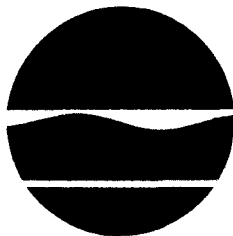


REMEDIAL DESIGN WORK PLAN



ARKWIN INDUSTRIES SITE

New Cassel, Nassau County , New York
(Site Registry No. 1-30-043D)

WORK ASSIGNMENT NO. D003600-27

Prepared For

**New York State Department
of Environmental Conservation**

AUGUST 2001



Dvirka and Bartilucci
CONSULTING ENGINEERS
A DIVISION OF WILLIAM F. COSULICH ASSOCIATES, P.C.

APPROVED
Charles J. Tyley Jr.
8/31/01

**REMEDIAL DESIGN
WORK PLAN**

APPROVED
Joseph G. Junc
8/31/01

**ARKWIN INDUSTRIES SITE
NEW CASSEL
NASSAU COUNTY, NEW YORK**

WORK ASSIGNMENT NO. D003600-27

PREPARED FOR

**NEW YORK STATE DEPARTMENT
OF ENVIRONMENTAL CONSERVATION**

BY

**DVIRKA AND BARTILUCCI CONSULTING ENGINEERS
WOODBURY, NEW YORK**

AUGUST 2001

**REMEDIAL DESIGN
WORK PLAN
ARKWIN INDUSTRIES SITE
NEW CASSEL, NEW YORK**

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Section 1

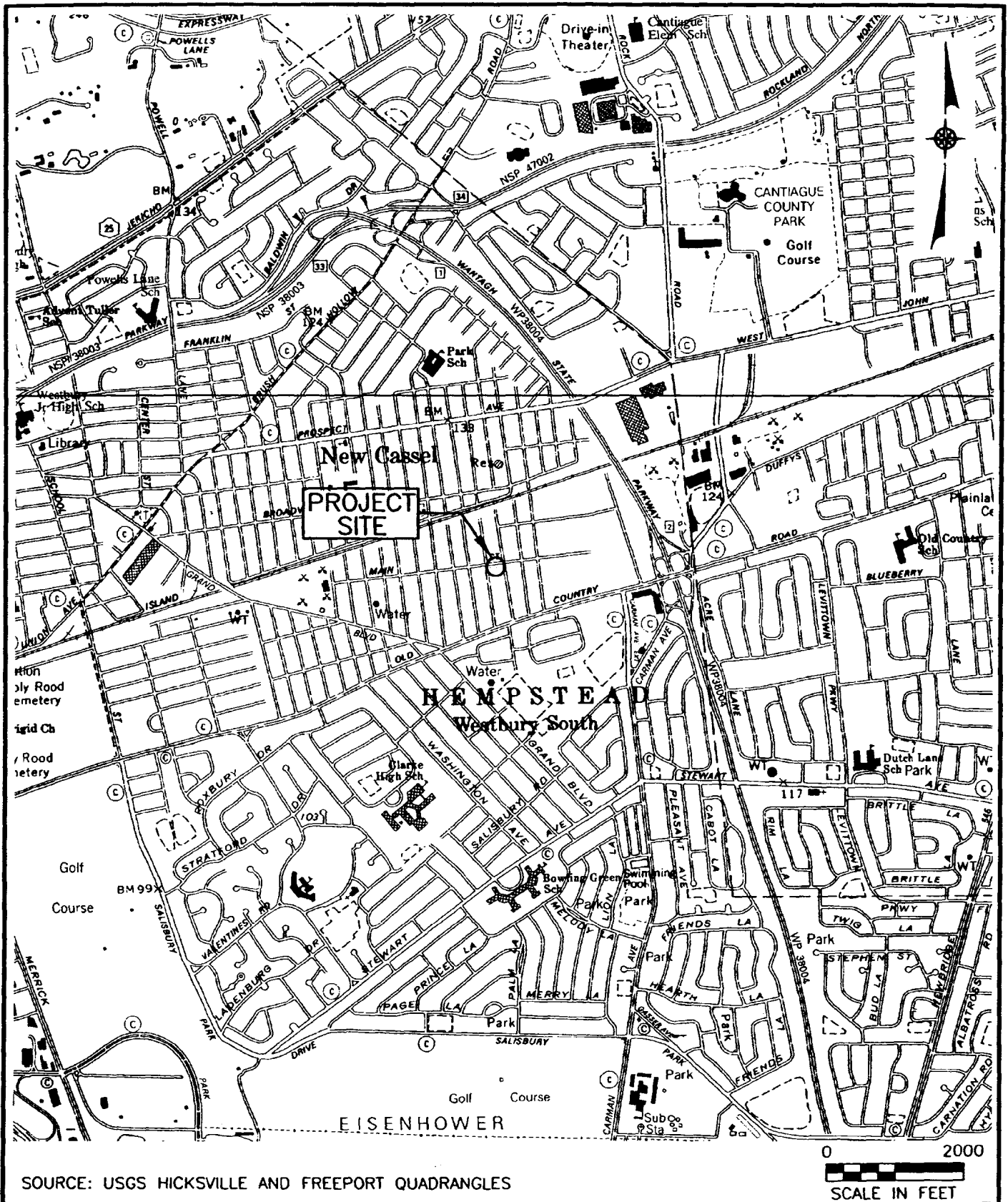
1.0 INTRODUCTION

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 for remedial design services in connection with the Arkwin Industries Site located in the New Cassel, New York (see Figure 1-1). The site is a Class 2 New York State Superfund site (Registry No. 1-30-043D). The scope of services includes:

- A pilot study to determine the overall effectiveness of air sparging/soil vapor extraction; and
- Preparation of plans and specifications for procurement of construction and operation of a soil vapor extraction and air sparging system.

The work for this site is being performed with funds allocated under the New York State Superfund Program. This document, entitled "Remedial Design Work Plan for the Arkwin Industries Site," has been prepared in accordance with NYSDEC guidance and includes a detailed description of tasks, schedule and budget for the project. The work plan identifies key project milestones and presents the D&B project team organizational structure.

VC



ARKWIN INDUSTRIES SITE
NEW CASSEL, NEW YORK

SITE LOCATION MAP



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

Section 2

2.0 BACKGROUND INFORMATION

2.1 Site Location and Description

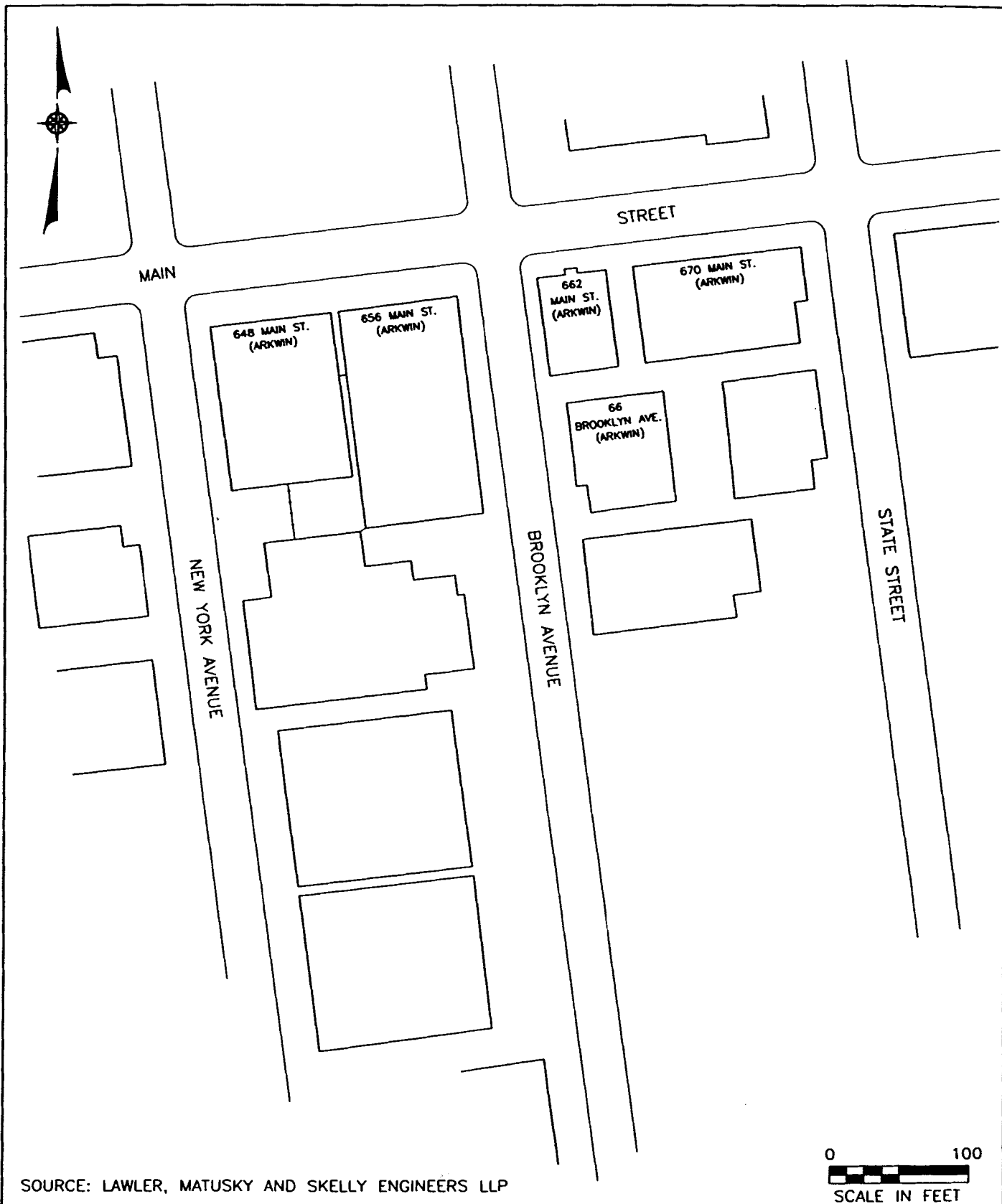
The Arkwin Industries Site is located in the New Cassel Industrial Area, Town of North Hempstead, Nassau County, New York. The site is approximately 1.7 acres in size and includes five buildings that are located at 648 Main Street, 656 Main Street, 662 Main Street, 670 Main Street and 66 Brooklyn Avenue. The properties are entirely paved or covered with the footprint of the buildings with the exception of several small landscaped areas (see Figure 2-1).

