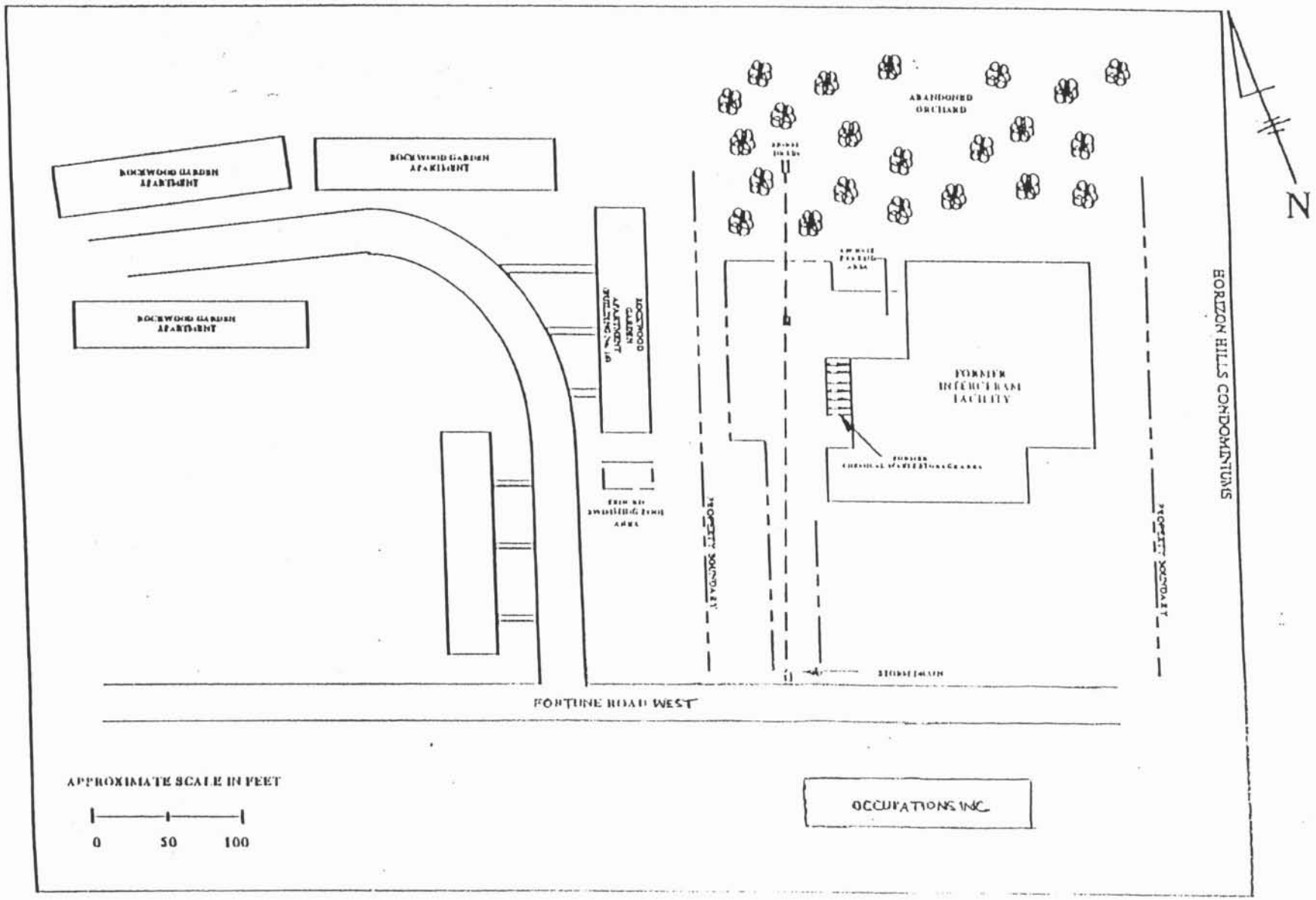


ORANGE COUNTY ATLAS
HAGSTROM MAP 1990

0 2540

Approx. Scale (ft.)

