3. REMEDIAL INVEST./
FEASIBILITY STUDY WORK
PLAN, FRANKLIN CLEANERS
SITE, INCORPORATED
VILLAGE OF HEMPSTEAD,
NASSAU COUNTY, NY. 3/97

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REMEDIAL INVESTIGATION AND FEASIBILITY STUDY

WORK PLAN

Franklin Cleaners Site
Village of Hempstead, Nassau County, New York
(Site Registry No. 1-30-050)

CONTRACT NO. D002708-24.1

Dvirka and Bartilucci
Consulting Engineers

MARCH 1997

REMEDIAL INVESTIGATION/FEASIBILITY STUDY
WORK PLAN

FRANKLIN CLEANERS SITE
VILLAGE OF HEMPSTEAD
NASSAU COUNTY, NEW YORK

(SITE REGISTRY NO. 1-30-050)

PREPARED FOR

NEW YORK STATE DEPARTMENT OF
ENVIRONMENTAL CONSERVATION

BY

DVIRKA AND BARTILUCCI
CONSULTING ENGINEERS
WOODBURY, NEW YORK

MARCH 1997

REMEDIAL INVESTIGATION/FEASIBILITY STUDY WORK PLAN
FRANKLIN CLEANERS SITE

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Section 1

1.0 INTRODUCTION

As part of New York State's program to investigate and remediate hazardous waste sites, the New York State Department of Environmental Conservation (NYSDEC) has issued a Work Assignment to Dvirka and Bartilucci Consulting Engineers of Woodbury, New York, under its Superfund Standby Contract with NYSDEC, to conduct a Remedial Investigation/Feasibility Study (RI/FS) for the Franklin Cleaners Site located in the Incorporated Village of Hempstead, Nassau County, New York. The RI/FS for this site is being performed with funds allocated under the New York State Superfund program.

This document, entitled "Remedial Investigation/Feasibility Study Work Plan for the Franklin Cleaners Site," has been prepared in accordance with NYSDEC Technical and Administrative Guidance Memoranda and contains site-specific information for conducting an RI/FS for this site. Detailed field investigation, quality assurance and quality control (QA/QC), and health and safety procedures and protocols are provided in the draft Generic Work Plan for the Investigation and Remediation of Dry Cleaner Sites, prepared by Dvirka and Bartilucci Consulting Engineers, dated February 1996.

Section 2

2.0 SUMMARY OF EXISTING INFORMATION

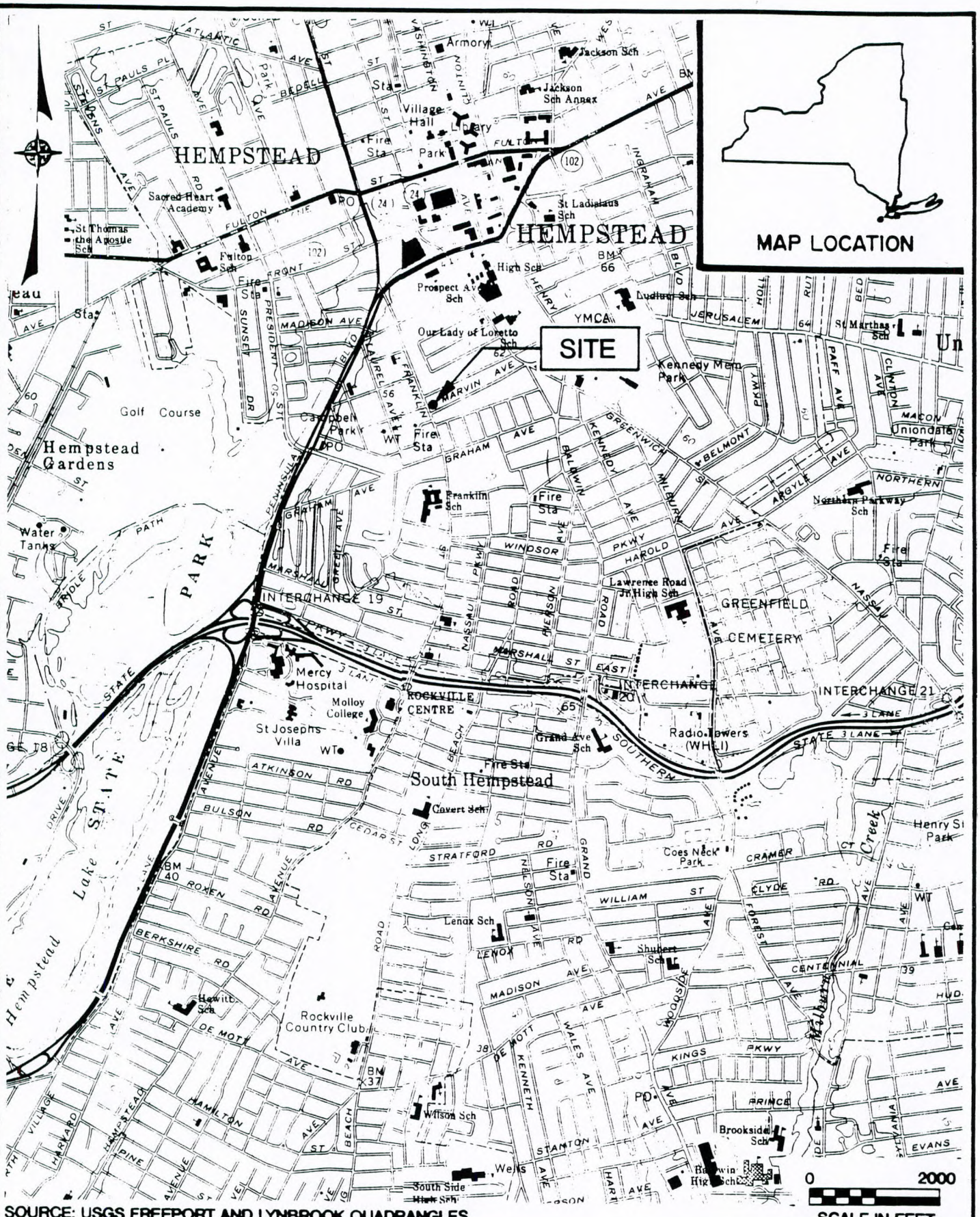
2.1 Site Location, Ownership and Access

The Franklin Cleaners Site is an inactive dry cleaning facility located at 206-208B South Franklin Street in the Village of Hempstead, Nassau County, New York (see Figure 2-1). The site is currently owned by Ms. Incoronata Perna and Mr. Guiseppe Sperduto who purchased the property in April of 1987. At present, the property is being utilized as a delicatessen and a coin laundromat, as well as for private apartments. Prior to being purchased by Ms. Perna and Mr. Sperduto, the property was owned by Mr. John Warrick between 1979 and 1987, during which a dry cleaning operation reportedly utilized the site beginning in the late 1970s or early 1980s. A building permit, dated April 1956, indicates that Mr. Warrick was the owner of the property when the existing building was constructed at the site. Additional information on previous ownership is provided in Section 2.3. The site was listed on the Registry of Inactive Hazardous Waste Disposal Sites in New York State on June 17, 1993. The registry number for the Franklin Cleaners Site is 1-30-050.

Access to the site is off of South Franklin Street. The area immediately adjacent to the building at the site is almost entirely paved, and the site is not completely fenced.

2.2 Site Description

The Franklin Cleaners Site and surrounding area are shown on Figure 2-2. The site is part of a small strip mall of two stores. The site is bordered to the north and east by residential homes, to the south by a pharmacy and a restaurant, and to the west by South Franklin Street. The surrounding area consists mainly of private residences, light commercial properties along South Franklin Street, and light to moderate commercial and industrial properties along Peninsula Boulevard. The size of the property is estimated to be 0.124 acres (approximately 60 feet in width by 90 feet in length). The existing building on the site is approximately 52 feet in width by 70 feet in length. There is an alley at the rear (east side) of the property that is approximately 12 feet wide, as well as small alleyways on the north and south sides of the property, which are approximately



SOURCE: USGS FREEPORT AND LYNBROOK QUADRANGLES

FRANKLIN CLEANERS SITE
HEMPSTEAD, NEW YORK

SITE LOCATION MAP

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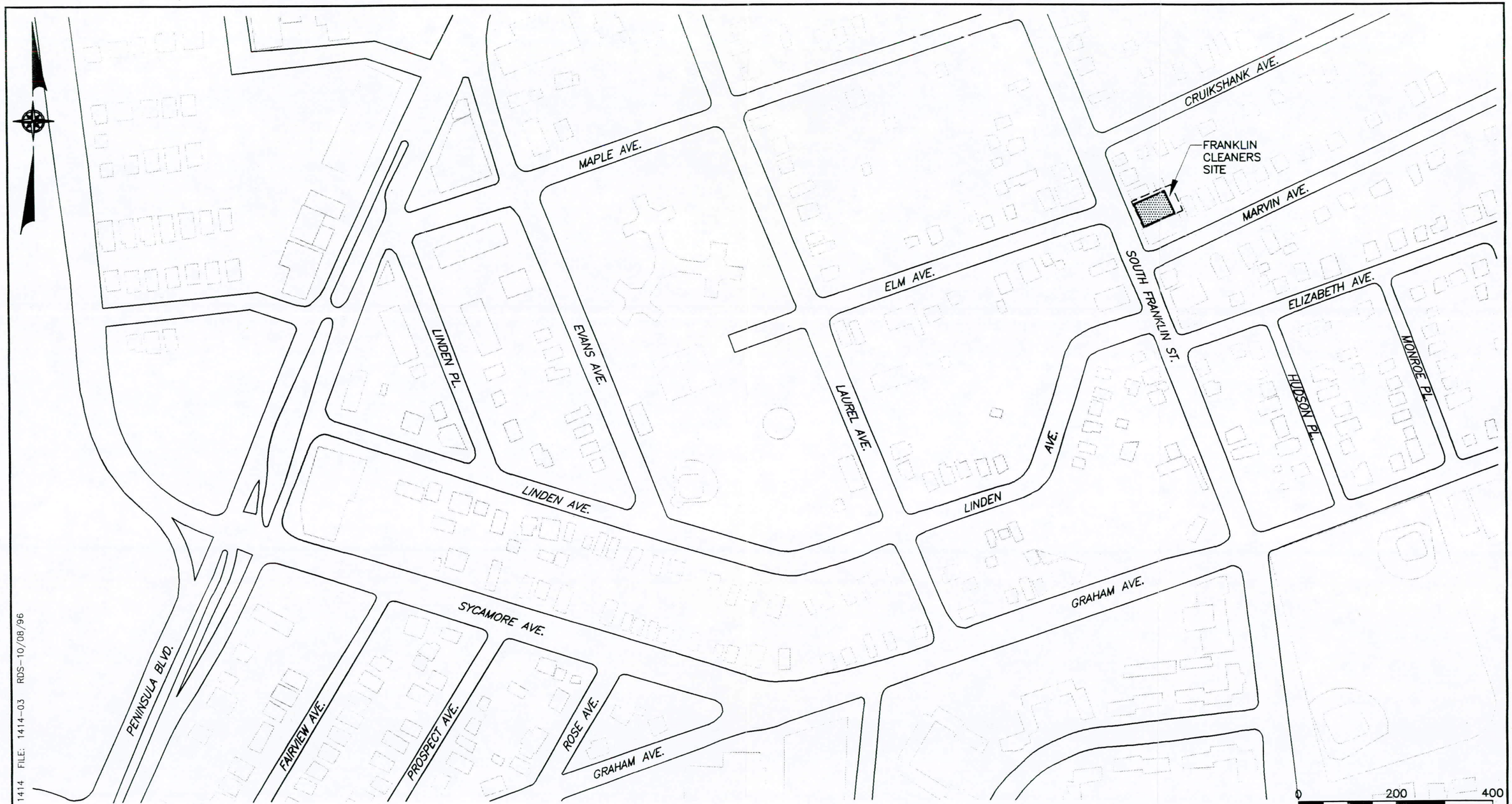
FIGURE 2-1



DIR: 1414 FILE: 1414-03 RDS-10/08/96

SOURCE: AERIAL PHOTOGRAPH (4-11-95)

FRANKLIN CLEANERS SITE
HEMPSTEAD, NEW YORK

SITE AND STUDY AREA MAP

FIGURE 2-2

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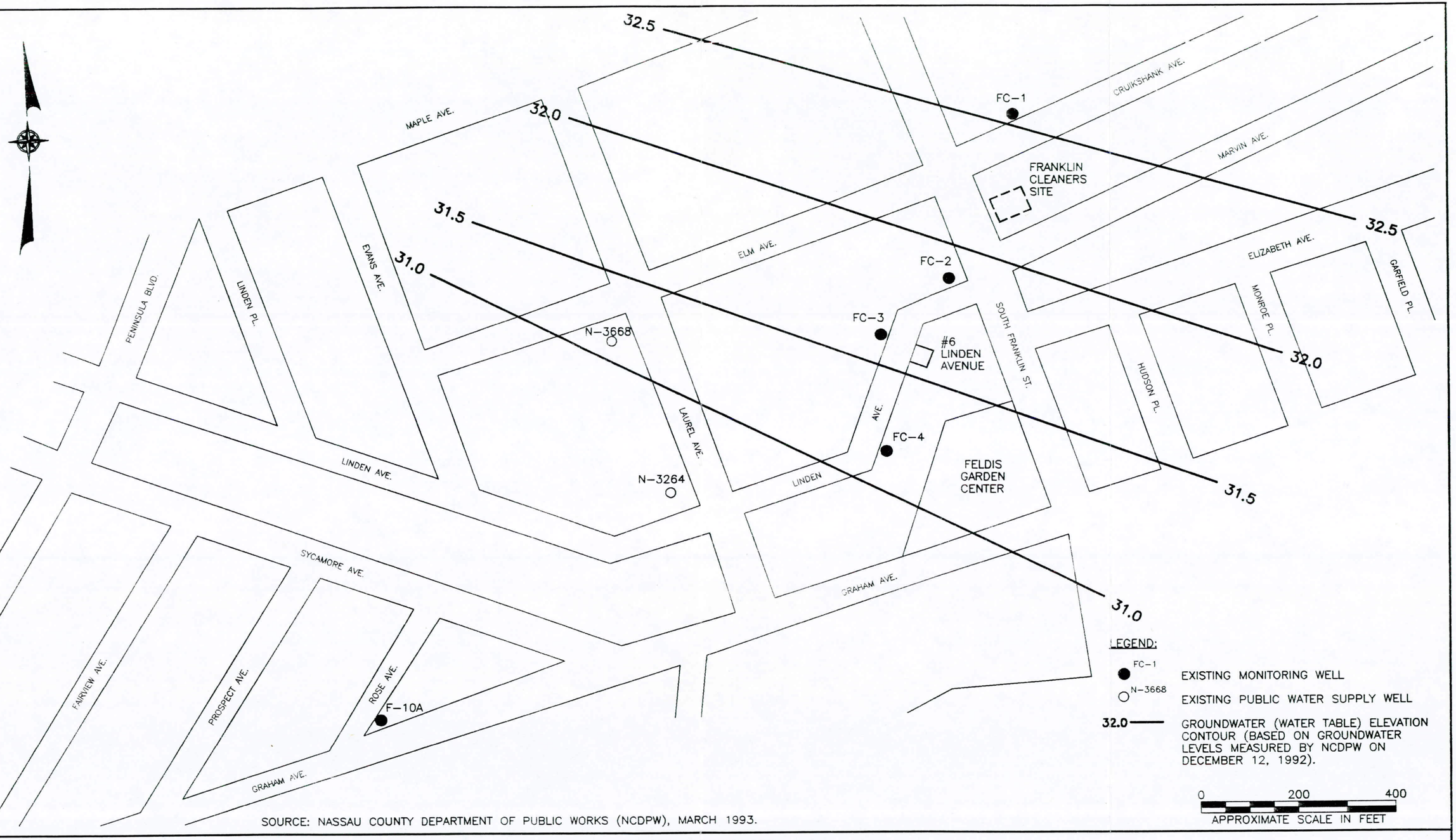
4 feet wide. The building consists of two stories and a basement and is of concrete block and brick construction. Retail stores, including a delicatessen and a laundromat, currently utilize the first floor and residential apartments occupy the second floor. The first floor and basement were utilized by the former dry cleaning facility.