2.2 Site History

Arkwin, Industries, Inc. has occupied the site since 1955. Operations consist primarily of machining and assembly of metal parts for industrial, military, aircraft and aerospace applications. As part of the manufacturing process, chlorinated solvents were used in degreasing operations. In 1986, extensive chlorinated solvents contamination was found in groundwater underlying the industrial area. Further investigations at the Arkwin Industries Site revealed several on-site dry wells/sanitary drains that were contaminated with chlorinated solvents. Soil contamination from the dry wells/sanitary drains was removed from the site in 1997 and the NYSDEC has determined that no further action for the on-site soil is required.

Groundwater sampling results from 18 on-site groundwater monitoring wells (10 shallow water table wells, 4 intermediate upper glacial/Magothy interface wells, and 4 Magothy wells) indicated the presence of elevated levels of volatile organic compounds in 14 of the 18 wells sampled. In the shallow upgradient wells, total volatile organics (VOCs) ranged from 2 ug/l to 47 ug/l. In the shallow downgradient wells in the immediate vicinity of the site, total VOCs ranged from 117 ug/l to 864 ug/l. In the intermediate wells, total VOCs ranged from 3 to 211 ug/l and in the deep wells total VOCs ranged from non-detect to 80 ug/l.

THU, AUG 09, 2001 03:22 P FD F:\1912\WP_FIG2_1.DWG



SOURCE: LAWLER, MATUSKY AND SKELLY ENGINEERS LLP

ARKWIN INDUSTRIES SITE
NEW CASSEL, NEW YORK

SITE MAP

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

FIGURE 2-1

Section 3

3.0 SCOPE OF WORK

The services to be provided by Dvirka and Bartilucci Consulting Engineers (D&B) include work plan preparation (Task 1); predesign studies (Task 2); preparation of plans and specifications (Task 3); and pre-award services (Task 4) as described below. Further description of groundwater monitoring well sampling procedures and decontamination procedures, as they pertain to the scope of work presented below, are provided in the Work Plan prepared by D&B for the New Cassel Industrial Area Off-site Groundwater Project.

3.1 Task 1 – Background Review and Work Plan

This task consists of two subtasks: Subtask 1.1 – Background Review and Subtask 1.2 – Scoping and Remedial Design Work Plan.

3.1.1 Subtask 1.1 – Background Review

Under this subtask, background documents and information including the Remedial Investigation Report (RI), Feasibility Study Report (FS), Health and Safety Plan (HASP), Quality Assurance Project Plan (QAPP) and the Record of Decision (ROD) will be reviewed. This subtask also involves participating in a scoping meeting at the site with representatives of the NYSDEC. The site visit and scoping meeting will be attended by D&B's project manager and design engineer.

3.1.2 Subtask 1.2 – Scoping and Remedial Design Work Plan

This subtask involves preparation of the draft and final work plans including preparation of the scope of work, project management plan, project schedule and Schedule 2.11s.

3.2 Task 2 – Predesign Studies

This task consists of three subtasks: Subtask 2.1 – Procurement of Pilot Study Subcontractor and Oversight of Pilot Study; Subtask 2.2 – Pilot Study Report; and Subtask 2.3 – Groundwater Sampling. Each subtask is described below. This task will also include performance of a site property boundary and physical features survey.

3.2.1 Subtask 2.1 – Procurement of Pilot Study Subcontractor and Oversight of Pilot Study

Under this subtask, D&B will prepare a scope of work, solicit prices from and procure subcontractors to perform an air sparging/soil vapor extraction (AS/SVE) pilot study. The objectives of the pilot study will be to:

- Determine the optimum number, location and depth of air sparging injection wells and zone of influence;
- Determine the optimum number, location and depth of soil vapor extraction wells and zone of influence;
- Determine site specific design parameters, including optimal air injection pressures and air injection flow rates, and soil vapor extraction vacuums and soil vapor extraction flow rates; and
- Determine the mass removal efficiency and estimate of time required to reach cleanup goals.

Proposals will be reviewed and recommendations will be provided to NYSDEC with regard to the subcontractor for pilot study services.

The pilot study will involve installation of an air sparging well, soil vapor extraction well, piezometers and vapor monitoring probes, and implementation of a 3-day monitoring and testing program. D&B will oversee the installation of the wells, piezometers and probes, and during the pilot study, D&B will provide full-time oversight in the field.

3.2.2 Subtask 2.2 – Pilot Study Report

A draft and final pilot study report will be prepared under this subtask. The pilot study report will provide an estimate of the removal rate in pounds per hour of volatile organic compounds (VOCs) from contaminated groundwater and an estimate of the zone of influence of the air sparging well at each air injection rate tested. The zone of influence of the soil vapor extraction well and ability to capture air sparge vapors will also be evaluated. In addition, recommendations for a full-scale system and an estimated time for cleanup to remediation goals will be provided. Two copies of the draft report and six copies of the final report will be submitted to the Department.

3.2.3 Subtask 2.3 – Groundwater Sampling

As part of this subtask, D&B will collect water table elevation measurements and groundwater samples from 12 existing shallow and intermediate monitoring wells on and in the vicinity of the site. The wells to be sampled include AIMW-8A, AIMW-8B, AIMW-9A, AIMW-9B, MW-1, MW-3, MW-4, MW-7, AIMW-10A, AIMW-10B, AIMW-11A and AIMW-11B.

Each monitoring well will be purged to remove the standing water inside the well prior to sample collection. A minimum of three casing volumes will be removed to ensure that the water being sampled is representative of the aquifer. The wells will be purged using decontaminated submersible pumps and new dedicated discharge tubing.

During purging, pH, conductivity, temperature and turbidity will be monitored at intervals determined by the amount of water necessary for adequate purging. When the values of the field parameters have stabilized to within 10 percent for at least two readings and a minimum of three casing volumes has been removed, and the turbidity of the water is less than 50 NTUs, purging will be considered complete.

Groundwater samples will be collected from the dedicated discharge tubing after purging. Groundwater samples will be collected at a maximum flow rate of approximately 1 gallon per minute (gpm). All samples will be stored in an iced cooler and will be shipped under chain of custody procedures to the laboratory within 48 hours after collection.

Appropriate quality assurance/quality control (QA/QC) samples will be collected (refer to Section 5.0). These will include matrix spikes, matrix spike duplicates and trip blanks.

Decontamination of the submersible pump used for purging will be performed in accordance with procedures described in the QA/QC Plan prepared for the New Cassel Industrial Area Off-site Groundwater Project.