FIGURE 1



SITE MAP

FIGURE 2

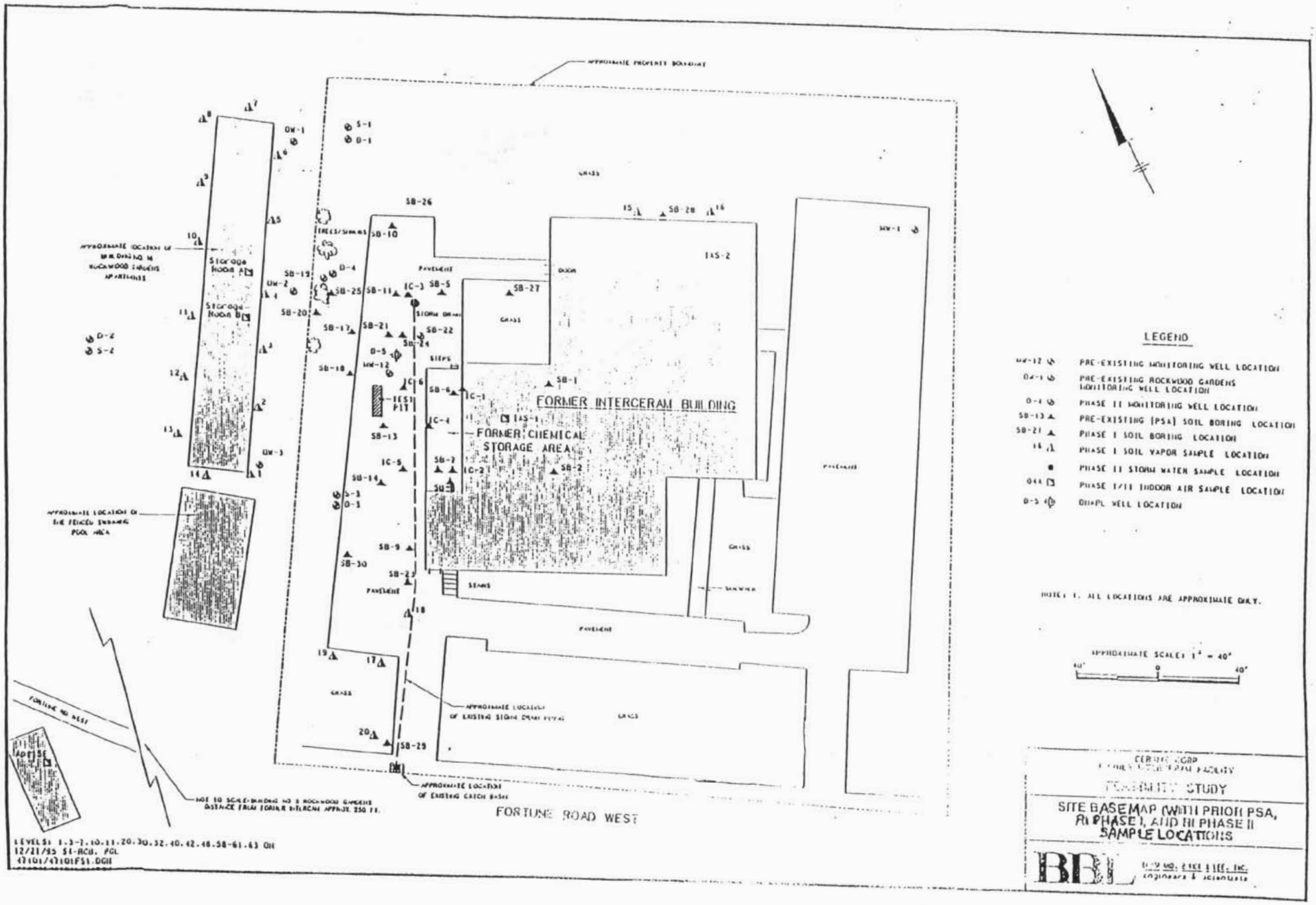

FORMER INTERCERAM BUILDING
FORMER CHEMICAL STORAGE AREA
FORTUNE ROAD WEST
LEGEND
PRE-EXISTING MONITORING WELL LOCATION
PRE-EXISTING ROCKWOOD GARDENS MONITORING WELL LOCATION
PHASE II MONITORING WELL LOCATION
PRE-EXISTING (PSA) SOIL BORING LOCATION
PHASE I SOIL BORING LOCATION
PHASE I SOIL VAPOR SAMPLE LOCATION
PHASE II STORM WATER SAMPLE LOCATION
PHASE I/II INDOOR AIR SAMPLE LOCATION
DNAPL WELL LOCATION
NOTES: 1. ALL LOCATIONS ARE APPROXIMATE ONLY.
APPROXIMATE SCALE: 1" = 40'
FEASIBILITY STUDY
SITE BASEMAP (WITH PRIOR PSA, PHASE I, AND PHASE II SAMPLE LOCATIONS