The site receives public water supply from the Village of Hempstead and the building was connected to the Village sewer system in 1956 when the building was constructed. Two Village of Hempstead public water supply wells, N-3668 and N-8264, are located approximately 700 feet west-southwest of the site along Laurel Avenue between Elm Avenue and Linden Avenue. The locations of these wells are shown on Figure 2-3. Two private water supply wells are located at the private residence at 6 Linden Avenue, located approximately 300 feet southwest of the site, and one private water supply well located at Feldis Garden Center. A shallow irrigation well is located at Molloy College, just south of the Southern State Parkway.

The property gradually slopes toward South Franklin Street, and site drainage will infiltrate directly to the subsurface in areas that are not paved, and runoff from impervious surfaces will flow toward the front of the property and the street via the paved alleys on each side of the building. At the end of the alley near the southwest corner of the building, where the alley meets the sidewalk at the front of the property, is a low area where the concrete has subsided and is cracked. Drainage appears to pond and infiltrate beneath the concrete in this area. Building roof drains are reportedly connected to small dry wells; however, several roof drains were removed or have been disconnected near the base of the exterior building wall. The basement beneath the laundromat in the northwestern portion of the building has had flooding problems during heavy rainfall events.

2.3 Site History

The Franklin Cleaners Site is part of a small strip mall that was constructed in 1956. According to a building permit from the Village of Hempstead, dated April 1956, Mr. John Warrick was the owner of the property at the time that the on-site building was constructed. A building permit, dated June 1956, indicates that the building was to be occupied by three stores on the first



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SOURCE: NASSAU COUNTY DEPARTMENT OF PUBLIC WORKS (NCDPW), MARCH 1993.

FRANKLIN CLEANERS SITE
HEMPSTEAD, NEW YORK

WELL LOCATION MAP

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FIGURE 2-3

floor and four offices on the second floor. Another building permit for a new chimney, dated February 1957, indicates that the building occupancy is a "dry cleaning store."

Franklin Cleaners was a dry cleaning establishment that leased part of the building and reportedly began operations during the late 1970s or early 1980s. It was reported that the owner of Franklin Cleaners indicated the occurrence of leaks and spills from its machines and equipment. Some of the equipment, including a dry cleaning fluid "cooker," was reportedly operated in the basement of the building.

As discussed, the current owners, Ms. Perna and Mr. Sperduto, purchased the property in April 1987. In 1990, the name of the dry cleaner changed to Grace Cleaners, which operated at the site until 1991. In 1991, dry cleaning operations at the site ceased when the dry cleaner was replaced with a retail clothing store, Amelda's Clothing. The clothing store closed approximately 6 months later and the site was subsequently replaced by a succession of delicatessens, the latest of which currently operates at the site. In addition, a laundromat business has been continuously operated at the site since 1987, and four apartments on the second floor of the building have been leased to a number of individuals since 1987.

2.4 Previous Investigations

In March 1990, the Nassau County Department of Health (NCDOH) investigated a complaint of tainted drinking water from a private residence located at 6 Linden Avenue in the vicinity and downgradient of the Franklin Cleaners Site (see Figure 2-3). The residence was found to have two private water supply wells: a drinking water well (approximately 45 feet deep) and an irrigation well (approximately 32 feet deep). The water supply well was sampled from a bathroom tap on March 9, 1990. This tap water sample was found to contain tetrachloroethene (PCE) at 5,500 ug/l, trichloroethene (TCE) at 4 ug/l and cis-1,2-dichloroethene (DCE) at 2 ug/l. The irrigation well was sampled on March 28, 1990. The groundwater sample from the irrigation well contained PCE at 29,000 ug/l. The drinking water and groundwater standards for these compounds are 5 ug/l.

Since the Franklin Cleaners Site was located upgradient of the wells at 6 Linden Avenue, NCDOH performed an inspection of the dry cleaner premises and, subsequently, on April 24, 1990, collected soil samples (at a depth of 0 to 10 inches) from the basement of the existing building and at the rear or backyard of the dry cleaner property. One of the two soil samples from the basement was found to contain PCE at a concentration of 9,400 ug/kg. The sample from the rear of the property contained PCE at 650,000 ug/kg, TCE at 1,700 ug/kg and DCE at 680 ug/kg.

In 1993, a Preliminary Site Assessment (PSA) was performed by the Nassau County Department of Public Works (NCDPW). As part of this investigation, four groundwater monitoring wells (FC-1, FC-2, FC-3 and FC-4) were installed and sampled. The locations of these wells are shown on Figure 2-3. One of the wells, FC-1, was installed upgradient of the former dry cleaner site to a depth of 40 feet below grade. The other three wells, FC-2, FC-3 and FC-4, were installed downgradient of the site, each to a depth of 37 feet below grade. Groundwater samples were collected from the wells by NCDPW on December 30, 1992.

The analytical results of the groundwater samples indicated that the sample from monitoring well FC-2 contained PCE at 83 ug/l and that none of the contaminants of concern were detected in FC-1, FC-3 and FC-4.

2.5 Background Information

In addition to the groundwater quality information gathered as part of the previous investigations by the NCDOH and NCDPW, sample results from public water supply wells N-3668 and N-8264, located downgradient of the site, indicate that TCE was detected at 1 ug/l in a sample collected from N-3668 in December 1978 but was not detected in a sample obtained in November 1989. TCE was found at 1 ug/l in a sample collected from N-8264 in December 1978, and PCE was detected at 1 ug/l in a sample obtained in December 1989. However, these compounds were not detected in a sample collected from N-8264 in March 1990. Well N-3668 is 500 feet deep and N-8264 is 510 feet deep. The locations of these wells are shown on Figure 2-3.

Also, groundwater sample results from monitoring well N-8830 indicate that PCE was detected at 35 ug/l in a sample obtained in January 1979, and TCE was found at 2 ug/l in a sample collected in February 1982. In addition, PCE was detected at 9 ug/l in a sample obtained in January 1985. Monitoring well N-8830 is 84 feet deep. This well is located west of the site, along Peninsula Boulevard.

Geology and Hydrogeology

The Franklin Cleaners Site is located in Nassau County on Long Island. Long Island is composed of consolidated rock overlain by loose unconsolidated sediments. The pre-Cambrian bedrock slopes to the southeast and is overlain by upper Cretaceous and Pleistocene sands, gravels and clays.

Three major aquifers comprise most of Long Island's water supply. The Lloyd sand member of the Raritan formation is the deepest aquifer, resting directly on the bedrock. The clay member of the Raritan formation separates the Lloyd Sand member from the Magothy formation. The Magothy formation is a thick expanse of alternating beds of find sands, clays, silts and some coarse beds of sand and gravel. Above the Magothy aquifer is the Upper Glacial aquifer. The Upper Glacial aquifer consists of a wide variety of glaciofluvial deposits including fine to coarse stratified sand and gravel, boulders, clays and tills, consisting of unstratified mixtures of clay and boulders and some fresh water lake deposits composed of silt and clay. The outwash deposits in Nassau County are frequently low in rock and mineral particles and consist mainly of yellow stained and clear quartz.

The lower portion of the Magothy is the principal water supply aquifer for the portion of Nassau County in which the site is located. The Upper Glacial aquifer is not typically used for water supply in this area due to contamination problems. The private wells and monitoring wells discussed previously are all screened in the Upper Glacial aquifer. The public water supply wells are screened in the Magothy aquifer.

The Franklin Cleaners Site is underlain by glacial sands and gravels of Pleistocene age, typical of a glacial outwash plain. A review of the lithologic logs obtained during the drilling of monitoring wells in the area reveal stratified tan-brown-orange, fine to coarse grained, subangular to subround, quartz sand and gravel. In addition, the lithologic log from public water supply well N-3668, which is located approximately 700 feet west-southwest of the site, indicates that a significant clay layer with lignite exists between 85 and 132 feet below the surface at that location.

Groundwater is present at approximately 20 feet below grade in the vicinity of the Franklin Cleaners Site. As discussed, groundwater levels were measured at four monitoring wells in the vicinity of the site (monitoring wells FC-1 through FC-4) by NCDPW on December 12, 1992. These measurements were used by NCDPW to prepare a water table contour map. The water table elevation contours are shown on Figure 2-3. The water table contour map prepared by NCDPW indicated that groundwater was flowing from a north-northeast to south-southwest direction. The regional flow pattern of the Upper Glacial aquifer is more toward the southwest. A horizontal gradient of 0.0019 ft/ft was calculated across the site by NCDPW. The USGS indicates that the hydraulic conductivity of the Upper Glacial aquifer is approximately 270 feet per day (ft/d) in the vicinity of the site.

Section 3

3.0 SCOPE OF REMEDIAL INVESTIGATION/FEASIBILITY STUDY

3.1 Objectives and Approach

The focus of this Remedial Investigation and Feasibility Study (RI/FS) will be on the identification of the source and extent of contamination; definition of pathways of contaminant migration; determination of potential receptors; and evaluation of the need for and selection of remedial measures, if required.

The field investigation described below has been developed to allow for a comprehensive, single-phase investigation of the Franklin Cleaners Site. However, the field investigation will be conducted in a sequenced approach and, therefore, may be modified based upon information obtained during the investigation.

The initial phase of the investigation will focus on location of the source of contamination and definition of contaminant migration pathways. The field activities associated with this initial phase include obtaining groundwater level measurements from existing monitoring wells and preparing groundwater elevation contour maps to determine the groundwater flow direction, on and off-site surface and subsurface soil sampling to define/confirm areas and extent of soil contamination, and the installation and sampling of on-site and off-site groundwater monitoring probes to define the horizontal and vertical extent of groundwater contamination.

In addition, the initial phase of the investigation program will include indoor air sampling in the basement of the building on-site.

Once the source area and potential routes of contaminant migration, in particular the direction of the plume, have been delineated, the second phase of the investigation will include the installation and sampling of a groundwater monitoring well network supplemented with the construction of several piezometers. This includes the sampling of existing groundwater

monitoring wells in the vicinity of the site, as well as sampling of existing private wells that have been identified within the area of the plume and the installation and sampling of new shallow, intermediate and deep monitoring wells off-site. These wells and piezometers will provide information with regard to determination/confirmation of the direction and extent of groundwater contamination, provide permanent long-term monitoring points for monitoring the direction of groundwater flow and groundwater quality, provide information for the selection of a groundwater remediation method, if required, and to measure the effectiveness of future remediation efforts. The exact location and depth of the new monitoring wells and piezometers will be determined after completion of the initial phase of the work. An estimate of the number and depths of the new monitoring wells and piezometers and drilling/installation methods is provided in this work plan to allow for modifications without significant impacts on the project schedule.

The following section provides a detailed description of the field investigation of the Franklin Cleaners Site. Modifications to this work plan, based on the initial phase of investigation, will be provided to NYSDEC for approval prior to implementation.

3.2 Field Investigation

The field investigation for the Franklin Cleaners Site will include the following in the planned sequence of activities:

- Base map preparation (from aerial photograph);
- Groundwater level measurements and groundwater elevation contour mapping;
- Indoor Air Sampling
- Surface soil sampling (outdoor and indoor);
- Subsurface soil sampling (outdoor and indoor);
- Groundwater monitoring probe installation/sampling;
- Private water supply well survey;
- Monitoring well installation;

- Piezometer Installation;
- Test boring construction;
- Groundwater sampling of existing and new monitoring wells;
- Private water supply well sampling;
- Ambient air monitoring; and
- Surveying and mapping.

A summary of the field investigation program is provided in Table 3-1. Up to thirty five (35) surface soil samples will be collected and twenty (20) borings will be constructed. The subsurface soil sampling locations will be selected based upon the results of the surface soil samples. The locations of existing monitoring wells and known private water supply wells near the site are shown or indicated on Figure 2-3. The final locations for groundwater monitoring probes will be determined in the field. It is expected that up to 60 groundwater monitoring probes will be constructed. The locations of the new monitoring wells will be determined based upon the results of the initial phase of the field program. A summary of the sampling program is provided in Table 3-2. Since tetrachloroethene (PCE), a chlorinated volatile organic compound (VOC), is the primary contaminant of concern, all soil and groundwater samples provided to the laboratory will be analyzed for the chlorinated VOCs by USEPA Methods 8010 and 601, respectively. This analysis will also identify any breakdown products of PCE. The compounds included in this analysis include: vinyl chloride, chloroethane, trans-1,2-dichloroethene, cis-1,2-dichloroethene, tetrachloroethene, trichloroethene and 1,1,1-trichloroethane. In addition, for confirmatory purposes, 10 percent of the samples will also be analyzed for target compound list (TCL) volatile organic compounds by ASP Method 91-1. Groundwater samples collected from the wells will also be analyzed for iron and manganese in order to evaluate treatment processes. Further description of sampling procedures, decontamination procedures and monitoring well and piezometer installation procedures are provided in the draft Generic Work Plan, dated February 1996.