Each sample will be analyzed for chlorinated volatile organic compounds by NYSDEC Method 95-1, and iron and manganese by NYSDEC ASP Methods 236.1 and 243.2, respectively. The samples will be shipped to the New York State Department of Health (NYSDOH) laboratory for analysis. The results of the groundwater sampling and water table elevation measurements will be summarized in a letter report to NYSDEC after the test results are received from the laboratory.

Purge water will be disposed in the Nassau County Department of Public Works sanitary sewer system.

3.3 Task 3 - Plans and Specifications (Contract Documents)

Using the information in the Arkwin Industries, Inc. Remedial Investigation Report, the Arkwin Industries Feasibility Study Report, the Record of Decision for Operable Unit 2 - Groundwater and the results of the pilot study, D&B will prepare a performance specification for the purpose of competitively bidding the AS/SVE selected remedy in conformance with New York State laws, rules, regulations and guidelines. The documents will conform to the selected remedy in the Record of Decision. The design documents will include the results of the pilot study, performance requirements for the AS/SVE system, including area and depths of influence,

minimum vacuum requirements at the remedial boundaries, vapor discharge criteria, maximum time period for remediation and conceptual design drawings showing the suggested number and placement of air sparging and soil vapor extraction points and related equipment.

In addition, the contract documents will contain a bid schedule; minimum construction, startup, operation, maintenance and monitoring requirements; specifications for mobilization and demobilization, and control of noise, emissions and condensate; and submittal requirements, including preparation of a site-specific health and safety plan, sampling and analysis plan, construction quality assurance/quality control plan, operations and maintenance plan, and contingency plan. The health and safety plan requirements will include preparation and implementation of a Community Health and Safety Plan (CHASP). At a minimum, the contractor will be required to perform three rounds of off-site ambient air sampling (before, during and after construction). Analytes will include 1,1,1-trichloroethane, tetrachloroethene and their breakdown products. Each round will consist of four sampling stations: one upwind and three downwind of the site. In addition, perimeter air surveying requirements for VOCs and dust will be specified, along with reporting requirements.

Prior to submission to the NYSDEC, the contract documents will be reviewed by D&B with specific consideration to a bidder's ability to provide a responsive bid.

3.3.1 Subtask 3.1 – Draft Design

D&B will submit three copies of the performance based specifications when the design of the AS/SVE system is 95 percent complete. Supporting data, documentation and design calculations, as applicable, shall be provided with the design documents. This subtask includes one conference call with the Department to review the comments on the draft plans and specifications.

3.3.2 Subtask 3.2 – Final Design

The final design documents will incorporate the comments from the Department, and will be signed and stamped by a NYS Licensed Professional Engineer. D&B will submit five copies of the final contract documents to NYSDEC. After receipt of NYSDEC approval, D&B will submit 75 copies of the plans and specifications for bidding.

In addition, as part of this subtask, a detailed construction, operations and maintenance cost estimate will be prepared. The estimate will be prepared on a bid item basis as provided in the bid schedule in order to provide an estimate for each bid item. The estimated quantities on the bid schedule in the final contract documents will be utilized to provide a total engineering cost estimate for construction, operation and maintenance of the AS/SVE system.

3.4 Task 4 – Pre-award Services

Advertising for bids and distribution of bid documents and addenda will be performed by the Department. As part of this task, the following activities will be performed by D&B:

- Assistance will be provided to NYSDEC in conducting a pre-bid conference at the site. Minutes will be maintained by D&B during the conference and provided to NYSDEC for distribution to bidders.
- Necessary addenda will be prepared to the plans and specifications by D&B and provided to NYSDEC for distribution to prospective bidders. In addition, responses will be provided to NYSDEC for any written questions received. Addenda and written responses will be provided to NYSDEC in electronic format in a timely manner for transmittal to prospective bidders prior to the bid due date.
- A technical evaluation of the bids will be performed and a tabulation of the bids that have been received by the Department will be prepared. Review of the submittals of the apparent low bidder are not included in this scope of work.

Section 4

4.0 PROJECT MANAGEMENT

4.1 Project Schedule and Key Milestones/Reports

A project schedule is provided in Figure 4-1. Key milestones are identified in order to monitor work progress. Specific deadlines for completion of tasks and subtasks are established throughout the project to ensure timely completion of work. Presented below is a list of milestones for this project:

1. Submittal of Draft Work Plan
2. Submittal of Draft Pilot Study Report
3. Submittal of Draft Contract Documents
4. Submittal of Final Contract Documents

4.2 Project Management, Organization and Key Technical Personnel

Dvirka and Bartilucci Consulting Engineers will be the prime consultant responsible for this project. Subcontractors will be used on the project for the following services:

- YEC, Inc. – Surveying Services
- Enviro-Sciences, Inc. – Pilot Study
- Nassau-Suffolk Blueprinting Co., Inc. – Document Printing

Figure 4-2 illustrates both management and project responsibility functions for the project team and key personnel.

ARKWIN INDUSTRIES SITE
REMEDIAL DESIGN
PROJECT SCHEDULE

Task	Task Name	Duration	Start	Finish	Qtr 4, 2000			Qtr 1, 2001			Qtr 2, 2001			Qtr 3, 2001			Qtr 4, 2001			Qtr 1, 2002			Qtr 2, 2002			Qtr 3, 2002			Qtr 4, 2002		
					Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.0	Background Review and Work Plan	112d	4/12/01	9/14/01																											
1.1	Site Visit / Scoping Session	1d	5/9/01	5/9/01																											
1.2	Scoping and Draft Remedial Design Work Plan	47d	4/12/01	6/15/01																											
1.3	Department Review	38d	6/18/01	8/8/01																											
1.4	Final Work Plan	4d	8/9/01	8/14/01																											
1.5	Final Work Plan Approval	23d	8/15/01	9/14/01																											
2	Pre-Design Studies	25d	10/1/01	11/2/01																											
2.1	Oversight of Pilot Study	15d	10/1/01	10/19/01																											
2.2	Pilot Study Report	10d	10/22/01	11/2/01																											
2.3	Groundwater Sampling	3d	10/3/01	10/5/01																											
3	Plans and Specifications	80d	10/1/01	1/18/02																											
3.1	Draft Design Submittal (95%)	56d	10/1/01	12/17/01																											
3.2	Department Review	9d	12/18/01	12/28/01																											
3.3	Final Design	15d	12/31/01	1/18/02																											
3.4	Construction Cost Estimate	15d	12/31/01	1/18/02																											
4	Pre-Award Services	30d	1/21/02	3/1/02																											
4.1	Issue Advertisements for Bids	1d	1/21/02	1/21/02																											
4.2	Pre-Bid Conference	1d	2/4/02	2/4/02																											
4.3	Addenda	11d	2/5/02	2/19/02																											
4.4	Bid Due Date	1d	2/25/02	2/25/02																											
4.5	Bid Review	4d	2/26/02	3/1/02																											