FIGURE 3

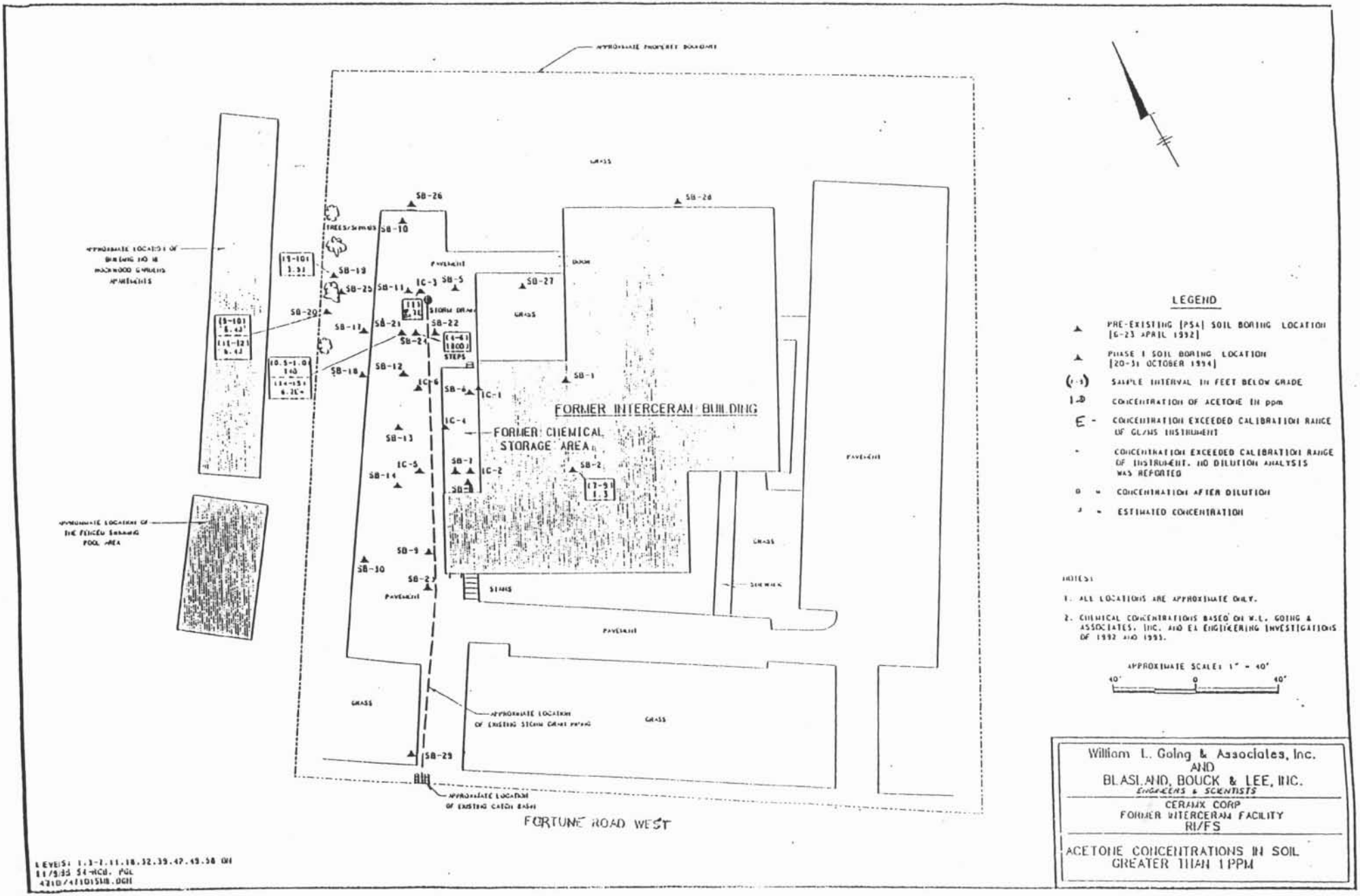

FORMER INTERCERAM BUILDING
FORMER CHEMICAL STORAGE AREA
FORTUNE ROAD WEST
GRASS
PAVEMENT
STEPS
SIDEWALK
SB-1
SB-2
SB-3
SB-4
SB-5
SB-6
SB-7
SB-8
SB-9
SB-10
SB-11
SB-12
SB-13
SB-14
SB-15
SB-16
SB-17
SB-18
SB-19
SB-20
SB-21
SB-22
SB-23
SB-24
SB-25
SB-26
SB-27
SB-28
SB-29
IC-1
IC-2
IC-3
IC-4
IC-5
IC-6
LEGEND
PRE-EXISTING (PSA) SOIL BORING LOCATION (6-23 APRIL 1992)
PHASE I SOIL BORING LOCATION (20-31 OCTOBER 1994)
SAMPLE INTERVAL IN FEET BELOW GRADE
CONCENTRATION OF ACETONE IN ppm
E - CONCENTRATION EXCEEDED CALIBRATION RANGE OF GC/MS INSTRUMENT
CONCENTRATION EXCEEDED CALIBRATION RANGE OF INSTRUMENT. NO DILUTION ANALYSIS WAS REPORTED
D = CONCENTRATION AFTER DILUTION
J = ESTIMATED CONCENTRATION
NOTES:
1. ALL LOCATIONS ARE APPROXIMATE ONLY.
2. CHEMICAL CONCENTRATIONS BASED ON W.L. GOING & ASSOCIATES, INC. AND EA ENGINEERING INVESTIGATIONS OF 1992 AND 1993.
APPROXIMATE SCALE: 1" = 40'
40' 0 40'
William L. Going & Associates, Inc.
AND
BLASLAND, BOUCK & LEE, INC.
ENGINEERS & SCIENTISTS
CERAMX CORP
FORMER INTERCERAM FACILITY
RI/FS
ACETONE CONCENTRATIONS IN SOIL
GREATER THAN 1 PPM

FIGURE 4

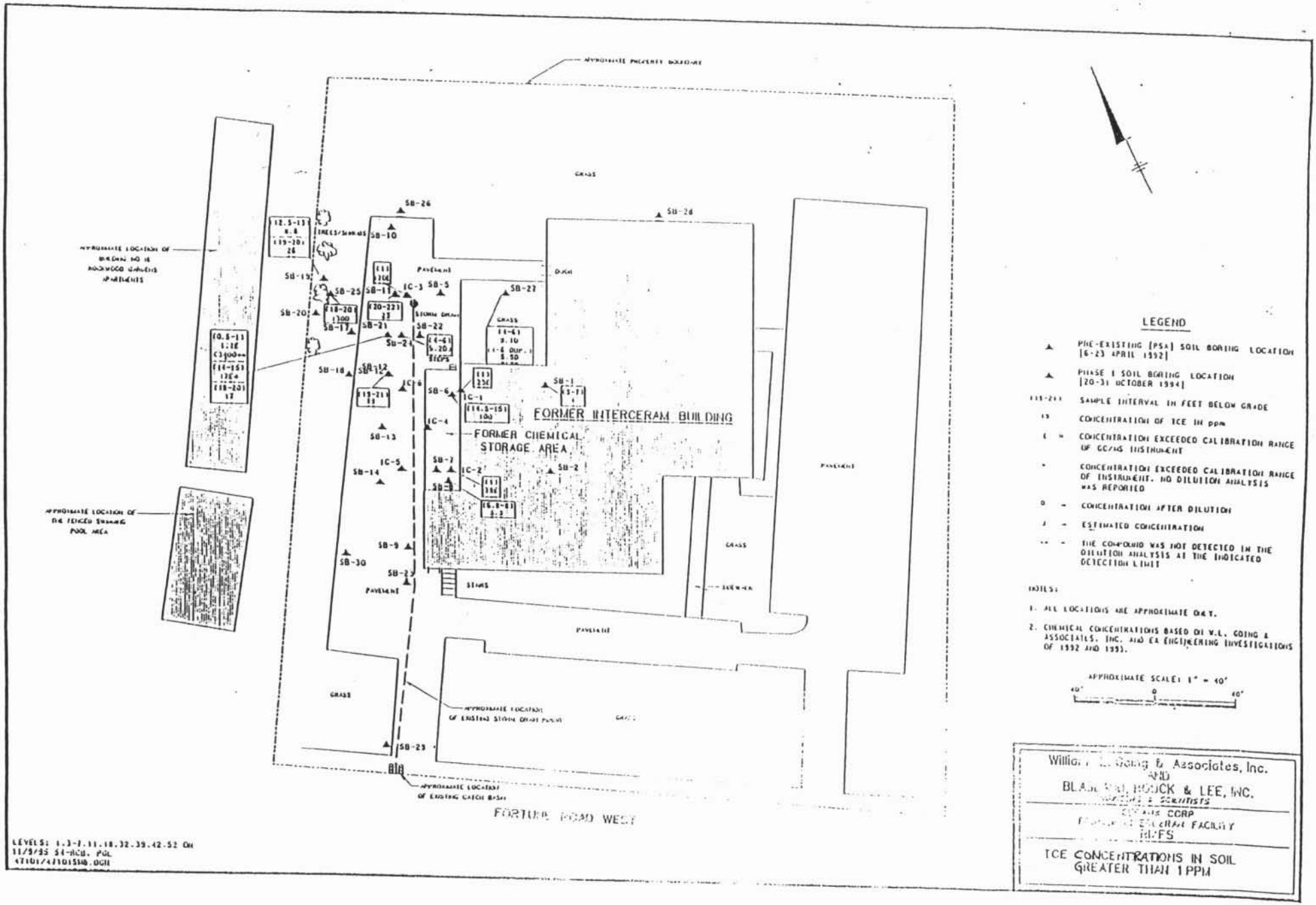

FORMER INTERCERAM BUILDING
FORMER CHEMICAL STORAGE AREA
FORTUNE ROAD WEST
GRASS
PAVEMENT
STEPS
SB-1
SB-2
SB-9
SB-10
SB-11
SB-12
SB-13
SB-14
SB-15
SB-18
SB-20
SB-21
SB-22
SB-23
SB-24
SB-25
SB-26
SB-27
SB-28
SB-30
IC-1
IC-2
IC-3
IC-4
IC-5
IC-6
LEGEND
PRE-EXISTING (PSA) SOIL BORING LOCATION (6-23 APRIL 1992)
PHASE I SOIL BORING LOCATION (20-31 OCTOBER 1994)
SAMPLE INTERVAL IN FEET BELOW GRADE
CONCENTRATION OF TCE IN ppm
E = CONCENTRATION EXCEEDED CALIBRATION RANGE OF GC/MS INSTRUMENT
* CONCENTRATION EXCEEDED CALIBRATION RANGE OF INSTRUMENT. NO DILUTION ANALYSIS WAS REPORTED
D - CONCENTRATION AFTER DILUTION
J - ESTIMATED CONCENTRATION
U - THE COMPOUND WAS NOT DETECTED IN THE DILUTION ANALYSIS AT THE INDICATED DETECTION LIMIT
NOTES:
1. ALL LOCATIONS ARE APPROXIMATE O&Y.
2. CHEMICAL CONCENTRATIONS BASED ON W.L. GORE & ASSOCIATES, INC. AND EA ENGINEERING INVESTIGATIONS OF 1992 AND 1993.
APPROXIMATE SCALE: 1" = 40'
40' 0 40'
William T. Gore & Associates, Inc.
AND
BLASLAND, BOUCK & LEE, INC.
ENGINEERS & SCIENTISTS
GORE CORP
FORMER CERAM FACILITY
RI/FS
TCE CONCENTRATIONS IN SOIL GREATER THAN 1PPM
LEVELS: 1.3-7.11.18.32.39.42.52 ON
11/9/95 S4-RCU. PGL
4T101/4T101SHB.DGN