Table 3-1

FRANKLIN CLEANERS SITE
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
FIELD INVESTIGATION SUMMARY

Program Element	Description
Base Map Preparation	A copy of the most recent, existing aerial photograph of the site and surrounding area will be obtained. The aerial photograph will be used to prepare base maps for the site/study area.
Groundwater Level Measurements and Contour Mapping	Groundwater level measurements will be obtained from five (5) existing shallow and intermediate depth monitoring wells located in the study area, and a groundwater elevation contour map will be prepared in order to determine/confirm the groundwater flow direction. Subsequent to installation of up to nine (9) additional monitoring wells, and ten (10) additional piezometers, another round of groundwater level measurements will be obtained for preparation of final groundwater contour maps. Water levels in all of the monitoring wells and piezometers will be collected at least twice during the remedial investigation.
Outdoor Surface Soil Sampling	Up to eighteen (18) surface soil samples (at 6 to 12 inches in depth) will be collected at locations considered to be potential source areas and off-site areas to determine whether the adjacent property has been impacted. The exact locations of the samples will be determined in the field. Samples will be collected on-site, both in the rear and the front of the property as well as off-site, near the rear of the property. The samples will be screened utilizing a flame ionization detector and/or photoionization detector (FID/PID) in order to determine where borings should be located. The samples will be analyzed for chlorinated volatile organics by USEPA Method 8010. In addition, one (1) of the samples will also be analyzed for Target Compound List (TCL) +10 volatile organics by ASP Method 91-1.

Table 3-1 (continued)

FRANKLIN CLEANERS SITE
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
FIELD INVESTIGATION SUMMARY

Program Element	Description
Indoor Surface Soil Sampling	Up to twenty (20) surface soil samples (at 6 to 12 inches in depth) will be collected on-site in the basement of the building at locations considered to be potential source areas. The exact locations will be determined in the field. The samples will be screened utilizing a FID/PID. Results of the screening will be used to determine where borings should be located. The samples will be analyzed for chlorinated volatile organics by USEPA Method 8010. In addition, up to two (2) of the samples will be analyzed for TCL +10 volatile organics by ASP Method 91-1.
Outdoor Subsurface Soil Borings/Sampling	Up to twelve (12) Geoprobe borings will be advanced at the site in order to determine the extent of soil contamination on-site. The borings will be advanced to the groundwater interface (assumed to be 20 feet below grade based on available information). The locations of the borings will be based upon the FID/PID screening results of the surface soil samples. Continuous Geoprobe soil samples will be collected from each borehole. The samples will be screened utilizing a FID/PID and will be observed for staining and odors, and logged by a geologist. Up to three (3) soil samples from each boring (maximum of 36 samples) will be selected for analysis based on elevated levels of FID/PID measurements. The samples will be analyzed for chlorinated volatile organics by USEPA 8010. Selected samples will be analyzed for total organic carbon. In addition, one (1) of the samples will also be analyzed for TCL +10 volatile organics by ASP Method 91-1.

Table 3-1 (continued)

FRANKLIN CLEANERS SITE
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
FIELD INVESTIGATION SUMMARY

Program Element	Description
Indoor Subsurface Soil Borings/ Sampling	Up to ten (10) borings will be advanced in the building basement on-site utilizing a remote Geoprobe system unit in order to determine the extent of soil contamination in this suspected source area. The borings will be advanced to the groundwater interface (assumed to be 15 feet below the basement floor), if possible. The if possible. The locations of the borings will be based upon the FID/PID screening results of the surface soil samples. Continuous soil samples will be collected from each borehole. The samples will be screened utilizing a FID/PID and will be observed for staining and odors, and logged by a geologist. Up to two (2) soil samples from each boring (maximum of twenty samples) will be selected for analysis based on elevated levels of FID/PID measurements. The samples will be analyzed for chlorinated volatile organics by USEPA Method 8010. Select samples will be analyzed for total organic carbon. In addition, one (1) of the samples will also be analyzed for TCL +10 volatile organics by ASP Method 91-1.
Groundwater Monitoring Probe Installation/Sampling	Up to 60 groundwater probes will be advanced on-site and off-site utilizing the Geoprobe System in order to define the horizontal and vertical extent of groundwater contamination on and off-site. Final locations and depths will be determined based on the initial groundwater level measurements at the existing monitoring wells, groundwater flow direction, the results of the probe samples and the progress of the field program. For example, if contamination is detected at a probe location, another monitoring probe will be advanced downgradient of that probe location. This process will continue until contamination is either not found or is only present at low levels and it is determined that the limits of the plume have been delineated. It is anticipated that the probes will be advanced to depths of 20 feet (water table), 50 feet

Table 3-1 (continued)

FRANKLIN CLEANERS SITE
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
FIELD INVESTIGATION SUMMARY

Program Element	Description
Groundwater Monitoring Probe Installation/Sampling (continued)	(mid-depth) and 80 feet (top of clay layer assumed to be 80 to 85 feet based on available information) below grade. Groundwater samples will be collected at each depth in each boring (maximum of 180 samples). All of the groundwater samples will be analyzed for chlorinated volatile organics by USEPA Method 601. In addition, up to ten (10) of the samples will also be analyzed for TCL+10 volatiles by ASP Method 91-1. The laboratory will be required to provide 24-hour turnaround of the groundwater sample results. The samples will be analyzed by NYSDEC and by a private laboratory, if necessary.
Private Water Supply Well Survey	A survey/inventory of the area that may be potentially affected by groundwater contamination from the site will be made to identify public water supply wells and any residences or businesses that may be using private water supply wells for potable or other uses (i.e., irrigation). The survey will be performed after the plume of groundwater contamination is delineated in order to focus the survey on the area affected by the plume. NYSDEC and NCDOH will assist with obtaining information related to the locations of private wells in the study area.
Monitoring Well Installation	Up to nine (9) monitoring wells will be installed at four (4) locations off-site to determine the extent of groundwater contamination. One location will consist of a cluster of three (3) wells, (1) shallow, (1) intermediate and (1) deep well. One cluster will consist of two (2) wells, (1) shallow and (1) intermediate and two (2) locations will consist of two (2) wells, (1) intermediate and (1) deep. Final locations and depths will be determined based on results of the initial phase of the investigation. Shallow wells are assumed to be approximately 30 feet in depth. Intermediate wells are assumed to be 55 feet and the maximum depth for deep

Table 3-1 (continued)

FRANKLIN CLEANERS SITE
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
FIELD INVESTIGATION SUMMARY

Program Element	Description
Monitoring Well Installation (continued)	wells will be assumed to be 80 feet, which is the anticipated depth to the clay layer. For the deep well that comprises each cluster, split spoon soil samples will be collected at 5 foot intervals to the anticipated final depth of the boring. However, in the deep wells, samples were be collected continuously stating at approximately 70 feet until the top of the clay is reached.
Piezometer Installation	Up to ten (10) piezometers will be installed at seven (7) locations off-site. Groundwater elevation data will be collected from the piezometers and used to supplement groundwater elevation data collected from the monitoring wells. At one location, a cluster of three piezometers (shallow, intermediate and deep) will be constructed. A second location will consist of two piezometers (shallow and deep). The remaining five locations will contain one shallow piezometer.
Testing Boring	One test boring will be constructed to a depth of approximately 100 feet below grade. Samples collected from the test boring will be used to further define the stratigraphy beneath the site, as well as provide a means to assess the thickness of the clay unit reported to exist beneath the site. The test boring will be constructed in an area where little or no groundwater contamination exist as determined by the results of the initial phase of the investigation. The test boring will be grouted to the surface upon completion of sampling.
Groundwater Sampling of Existing and New Monitoring Wells	Groundwater samples will be collected from the five (5) existing and nine (9) newly installed monitoring wells (total of 14 samples). The groundwater samples will be analyzed for chlorinated volatile organics by USEPA Method 601, and iron and manganese. In addition, one (1) of the samples will also be analyzed for TCL +10 volatile organics by ASP Method 91-1. Water levels in all 14 of the monitoring wells (and ten piezometers) will be collected to confirm groundwater flow direction.

Table 3-1 (continued)

FRANKLIN CLEANERS SITE
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
FIELD INVESTIGATION SUMMARY

Program Element	Description
Private Water Supply Well Sampling	Based on the results of the private well survey, D&B will collect groundwater samples from selected off-site private water supply wells located in the vicinity of the site in order to identify potential health risks and determine the extent of groundwater contamination off-site. The wells to be sampled include the existing irrigation well and water supply well at the private residence at 6 Linden Avenue and up to two wells located at Feldis Garden Center located on the corner of Graham Avenue and South Franklin Street and the irrigation well located at the Molloy College campus. The groundwater samples will be analyzed for chlorinated volatile organics by USEPA Method 601, and iron and manganese. In addition, one (1) of the samples will also be analyzed for TCL +10 volatile organics by ASP Method 91-1.
Indoor Air Sampling	An indoor air sample will be collected at one (1) location on-site in order to identify potential health risks. The sample will be collected in the basement of the building on-site. An 8-hour composite sample will be collected in a Summa canister under low barometric pressure conditions. The air sample will be analyzed for the TCL volatiles by USEPA Method TO-14.
Ambient Air Monitoring	Air monitoring for total organic vapors will be conducted during all field activities utilizing a FID/PID.
Surveying and Mapping	Monitoring well and piezometer locations and casing elevations, as well as the test boring location will be surveyed by a licensed surveyor and located on the base map.

Table 3-2

FRANKLIN CLEANERS SITE
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
SAMPLING PROGRAM SUMMARY

Program Element	Environmental Media	Sample Type/Depth	Number of Samples	Equipment	Laboratory Analyses
Outdoor Surface Soil (rear of property, on-site)	Soil	Grab samples 6 to 12 inches below ground surface or asphalt pavement at up to 15 locations.	15	Disposable polyethylene scoop.	Each sample for chlorinated volatile organics by USEPA Method 8010. One sample also for TCL +10 volatiles by ASP Method 91-1 for confirmation.
Outdoor Surface Soil (front of property, on-site)	Soil	Grab sample 6 to 12 inches below concrete pavement at one location.	1	Disposable polyethylene scoop.	Chlorinated volatile organics by USEPA Method 8010.
Outdoor Surface Soil (rear of property, off-site)	Soil	Grab samples 6 to 12 inches below ground surface at 2 locations.	2	Disposable polyethylene scoop.	Both samples for chlorinated volatile organics by USEPA Method 8010.

Table 3-2 (continued)

FRANKLIN CLEANERS SITE
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
SAMPLING PROGRAM SUMMARY

Program Element	Environmental Media	Sample Type/Depth	Number of Samples	Equipment	Laboratory Analyses
Indoor Surface Soil (basement, on-site)	Soil	Grab samples 6 to 12 inches below ground surface or floor slab in basement at up to 20 locations.	20	Disposable polyethylene scoop.	Each sample for chlorinated volatile organics by USEPA Method 8010. One sample also for TCL +10 volatiles by ASP Method 91-1 for confirmation.
Outdoor Subsurface Soil - Soil Borings/Geoprobe (rear of property, on-site)	Soil	Sampling continuously to groundwater interface at up to 12 of the surface soil locations. Up to 3 samples from each boring (total boring depth approx. 20 feet).	36	Decontaminated probe sampler.	Each sample for chlorinated volatile organics by USEPA 8010 and for total organic carbon. One sample also for TCL +10 volatiles by ASP Method 91-1 for confirmation.

Table 3-2 (continued)

FRANKLIN CLEANERS SITE
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
SAMPLING PROGRAM SUMMARY

Program Element	Environmental Media	Sample Type/Depth	Number of Samples	Equipment	Laboratory Analyses
Indoor Subsurface Soil - Soil Borings (basement, on-site)	Soil	Sampling continuously to groundwater interface at up to 10 of the surface soil locations. Up to 2 samples from each boring (total boring depth approx. 15 feet).	20	Decontaminated probe sampler.	Each sample for chlorinated volatile organics by USEPA 8010 and for total organic carbon. One sample also for TCL +10 volatiles by ASP Method 91-1 for confirmation.
Groundwater Sampling/ Geoprobe	Groundwater	Collect groundwater samples from the Geoprobe at three depths below grade (20', 50' and 80') at up to 60 locations on and off-site.	180	Disposable polyethylene bailer or dedicated polyethylene tubing.	Each sample for chlorinated volatile organics by Method 601. Five samples also for TCL +10 volatiles by ASP Method 91-1 for confirmation. Note: 24-hour laboratory turnaround.

Table 3-2 (continued)

FRANKLIN CLEANERS SITE
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
SAMPLING PROGRAM SUMMARY

Program Element	Environmental Media	Sample Type/Depth	Number of Samples	Equipment	Laboratory Analyses
Groundwater Sampling/ Existing Monitoring Wells	Groundwater	Collect groundwater sample from lower portion of five existing wells (FC-1, FC-2, FC-3, FC-4 and F-10A).	5	Disposable polyethylene bailer.	Each sample for chlorinated volatile organics by Method 601 and for TCL metals (iron and manganese only) by ASP Method 200.7. One sample also for TCL +10 volatiles by ASP Method 91-1 for confirmation.
Groundwater Sampling/ New Monitoring Wells	Groundwater	Collect groundwater samples from nine new wells (two shallow wells, four intermediate wells and three deep wells).	9	Disposable polyethylene bailer.	Each sample for chlorinated volatile organics by Method 601 and for TCL metals (iron and manganese only) by ASP Method 200.7. One sample also for TCL +10 volatiles by ASP Method 91-1 for confirmation.

Table 3-2 (continued)

FRANKLIN CLEANERS SITE
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
SAMPLING PROGRAM SUMMARY

Program Element	Environmental Media	Sample Type/Depth	Number of Samples	Equipment	Laboratory Analyses
Groundwater Sampling/ Private Wells	Groundwater	Collect groundwater samples from private irrigation well and water supply well at residence at 6 Linden Avenue, Feldis Garden Center and Molloy College Wells.	5	Disposable polyethylene bailer for irrigation well(s). Direct from tap for water supply well(s).	Each sample for chlorinated volatile organics by USEPA Method 601 and for TCL metals (iron and manganese only) by ASP Method 200.7. One sample also for TCL +10 volatiles by ASP Method 91-1 for confirmation.
Indoor Air Sampling (basement on-site)	Ambient Air	Collect 8-hour composite ambient air sample from basement on-site.	1	Summa canister and regulator.	TCL volatiles by USEPA Method TO-14.
Air Blank	Ambient Air	Supplied by laboratory.	1	Supplied by laboratory.	TCL volatiles by USEPA Method TO-14.
Trip Blanks	Aqueous	Distilled Water.	25*	Sample supplied by laboratory.	Each sample for chlorinated volatile organics by USEPA Method 601.
Matrix Spike/Matrix Spike Duplicate	Aqueous	Groundwater (split of sample).	9**	Disposable polyethylene bailer.	Chlorinated volatiles by USEPA Method 601. TCL +10 volatiles by ASP Method 91-1. TCL metals (iron and manganese only) by ASP Method 200.7.