Project: Arkwin Industries Site
Date: August 2001

Subtask



Department Review



Task



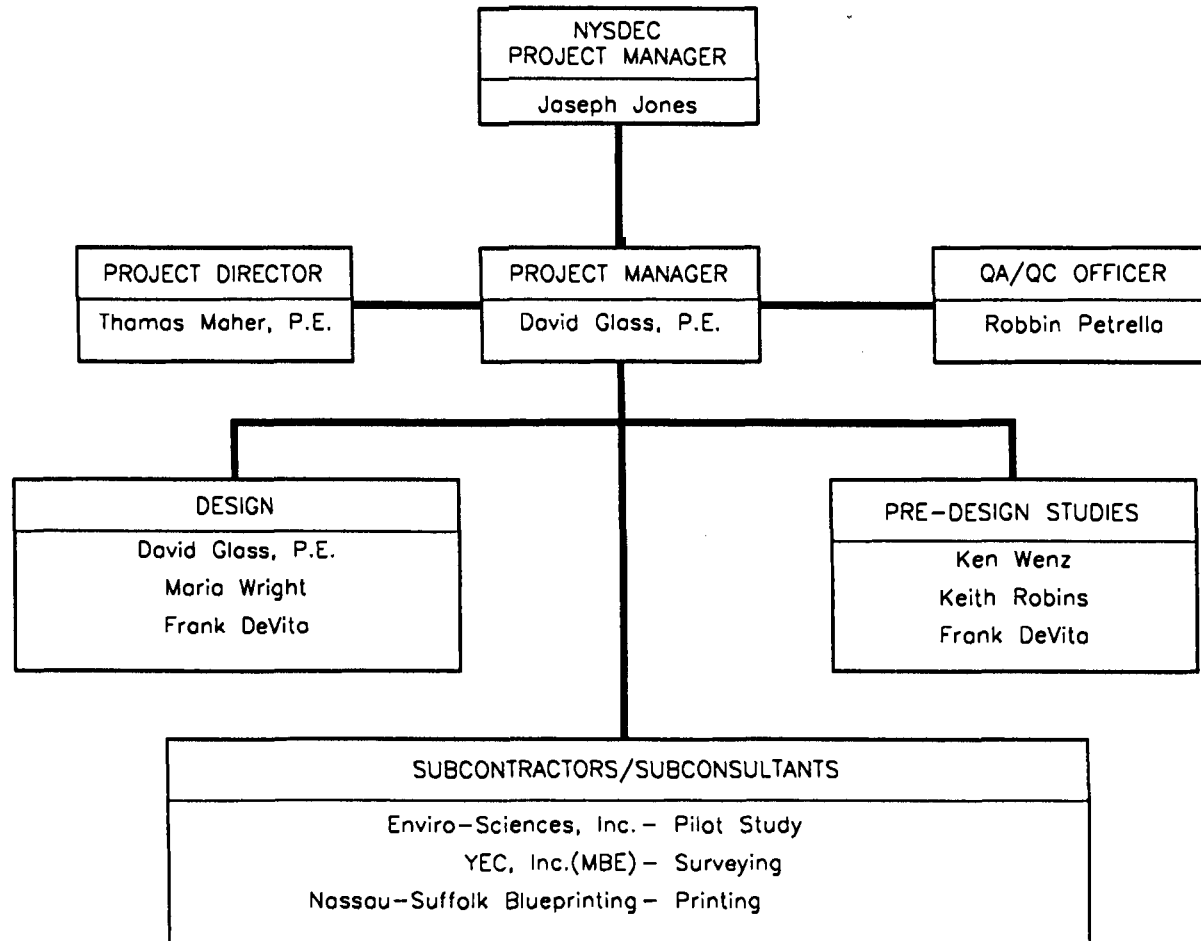
Meeting/Milestone



Approval



FIGURE 4-2
PROJECT TEAM ORGANIZATION CHART
FOR
REMEDIAL DESIGN
ARKWIN INDUSTRIES SITE
NEW CASSEL, NEW YORK



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Dvirko and Bartilucci
Consulting Engineers
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Section 5

5.0 SITE SPECIFIC QUALITY ASSURANCE AND QUALITY CONTROL PLAN

All sample analysis for the Arkwin Industries Site will be conducted in accordance with the New York State Department of Environmental Conservation June 2000 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 Site Specific Quality Assurance and Quality Control Plan prepared for the New Cassel Industrial Area Off-Site Groundwater Project.

5.1 Sampling Program Design and Rationale

- Twelve groundwater samples will be collected from existing on and off-site shallow and intermediate monitoring wells to determine current groundwater contaminant concentrations.

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

- One trip blank will be sent with each shipment of the groundwater samples.
- One matrix spike/matrix spike duplicate sample will be collected.

Table 5-1 presents a summary of the parameters/sample fractions to be analyzed together with the sample location, type of sample, sample matrix, number of samples, frequency of sample collection, type of sample container, method of preservation, holding time and analytical method.

Data will be reviewed and any quality control problems will be evaluated as to their effect on the usability of the sample data.

Table 5-1

**ARKWIN INDUSTRIES REMEDIAL DESIGN
SUMMARY OF MONITORING PARAMETERS**

<u>Sample Location</u>	<u>Sample Type</u>	<u>Sample Matrix</u>	<u>Sample Fraction</u>	<u>Number of Samples</u>	<u>Frequency</u>	<u>Container Type/Size/No.</u>	<u>Sample Preservation</u>	<u>Maximum Holding Time*</u>	<u>Analytical Method</u>
Monitoring Wells	Grab	Groundwater	Chlorinated Volatile Organics	12	1	Glass, clear/40 ml/3 ICHM 300 series or equivalent	Cool to 4°C	7 days for analysis	10/95 NYSDEC ASP Method 95-1
	Grab	Groundwater	Dissolved Iron and Manganese	12	1	Plastic/1 L/1 ICHM 300 series or equivalent	HNO ₃ to pH <2 Cool to 4°C	6 months for analysis	10/95 NYSDEC ASP Method 236.1 and 243.2

*Holding times based upon Verified Time of Sample Receipt (VTSR).

Table 5-1 (continued)

ARKWIN INDUSTRIES REMEDIAL DESIGN
SUMMARY OF MONITORING PARAMETERS

<u>Sample Location</u>	<u>Sample Type</u>	<u>Sample Matrix</u>	<u>Sample Fraction</u>	<u># Samples</u>	<u>Frequency of Sample Collection</u>	<u>Container Type/Size/No.</u>	<u>Sample Preservation</u>	<u>Maximum Holding Time*</u>	<u>Analytical Method</u>
Monitoring Well	Matrix Spike/Matrix Spike Duplicate	Groundwater	Chlorinated Volatile Organics	1**	1	Glass, clear/ 40 mL/2 ICHM 300 series or equivalent	Cool to 4°C	7 days for analysis	10/95 NYSDEC ASP, Method 95-1
	Matrix Spike/Matrix Spike Duplicate	Groundwater	Dissolved Iron and Manganese	1**	1	Plastic 1 L/2 ICHM 300 series or equivalent	Cool to 4°C HNO ₃ to pH <2	6 months analysis	10/95 NYSDEC ASP Method 236.1 and 243.2

*Holding times based upon Verified Time of Sample Receipt (VTSR)

**One set of MS/MSDs to be collected.

Table 5-1 (continued)

**ARKWIN INDUSTRIES REMEDIAL DESIGN
SUMMARY OF MONITORING PARAMETERS**

<u>Sample Location</u>	<u>Sample Type</u>	<u>Sample Matrix</u>	<u>Sample Fraction</u>	<u># of Samples</u>	<u>Frequency of Sample Collection</u>	<u>Container Type/Size/No.</u>	<u>Sample Preservation</u>	<u>Maximum Holding Time**</u>	<u>Analytical Method</u>
Site	Trip Blank	Water	Chlorinated Volatile Organics	2*	1	Glass, clear/ 40 mL/1 ICHEM 300 series or equivalent	Cool to 4°C	7 days for analysis	10/95 NYSDEC ASP, Method 95-1

*One trip blank will be shipped with the groundwater samples.

**Holding times based upon Verified Time of Sample Receipt (VTSR)

Section 6

6.0 SITE-SPECIFIC HEALTH AND SAFETY PLAN

The following site-specific information comprises information not included in the Site Specific Health and Safety Plan prepared for the New Cassel Industrial Area Off-Site Groundwater Project. The following information will be utilized in conjunction with the existing Health and Safety Plan.

Site Name:	<u>Arkwin Industries</u>
Address:	<u>Main Street and Brooklyn Avenue</u>
	<u>New Cassel, New York</u>
Telephone:	<u>None</u>
Dates of Field Investigations:	<u>September 2001</u>
Entry Objectives:	<u>Groundwater sampling and SVE/air sparging pilot study</u>

Site Organization Structure:	<u>Name</u>	<u>Phone</u>
Project Director:	<u>Thomas Maher</u>	<u>516-364-9890</u>
Project Manager:	<u>David Glass</u>	<u>516-364-9890</u>
Health and Safety Officer (HSO)	<u>William Ryan</u>	<u>516-364-9890</u>
Field Operations Manager/Alternate HSO	<u>Kenneth Wenz</u>	<u>516-364-9890</u>
Field Team Staff:	<u>Frank DeVita</u>	<u>516-364-9890</u>

	<u>Name</u>	<u>Phone</u>
Subcontractors:	<u>YEC, Inc.</u>	<u>914-268-3203</u>
	<u>Enviro-Sciences, Inc.</u>	<u>631-207-9005</u>