FIGURE 5

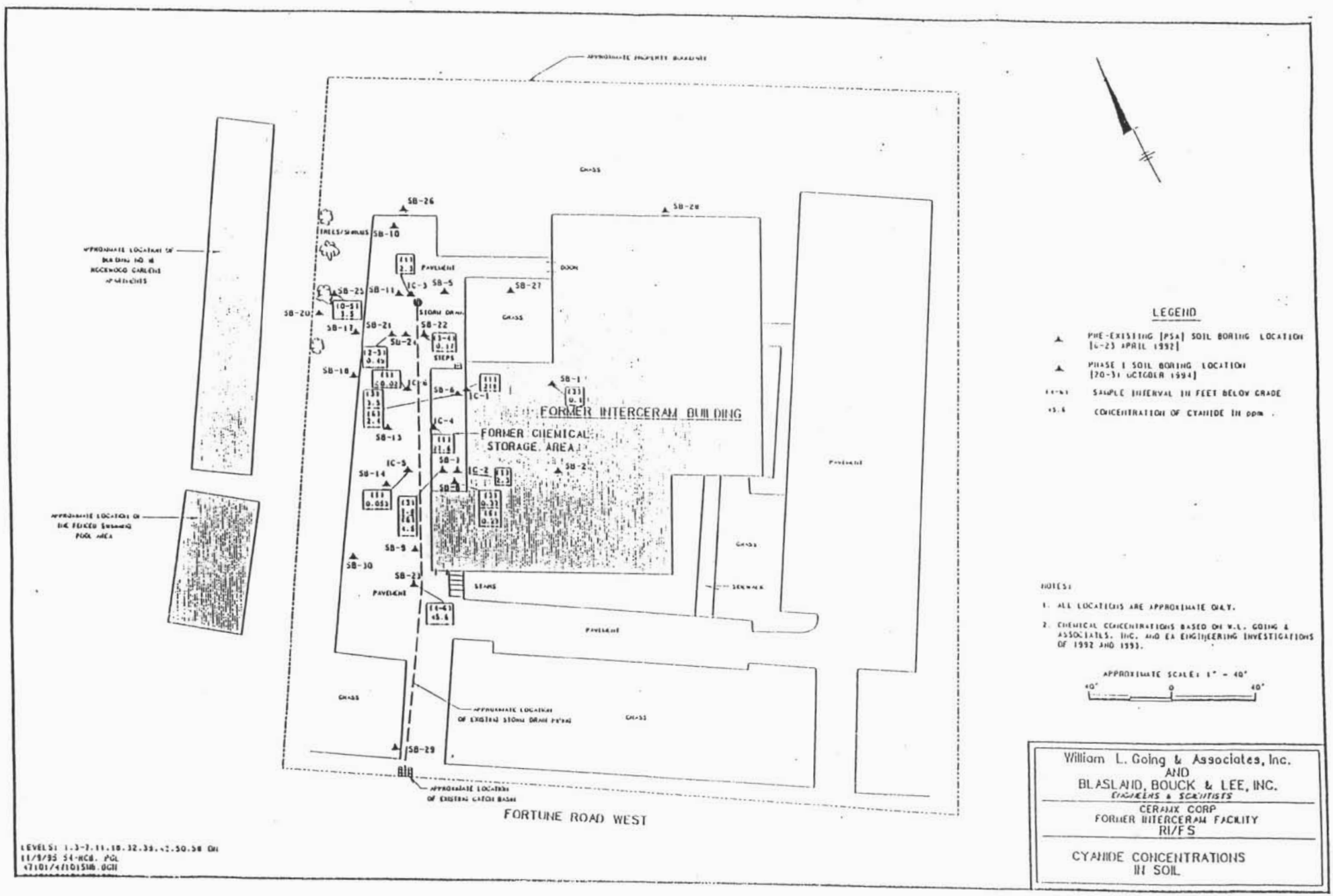

FORMER INTERCERAM BUILDING
FORMER CHEMICAL STORAGE AREA
FORTUNE ROAD WEST
SB-26
SB-28
SB-10
SB-25
SB-11
SB-5
SB-27
SB-20
SB-17
SB-21
SB-22
SB-18
SB-6
SB-1
SB-13
SB-3
SB-2
SB-14
SB-9
SB-30
SB-23
SB-29
IC-1
IC-2
IC-3
IC-4
IC-5
IC-6
PAVEMENT
GRASS
STEPS
SEAMS
LEGEND
PRE-EXISTING [PSA] SOIL BORING LOCATION [6-23 APRIL 1992]
PHASE I SOIL BORING LOCATION [20-31 OCTOBER 1994]
SAMPLE INTERVAL IN FEET BELOW GRADE
CONCENTRATION OF CYANIDE IN ppm .
NOTES:
1. ALL LOCATIONS ARE APPROXIMATE ONLY.
2. CHEMICAL CONCENTRATIONS BASED ON W.L. GOING & ASSOCIATES, INC. AND EA ENGINEERING INVESTIGATIONS OF 1992 AND 1993.
APPROXIMATE SCALE: 1" = 40'
40' 0 40'
William L. Going & Associates, Inc.
AND
BLASLAND, BOUCK & LEE, INC.
ENGINEERS & SCIENTISTS
CERAMX CORP
FORMER INTERCERAM FACILITY
RI/FS
CYANIDE CONCENTRATIONS IN SOIL