Table 3-2 (continued)

FRANKLIN CLEANERS SITE
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
SAMPLING PROGRAM SUMMARY

Program Element	Environmental Media	Sample Type/Depth	Number of Samples	Equipment	Laboratory Analyses
Matrix Spike/Matrix Spike Duplicate	Soil	Soil (split of sample).	5***	Disposable polyethylene scoop, decontaminated long handled polyethylene scoop or probe sampler.	Chlorinated volatiles by USEPA Method 8010. TCL +10 volatiles by ASP Method 91-1. Total organic carbon.

TBD - To be determined.
*One trip blank will accompany each shipment of aqueous samples requiring volatile organics analysis (assuming 25 shipments).
**Nine sets of MS/MSD will be collected (based on 199 groundwater samples). Eight sets will be analyzed for chlorinated volatile organics by USEPA Method 601 and one set for TCL +10 volatile organics by ASP Method 91-1 and TCL metals by ASP Method 200.7.
***Five sets of MS/MSD (based on 94 soil samples being collected). Four sets for chlorinated volatile organics by USEPA Method 8010 and one set for TCL +10 volatile organics by ASP Method 91-1.

Note: No field blanks will be collected as per New York State Department of Environmental Conservation.

3.3 Qualitative Risk Assessment

A qualitative human health risk assessment will be prepared based on the results of the remedial investigation.

Based upon the information currently available for the site, it does not appear that it will be necessary to conduct a wildlife habitat based survey for the site. Almost the entire site is paved and covered with existing buildings. Therefore, exposure to contaminated soil, drainage water, surface water and sediment by terrestrial wildlife would not be a concern. In addition, there does not appear to be any groundwater discharge points that would potentially impact fish or other aquatic wildlife. Therefore, an environmental risk assessment will not be performed for the site; however, a qualitative human health risk assessment will be performed.

The general approach for preparation of the risk assessment will be consistent with that described in the draft Generic Work Plan, dated February 1996. However, the specific methodology to be used for the Franklin Cleaners Site will be qualitative instead of quantitative. Contaminants and concentrations of concern will be identified through the comparison of analytical results to soil screening criteria selected for the site and New York State groundwater standards and guidelines. Chemical intakes and resulting noncarcinogenic and carcinogenic risks will not be calculated or compared to Risk Reference Dosages (RFDs). However, migration pathways, routes of exposure and potential receptors will be identified. Potential exposure pathways will be examined for functionality and completeness. The results of the human health risk assessment will be incorporated into the Remedial Investigation Report.

3.4 Interim Remedial Measure/Presumptive Remedy Selection

The need for preparation of a Feasibility Study, implementation of an Interim Remedial Measure (IRM) or selection of a Presumptive Remedy will be made based upon the results of the remedial investigation. IRMs and Presumptive Remedies for dry cleaner sites are described in detail in the Generic Work Plan.

Based upon available information with regard to the Franklin Cleaners Site, it is assumed that an IRM or Presumptive Remedy will be appropriate for this site. Therefore, an IRM Presumptive Remedy Report will be prepared (either as a separate document or as part of the Remedial Investigation Report), which will include a discussion of the technical and financial rationale for selection of the IRM and/or Presumptive Remedy, and conceptual design.

Section 4

4.0 PROJECT MANAGEMENT

4.1 Project Schedule and Key Milestones/Reports

The Remedial Investigation/Feasibility Study (RI/FS) schedule for the Franklin Cleaners Site is provided in Figure 4-1. Key milestones proposed for this project are the following:

Milestone 1: Submittal of the Draft Project Management and Site-Specific RI/FS Work Plan.

Milestone 2: Submittal of the Draft Remedial Investigation Report.

Milestone 3: Submittal of the Draft Presumptive Remedy/Interim Remedial Measure Selection Report.

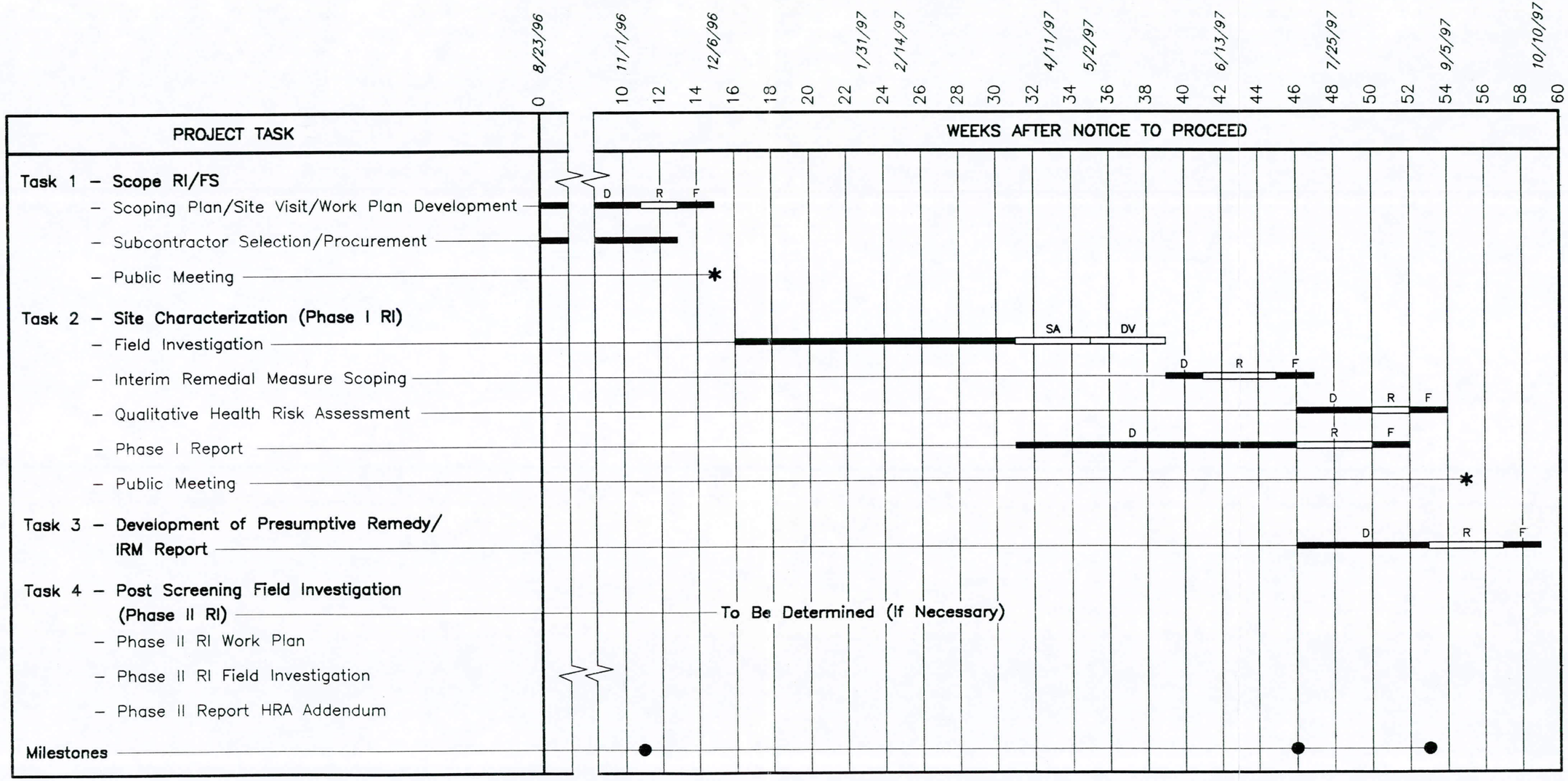
4.2 Project Management, Organization and Key Technical Personnel

Dvirka and Bartilucci Consulting Engineers will be the prime consultant responsible for performance of the Remedial Investigation/Feasibility Study. Subcontractors planned to be used for this RI/FS include:

- YEC, Inc. (surveying) (MBE).
- Field Safety Corporation (health and safety) (WBE).
- Zebra Environmental (soil boring probe and groundwater monitoring probe installation).
- Parratt-Wolff, Inc. (monitoring well and piezometer installation).
- Nytest Environmental (sample analysis).
- Enviroscience, Inc. (data validation) (WBE).

The project organization for this RI/FS, illustrating both management and project responsibility functions for the project team and key personnel, is provided in Figure 4-2.

FIGURE 4-1
PROJECT SCHEDULE
FOR
FRANKLIN CLEANERS SITE
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
VILLAGE OF HEMPSTEAD, NEW YORK



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Legend

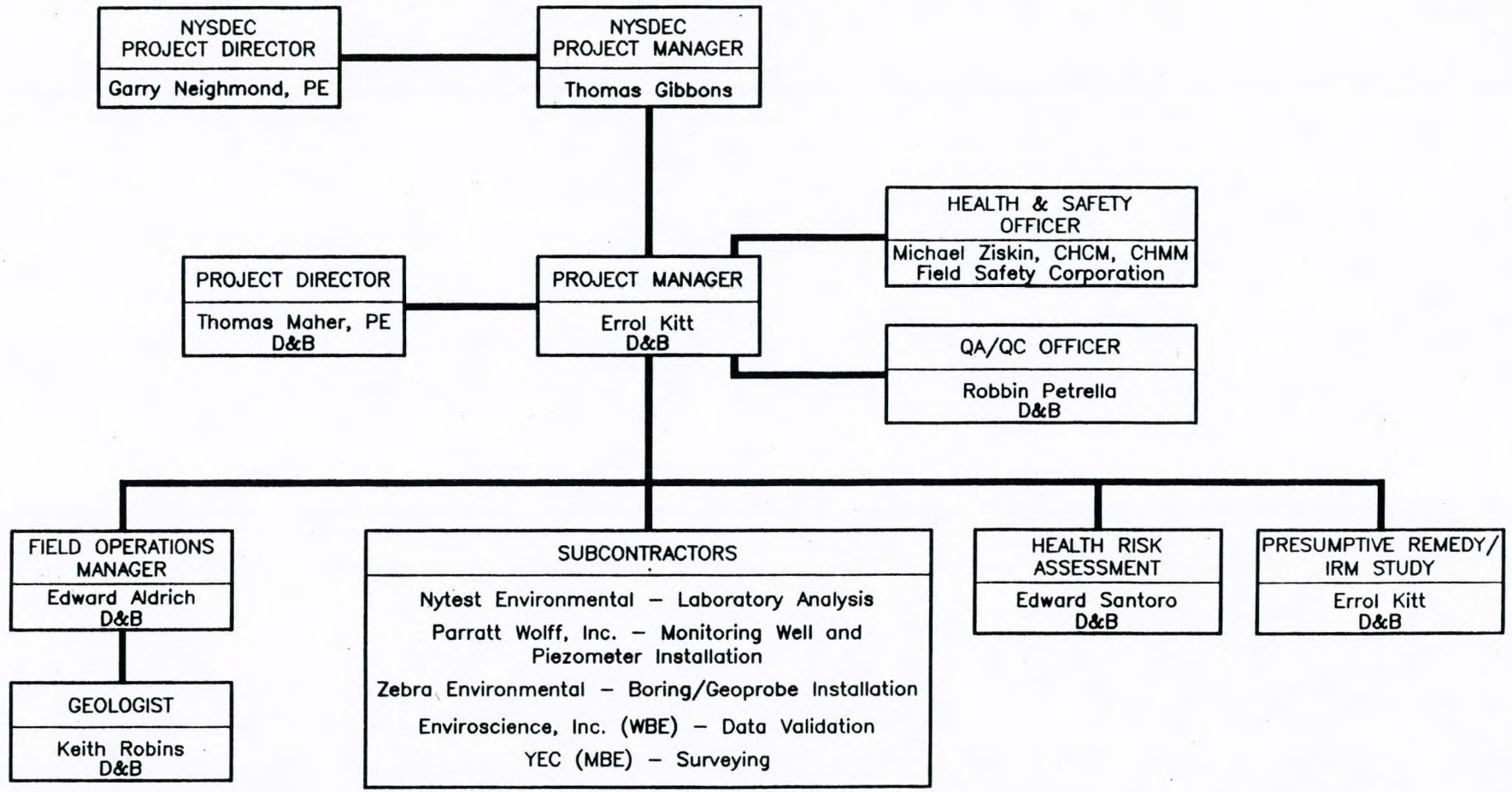
- ▬ – Planned Activity
- ▭ – Review Period
- ✱ – Public Meeting
- **D** – Draft Report
- **R** – Agency Review
- **F** – Final Report
- **SA** – Sample Analysis
- **DV** – Data Validation
- ● – Milestone

Dvirka and Bartilucci
Consulting Engineers
A Division of William F. Cosulich Associates, P.C.

FIGURE 4-2

PROJECT TEAM ORGANIZATION CHART

FOR
FRANKLIN CLEANERS SITE
VILLAGE OF HEMPSTEAD, NEW YORK



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Consulting Engineers
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Section 5

5.0 SITE-SPECIFIC QUALITY ASSURANCE AND QUALITY CONTROL PLAN

All sample analysis and data validation for the Franklin Cleaners Site will be conducted in accordance with the New York State Department of Environmental Conservation (NYSDEC) 1991 Analytical Services Protocol (ASP). All other information which is not provided below regarding detailed sampling procedures and protocols, as well as other quality assurance and quality control (QA/QC) requirements, is provided in the draft Generic Work Plan, dated February 1996.

5.1 Sampling Program Design and Rationale

- Thirty six (36) surface soil samples will be collected on-site (outdoor and indoor) to determine the location and extent of on-site surficial contamination and suspected source areas, and to identify potential health risks.
- Two (2) surface soil samples will be collected off-site (outdoor) to determine whether contamination has impacted off-site areas, and to identify potential health risks.
- Fifty six (56) subsurface soil samples will be collected to delineate the extent of on-site contamination and source areas.
- One hundred eighty (180) groundwater samples will be collected from Geoprobe screens at three depths to delineate the horizontal and vertical extent of groundwater contamination.
- Fourteen (14) groundwater samples will be collected from existing and new groundwater monitoring wells off-site to determine the extent of impacted groundwater.
- Five (5) water samples will be collected from off-site private water supply wells to determine the extent of impacted groundwater and identify potential health risks.
- One (1) indoor air sample will be collected in the basement of the building on-site to identify potential health risks.