Name of Hospital: Nassau University Medical Center

Telephone: 911 or 516-572-6655

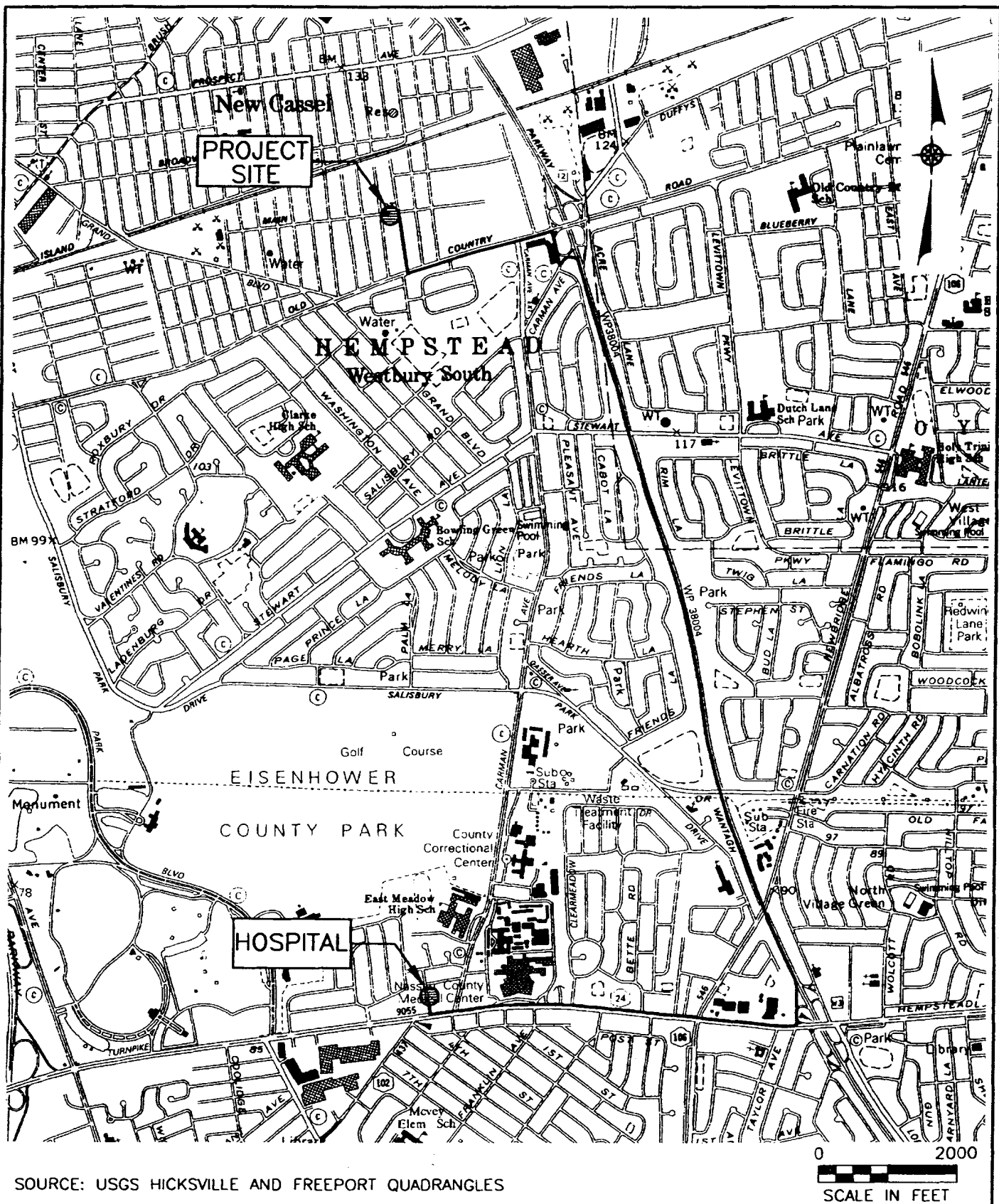
Address: 2201 Hempstead Turnpike

East Meadow, NY 11554

Directions: See Figure 6-1.

Emergency Telephones:

Agent/Facility	Telephone	Emergency Number
EMS - Ambulance	--	911
Police Department	--	911
Fire Department	516-334-7924	911
Hospital	516-572-6655	--



ARKWIN INDUSTRIES SITE
NEW CASSEL, NEW YORK

HOSPITAL EMERGENCY ROUTE

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

See attached Community Air Monitoring Plan.

New York State Department of Health Generic Community Air Monitoring Plan

A Community Air Monitoring Plan (CAMP) requires real-time monitoring for volatile organic compounds (VOCs) and particulates (i.e., dust) at the downwind perimeter of each designated work area when certain activities are in progress at contaminated sites. The CAMP is not intended for use in establishing action levels for worker respiratory protection. Rather, its intent is to provide a measure of protection for the downwind community (i.e., off-site receptors including residences and businesses and on-site workers not directly involved with the subject work activities) from potential airborne contaminant releases as a direct result of investigative and remedial work activities. The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shutdown. Additionally, the CAMP helps to confirm that work activities did not spread contamination off-site through the air.

The generic CAMP presented below will be sufficient to cover many, if not most, sites. Specific requirements should be reviewed for each situation in consultation with NYSDOH to ensure proper applicability. In some cases, a separate site-specific CAMP or supplement may be required. Depending upon the nature of contamination, chemical-specific monitoring with appropriately-sensitive methods may be required. Depending upon the proximity of potentially exposed individuals, more stringent monitoring or response levels than those presented below may be required. Special requirements will be necessary for work within 20 feet of potentially exposed individuals or structures and for indoor work with co-located residences or facilities. These requirements should be determined in consultation with NYSDOH.

Reliance on the CAMP should not preclude simple, common-sense measures to keep VOCs, dust, and odors at a minimum around the work areas.

Community Air Monitoring Plan

Depending upon the nature of known or potential contaminants at each site, real-time air monitoring for volatile organic compounds (VOCs) and/or particulate levels at the perimeter of the exclusion zone or work area will be necessary. Most sites will involve VOC and particulate monitoring; sites known to be contaminated with heavy metals alone may only require particulate monitoring. If radiological contamination is a concern, additional monitoring requirements may be necessary per consultation with appropriate NYSDEC/NYSDOH staff.

Continuous monitoring will be required for all ground intrusive activities and during the demolition of contaminated or potentially contaminated structures. Ground intrusive activities include, but are not limited to, soil/waste excavation and handling, test pitting or trenching, and the installation of soil borings or monitoring wells.

Periodic monitoring for VOCs will be required during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater samples from existing monitoring wells. "Periodic" monitoring during sample collection might reasonably consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or overturning soil, monitoring during well baling/purging, and taking a reading prior to leaving a sample location. In some instances, depending upon the proximity of potentially exposed individuals, continuous monitoring may be required during sampling activities. Examples of such situations include groundwater sampling at wells on the curb of a busy urban street, in the midst of a public park, or adjacent to a school or residence.

VOC Monitoring, Response Levels, and Actions

Volatile organic compounds (VOCs) must be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a **continuous** basis or as otherwise specified. Upwind concentrations should be measured at the start of each workday and periodically thereafter to establish background conditions. The monitoring work should be performed using equipment appropriate to measure the types of contaminants known or suspected to be present. The equipment should be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment should be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

- If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring.
- If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities must be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background for the 15-minute average.
- If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown.

All 15-minute readings must be recorded and be available for State (DEC and DOH) personnel to review. Instantaneous readings, if any, used for decision purposes should also be recorded.

Particulate Monitoring, Response Levels, and Actions

Particulate concentrations should be monitored **continuously** at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations. The particulate monitoring should be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level. The equipment must be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration should be visually assessed during all work activities.

- If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m^3) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed $150 \text{ mcg}/\text{m}^3$ above the upwind level and provided that no visible dust is migrating from the work area.
- If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than $150 \text{ mcg}/\text{m}^3$ above the upwind level, work must be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within $150 \text{ mcg}/\text{m}^3$ of the upwind level and in preventing visible dust migration.

All readings must be recorded and be available for State (DEC and DOH) personnel to review.