FIGURE 6

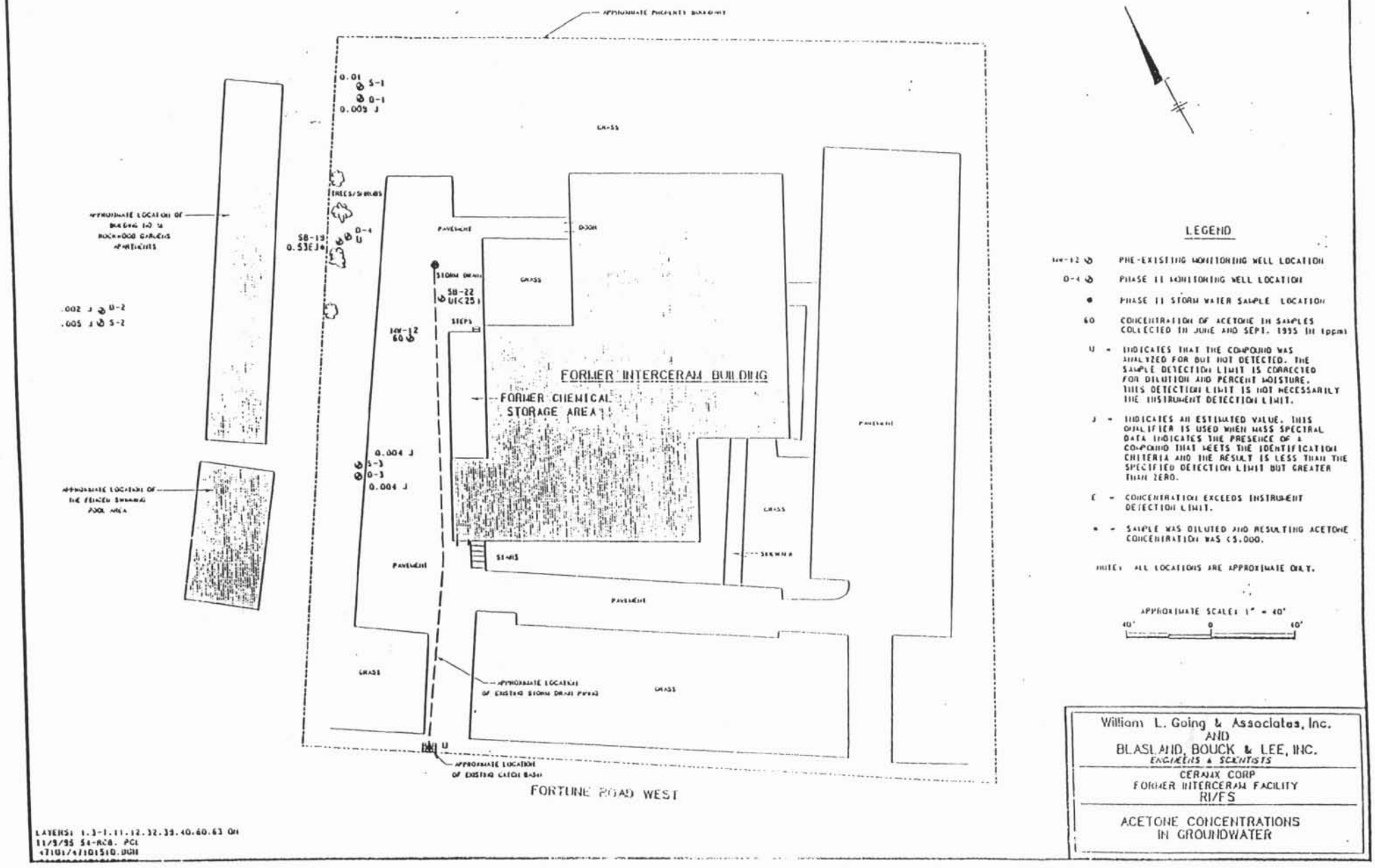

FORMER INTERCERAM BUILDING
FORMER CHEMICAL STORAGE AREA
FORTUNE ROAD WEST
GRASS
PAVEMENT
STEPS
STORM DRAIN
TREES/SHRUBS
APPROXIMATE LOCATION OF BUILDING NO 16 ROCKWOOD GARDENS APARTMENTS
APPROXIMATE LOCATION OF THE FENCED SWIMMING POOL AREA
APPROXIMATE LOCATION OF EXISTING STORM DRAIN PIPES
APPROXIMATE LOCATION OF EXISTING CATCH BASIN
0.01 S-1
0.009 J D-1
SB-13 0.53EJ
D-4 U
SB-22 U(C25)
MW-12 60
0.002 J D-2
0.005 J S-2
0.004 J S-3
0.004 J D-3
U
LEGEND
MW-12 PRE-EXISTING MONITORING WELL LOCATION
D-4 PHASE II MONITORING WELL LOCATION
PHASE II STORM WATER SAMPLE LOCATION
60 CONCENTRATION OF ACETONE IN SAMPLES COLLECTED IN JUNE AND SEPT. 1995 (in ppm)
U - INDICATES THAT THE COMPOUND WAS ANALYZED FOR BUT NOT DETECTED. THE SAMPLE DETECTION LIMIT IS CORRECTED FOR DILUTION AND PERCENT MOISTURE. THIS DETECTION LIMIT IS NOT NECESSARILY THE INSTRUMENT DETECTION LIMIT.
J - INDICATES AN ESTIMATED VALUE. THIS QUALIFIER IS USED WHEN MASS SPECTRAL DATA INDICATES THE PRESENCE OF A COMPOUND THAT MEETS THE IDENTIFICATION CRITERIA AND THE RESULT IS LESS THAN THE SPECIFIED DETECTION LIMIT BUT GREATER THAN ZERO.
E - CONCENTRATION EXCEEDS INSTRUMENT DETECTION LIMIT.
* - SAMPLE WAS DILUTED AND RESULTING ACETONE CONCENTRATION WAS CS,000.
NOTE: ALL LOCATIONS ARE APPROXIMATE ONLY.
APPROXIMATE SCALE: 1" = 40'
40' 0 40'
William L. Going & Associates, Inc.
AND
BLASLAND, BOUCK & LEE, INC.
ENGINEERS & SCIENTISTS
CERAMX CORP
FORMER INTERCERAM FACILITY
RI/FS
ACETONE CONCENTRATIONS IN GROUNDWATER
LAYERS: 1,3-1,11,12,32,38,40,60,63 ON
11/9/95 S4-RC8. PCL
<710I/<710IS10.DGN