In addition to the above, the following QA/QC samples will be collected.

- One (1) trip blank will be sent with each shipment of the groundwater samples.
- Nine (9) aqueous and five (5) solid (soil) matrix spike/matrix spike duplicate samples will be collected.
- One (1) air blank will be analyzed with the indoor ambient air sample.

Section 6

6.0 SITE-SPECIFIC HEALTH AND SAFETY PLAN

The following site-specific information comprises information not included in the draft Dry Cleaner Generic Work Plan, dated February 1996. The Generic Work Plan includes a Generic Health and Safety Plan. The following information will be utilized in conjunction with the Generic Health and Safety Plan. Information with regard to contaminants of concern, personal protective equipment, exposure limits and monitoring requirements are provided in the Generic Health and Safety Plan.

Site Name:	Franklin Cleaners
Address:	206-208B South Franklin Street Village of Hempstead, New York
Telephone:	--
Date of HASP Preparation:	March 1996
Dates of Field Investigation:	October 1996 to April 1997
Entry Objectives:	To investigate and locate the source of groundwater contamination and to determine the extent of soil and groundwater contamination.

Site Organization Structure:	Name	Phone
Project Director:	T. Maher	516-364-9890
Project Manager:	E. Kitt	516-364-9890
Health and Safety Officer (HSO)	M. Ziskin	203-964-9199
Field Operations Manager/Alternate HSO	E. Aldrich	516-364-9890
Field Team Staff:	K. Robins	516-364-9890

Subcontractors:	YEC, Inc.	914-268-3203
	Nytest Environmental	516-625-5500
	Parratt-Wolff, Inc.	1-800-782-7260
	Zebra Environmental	516-371-2020

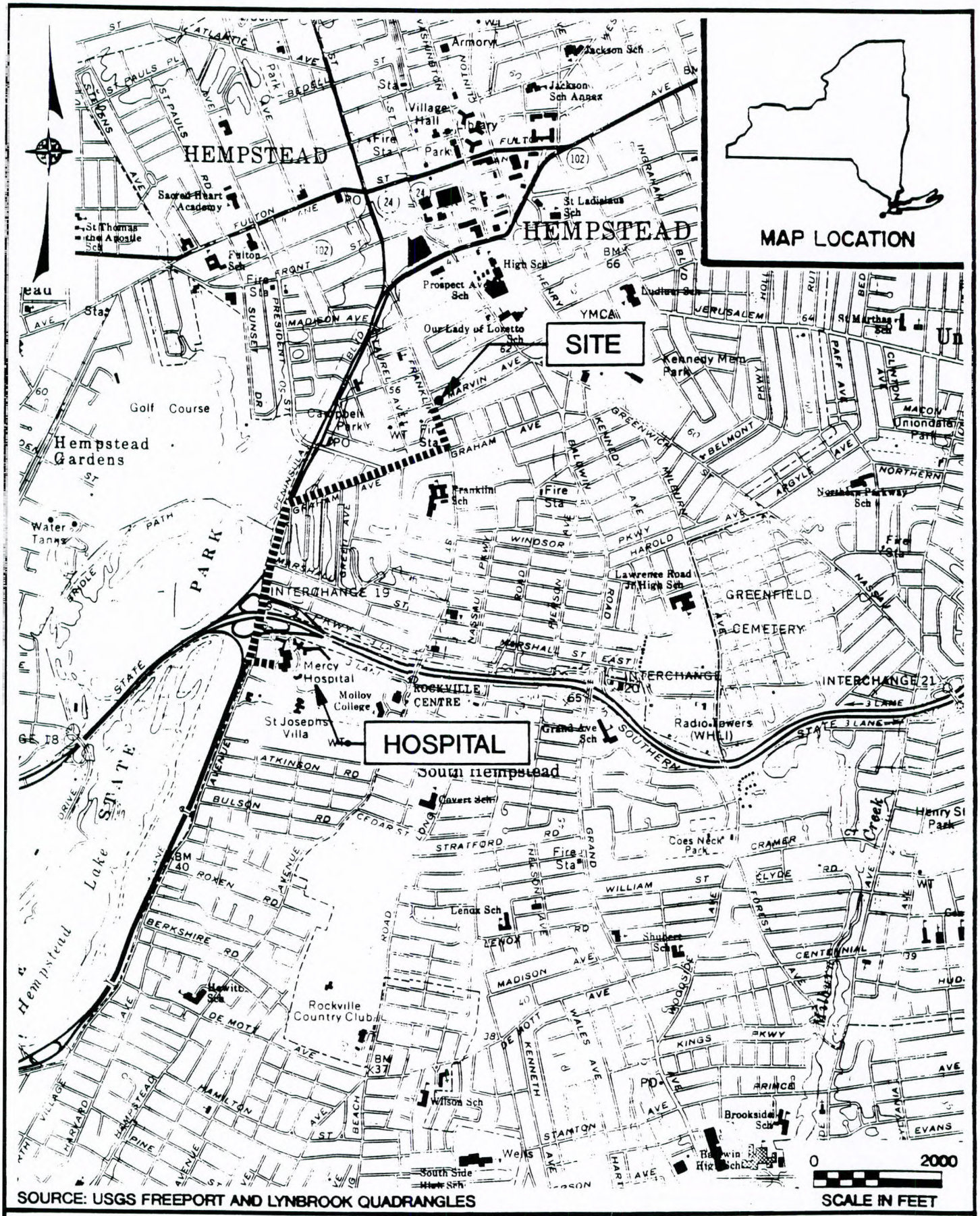
Medical Assistance:

Physician:	Dr. Ronald Rosen
Address:	269-11 76th Avenue - CCC Building
	Third Floor - Room 313
	New Hyde Park, NY 11042
Telephone:	718-470-4435

Name of Hospital:	Mercy Hospital
Telephone:	516-255-0111
Directions:	South Franklin Street to Graham Avenue; turn right onto Graham Avenue and follow to Peninsula Boulevard; turn left onto Peninsula Boulevard and follow to North Village Avenue and Mercy Hospital (just south of Southern State Parkway) on left-hand side (see Figure 6-1).

Emergency Telephones:

Agent/Facility	Telephone	Emergency Number
EMS - Ambulance	911	911
Police Department	516-483-6200	911
Fire Department	516-486-0012	911
Hospital	516-255-0111	--
Poison Control Center	516-542-2323	--



FRANKLIN CLEANERS SITE
HEMPSTEAD, NEW YORK

HOSPITAL EMERGENCY ROUTE

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FIGURE 6-1

Additional site related information (including, special hazards, site control, waste storage and disposal, personal protective equipment, decontamination area location, special engineering controls, etc.).

(TO BE DETERMINED)

Section 7

7.0 SITE-SPECIFIC CITIZEN PARTICIPATION PLAN

This site-specific Citizen Participation Plan includes site-specific information not included in the Generic Work Plan, dated February 1996. This information will be utilized in conjunction with the Generic Work Plan to provide a community relations program for the Franklin Cleaners Site.

7.1 Identification of Elected Officials

The following elected officials have been identified:

James Garner, Mayor
Inc. Village of Hempstead
99 Nichols Court
Hempstead, NY 11551

Eugene J. Murray, Mayor
Inc. Village of Rockville Center
P.O. Box 950
Rockville Center, NY 11571

Gregory Peterson, Supervisor
Town of Hempstead
Town Hall
Town Hall Plaza
West Street
Mineola, NY 11501

Nassau County Legislator Roger Corbin
1 West Street
Mineola, NY 11501

Assembly Person Earlene Hill
80 North Franklin Avenue
Hempstead, NY 11550

Congresswoman Carolyn McCarthy
1 Fulton Avenue
Suite 12
Hempstead, NY 11550

Senator Kemp Hannon
1600 Stewart Avenue
Suite 315
Westbury, NY 11590

7.2 Identification of Affected and/or Interested Public

This citizen participation plan includes the names and addresses for individuals who have expressed an interest in the site, or are potentially affected by the site or the RI/FS program. The names and addresses of individuals, groups and organizations are identified by the following categories: Interested Agencies and Groups, Local Media, and Affected and Interested Individuals.

7.2.1 Interested Agencies and Groups

Jeff Fulmer
c/o Citizens Campaign for the Environment
550 Smithtown By-Pass
Suite 205
Smithtown, NY 11787

Rosemary Konatich
NYS Legislative Commission, LI Water
11 Middleneck Road
Suite 200
Great Neck, NY 11021

Joseph Simone, Superintendent
Village of Hempstead Water District
Village Hall
99 Nichols Court
Hempstead, NY 11550

Harry R. Dickenson, P.E.
Director of Public Works
450 Million Avenue
Hempstead, NY 11550

John T. Courtney, Superintendent
Building Department
Inc. Village of Hempstead
Village Hall
99 Nichols Court
Hempstead, NY 11550

Richard W. Tobin
Superintendent of Water District
142 Maple Avenue
Rockville Centre, NY 11570

Steve Kritsas, P.E.
Village Engineer
Village of Rockville Centre
110 Maple Avenue
Rockville Centre, NY 11570

Chief James Russo
Hempstead Village Police Department
99 Nichols Court
Hempstead, NY 11550

Chief Joseph Hessel
Hempstead Village Fire Department
75 Clinton Street
Hempstead, NY 11550

Charles Renfro
Assistant to Facilities Director
Hempstead Public Schools
185 Peninsula Boulevard
(516) 292-7000

James R. Multari
Director of Facilities
Molloy College
1000 Hempstead Avenue
Rockville Centre, NY 11570
(516) 678-5000 x 277

Daniel Davis, Commissioner
Town of Hempstead Water Department
1995 Prospect Avenue
East Meadow, NY 11554
(516) 794-8300

Agnes M. Rodriguez
Executive Director
Hempstead Hispanic Civic Association
236 Main Street
Hempstead, NY 11550

William Hughes
Hempstead Heights Civic Association
P.O. Box 553
Hempstead, NY 11550

7.2.2 Local Media

Newsday "Government Watch" Section
235 Pinelawn Road
Melville, NY 11747

Three Village Times
132 East 2nd Street
Mineola, NY 11501

News 12 Long Island
1 Medial Crossways
Woodbury, NY 11797

7.2.3 Affected and Interested Individuals

[TO BE ADDED AFTER RESPONSES TO PUBLIC NOTICE ARE RECEIVED]

7.3 Identification of NYSDEC, NYSDOH and NCDOH Contacts

Project Manager

Mr. Thomas Gibbons
Division of Environmental Remediation
NYSDEC
50 Wolf Road
Albany, NY 12233-7010
(518) 457-1708

Mr. Joshua Epstein
Citizen Participation Specialist
NYSDEC Region 1
SUNY Campus
Loop Road - Building 40
Stony Brook, NY 11790-2356
(516) 444-0240

Timothy Vickerson
Assistant Sanitary Engineer
New York State Department of Health
2 University Place
Albany, NY 12203-3399
(518) 458-6305

Nina Knapp
Health Liaison Program
New York State Department of Health
2 University Place
Albany, NY 12203-3399
(800) 458-1158, ext. 402

Donald Spiess
Director, Bureau of Water Supply Protection
Nassau County Dept. of Public Health
240 Old Country Road
Mineola, NY 11501
(516) 571-3323

7.4 Document Repositories

In order to make pertinent RI/FS documents readily available to the public, two document repositories will be established. One will be located within the Incorporated Village of Hempstead and one at the regional offices of the NYSDEC. The two repositories and their hours are as follows:

Hempstead Public Library
115 Nichols Court
Hempstead, NY 11550
Hours: Monday through Thursday 10:00 a.m. - 9:00 p.m.
Friday, 10:00 a.m. - 6:00 p.m.
Saturday, 9:00 a.m. - 5:00 p.m.
Sundays (until May) 9:00 a.m. - 5:00 p.m.
Phone: 481-6990

NYSDEC Region 1 Office
Environmental Remediation Unit
SUNY Campus
Building 40
Stony Brook, NY 11790
Hours: Monday through Friday 8:30 a.m. - 4:45 p.m.
Phone: 444-0249

7.5 Description of Citizen Participation Activities

As discussed and described in the Generic Work Plan, the following citizen participation activities will be conducted for the Franklin Cleaners Site:

- Development of initial RI/FS fact sheet

- Draft Work Plan Public Availability Session
- Development of an interim RI/FS fact sheet at the completion of the draft Remedial Investigation Report
- Public meeting to present results of the draft Remedial Investigation Report
- Public meeting to present results of draft Presumptive Remedy/IRM Study

Section 8

8.0 SCHEDULE 2.11s

Schedule 2.11 (a)

Summary of Work Assignment Price
Franklin Cleaners Site
Summary

Work Assignment Number D002708-24.1

1.	Direct Salary Costs (Schedules 2.10 (a) and 2.11(b))		$74,747
2.	Indirect Costs (Schedule 2.10 (g))		$118,325
3.	Direct Non-Salary Costs (Schedules 2.11 (c)and (d))		$11,743

Subcontract Costs

Cost-Plus-Fixed-Fee Subcontracts (Schedules 2.11(e))

	Name of Subcontractor	Services To Be Performed	Subcontract Price
A.	YEC , Inc.	Surveying	$8,499
4.	Total Cost-Plus-Fixed-Fee Subcontracts		$8,499

Unit Price Subcontracts (Schedules 2.11(f))

	Name of Subcontractor	Services To Be Performed	Subcontract Price
A.	Parratt Wolff Inc.	Soil Boring and Monitoring Well Installation	$58,959
B.	Nytest Environmental	Chemical Sample Analysis	$65,518
C.	Enviroscience	Data Validation	$3,707
D.	Zebra Environmental	Geoprobe Installation	$32,414
E.	Chem Waste Disposal	Drum Removal and Disposal	$9,450
5.	Total Unit Price Subcontracts		$170,048
6.	Subcontract Management Fee		$5,491
7.	Total Subcontract Costs (lines 4 + 5 + 6)		$184,038
8.	Fixed Fee (Schedule 2.10 (h))		$16,218
9.	Total Work Assignment Price (lines 1 + 2 + 3 + 7 +8)		$405,070