June 20, 2000

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Section 7

7.0 SCHEDULE 2.11s

Arkwin Industries Site (Site No. 1-30-043D)
Work Assignment Number: D003600-27
Remedial Design

NAME/LABOR CLASSIFICATION				NSPE Level	Hourly Rate as of		Task 1 - Background Review and Work Plan Preparation				Task 2 - Pre Design Studies									
					July 1 2000	July 1 2001	Subtask 1.1 Background Review		Subtask 1.2 Scoping and Work Plan		Task 1 Total		Subtask 2.1 Pilot Study and Property Survey		Subtask 2.2 Pilot Study Report		Subtask 2.3 Groundwater Sampling		Task 2 Total	
Thomas Maher Project Director				IX	\$60.04	\$61.84	0	\$0	0	\$0	0	\$0	0	\$0	2	\$124	0	\$0	2	\$124
Eugene Barat Principal Designer				VIII	\$56.25	\$57.94	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
David Glass Senior Engineer				VII	\$48.89	\$50.36	2	\$98	8	\$391	10	\$489	32	\$1,612	12	\$604	2	\$101	46	\$2,317
Michael Neuberger Senior Engineer				V	\$33.10	\$34.09	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
Maria Wright Senior Engineer				V	\$33.10	\$34.09	8	\$265	32	\$1,059	40	\$1,324	56	\$1,909	16	\$545	20	\$682	92	\$3,136
Robin Petrella Senior Scientist				V	\$33.10	\$34.09	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	4	\$136	4	\$136
Richard Avanzini Assoc. Technician				V	\$33.10	\$34.09	0	\$0	4	\$132	4	\$132	0	\$0	2	\$68	0	\$0	2	\$68
Keith Robbins Assistant Geologist				III	\$26.37	\$26.13	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	20	\$523	20	\$523
Lydda Glubiak Junior Drafter				II	\$22.02	\$22.68	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
Frank De Vita Associate Technician				II	\$22.02	\$22.68	0	\$0	8	\$176	8	\$176	136	\$3,084	8	\$181	20	\$454	164	\$3,720
Ginger Passalacqua Administrative Assistant				II	\$22.02	\$22.68	4	\$88	4	\$88	8	\$176	4	\$91	4	\$91	4	\$91	12	\$272
Allyson Manz Word Processor				II	\$22.02	\$22.68	0	\$0	16	\$352	16	\$352	12	\$272	8	\$181	4	\$91	24	\$544
Labor Subtotal (Direct Salary)							14	\$451	72	\$2,199	86	\$2,650	240	\$6,968	52	\$1,795	74	\$2,077	366	\$10,840
Indirect Cost (1.583)								\$713		\$3,481		\$4,195		\$11,030		\$2,842		\$3,287		\$17,159
Profit (0.084)								\$98		\$477		\$575		\$1,512		\$390		\$451		\$2,352
TOTAL							14	\$1,262	72	\$6,158	86	\$7,420	240	\$19,510	52	\$5,027	74	\$5,814	366	\$30,351

Arkwin Industries, Inc. (Site No. 1-30-043D)
Work Assignment Number: D003600-27
Remedial Design

		Hourly Rate as of		Task 3 -Plans & Specifications						Task 4 Pre-Award Services		Total Remedial Design	
NAME/LABOR CLASSIFICATION	NSPE Level	July 1 2000	July 1 2001	Subtask 3.1 Draft Design		Subtask 3.3 Final Design		Task 3 Total					
Thomas Maher Project Director	IX	\$60.04	\$61.84	2	\$124	4	\$247	6	\$371	0	\$0	8	\$495
Eugene Barat Principal Designer	VIII	\$56.25	\$57.94	4	\$232	0	\$0	4	\$232	2	\$116	6	\$348
David Glass Senior Engineer	VII	\$48.89	\$50.36	44	\$2,216	16	\$806	60	\$3,022	24	\$1,209	140	\$7,036
Michael Neuberger Senior Engineer	V	\$33.10	\$34.09	12	\$409	0	\$0	12	\$409	2	\$68	14	\$477
Maria Wright Senior Engineer	V	\$33.10	\$34.09	80	\$2,727	24	\$818	104	\$3,545	16	\$545	252	\$8,551
Robbin Petrella Senior Scientist	V	\$33.10	\$34.09	4	\$136	2	\$68	6	\$205	2	\$68	12	\$409
Richard Avanzini Assoc. Technician	V	\$33.10	\$34.09	2	\$68	4	\$136	6	\$205	0	\$0	12	\$405
Keith Robbins Assistant Geologist	III	\$25.37	\$26.13	0	\$0	0	\$0	0	\$0	0	\$0	20	\$523
Lydda Glubiak Junior Drafter	II	\$22.02	\$22.68	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
Frank De Vita Associate Technician	II	\$22.02	\$22.68	72	\$1,633	40	\$907	112	\$2,540	16	\$363	300	\$6,799
Ginger Passalacqua Administrative Assistant	II	\$22.02	\$22.68	12	\$272	8	\$181	20	\$454	4	\$91	44	\$993
Allyson Manz Word Processor	II	\$22.02	\$22.68	40	\$907	8	\$181	48	\$1,089	4	\$91	92	\$2,076
Labor Subtotal (Direct Salary)				272	\$8,724	106	\$3,346	378	\$12,070	70	\$2,551	900	\$28,111
Indirect Cost (1.583)					\$13,811		\$5,297		\$19,107		\$4,038		\$44,499
Profit (0.084)					\$1,893		\$726		\$2,619		\$553		\$6,099
TOTAL				272	\$24,428	106	\$9,368	378	\$33,797	70	\$7,142	900	\$78,709

SCHEDULE 2.11 (a)

Summary of Work Assignment Price Arkwin Industries Site

Work Assignment Number: D003600-27

1. Direct Salary Costs (Schedules 2.10 (a) and 2.11(b))	\$28,111
2. Indirect Costs (Schedule 2.10 (g))	\$44,499
3. Direct Non-Salary Costs (Schedules 2.11 (c) and (d))	\$1,871

Subcontract Costs

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

<u>Name of Subcontractor</u>	<u>Services To Be Performed</u>	<u>Subcontract Price</u>
1. YEC, Inc. (MBE)	Survey and Mapping	\$15,437
Total Cost-Plus-Fixed-Fee Subcontracts		\$15,437

5. Unit Price Subcontracts (Schedules 2.11(f))

<u>Name of Subcontractor</u>	<u>Services To Be Performed</u>	<u>Subcontract Price</u>
1. Nassau-Suffolk Blue Printing Co., Inc.(WBE)	Reproduction Services	\$4,187
2. Enviro-Sciences, Inc.	Pilot Study	\$49,000
Total Unit Price Subcontracts		\$53,187

6. Subcontract Management Fee	\$1,715
7. Total Subcontract Costs (lines 4 + 5 + 6)	\$70,339
8. Fixed Fee (Schedule 2.10 (h))	\$6,099
9. Total Work Assignment Price (lines 1 + 2 + 3 + 7 +8)	\$150,918

Arkwin Industries Site
 Work Assignment Number: D003600-27
 BREAKDOWN OF ADMINISTRATIVE
 LOE HOURS ON SCHEDULE 2.11(b)2

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							
	IX	VIII	VII	VI	V	IV	VIII	VII	VI	V	IV	III	II	I	VIII	VII	VI	V	IV	III	II	I	VIII	VII	VI	V	IV	III	II	I	IX	VIII	VII	VI	V	IV		
NSPE																																						
TASK 1																	0.5																					
TASK 2																	0.5																				0.5	
TASK 3																	0.5																					
TASK 4																	0.5																					
TOTAL	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	2.0	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	0.0	0.0	0.0	0.0	

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		
	VIII	VII	VI	V	IV	III	II	I	IX	VIII	VII	VI	V	IV	III	II	I	IV	III	II	I	IX	VIII	VII	VI	V	IV	III	II	I	IX	VIII	VII	VI	V	IV	III	II	I
NSPE																																							
TASK 1							7.5																															8.0	
TASK 2																																						12	
TASK 3							20																														20		
TASK 4							4																														1		
TOTAL	0.0	0.0	0.0	0.0	0.0	0.0	43.5	0.0	0.5	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	44.0	0.0		

**SCHEDULE 2.11 (b)1
SUMMARY**

Arkwin Industries Site

Work Assignment Number: D003600-27

NSPE	IX	VIII	VII	VI	V	IV	III	II	I	TOTAL HOURS
as of July 1, 2000	\$60.04	\$56.25	\$48.89	\$48.89	\$33.10	\$26.35	\$25.37	\$22.02		
as of July 1, 2001	\$61.84	\$57.94	\$50.36	\$50.36	\$34.09	\$27.14	\$26.13	\$22.68		
Task 1	0	0	10	0	44	0	0	32	0	86
Task 2	2	0	46	0	98	0	20	200	0	366
Task 3	6	4	60	0	128	0	0	180	0	378
Task 4	0	2	24	0	20	0	0	24	0	70
Subtotal 2000 Hours	0	0	10	0	44	0	0	32	0	86
Subtotal 2001 Hours	8	6	130	0	246	0	20	404	0	814
Total Hours	8	6	140	0	290	0	20	436	0	900
Total Direct Labor Cost	\$495	\$348	\$7,036	\$0	\$9,843	\$0	\$523	\$9,867	\$0	\$28,111