FIGURE 7

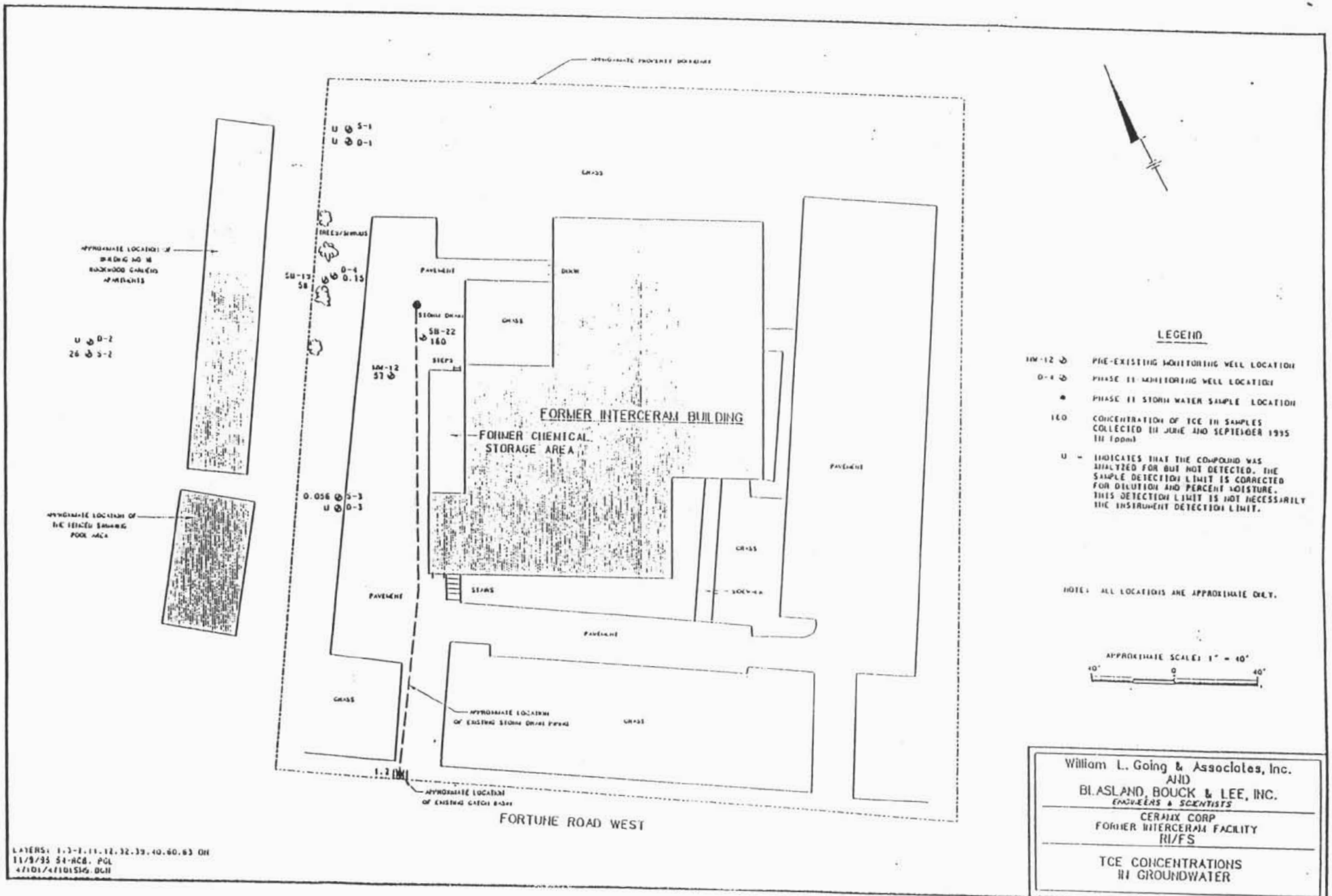

FORMER INTERCERAM BUILDING
FORMER CHEMICAL STORAGE AREA
PAVEMENT
GRASS
STEPS
TREES/SHRUBS
FORTUNE ROAD WEST
U @ S-1
U @ D-1
U @ D-2
26 @ S-2
SB-13 58
D-4 0.15
SB-22 160
MW-12 57
0.056 @ S-3
U @ D-3
APPROXIMATE LOCATION OF EXISTING STORM DRAIN PIPE
APPROXIMATE LOCATION OF EXISTING CATCH BASIN
LEGEND
MW-12 @ PRE-EXISTING MONITORING WELL LOCATION
D-4 @ PHASE II MONITORING WELL LOCATION
PHASE II STORM WATER SAMPLE LOCATION
160 CONCENTRATION OF TCE IN SAMPLES COLLECTED IN JUNE AND SEPTEMBER 1995 IN (ppm)
U - INDICATES THAT THE COMPOUND WAS ANALYZED FOR BUT NOT DETECTED. THE SAMPLE DETECTION LIMIT IS CORRECTED FOR DILUTION AND PERCENT MOISTURE. THIS DETECTION LIMIT IS NOT NECESSARILY THE INSTRUMENT DETECTION LIMIT.
NOTE: ALL LOCATIONS ARE APPROXIMATE ONLY.
APPROXIMATE SCALE: 1" = 40'
40' 0 40'
William L. Going & Associates, Inc.
AND
BLASLAND, BOUCK & LEE, INC.
ENGINEERS & SCIENTISTS
CERAMIX CORP
FORMER INTERCERAM FACILITY
RI/FS
TCE CONCENTRATIONS IN GROUNDWATER