NAME/LABOR CLASSIFICATION	NSPE Level	Hourly Rate as of July 1 1996	Hourly Rate as of July 1 1997	Task 1 Develop Site Specific Work Plan		Task 2 Phase I Remedial Investigation		Task 3 Feasibility Study/ Presumptive Remedy		Task 4 Phase II Remedial Investigation		TOTAL TASKS	
Thomas Maher Project Director	IX	$51.83	$54.94	12	$622	40	$2,073	16	$829	0	$0	68	$3,524
Edward Santoro Associate Scientist	VII	$42.22	$44.75	0	$0	44	$1,858	0	$0	0	$0	44	$1,858
Anthony Connetta Citizen Participation Specialist	VII	$42.22	$44.75	24	$1,013	0	$0	0	$0	0	$0	24	$1,013
Errol Kitt Project Manager	VI	$34.00	$36.04	96	$3,264	304	$10,336	88	$2,992	0	$0	488	$16,592
Robbin Petrella Senior Engineer/QA/QC Officer	V	$28.57	$30.29	32	$914	110	$3,143	0	$0	0	$0	142	$4,057
Edward Aldrich Senior Geologist	V	$28.57	$30.29	24	$686	836	$23,885	52	$1,486	0	$0	912	$26,056
Richard Avanzini Senior Technician	V	$28.57	$30.29	8	$229	20	$571	8	$229	0	$0	36	$1,029
Michael McCabe Assistant Engineer	IV	$24.13	$25.58	48	$1,158	85	$2,051	0	$0	0	$0	133	$3,209
Keith Robins Junior Geologist	III	$21.89	$23.21	0	$0	174	$3,809	0	$0	0	$0	174	$3,809
Randy Suba Junior Drafter	III	$21.89	$23.21	32	$700	110	$2,408	24	$525	0	$0	166	$3,634
Keith Brower/Micheal Olsen Junior Scientist	II	$19.02	$20.16	0	$0	344	$6,543	0	$0	0	$0	344	$6,543
Ginger Passalacqua Administrative Assistant	II	$19.02	$20.16	8	$152	32	$609	8	$152	0	$0	48	$913
Allyson Manz Word Processor	II	$19.02	$20.16	24	$456	68	$1,293	40	$761	0	$0	132	$2,511
Labor Subtotal (Direct Salary)				308	$9,195	2167	$58,578	236	$6,974	0	$0	2711	$74,747
Indirect Cost (1.583)					$14,556		$92,729		$11,040		$0		$118,325
Profit (0.084)					$1,995		$12,710		$1,513		$0		$16,218
TOTAL				308	$25,746	2167	$164,017	236	$19,526	0	$0	2711	$209,290

NAME/LABOR CLASSIFICATION	NSPE Level	Hourly Rate as of July 1 1996	Hourly Rate as of July 1 1997	Task 1A Site Visit/Scoping/Work Plan Development		Task 1B Subcontractor Procurement		Task 1C Citizen Participation Plan		Task 1D Public Availability Session		Total 1 (hours)	Total 1 ($)
Thomas Maher Project Director	IX	$51.83	$54.94	10	$518	2	$104	0	$0	0	$0	12	$622
Edward Santoro Associate Scientist	VII	$42.22	$44.75	0	$0	0	$0	0	$0	0	$0	0	$0
Anthony Connetta Citizen Participation Specialist	VII	$42.22	$44.75	0	$0	0	$0	24	$1,013	0	$0	24	$1,013
Errol Kitt Project Manager	VI	$34.00	$36.04	80	$2,720	0	$0	8	$272	8	$272	96	$3,264
Robbin Petrella Senior Engineer/QA/QC Officer	V	$28.57	$30.29	16	$457	16	$457	0	$0	0	$0	32	$914
Edward Aldrich Senior Geologist	V	$28.57	$30.29	16	$457	8	$229	0	$0	0	$0	24	$686
Richard Avanzini Senior Technician	V	$28.57	$30.29	8	$229	0	$0	0	$0	0	$0	8	$229
Michael McCabe Assistant Engineer	IV	$24.13	$25.58	0	$0	48	$1,158	0	$0	0	$0	48	$1,158
Keith Robins Junior Geologist	III	$21.89	$23.21	0	$0	0	$0	0	$0	0	$0	0	$0
Randy Suba Junior Drafter	III	$21.89	$23.21	32	$700	0	$0	0	$0	0	$0	32	$700
Keith Brower/Micheal Olsen Junior Scientist	II	$19.02	$20.16	0	$0	0	$0	0	$0	0	$0	0	$0
Ginger Passalacqua Administrative Assistant	II	$19.02	$20.16	6	$114	2	$38	0	$0	0	$0	8	$152
Allyson Manz Word Processor	II	$19.02	$20.16	20	$380	4	$76	0	$0	0	$0	24	$456
Labor Subtotal (Direct Salary)				188	$5,576	80	$2,062	32	$1,285	8	$272	308	$9,195
Indirect Cost (1.583)					$8,827		$3,264		$2,035		$431		$14,556
Profit (0.084)					$1,210		$447		$279		$59		$1,995
TOTAL				188	$15,613	80	$5,773	32	$3,599	8	$762	308	$25,746

NAME/LABOR CLASSIFICATION	NSPE Level	Hourly Rate as of July 1 1996	Hourly Rate as of July 1 1997	Task 2A Field Investigation		Task 2B Interim Remedial Measure Scoping		Task 2C Qualitative Risk Assessment		Task 2D Remedial Investigation Report		Task 2E Public Meeting		Total 2 (hours)	Total 2 ($)
Thomas Maher Project Director	IX	$51.83	$54.94	16	$829	8	$415	4	$207	8	$415	4	$207	40	$2,073
Edward Santoro Associate Scientist	VII	$42.22	$44.75	0	$0	0	$0	44	$1,858	0	$0	0	$0	44	$1,858
Anthony Connetta Citizen Participation Specialist	VII	$42.22	$44.75	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0
Errol Kitt Project Manager	VI	$34.00	$36.04	80	$2,720	40	$1,360	16	$544	160	$5,440	8	$272	304	$10,336
Robbin Petrella Senior Engineer/QA/QC Officer	V	$28.57	$30.29	50	$1,429	0	$0	0	$0	60	$1,714	0	$0	110	$3,143
Edward Aldrich Senior Geologist	V	$28.57	$30.29	700	$19,999	16	$457	0	$0	120	$3,428	0	$0	836	$23,885
Richard Avanzini Senior Technician	V	$28.57	$30.29	0	$0	0	$0	0	$0	16	$457	4	$114	20	$571
Michael McCabe Assistant Engineer	IV	$24.13	$25.58	85	$2,051	0	$0	0	$0	0	$0	0	$0	85	$2,051
Keith Robins Junior Geologist	III	$21.89	$23.21	150	$3,284	0	$0	0	$0	24	$525	0	$0	174	$3,809
Randy Suba Junior Drafter	III	$21.89	$23.21	0	$0	0	$0	0	$0	104	$2,277	6	$131	110	$2,408
Keith Brower/Micheal Olsen Junior Scientist	II	$19.02	$20.16	264	$5,021	0	$0	0	$0	80	$1,522	0	$0	344	$6,543
Ginger Passalacqua Administrative Assistant	II	$19.02	$20.16	12	$228	4	$76	4	$76	12	$228	0	$0	32	$609
Allyson Manz Word Processor	II	$19.02	$20.16	0	$0	8	$152	16	$304	40	$761	4	$76	68	$1,293
Labor Subtotal (Direct Salary)				1357	$35,561	76	$2,460	84	$2,989	624	$16,767	26	$801	2167	$58,578
Indirect Cost (1.583)					$56,293		$3,894		$4,732		$26,542		$1,268		$92,729
Profit (0.084)					$7,716		$534		$649		$3,638		$174		$12,710
TOTAL				1357	$99,569	76	$6,888	84	$8,370	624	$46,947	26	$2,243	2167	$164,017

NAME/LABOR CLASSIFICATION	NSPE Level	Hourly Rate as of July 1 1996	Hourly Rate as of July 1 1997	Task 3A Development of Remedial Alternatives		Task 3B Preliminary Screening of Alternatives		Task 3C Identification of Presumptive Remedy		Task 3D Feasibility Study Report		Total 3 (hours)	Total 3 ($)
Thomas Maher Project Director	IX	$51.83	$54.94	4	$207	4	$207	4	$207	4	$207	16	$829
Edward Santoro Associate Scientist	VII	$42.22	$44.75	0	$0	0	$0	0	$0	0	$0	0	$0
Anthony Connetta Citizen Participation Specialist	VII	$42.22	$44.75	0	$0	0	$0	0	$0	0	$0	0	$0
Errol Kitt Project Manager	VI	$34.00	$36.04	16	$544	16	$544	16	$544	40	$1,360	88	$2,992
Robbin Petrella Senior Engineer/QA/QC Officer	V	$28.57	$30.29	0	$0	0	$0	0	$0	0	$0	0	$0
Edward Aldrich Senior Geologist	V	$28.57	$30.29	16	$457	0	$0	12	$343	24	$686	52	$1,486
Richard Avanzini Senior Technician	V	$28.57	$30.29	0	$0	0	$0	0	$0	8	$229	8	$229
Michael McCabe Assistant Engineer	IV	$24.13	$25.58	0	$0	0	$0	0	$0	0	$0	0	$0
Keith Robins Junior Geologist	III	$21.89	$23.21	0	$0	0	$0	0	$0	0	$0	0	$0
Randy Suba Junior Drafter	III	$21.89	$23.21	4	$88	4	$88	0	$0	16	$350	24	$525
Keith Brower/Micheal Olsen Junior Scientist	II	$19.02	$20.16	0	$0	0	$0	0	$0	0	$0	0	$0
Ginger Passalacqua Administrative Assistant	II	$19.02	$20.16	2	$38	2	$38	2	$38	2	$38	8	$152
Allyson Manz Word Processor	II	$19.02	$20.16	4	$76	4	$76	4	$76	28	$533	40	$761
Labor Subtotal (Direct Salary)				46	$1,410	30	$953	38	$1,208	122	$3,402	236	$6,974
Indirect Cost (1.583)					$2,232		$1,509		$1,913		$5,386		$11,040
Profit (0.084)					$306		$207		$262		$738		$1,513
TOTAL				46	$3,948	30	$2,668	38	$3,383	122	$9,527	236	$19,526

SCHEDULE 2.11 (b)
SUMMARY
FRANKLIN CLEANERS SITE
WORK ASSIGNMENT NUMBER D002708-24.1

Average NSPE Wage Rates	IX	VIII	VII	VI	V	IV	III	II	I	TOTAL HOURS
as of July 1,1996	$51.83	$48.56	$42.22	$34.00	$28.57	$24.13	$21.89	$19.02	$15.16	
as of July 1,1997	$54.94	$51.48	$44.75	$36.04	$30.29	$25.58	$23.21	$20.16	$16.07	
Task 1	12	0	24	96	64	48	32	32	0	308
Task 2	40	0	44	304	966	85	284	444	0	2167
Task 3	16	0	0	88	60	0	24	48	0	236
Task 4	0	0	0	0	0	0	0	0	0	0
Subtotal 1995 Hours	68	0	68	488	1090	133	340	524	0	2711
Subtotal 1996 Hours	0	0	0	0	0	0	0	0	0	0
Total Hours	68	0	68	488	1090	133	340	524	0	2711
Total Direct Labor Cost	$3,524	$0	$2,871	$16,592	$31,141	$3,209	$7,443	$9,966	$0	$74,747

SCHEDULE 2.11 (b)-1
SUMMARY
FRANKLIN CLEANERS SITE
WORK ASSIGNMENT NUMBER D002708-24.1

Average NSPE Wage Rates	IX	VIII	VII	VI	V	IV	III	II	I	TOTAL HOURS
as of July 1,1995	$48.90	$45.82	$39.83	$32.08	$26.95	$22.76	$20.65	$17.94	$14.30	
as of July 1,1996	$51.83	$48.56	$42.22	$34.00	$28.57	$24.13	$21.89	$19.02	$15.16	
Task 1	4.5	0	0	18	8	48	0	32	0	110.5
Task 2	1.5	0	0	1.5	0	0	0	100	0	103
Task 3	1.5	0	0	1	0	0	0	48	0	50.5
Task 4	0	0	0	0	0	0	0	0	0	0
Subtotal 1995 Hours	7.5	0	0	20.5	8	48	0	180	0	110.5
Subtotal 1996 Hours	0	0	0	0	0	0	0	0	0	0
Total Hours	8	0	0	21	8	48	0	180	0	111
Total Direct Labor Cost	$367	$0	$0	$658	$216	$1,092	$0	$3,229	$0	$5,562

Dvirka & Bartilucci Consulting Engineers
Franklin Cleaners
Work Assignment Number: D002708-24.1

BREAKDOWN OF ADMINISTRATIVE
LOE HOURS ON SCHEDULE 2.11(b-1)

ADMIN ACTIVITY	WORK PLAN DEVELOPMENT														REVIEW WORK ASSIGNMENT (WA) PROGRESS																							
	Conflict of Interest Checks						Prepare 2.11 Schedules								Conduct Progress Reviews						Prepare Monthly Report & Update Schedules						MBE/WBE Activities								Program Management					
NSPE	IX	VIII	VII	VI	V	IV	VIII	VII	VI	V	IV	III	II	I	VIII	VII	VI	V	IV	III	VIII	VII	VI	V	IV	III	II	I	VIII	VII	VI	V	IV	III	II	I	IX	VIII	VII	VI	V	IV
TASK 1	1.0								2.0								0.5						0.5														3.0			16.0	8.0	48.0
TASK 2																	0.5						0.5								0.5						1.0					
TASK 3																	0.5						0.5														1.0					
TASK 4																																										
TOTAL	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	5.00	0.0	0.0	16.0	8.0	48.0

ADMIN ACTIVITY	CAP PREPARATION												MISCELLANEOUS														Total Adm. LOE (hrs)								
	Prepare Monthly Cost Control Report & CAP						Oversee CAP						Update NSPE List						Equipment Use and Inventory				Word Processing and Report Preparation													
NSPE	VIII	VII	VI	V	IV	III	II	I	IX	VIII	VII	VI	VIII	VII	VI	V	IV	III	II	I	IV	III	II	I	IV	III	II	I	IX	VIII	VII	VI	V	IV	III	II	I
TASK 1							8		0.5																		24		4.5	0	0	19	8	48	0	32	0
TASK 2							32		0.5																		68		1.5	0	0	1.5	0	0	0	100	0
TASK 3							8		0.5																		40		1.5	0	0	1	0	0	0	48	0
TASK 4							0																						0	0	0	0	0	0	0	0	0
TOTAL	0.0	0.0	0.0	0.0	0.0	0.0	48	0.0	1.50	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	132.0	0.0	7.5	0	0	21.5	8	48	0	180	0

SCHEDULE 2.11 (C)
DIRECT NON-SALARY COSTS
SUMMARY
FRANKLIN CLEANERS SITE
WORK ASSIGNMENT NUMBER D002708-24.1

ITEM	MAXIMUM REIMBURSEMENT RATE	UNIT	ESTIMATED NUMBER OF UNITS	TOTAL ESTIMATED COSTS
IN-HOUSE				
Outside Services**	$200.00	set	7	$1,400
Express Mail	$40.00	package	19	$760
Level D Safety Equipment	$14.00	($/person/day)	80	$1,120
Level C Safety Equipment	$40.00	($/person/day)	0	$0
Level B Safety Equipment	$50.00	($/person/day)	0	$0
TRAVEL				
Transportation (Personal Car)	$0.30	mile	125	$38
Van Rental	$325.00	week	18	$5,850
Gas	$50.00	week	18	$900
TOTAL DIRECT NON-SALARY COSTS				$10,068

SCHEDULE 2.11 (d) 1

EQUIPMENT PURCHASED UNDER THE CONTRACT
SUMMARY
FRANKLIN CLEANERS SITE
WORK ASSIGNMENT NUMBER D002708-24.1

ITEM	ESTIMATED PURCHASE PRICE	O&M RATE ($/per month)	TERM OF USAGE (MONTHS)	ESTIMATED USAGE COST (COL. 2 + [3X4])
			TOTAL	$0.00

SCHEDULE 2.11 (d) 2

EQUIPMENT CONSULTANT OWNED

FRANKLIN CLEANERS SITE
WORK ASSIGNMENT NUMBER D002708-24.1

ITEM	PURCHASE PRICE X 85%	USAGE RATE ($/day)	CAPITAL RECOVERY RATE ($/Unit of Time)	O & M RATE ($/Unit of Time)	ESTIMATED USAGE (days)	ESTIMATED USAGE COST (Col. 3x6)
						$0
					TOTAL	$0

Notes:
Usage Rate = Capital Recovery Rate + O&M rate

The maximum usage rate for an item of equipment reverts to the O&M rate when the total usage reimbursement exceed 85% of the purchase price.