SCHEDULE 2.11 (c)
DIRECT NON-SALARY COSTS
SUMMARY
Arkwin Industries Site
Work Assignment Number: D003600-27

ITEM	MAXIMUM REIMBURSEMENT RATE	UNIT	ESTIMATED NUMBER OF UNITS	TOTAL ESTIMATED COSTS
OUTSIDE SERVICES				
Sample Shipping	\$75.00	package	3	\$225.00
Express Mail	\$40.00	package	16	\$640.00
	\$80.00	package	0	\$0.00
Level D Safety Equipment	\$14.00	(\$/person/day)	4	\$56.00
TRAVEL				
Transportation (Personal Car)	\$0.345	mile	224	\$77.28
Tolls	\$20.00	trip	0	\$0.00
Van Rental	\$330.00	week	0.75	\$247.50
Gas	\$25.00	week	1	\$25.00
TOTAL DIRECT NON-SALARY COSTS				\$1,270.78

Schedule 2.11 (c)2
Direct Non-Salary Costs
Arkwin Industries Site
Work Assignment Number: D003600-27

Item	Reimbursement* Rate	Est. No. of Units (Task 1)	Total Cost (Task 1)	Est. No. of Units (Task 2)	Total Cost (Task 2)	Est. No. of Units (Task 3)	Total Cost (Task 3)	Est. No. of Units (Task 4)	Total Cost (Task 4)	Total Estimated No. of Units	Total Estimated Cost
A. Miscellaneous (Travel)											
1. Transportation (Personal Car)	\$0.345 /mile	14	\$4.83	210	\$72.45	0	\$0.00	0	\$0.00	224	\$77.28
2. Tolls (Personal Car)	\$20.00 /trip	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00
3. Van Rental	\$330.00 /week	0	\$0.00	0.75	\$247.50	0	\$0.00	0	\$0.00	0.75	\$247.50
4. Gas	\$25.00 /week	0	\$0.00	1	\$25.00	0	\$0.00	0	\$0.00	1	\$25.00
Subtotal (Travel)			\$4.83		\$344.95		\$0.00		\$0.00		\$349.78
B. Miscellaneous (Expenses)											
1. Level D Safety Equipment	\$14.00 /(\$/person/day)	0	\$0.00	4	\$56.00	0	\$0.00	0	\$0.00	4	\$56.00
2. Sample Shipping	\$75.00 /package	0	\$0.00	3	\$225.00	0	\$0.00	0	\$0.00	3	\$225.00
3. Express Mail	\$40.00 /package	1	\$40.00	4	\$160.00	11	\$440.00	0	\$0.00	16	\$640.00
	\$80.00 /package	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00
4. Photographs/Slides	\$50.00 Lump Sum	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00
Subtotal (Misc. Expenses)			\$40.00		\$441.00		\$440.00		\$0.00		\$921.00
TOTAL											
			\$44.83		\$785.95		\$440.00		\$0.00		\$1,270.78

* See Schedule 2.10(b) for rates.

SCHEDULE 2.11 (d)1

**EQUIPMENT PURCHASED UNDER THE CONTRACT
SUMMARY**

Arkwin Industries Site

Work Assignment Number: D003600-27

ITEM	ESTIMATED PURCHASE PRICE	O&M RATE (\$/per month)	TERM OF USAGE (MONTHS)	ESTIMATED USAGE COST (COL. 2 + [3X4])
			TOTAL	\$0

SCHEDULE 2.11 (d)2
EQUIPMENT
CONSULTANT OWNED
SUMMARY
 Arkwin Industries Site
 Work Assignment Number: D003600-27

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)
None						
					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
Arkwin Industries Site
Work Assignment Number: D003600-27

ITEM	MAXIMUM REIMBURSEMENT RATE	TIME PERIOD	ESTIMATED USAGE (period of time)	ESTIMATED USAGE COST (Col. 2 X 3)
Generator	\$55.00	day	2	\$110.00
			Total	\$110

SCHEDULE 2.11 (d)4

SUMMARY
EXPENDABLE SUPPLIES
Arkwin Industries Site
Work Assignment Number: D003600-27

ITEM	ESTIMATED QUANTITY	UNITS	UNIT COST	TOTAL BUDGETED COST (COL. 2 X 3)
Polyethylene tubing	960	Feet	\$0.25	\$240.00
			TOTAL	\$240

SCHEDULE 2.11 (d)5
CONSUMABLE SUPPLIES
Arkwin Industries Site
Work Assignment Number: D003600-27

ITEM	ESTIMATED QUANTITY	UNIT COST	TOTAL BUDGETED COST (COL. 2 X 3)
Miscellaneous Supplies	1	\$250.00 Lump sum	\$250.00
		TOTAL	\$250.00

Schedule 2.11 (c)
Cost Plus Fixed-Fee Subcontracts

Arkwin Industries Site
New Castle, New York

May 21, 2001

NAME OF SUBCONTRACTOR

SERVICES TO BE PERFORMED

SUBCONTRACT PRICE

YEC, INC.

Survey & CAD Mapping

\$15,437.00

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 (\$)
Principal	VIII	2001	52.07	2001	56.24	16	833.12
Senior Geologist/Scientist/ Engineer/ Licensed Surveyor	V	2001	34.43	2001	37.88	88	3,029.84
Staff Geologist/ Scientist/Engineer	IV	2001	29.93	2001	32.92	0	0.00
Staff Geologist/ Scientist/Engineer/CAD Operator	III	2001	25.97	2001	28.82	24	623.28
Senior Technician/Staff Engineer/Scientist/Geologist	II	2001	19.22	2001	21.53	24	461.28
Technician/Draftsperson	I	2001	17.41	2001	19.50	40	696.40
Total Direct Salary Costs:							5,643.92

B. Indirect Costs - 117% of direct salary cost

Indirect Costs: 6,603.39

C. Maximum Reimbursement Rates for Direct Non-Salary Costs:

Item	Maximum Reimbursement Rate	Estimated No. of Units		
Mileage	0.31 /mile	120 miles/trip	8 trips	297.60
Level D Protective Equipment	15.00 /man-day	10 man-days		150.00
Tolls	15.00 /trip	8 trips		120.00
CAD Equipment Costs	15.00 /hr	24 hrs		360.00
Survey Equipment Rental	65.00 day	5 day		325.00
Field Supplies, Reproduction, Telephone	Lump Sum			100.00
Total Direct Non Salary Costs:				1,352.60

D. Fixed Fee (15% of Total Direct and Indirect Salary Costs)

Fixed Fee: 1,837.10

SCHEDULE 2.11 (f)1
UNIT PRICE SUBCONTRACTS
Arkwin Industries Site
Work Assignment Number: D003600-27

NAME OF SUBCONTRACTOR		SERVICES TO BE PERFORMED	SUBCONTRACT PRICE	MANAGEMENT FEE
Nassau-Suffolk Blue Printing Co. Inc.		Reproduction Services	\$4,187	\$0
Item		Maximum Reimbursement Rate	Estimated No. of Units	Total Estimated Costs
Drawings				
Item 1	Bound 30" by 42" Blue Prints, Each Set Consisting of 12 Sheets	\$23.44 per set	5	\$117
Item 2	Bound 30" by 42" Blue Prints, Each Set Consisting of 12 Sheets	\$21.07 per set	7	\$147
Item 3	Bound 30" by 42" Blue Prints, Each Set Consisting of 12 Sheets	\$12.89 per set	77	\$993
Specifications				
Item 4	GBC Bound Books, Each Consisting of 500 Double-Sided Sheets	\$35.26 per book	5	\$176
Item 5	GBC Bound Books, Each Consisting of 500 Double-Sided Sheets	\$35.26 per book	7	\$247
Item 6	GBC Bound Books, Each Consisting of 500 Double-Sided Sheets	\$32.55 per book	77	\$2,506