FIGURE 8

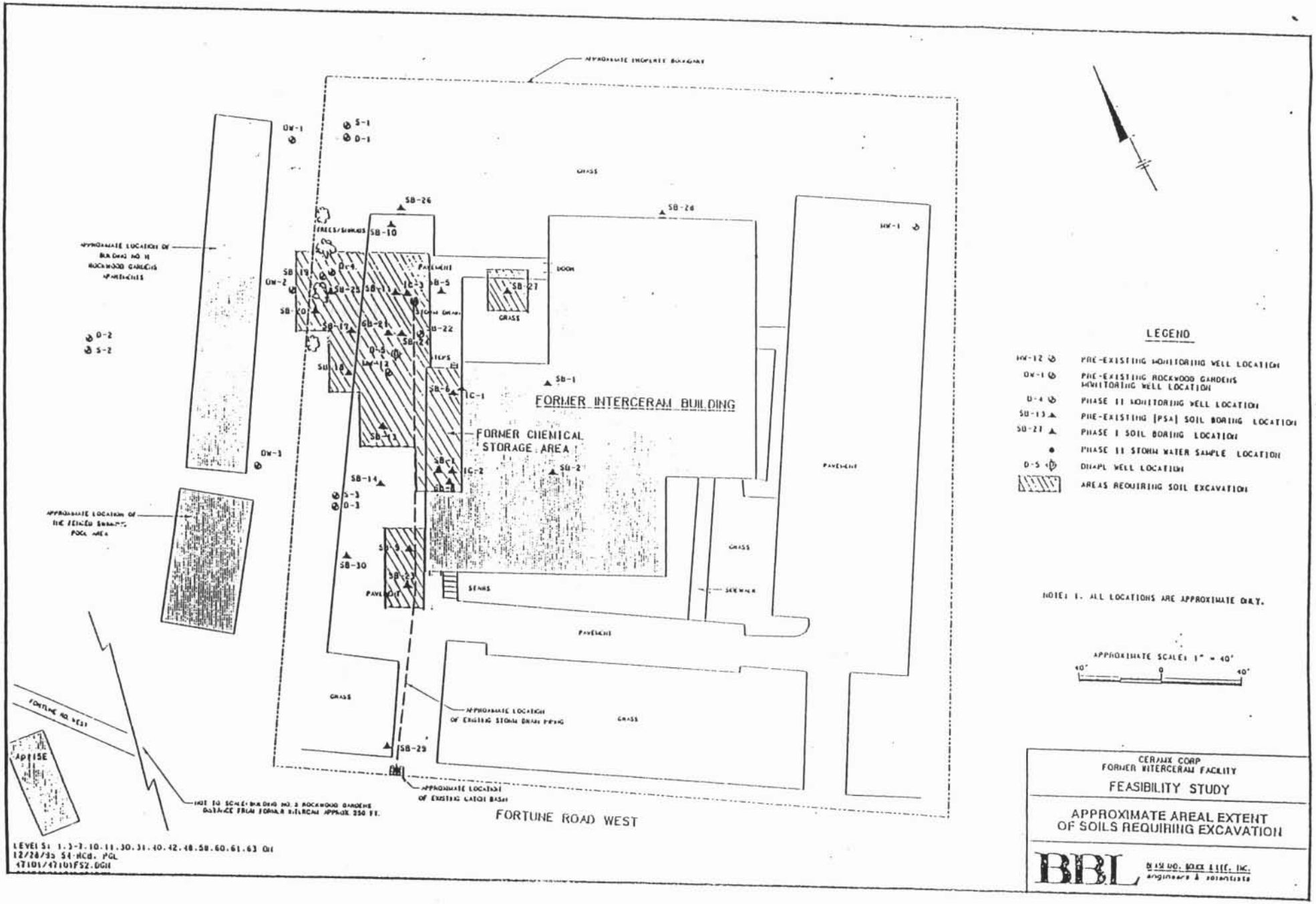

FORMER INTERCERAM BUILDING
FORMER CHEMICAL STORAGE AREA
FORTUNE ROAD WEST
GRASS
PAVEMENT
SEARS
LEGEND
PRE-EXISTING MONITORING WELL LOCATION
PRE-EXISTING ROCKWOOD GARDENS MONITORING WELL LOCATION
PHASE II MONITORING WELL LOCATION
PRE-EXISTING (PSA) SOIL BORING LOCATION
PHASE I SOIL BORING LOCATION
PHASE II STORM WATER SAMPLE LOCATION
DNAPL WELL LOCATION
AREAS REQUIRING SOIL EXCAVATION
NOTE: 1. ALL LOCATIONS ARE APPROXIMATE O.R.T.
APPROXIMATE SCALE: 1" = 40'
CERAMIX CORP
FORMER INTERCERAM FACILITY
FEASIBILITY STUDY
APPROXIMATE AREAL EXTENT OF SOILS REQUIRING EXCAVATION
BBL
BLASLAND, BOUCK & LEE, INC.
engineers & scientists

FIGURE 9

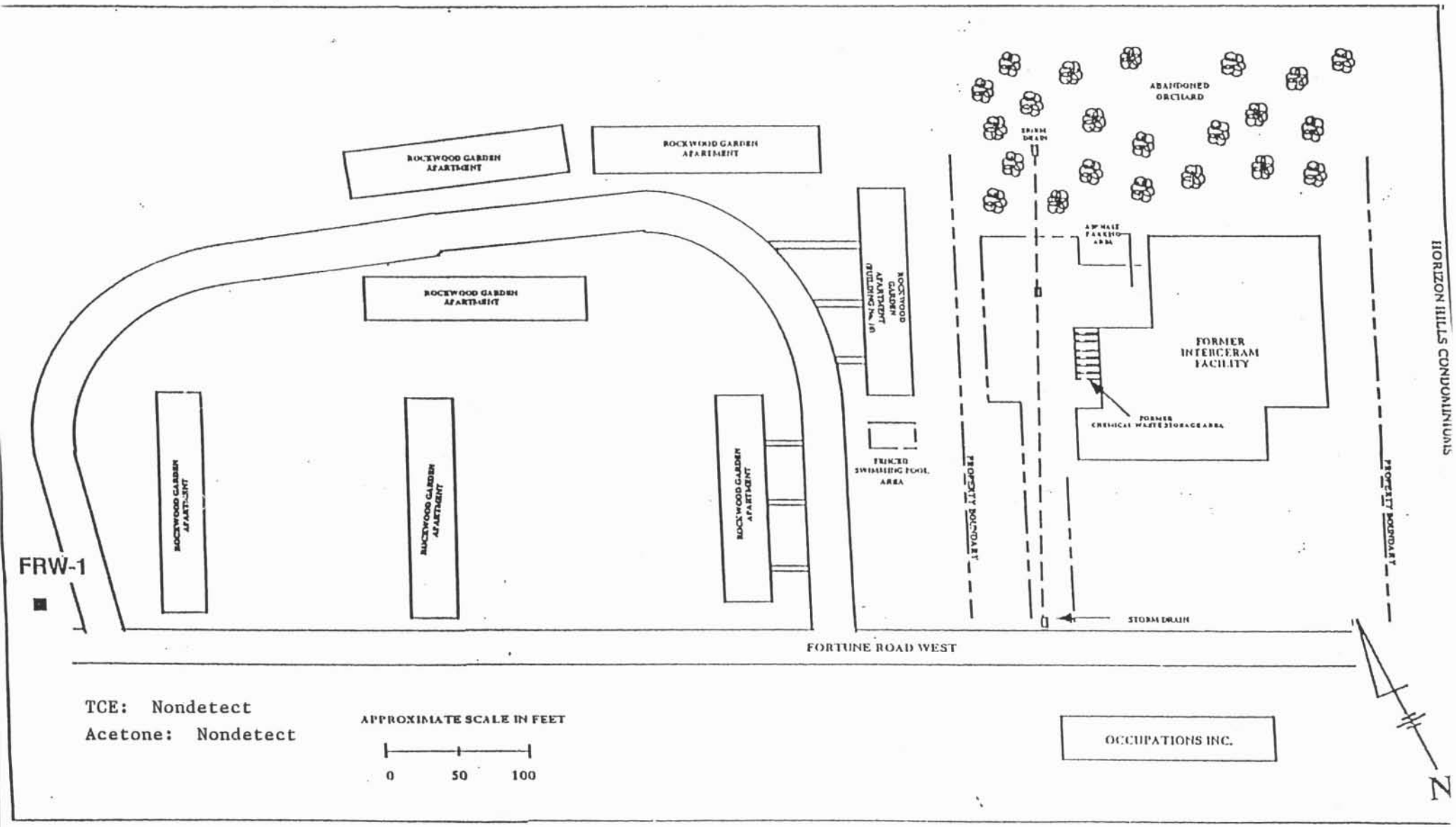

ROCKWOOD GARDEN APARTMENT
ROCKWOOD GARDEN APARTMENT
ROCKWOOD GARDEN APARTMENT
ROCKWOOD GARDEN APARTMENT
ROCKWOOD GARDEN APARTMENT
ROCKWOOD GARDEN APARTMENT BUILDING No. 10
FENCED SWIMMING POOL AREA
ABANDONED ORCHARD
STORM DRAIN
ASPHALT PARKING AREA
FORMER INTERCERAM FACILITY
FORMER CHEMICAL WASTE STORAGE AREA
PROPERTY BOUNDARY
PROPERTY BOUNDARY
HORIZON HILLS CONDOMINIUMS
STORM DRAIN
FRW-1
FORTUNE ROAD WEST
TCE: Nondetect
Acetone: Nondetect
APPROXIMATE SCALE IN FEET
0
50
100
OCCUPATIONS INC.
N