SCHEDULE 2.11 (d) 3
EQUIPMENT
VENDOR RENTED
SUMMARY
FRANKLIN CLEANERS SITE
WORK ASSIGNMENT NUMBER D002708-24.1

ITEM	MAXIMUM REIMBURSEMENT RATE	TIME PERIOD	ESTIAMTED USAGE (period of time)	ESTIAMTED USAGE COST (Col. 2 X 3)
Generator	$55.00	day	7	$385
Percusion Drill	$65.00	day	6	$390
			Total	$775

SCHEDULE 2.11 (d) 4
SUMMARY
EXPENDABLE SUPPLIES
FRANKLIN CLEANERS SITE
WORK ASSIGNMENT NUMBER D002708-24.1

ITEM	ESTIMATED QUANTITY	UNITS	UNIT COST	TOTAL BUDGETED COST (COL. 2 X 3)
Voss disposable polyethylene weighted bailers	1	Case of 24	$170.00	$170
Sterile polystyrene sampling scoops	1	Case of 100	$78.00	$78
Poly tubing	800	feet	$0.19	$152
			TOTAL	$400

SCHEDULE 2.11 (D) 5
CONSUMABLE SUPPLIES
FRANKLIN CLEANERS SITE
WORK ASSIGNMENT NUMBER D002708-24.1
SUMMARY

ITEM	ESTIMATED QUANTITY	UNIT COST	TOTAL BUDGETED COST (COL. 2 X 3)
Miscellaneous Supplies	1	$500.00	$500
		TOTAL	$500

Schedule 2.11(e)
Cost Plus-Fixed-Fee Subcontracts
Work Assignment Number:
FRANKLIN CLEANERS SITE

Date: March 18, 1997

1. NAME OF SUBCONTRACTOR	SERVICES TO BE PERFORMED	SUBCONTRACT PRICE
YEC, INC.	SURVEY SERVICES	$ 8,499.17

A. Direct Salary Costs

Professional Responsibility Level	Labor Classification	Average Reimbursement Rate ($/Hr.)		Maximum Reimbursement Rate ($/Hr.)		Estimated Number of Hours	Total Estimated Direct Salary Cost ($)
Principle	VIII	1997	43.67	1997	47.16	8	349.36
Senior Geologist/ Scientist/Engineer	V	1997	28.87	1997	31.76	60	1,732.20
Licensed Surveyor/ Staff Geologist/ Scientist/Engineer	IV	1997	25.09	1997	27.60	0	0.00
Staff Geologist/ Scientist/Engineer/ Senior Draftsperson	III	1997	21.78	1997	24.18	16	348.48
Senior Technician/ Staff Engineer/ Scientist/Geologist	II	1997	16.12	1997	18.05	44	709.28
Technician/ Draftsperson	I	1997	14.60	1997	16.35	0	0.00
Total Direct Salary Costs:						128.00	$ 3,139.32

Footnotes:

1) The 1997 rates will be held firm until 10/31/97 (DATE).

2) Reimbursement will be limited to the lesser of either the individuals actual hourly rate or the maximum rate for each labor category.

3) Reimbursement will be limited to the maximum reimbursement rate for the professional responsibility level of the actual work performed

4) Only those labor classifications indicated with an asterisk will be entitled to overtime.

5) Reimbursement for technical time of principals, owners and officers will be limited to the maximum reimbursement rate of that labor category, the actual hourly labor rate paid, or the Federal GS-18 rate, whichever is lower.

SCHEDULE 2.11 (f) 1
UNIT PRICE SUBCONTRACTS
SUMMARY
FRANKLIN CLEANERS SITE
Work Assignment No: D002708-24.1

NAME OF SUBCONTRACTOR	SERVICES TO BE PERFORMED	SUBCONTRACT PRICE	MANAGEMENT FEE
Parratt Wolff	Borehole and Monitoring Well Installation	$58,959	$2,064

Item	Maximum Reimbursement Rate	Estimated No. of Units	Total Estimated Costs
1. a. Site Mobilization and Demobilization	$3.00	1460 mile	$4,380
b. Construction & Removal of Decon Pad	$900.00	2 ls	$1,800
c. Site Setup and Removal	$500.00	2 ls	$1,000
d. Well/Boring Setup	$175.00	20 well	$3,500
2. Drilling Techniques			
2a. Hollow Stem Augers			
(1) 0-50 Feet in Depth			
b. 2.25 Inch ID HSA	$9.50	120 feet	$1,140
c. 4.25 Inch ID HSA	$10.00	700 feet	$7,000
(2) 50-100 Feet in Depth			
c. 4.25 Inch ID HSA	$14.00	250 feet	$3,500
5. Split Spoon Sampling			
(1) 0-50 Feet in Depth			
a. 2.0 Inch OD	$20.00	40 samples	$800
(2) 50-100 Feet in Depth			
a. 2.0 Inch OD	$20.00	45 samples	$900
6. Shelby Tube Sampling	$85.00	2 samples	$170
7. Well Screen			
7a. PVC			
(1) PVC Well Screen, 1.0 ID, #10 Slot, Sch. 40			
a. 10 foot	$13.00	50 feet	$650
(2) PVC Well Screen, 2.0 ID, #10 Slot, Sch. 40			
a. 5 foot	$14.00	75 feet	$1,050
b. 10 Foot	$13.00	150 feet	$1,950
8. Well Riser			
8a. PVC			
(1) PVC Well Riser, Schedule 40			
a. 1.0 Inch ID	$6.00	365 feet	$2,190
b. 2.0 Inch ID	$7.00	382 feet	$2,674
9. Well Screen Sandpack Material	$10.00	60 bag	$600
10. Bentonite			
a. Pellets	$35.00	0 pail	$0
b. Powder	$10.00	22 bag	$220
c. Chips	$10.00	10 bag	$100
11. Grout			
a. Portland Cement - Type I	$12.00	200 bag	$2,400
b. Portland Cement - Type II	$15.00	0 bag	$0
12. Protective Casings			
12a. Flush Mount Surface Casing			
(1) FM Csng w/Lckng Cvr., Drain Hole			
a. 8.0 Inch ID	$290.00	19 Casing	$5,510
b. locks	$10.00	9 locks	$90
13. Containerization			
a. C&S of drill cuttings	$115.00	60 drums	$6,900
b. C&S of used disp. prsnl protect. clothing on-site on pallets	$115.00	4 drum	$460
14. Well Development	$65.00	70 hour	$4,550
18. Standby Time	$75.00	25 hr	$1,875
20. Labor Charge			
a. Laborer Rate	$35.00	30 hr	$1,050
21. Per Diem Charge	$50.00	50 person	$2,500
		Subtotal	$58,959
22. Percent Increase for Additional 12 month period.	0.00%		$0
		Subotal	$58,959
		Management Fee	$2,064
		Total	$61,023

04/03/97

SCHEDULE 2.11 (f) 2
UNIT PRICE SUBCONTRACTS
SUMMARY
FRANKLIN CLEANERS
Work Assignment No. D002708-24.1

NAME OF SUBCONTRACTOR		SERVICES TO BE PERFORMED	SUBCONTRACT PRICE	MANAGEMENT FEE
Nytest Environmental		Chemical Sample Analysis	$65,518	$2,293
Item	Method	Maximum Reimbursement Rate	Estimated No. of Units	Total Estimated Costs
Surface Soil				
Vocs	8010	$95.00 /sample	38	$3,610
Vocs	91-1	$170.00 /sample	3	$510
Subsurface soil				
Vocs	8010	$95.00 /sample	56	$5,320
Vocs	91-1	$170.00 /sample	4	$680
Groundwater (Geoprobe)				
Vocs	601	$175.75 /sample*	180	$31,635
Vocs	91-1	$170.00 /sample	0	$0
Groundwater (Monitoring Wells)				
Vocs	601	$95.00 /sample	14	$1,330
Vocs	91-1	$170.00 /sample	1	$170
Iron	Superfund CLP Inorganics	$12.00 /sample	14	$168
Managanese	Superfund CLP Inorganics	$12.00 /sample	14	$168
Groundwater (Private Wells)				
Vocs	601	$95.00 /sample	5	$475
Vocs	91-1	$170.00 /sample	1	$170
Drill Cuttings				
Corrosivity	Section 2.1.2	$40.00 /sample	6	$240
Ignitability	Section 2.1.2	$40.00 /sample	6	$240
Reactivity	Section 2.1.2	$40.00 /sample	6	$240
TCLP	1311	$965.00 /sample	6	$5,790
Vocs	8240	$175.00 /sample	6	$1,050
Svocs	8270	$485.00 /sample	6	$2,910
Air	TO14	$175.00 /sample	1	$175
Soil Vapor	NIOSH Method 1501	$175.00 /sample	0	$0
QA/QC Samples				
Blanks				
Air	TO14	$175.00 /sample	1	$175
Air	NIOSH Method 1501	$175.00 /sample	1	$175
Trip Balnks	601	$95.00 /sample	15	$1,425
Groundwater				
Matrix Spike				
Vocs	601	$95.00 /sample	10	$950
Vocs	91-1	$170.00 /sample	1	$170
Iron	Superfund CLP Inorganics	$12.00 /sample	1	$12
Manganese	Superfund CLP Inorganics	$12.00 /sample	1	$12
Matrix Spike Duplicate				
Vocs	601	$95.00 /sample	10	$950
Vocs	91-1	$170.00 /sample	1	$170
Iron	Superfund CLP Inorganics	$12.00 /sample	1	$12
Manganese	Superfund CLP Inorganics	$12.00 /sample	1	$12
Matrix Spike Blank				
Vocs	601	$95.00 /sample	10	$950
Vocs	91-1	$170.00 /sample	1	$170
Iron	Superfund CLP Inorganics	$12.00 /sample	1	$12
Manganese	Superfund CLP Inorganics	$12.00 /sample	1	$12
Soil				
Matrix Spike				
Vocs	8010	$95.00 /sample	5	$475
Vocs	91-1	$170.00 /sample	1	$170
Matrix Spike Duplicate				
Vocs	8010	$170.00 /sample	5	$850
Vocs	91-1	$170.00 /sample	1	$170
Matrix Spike Blank				
Vocs	8010	$95.00 /sample	5	$475
Vocs	91-1	$170.00 /sample	1	$170
Cost increase if contract is extended for second 12 month period				$3,120

SUBTOTAL	**$65,518**
SUBCONTRACT MANAGEMENT FEE	**$2,293**
TOTAL	**$67,811**

*Cost increase for 24 hour turnaround

04/11/97

SCHEDULE 2.11 (f) 3
UNIT PRICE SUBCONTRACTS
SUMMARY
FRANKLIN CLEANERS
Work Assignment No. D002708-24.1

NAME OF SUBCONTRACTOR	SERVICES TO BE PERFORMED	SUBCONTRACT PRICE	MANAGEMENT FEE
Enviroscience	Data Validation	$3,707	$0

Item	Method	Maximum Reimbursement Rate	Estimated No. of Units	Total Estimated Costs
Surface Soil				
Vocs	8010	$19.50 /sample	38	$741
Vocs	91-1	$24.50 /sample	3	$74
Subsurface soil				
Vocs	8010	$19.50 /sample	56	$1,092
Vocs	91-1	$24.50 /sample	4	$98
Groundwater (Geoprobe)				
Vocs	601	$19.50 /sample	0	$0
Vocs	91-1	$22.50 /sample	0	$0
Groundwater (Monitoring Wells)				
Vocs	601	$19.50 /sample	14	$273
Vocs	91-1	$22.50 /sample	1	$23
Iron	Superfund CLP Inorganics	$9.50 /sample	14	$133
Managanese	Superfund CLP Inorganics	$9.50 /sample	14	$133
Groundwater (Private Wells)				
Vocs	601	$19.50 /sample	5	$98
Vocs	91-1	$22.50 /sample	1	$23
Air	TO14	$27.00 /sample	1	$27
Soil Vapor	NIOSH Method 1501	$27.00 /sample	0	$0
QA/QC Samples				
Blanks				
Air	TO14	$27.00 /sample	1	$27
Soil Vapor	NIOSH Method 1501	$27.00 /sample	0	$0
Trip Balnks	601	$19.50 /sample	15	$293
Groundwater				
Matrix Spike				
Vocs	601	$19.50 /sample	1	$20
Vocs	91-1	$22.50 /sample	1	$23
Iron	Superfund CLP Inorganics	$9.50 /sample	1	$10
Manganese	Superfund CLP Inorganics	$9.50 /sample	1	$10
Matrix Spike Duplicate				
Vocs	601	$19.50 /sample	1	$20
Vocs	91-1	$22.50 /sample	1	$23
Iron	Superfund CLP Inorganics	$9.50 /sample	1	$10
Manganese	Superfund CLP Inorganics	$9.50 /sample	1	$10
Matrix Spike Blank				
Vocs	601	$19.50 /sample	1	$20
Vocs	91-1	$22.50 /sample	1	$23
Iron	Superfund CLP Inorganics	$9.50 /sample	1	$10
Manganese	Superfund CLP Inorganics	$9.50 /sample	1	$10
Soil				
Matrix Spike				
Vocs	8010	$19.50 /sample	5	$98
Vocs	91-1	$24.50 /sample	1	$25
Matrix Spike Duplicate				
Vocs	8010	$19.50 /sample	5	$98
Vocs	91-1	$24.50 /sample	1	$25
Matrix Spike Blank				
Vocs	8010	$19.50 /sample	5	$98
Vocs	91-1	$24.50 /sample	1	$25
Cost increase if contract is extended for second 12 month period				$125