**SCHEDULE 2.11 (f)2
UNIT PRICE SUBCONTRACTS
SUMMARY
Arkwin Industries Site
Work Assignment Number: D003600-27**

NAME OF SUBCONTRACTOR	SERVICES TO BE PERFORMED		SUBCONTRACT PRICE	MANAGEMENT FEE
Enviro-Sciences, Inc.	AS/SVE Pilot Study		\$49,000	\$1,715
<u>Item</u>	Maximum Reimbursement Rate		Estimated No. of Units	Total Estimated Costs
1. Mobilization/Demobilization (including insurance, site restoration, decontamination, waste characterization and disposal, etc)	\$8,800	Lump Sum	1	\$8,800
2. Installation of air sparge well (including borehole soil split spoon sampling and development)	\$2,900	Lump Sum	1	\$2,900
3. Installation of soil vapor extraction well	\$2,500	Lump Sum	1	\$2,500
4. Installation of soil vapor probes	\$4,700	Lump Sum	1	\$4,700
5. Installation of piezometers	\$5,600	Lump Sum	1	\$5,600
6. System set-up, start-up, operation and monitoring costs	\$15,200	Lump Sum	1	\$15,200
7. Sample collection and analysis cost				
7a. Groundwater collection and analysis for chlorinated volatile organic compounds by NYSDEC method 95-1 (one sample)	\$300	Lump Sum	1	\$300
7b. Soil vapor sample collection and analysis for volatile organic compounds by USEPA Method TO1 (fifteen samples)	\$2,600	Lump Sum	1	\$2,600
8. Report Preparation	\$6,400	Lump Sum	1	\$6,400

**SCHEDULE 2.11 (g)
SUMMARY**

Page 1 of 6
Date Prepared:
Billing Period:
Invoice No.:

Project Name: Arkwin Industries Site
Work Assignment Number: D003600-27
Task No./Name: All Tasks
Complete: 0.00%

**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	28,111	0.00
2. Indirect	0.00	0.00	0.00	0.00	0.00	0.00	44,499	0.00
3. Subtotal Direct Salary Costs and Indirect Costs	0.00	0.00	0.00	0.00	0.00	0.00	72,610	0.00
4. Travel	0.00	0.00	0.00	0.00	0.00	0.00	350	0.00
5. Other Non-Salary Costs	0.00	0.00	0.00	0.00	0.00	0.00	1,521	0.00
6. Subtotal Direct Non-Salary Costs	0.00	0.00	0.00	0.00	0.00	0.00	1,871	0.00
7. Subcontractors	0.00	0.00	0.00	0.00	0.00	0.00	70,339	0.00
8. Total Task Cost	0.00	0.00	0.00	0.00	0.00	0.00	144,819	0.00
9. Fixed Fee	0.00	0.00	0.00	0.00	0.00	0.00	6,099	0.00
10. Total Task Price	0.00	0.00	0.00	0.00	0.00	0.00	150,918	0.00

Project Manager (Engineer) _____

Date _____

Engineer: Dvirka & Bartilucci
Contract No.: D003600
Project Name: Arkwin Industries Site
Work Assignment Number: D003600-27

Page 2 of 6
Date Prepared:
Billing Period:
Invoice No.:

**SCHEDULE 2.11(g) SUPPLEMENTAL
MONTHLY COST CONTROL REPORT
SUBCONTRACTS**

<u>Subcontract Name</u>	<u>Subcontract Costs Claimed this Application Including Resubmittals</u>	<u>Subcontract Costs Approved for Payment on Previous Application</u>	<u>Total Subcontract Costs to Date (A plus B)</u>	<u>Subcontract Approved Budget</u>	<u>Management Fee Budget</u>	<u>Management Fee Paid</u>	<u>Total Costs to Date</u>
1. YEC, Inc. (MBE)	0.00	0.00	0.00	15,437.00	0.00	0	0.00
2. Nassau-Suffolk Blue Printing Co. Inc.	0.00	0.00	0.00	4,186.69	0.00	0	0.00
3. Enviro-Sciences, Inc.	0.00	0.00	0.00	49,000.00	1,715.00	0	0.00
4.	0.00	0.00	0.00	0.00	0.00	0	0.00
5.	0.00	0.00	0.00	0.00	0.00	0	0.00
6.	0.00	0.00	0.00	0.00	0.00	0	0.00
Total				68,623.69	1,715.00		

SCHEDULE 2.11 (g)

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Date Prepared:

Billing Period:

Invoice No.:

Project Name: Arkwin Industries Site

Work Assignment Number: D003600-27

Task No./Name: 1/ Background Review and Work Plan Preparation

Complete: 0.00%

**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	2,650	0.00
2. Indirect	0.00	0.00	0.00	0.00	0.00	0.00	4,195	0.00
3. Subtotal Direct Salary Costs and Indirect Costs	0.00	0.00	0.00	0.00	0.00	0.00	6,845	0.00
4. Travel	0.00	0.00	0.00	0.00	0.00	0.00	5	0.00
5. Other Non-Salary Costs	0.00	0.00	0.00	0.00	0.00	0.00	40	0.00
6. Subtotal Direct Non-Salary Costs	0.00	0.00	0.00	0.00	0.00	0.00	45	0.00
7. Subcontractors	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00
8. Total Task Cost	0.00	0.00	0.00	0.00	0.00	0.00	6,890	0.00
9. Fixed Fee	0.00	0.00	0.00	0.00	0.00	0.00	575	0.00
10. Total Task Price	0.00	0.00	0.00	0.00	0.00	0.00	7,465	0.00

Project Manager (Engineer) _____

Date _____

Project Name: Arkwin Industries Site
 Work Assignment Number: D003600-27
 Task No./Name: 3/ Plans and Specifications
 Complete: 0.00%

SCHEDULE 2.11(g)

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 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+C)	E Estimated Costs To Completion	F Total Work Assignment Price (A+B+E)	H Estimated Under/(Over) (G-F)
1. Direct Salary Costs	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2. Indirect	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3. Subtotal Direct Salary Costs and Indirect Costs	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4. Travel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5. Other Non-Salary Costs	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6. Subtotal Direct Non-Salary Costs	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7. Subcontractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8. Total Task Cost	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9. Fixed Fee	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10. Total Task Price	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Project Manager (Engineer)

Date

Project Name: Arkwin Industries Site
 Work Assignment Number: D003600-27
 Task No./Name: 4/ Pre-Award Services
 Complete: 0.00%

SCHEDULE 2.11(g)

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 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	2,551	0.00
2. Indirect	0.00	0.00	0.00	0.00	0.00	0.00	4,038	0.00
3. Subtotal Direct Salary Costs and Indirect Costs	0.00	0.00	0.00	0.00	0.00	0.00	6,588	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 Task Cost	0.00	0.00	0.00	0.00	0.00	0.00	6,588	0.00
9. Fixed Fee	0.00	0.00	0.00	0.00	0.00	0.00	553	0.00
10. Total Task Price	0.00	0.00	0.00	0.00	0.00	0.00	7,142	0.00

Project Manager (Engineer) _____

Date _____

SCHEDULE 2.11 (h)

Date Prepared:
Billing Period
Invoice No.

Project Name: Arkwin Industries Site
Work Assignment Number: D003600-27

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/ 0	0/ 0	0/ 10	0/ 0	0/ 44	0/ 0	0/ 0	0/ 32	0/ 0	0/ 86
Task 2	0/ 2	0/ 0	0/ 46	0/ 0	0/ 98	0/ 0	0/ 20	0/ 200	0/ 0	0/ 366
Task 3	0/ 6	0/ 4	0/ 60	0/ 0	0/ 128	0/ 0	0/ 0	0/ 180	0/ 0	0/ 378
Task 4	0/ 0	0/ 2	0/ 24	0/ 0	0/ 20	0/ 0	0/ 0	0/ 24	0/ 0	0/ 70
Total Hours	0/ 8	0/ 6	0/ 140	0/ 0	0/ 290	0/ 0	0/ 20	0/ 436	0/ 0	0/ 900

MBE/WBE
UTILIZATION PLAN
Arkwin Industries Site
Work Assignment Number: D003600-27

<u>Areas to be Subcontracted</u>	<u>Subcontractor Name</u>	<u>MBE/WBE</u>	<u>Total Subcontract Value</u>	<u>% MBE/WBE Utilization</u>
1. YEC, Inc.	Survey and Mapping	MBE	\$15,437.00	10.2%
2. Nassau Suffolk Blue Printing Co. Inc.	Reproduction Services	WBE	\$4,186.69	2.8%
Total MBE Utilization	<u>MBE Subcontract Value</u> Total Contract Value	=	<u>\$15,437</u> \$150,918	10.23%
Total WBE Utilization	<u>WBE Subcontract Value</u> Total Contract Value	=	<u>\$4,187</u> \$150,918	2.8%