Figure 10

Table 1
Nature and Extent of Contamination

MEDIA	CLASS	CONTAMINANT OF CONCERN	SAMPLES ANALYZED (No.)	CONTAMINANT DETECTED. (No. OF SAMPLES)	MAX. CONC. (ppb)	SAMPLES EXCEEDING SCGs (No.)	SCG (ppb)
Groundwater	Volatile Organic Compounds (VOCs)	Trichloroethene	14	9	160,000	8	5
		Acetone	14	9	60,000	2	50
		1,1-Dichloroethane	14	3	30	2	5
		1,1-Dichloroethene	14	4	86	3	5
		1,2-Dichloroethene	14	4	8,200	7	5
		Methylene Chloride	14	1	30	1	5
		Tetrachloroethene	14	2	130	2	5
		Toluene	14	5	24	4	5
		1,1,1-Trichloroethane	14	5	400	4	5
		Vinyl Chloride	14	2	12	2	2
Soils	Volatile Organic Compounds (VOCs)	Acetone	47	19	180,000	11	200
		2-Butanone	47	11	9,100	8	300
		1,2-Dichloroethene	47	23	1,300	4	300
		Trichloroethene	47	38	170,000	19	700
		Freon	47	6	12,000	1	6,000
	Metals	Cyanide	45	16	219,000	3	14,000

Table 2
Remedial Alternative Costs

Remedial Alternative	Capital Cost ($)	Annual O&M ($)	Total Present Worth ($)
Alternative 1: No Action	0	0	0
Alternative 2: LTTD	1,600,000	15,000	1,800,000
Alternative 3: SVE	1,400,000	63,000 (2 yrs.) 15,000(28 yrs)	1,700,000
Alternative 4: Offsite Treatment & Disposal	10,500,000	15,000	10,700,000

Appendix A

Administrative Record

LIST OF DOCUMENTS IN THE ADMINISTRATIVE RECORD

Draft Geohydrologic Investigation at the Former Interceram Facility; EA Engineering, Science and Technology, Inc.; September 1992

Draft Soil Vapor Extraction Pilot Test Results; EA Engineering, Science and Technology, Inc.; September 1992

Preliminary Site Assessment Report; EA Engineering, Science and Technology, Inc.; December 1993

Remedial Investigation/ Feasibility Study Project Plans; W.L. Going & Associates, Inc.; October 1994

Remedial Investigation Report; W.L. Going & Associates, Inc.; November 1995

Feasibility Study; W.L. Going & Associates, Inc.; January 1996

Appendix B

Responsiveness Summary

RESPONSIVENESS SUMMARY

The New York State Department of Environmental Conservation (NYSDEC) and the New York State Department of Health (NYSDOH) held a public meeting on October 28, 1996 at the Wallkill Town Hall to discuss the findings of the Remedial Investigation/Feasibility Study (RI/FS) and the NYSDEC's Proposed Remedial Action Plan (PRAP). The RI/FS was performed by William L. Going & Associates, Inc., consultants under contract with the property owner Ceramx Corporation. Present at the meeting were representatives from the NYSDEC and NYSDOH, elected Orange County Officials, representatives for the U.S. Congress, William L. Going & Associates, Inc, Interface Services, Inc., representatives for Ceramx Corporation, representatives for Rockwood Garden Apartments and concerned citizens.

The Feasibility Study and PRAP were made available for public review on October 7, 1996 at the document repositories established for this site. During the public comment period which extended from October 7, 1996 to November 8, 1996, NYSDEC received no written comments.

Responses to the questions and comments received during the public meeting on October 28, 1996 follow.

Question 1.
What are the long term effects of the chemicals found on site?
Response.
Most of the chemicals detected at this site are chlorinated solvents such as dichloroethene and trichloroethene. There is a significant amount of health effects data available relating to their toxicity. However, most of the data is from chronic exposure studies on laboratory animals. These animals are exposed to large doses of these chemicals over a long period of time which are much greater than the low level environmental concentration that are present at the Interceram facility. The studies show these compounds do cause cancer in laboratory animals exposed to high levels over their lifetime. It has not been determined whether or not they cause cancer in humans. Most of the human exposure data available has been obtained from occupational situations where an accident occurred resulting in acute exposure. The data suggests there are noncarcinogenic properties associated with these chemicals such as causing damage to the liver, kidneys and nervous system. No chronic data for human beings exists because the OSHA standards require workers be supplied with personal protective equipment to minimize their exposures and therefore eliminating chronic exposure. There are no completed exposure pathways for the general public at this site and therefore no health risks exist.

Question 2.
What is the name of the site in Dutchess County where the low temperature thermal desorption units were used and is this site a class 2?
Response.
The site's name is Taconic Products, #314015. This site was reclassified from a class 2 to a class 4 in December 1995 after the treatment of the contaminated soil by LTTD was complete.

Question 3.
What was the basis used to monitor the groundwater annually instead of something more frequent?
Response.
The groundwater will be sampled and analyzed quarterly for one year. These results will be evaluated and a decision will be made by the NYSDEC and NYSDOH whether to continue with the monitoring program, modify the monitoring program or implement operable unit 2. If there were drinking water wells or public water supply wells downgradient of the site, the monitoring requirements would be more stringent.

Question 4.
How far does the groundwater plume extend onto the Rockwood Gardens Apartment's property?
Response.
The plume extends to the west, down the hill, approximately 200 feet onto the Rockwood Gardens Apartment's property. Well couplet, S2 and D2, which is located 60 feet downgradient of the site in the parking lot west of Building 16 at Rockwood Garden Apartments, contains TCE. Whereas, well FRW-1, which is located 500 feet downgradient of the site, contains no site related contaminates. Please refer to Figures 8 and 10.

Question 5.
Was there any testing done to the northwest of the parking lot? There used to be a drainage ditch through this area carrying water away from the facility and down around Rockwood Garden Apartment's property.
Response.
Soil samples were collected from the chemical storage area outward in a radial pattern until there were no more chemicals detected. In addition, a monitoring well couplet was installed, northwest of the parking lot, and no site related contaminants were detected. Any chemicals that may have been released from the building via the drainage ditch would have seeped into the soil and/or groundwater and would have been detected in the soil or groundwater samples collected.

Question 6.
Is there any way to determine how long the contamination has been at the Interceram facility from the indoor air samples collected on site?
Response.
No. There are too many factors effecting soil gas which is what the indoor air study was actually measuring. The purpose of this study was to determine the potential risk, if any, to persons entering the facility.

Question 7.
Where is the excavation going to be?
Response.
Please refer to Figure 9.