SUBTOTAL	**$3,707**
SUBCONTRACT MANAGEMENT FEE	**$0**
TOTAL	**$3,707**

03/24/97

SCHEDULE 2.11 (f) 4
UNIT PRICE SUBCONTRACTS
SUMMARY
FRANKLIN CLEANERS
Work Assignment No. D002708-24.1

NAME OF SUBCONTRACTOR	SERVICES TO BE PERFORMED	SUBCONTRACT PRICE	ANAGEMENT FEE
Zebra Environmental, Inc.	Geoprobe Services	$32,414	$1,134

Item	Maximum Reimbursement Rate	Estimated No. of Units	Total Estimated Costs
1 Mobilization and Demobilization Including, site setup, breakdown, cleanup, repair and site restoration	$0.45	30 Miles	$13.50
2 Temporary Decontamination Pad. Mobile	$340.00	1 Lump Sum	$340.00
3 Geoprobe System or Equivalent Truck/van mounted. With associated tools necessary to complete assigned work. With a 2 man crew for an eight hour day on-site.	$990.00	29 Days (8 Hour Days)	$28,710.00
4 Overtime Charge For on-site work in excess of 8 hours	$100.00	4 Hours	$400.00
5 Probe Sampling			
a. Groundwater Samples	$12.00	147 Samples	$1,764.00
b. Soil samples	$12.00	94 Samples	$1,128.00
6 Portland Cement (Type I or II)	$16.00	1 Bags	$16.00
7 Bentonite Powder	$35.00	1 Bags	$35.00
8 Asphalt Patch	$7.50	1 Bags	$7.50
	SUBTOTAL		$32,414.00
	SUBCONTRACT MANAGEMENT FEE		$1,134.49
	TOTAL		$33,548.49

SCHEDULE 2.11 (f) 5
UNIT PRICE SUBCONTRACTS
SUMMARY
FRANKLIN CLEANERS
Work Assignment No. D002708-24.1

NAME OF SUBCONTRACTOR	SERVICES TO BE PERFORMED	SUBCONTRA PRICE	MANAGEMENT FEE
Chem Waste Disposal	Drum Removal and Disposal	$9,450	$0

Item	Maximum Reimbursement Rate	Estimated No. of Units	Total Estimated Costs
1 Transportation and removal of non-hazardous drill cuttings	$150.00	63 Drums	$9,450.00
	SUBTOTAL		$9,450.00
	SUBCONTRACT MANAGEMENT FEE		$0.00
	TOTAL		$9,450.00

Project Name:Franklin Cleaners
Work Assignment No.: D002708-24.1
Task No./Name: All Tasks
Complete: 0.00%

SCHEDULE 2.11 (g)
SUMMARY

Date Prepared:
Billing Period:
Invoice No.:

MONTHLY COST CONTROL REPORT
SUMMARY OF FISCAL INFORMATION

Expenditure Category	A Costs Claimed This Period	B Paid To Date	C Total Disallowed To Date	D Total Costs Incurred To Date (A+B+B1)	E Estimated Costs To Completion	F Total Work Assignment Price (A+B+E)	G Approved Budget	H Estimated Under/(Over) (G-F)
1. Direct Salary Costs	0.00	0.00	0.00	0.00	0.00	0.00	$74,747	0.00
2. Indirect	0.00	0.00	0.00	0.00	0.00	0.00	$118,325	0.00
3. Subtotal Direct Salary Costs and Indirect Costs	0.00	0.00	0.00	0.00	0.00	0.00	$193,072	0.00
4. Travel	0.00	0.00	0.00	0.00	0.00	0.00	$6,788	0.00
5. Other Non-Salary Costs	0.00	0.00	0.00	0.00	0.00	0.00	$4,875	0.00
6. Subtotal Direct Non-Salary Costs	0.00	0.00	0.00	0.00	0.00	0.00	$11,743	0.00
7. Subcontractors	0.00	0.00	0.00	0.00	0.00	0.00	$184,038	0.00
8. Total Work Assignment Cost	0.00	0.00	0.00	0.00	0.00	0.00	$388,852	0.00
9. Fixed Fee	0.00	0.00	0.00	0.00	0.00	0.00	$16,218	0.00
10. Total Work Assignment Price	0.00	0.00	0.00	0.00	0.00	0.00	$405,070	0.00

Project Manager (Engineer) _____ Date _____

Engineer: Dvirka & Bartilucci
Contract No.: D002708
Project Name:Franklin Cleaners
Work Assignment No.: D002708-24.1

Date Prepared:
Billing Period:
Invoice No.:

SCHEDULE 2.11(g) SUPPLEMENTAL
MONTHLY COST CONTROL REPORT
SUBCONTRACTS

Subcontract Name	Subcontract Costs claimed this Application Incl. Resubmittals	Subcontract Costs Approved for Payment on Previous Application	Total Subcontract Costs to Date (A plus B)	Subcontract Approved Budget	Managemnt Fee Budget	Managemnt Fee Paid	Total Costs To Date
1. YEC , Inc.	0.00	0.00	0.00	8499.10	0.00		
2. Parratt Wolff	0.00	0.00	0.00	58959.00	2,063.57		
3. Nytest Environmental Inc.	0.00	0.00	0.00	65517.90	2,293.13		
4. Zebra Environmental	0.00	0.00	0.00	32414.00	1,134.49		
5. Enviroscience	0.00	0.00	0.00	3706.85	0.00		
6. Chem Waste Disposal	0.00	0.00	0.00	9450.00	0.00		
Total				178546.85	5491.18		

Project Name:Franklin Cleaners
Work Assignment No.: D002708-24.1
Task No./Name: 1/Scoping and Work Plan Development
Complete: 0.00%

SCHEDULE 2.11(g)

Date Prepared:
Billing Period:
Invoice No.:

MONTHLY COST CONTROL REPORT
SUMMARY OF FISCAL INFORMATION

	A Costs Claimed This Period	B Paid To Date	C Total Disallowed To Date	D Total Costs Incurred To Date (A+B+B1)	E Estimated Costs To Completion	F Total Work Assignment Price (A+B+E)	G Approved Budget	H Estimated Under/(Over) (G-F)
1. Direct Salary Costs	0.00	0.00	0.00	0.00	0.00	0.00	$9,195	0.00
2. Indirect	0.00	0.00	0.00	0.00	0.00	0.00	$14,556	0.00
3. Subtotal Direct Salary Costs and Indirect Costs	0.00	0.00	0.00	0.00	0.00	0.00	$23,751	0.00
4. Travel	0.00	0.00	0.00	0.00	0.00	0.00	$8	0.00
5. Other Non-Salary Costs	0.00	0.00	0.00	0.00	0.00	0.00	$280	0.00
6. Subtotal Direct Non-Salary Costs	0.00	0.00	0.00	0.00	0.00	0.00	$288	0.00
7. Subcontractors	0.00	0.00	0.00	0.00	0.00	0.00	$0	0.00
8. Total Work Assignment Cost	0.00	0.00	0.00	0.00	0.00	0.00	$24,038	0.00
9. Fixed Fee	0.00	0.00	0.00	0.00	0.00	0.00	$1,995	0.00
10. Total Work Assignment Price	0.00	0.00	0.00	0.00	0.00	0.00	$26,033	0.00

Project Manager (Engineer) _____ Date _____

Project Name:Franklin Cleaners
Work Assignment No.: D002708-24.1
Task No./Name: 2/Phase I RI
Complete: 0.00%

SCHEDULE 2.11(g)

Date Prepared:
Billing Period:
Invoice No.:

MONTHLY COST CONTROL REPORT
SUMMARY OF FISCAL INFORMATION

	A Costs Claimed This Period	B Paid To Date	C Total Disallowed To Date	D Total Costs Incurred To Date (A+B+B1)	E Estimated Costs To Completion	F Total Work Assignment Price (A+B+E)	G Approved Budget	H Estimated Under/(Over) (G-F)
1. Direct Salary Costs	0.00	0.00	0.00	0.00	0.00	0.00	$58,578	0.00
2. Indirect	0.00	0.00	0.00	0.00	0.00	0.00	$92,729	0.00
3. Subtotal Direct Salary Costs and Indirect Costs	0.00	0.00	0.00	0.00	0.00	0.00	$151,307	0.00
4. Travel	0.00	0.00	0.00	0.00	0.00	0.00	$6,780	0.00
5. Other Non-Salary Costs	0.00	0.00	0.00	0.00	0.00	0.00	$4,595	0.00
6. Subtotal Direct Non-Salary Costs	0.00	0.00	0.00	0.00	0.00	0.00	$11,375	0.00
7. Subcontractors	0.00	0.00	0.00	0.00	0.00	0.00	$184,038	0.00
8. Total Work Assignment Cost	0.00	0.00	0.00	0.00	0.00	0.00	$346,720	0.00
9. Fixed Fee	0.00	0.00	0.00	0.00	0.00	0.00	$12,710	0.00
10. Total Work Assignment Price	0.00	0.00	0.00	0.00	0.00	0.00	$359,430	0.00

Project Manager (Engineer) _____ Date _____

Project Name:Franklin Cleaners
Work Assignment No.: D002708-24.1
Task No./Name: 3/Feasiblity Study/Presumptive Remedy
Complete: 0.00%

SCHEDULE 2.11(g)

Date Prepared:
Billing Period:
Invoice No.:

MONTHLY COST CONTROL REPORT
SUMMARY OF FISCAL INFORMATION

	A Costs Claimed This Period	B Paid To Date	C Total Disallowed To Date	D Total Costs Incurred To Date (A+B+B1)	E Estimated Costs To Completion	F Total Work Assignment Price (A+B+E)	G Approved Budget	H Estimated Under/(Over) (G-F)
1. Direct Salary Costs	0.00	0.00	0.00	0.00	0.00	0.00	$6,974	0.00
2. Indirect	0.00	0.00	0.00	0.00	0.00	0.00	$11,040	0.00
3. Subtotal Direct Salary Costs and Indirect Costs	0.00	0.00	0.00	0.00	0.00	0.00	$18,013	0.00
4. Travel	0.00	0.00	0.00	0.00	0.00	0.00	$0	0.00
5. Other Non-Salary Costs	0.00	0.00	0.00	0.00	0.00	0.00	$80	0.00
6. Subtotal Direct Non-Salary Costs	0.00	0.00	0.00	0.00	0.00	0.00	$80	0.00
7. Subcontractors	0.00	0.00	0.00	0.00	0.00	0.00	$0	0.00
8. Total Work Assignment Cost	0.00	0.00	0.00	0.00	0.00	0.00	$18,093	0.00
9. Fixed Fee	0.00	0.00	0.00	0.00	0.00	0.00	$1,513	0.00
10. Total Work Assignment Price	0.00	0.00	0.00	0.00	0.00	0.00	$19,606	0.00

Project Manager (Engineer) _____ Date _____

Project Name:Franklin Cleaners
Work Assignment No.: D002708-24.1
Task No./Name:4/Phase II RI
Complete: 0.00%

SCHEDULE 2.11(g)

Date Prepared:
Billing Period:
Invoice No.:

MONTHLY COST CONTROL REPORT
SUMMARY OF FISCAL INFORMATION

	A Costs Claimed This Period	B Paid To Date	C Total Disallowed To Date	D Total Costs Incurred To Date (A+B+B1)	E Estimated Costs To Completion	F Total Work Assignment Price (A+B+E)	G Approved Budget	H Estimated Under/(Over) (G-F)
1. Direct Salary Costs	0.00	0.00	0.00	0.00	0.00	0.00	$0	0.00
2. Indirect	0.00	0.00	0.00	0.00	0.00	0.00	$0	0.00
3. Subtotal Direct Salary Costs and Indirect Costs	0.00	0.00	0.00	0.00	0.00	0.00	$0	0.00
4. Travel	0.00	0.00	0.00	0.00	0.00	0.00	$0	0.00
5. Other Non-Salary Costs	0.00	0.00	0.00	0.00	0.00	0.00	$0	0.00
6. Subtotal Direct Non-Salary Costs	0.00	0.00	0.00	0.00	0.00	0.00	$0	0.00
7. Subcontractors	0.00	0.00	0.00	0.00	0.00	0.00	$0	0.00
8. Total Work Assignment Cost	0.00	0.00	0.00	0.00	0.00	0.00	$0	0.00
9. Fixed Fee	0.00	0.00	0.00	0.00	0.00	0.00	$0	0.00
10. Total Work Assignment Price	0.00	0.00	0.00	0.00	0.00	0.00	$0	0.00

Project Manager (Engineer) _____ Date _____

Scedule 2.11 (h)

Project Name:Franklin Cleaners
Work Assignment No.: D002708-24.1

Date Prepared:
Billing Period
Invoice No.

Monthly Cost Control Report
Summary of Labor Hours
Expended to Date/Estimated To Completion

NSPE Labor Classification	IX EXP/EST	VIII EXP/EST	VII EXP/EST	VI EXP/EST	V EXP/EST	IV EXP/EST	III EXP/EST	I & II EXP/EST	ADMIN/ SUPPORT	TOTAL NUMBER OF DIRECT LABOR HOURS EXP/EST
Task 1	0/ 12	0/ 0	0/ 24	0/ 96	0/ 64	0/ 48	0/ 32	0/ 0	0/ 32	0/ 308
Task 2	0/ 40	0/ 0	0/ 44	0/ 304	0/ 966	0/ 85	0/ 284	0/ 344	0/ 100	0/ 2167
Task 3	0/ 16	0/ 0	0/ 0	0/ 88	0/ 60	0/ 0	0/ 24	0/ 0	0/ 48	0/ 236
Task 4	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0
Total Hours	0/ 68	0/ 0	0/ 68	0/ 488	0/ 133	0/ 133	0/ 340	0/ 344	0/ 180	0/ 2711