WORK PLAN
SOIL VAPOR INTRUSION EVALUATION
JAKOBSON SHIPYARD
(Site No.:1-30-055)
Oyster Bay, New York

Prepared for

New York State Department of Environmental Conservation
Investigation and Design Engineering Services
Standby Contract No. D004437
Work Assignment No. D004437-24

Prepared by

Camp Dresser & McKee
Raritan Plaza I, Raritan Center
Edison, New Jersey

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Section 1
Introduction

This Work Plan for Jakobson Shipyard (herein referred to as the "Site") located on both sides of West End Avenue, in Oyster Bay, Nassau County, New York was prepared by Camp Dresser and McKee Inc. (CDM) for the New York State Department of Environmental Conservation (NYSDEC) under the Engineering Services for Investigation and Design, Standby Contract No. D004437. Background and site information used in the development of this Work Plan was furnished by NYSDEC. The Site is a former shipyard which was operated between 1938 and the early 1990's and was acquired by New York State in the mid 1990's after the Potentially Responsible Party completed remedial activities resulting in the delisting of the Site. The work plan was developed in accordance with the "Standby Contract Work Assignment, Soil Vapor Intrusion Evaluation at Jakobson Shipyard, Site No. 1-30-055 issued December 14, 2007."

1.1 Purpose and Objectives

The objective of this work assignment (WA) is to perform a soil vapor intrusion evaluation at the site. The investigation will focus on areas of the site were soil was not fully excavated during initial remediation and where the potential for residual soil contamination exists according to the initial work assignment prepared by NYSDEC. The investigation will also focus on residual VOC contamination at the water table that could potentially result in vapor intrusion to nearby buildings. Field tasks for this investigation are:

- Utility mark outs;
- Perform sub-slab and outdoor soil vapor sampling in nine areas of concern. Procedures and methodologies will be in accordance with "NYSDEC Division of Environmental Remediation Technical Guidance for Site Investigation and Remediation" and NYSDOH Guidance for Evaluating Soil Vapor Intrusion (SVI)";
- Complete a pre-sampling reconnaissance inspection of general site conditions. Determine the degree of air sampling that will be required at the building proposed for structure air sampling;
- Collect two indoor air samples from the former shipyard office (current Bldg G) and one outdoor air sample located upwind of the site
- Perform targeted groundwater sampling via direct push methods

1.2 Site Description and Background

1.2.1 Site Description

The site is located on either side of West End Avenue in Oyster Bay, Nassau County, New York. The site has a total acreage of 5.36 acres, consisting of Section 27; Block A, Lots 223, 222, 5 and 33. In conjunction with Beekman Beach and the former Capone

property, the site is being redeveloped as a waterfront harbor park. The park will have multiple uses including walkways with overlooks, a public boat launch, a fishing pier and government and NFP marine education offices and meeting rooms. The Site is bordered on the north by Oyster Bay Harbor, Beekman Beach to the west, the former Capone Property to the east and the Long Island Railroad line to the south. Theodore Roosevelt Memorial Park is located a short distance further east of the site (See Figure 1).

All of the former site buildings located north of West End Avenue were demolished. The locations of these former buildings are shown on Figure 2. Two of the former shipyard buildings located south of West End Avenue have been renovated and are being used as an administrative, meeting and teaching space and rowing team boat storage building. Currently, two new buildings, a public restroom and an additional storage building, are under construction south of West End Avenue, east of the existing structures. The construction of these two buildings is scheduled to be completed in the spring of 2008 (See Figure 3).

Additional renovations to the site include the construction of an open walkway with several open air overlooks to the north of West End Avenue. The walkway is essentially complete. The construction of a public boat ramp with associated parking area to the east of the walkway is currently in progress.

1.2.2 Operational and Remedial History

The site was acquired by New York State after the Potentially Responsible Party completed remedial activities that resulted in the delisting of the site. Prior to New York States ownership, the site was operated as a shipyard between 1938 and the early 1990's (See Figures 2 and 3). Early operations involved the construction of steel tug boats and later repair and maintenance of commercial boats and yachts. Later site operations included painting and metal fabrication.

Soil contamination resulted from the sand blasting of boats that had been painted with lead-based paints. Various heavy metals, such as lead, copper, zinc and mercury, were contained in these marine paints. Some marine paints also contained tributyl tin (TBT). Lead was the most significant of the heavy metals in these paints, and the sand blasting grit itself also contained high concentrations of lead. As a result of these activities, much of the surface soil throughout the site was contaminated with heavy metals. Sand blasting was also conducted on a dry dock at the northern end of the site with significant quantities of sand blasting waste released into the bay adjacent to the dry dock location.

Various solvents were also used onsite during the painting and metal finishing operations. Located in the area just east of the old Electric Shop, was an outdoor degreasing unit that used chlorinated solvents consisting primarily of tetrachloroethene (PCE). This location is of primary interest during the investigation. Other volatile and semi-volatile organic compounds were used throughout the site. These SVOCs and VOCs were generally petroleum related, such as waste oil,

gasoline, diesel fuel, and fuel oil. The sites' previous owners discharged much of this waste directly to the ground. There were also two former fuel oil underground storage tanks which were discovered to have been leaking upon removal.

Heavy metal, VOC and SVOC related soil contamination was remediated through soil excavation. These action were somewhat limited however, due to structural concerns and safety issues near the on site building. Only partial excavations were advanced near the former electric shop and again during underground tank closures at the former saw mill and joiner shop. (See Figure 3). As a result, there is the potential for residual soil contamination in these areas. The sediment contamination in the adjacent bay was remediated through dredging and no longer appears to be a concern.

Groundwater at the site was only slightly contaminated with VOCs and therefore remediation was not deemed necessary. However, the depth to ground water is less than five feet bgs, so volatilization of residual VOC contamination at the water table could result in vapor intrusion to nearby buildings.

In January 1996, the site was delisted from the New York State Registry of Inactive Hazardous Waste Disposal Sites.

1.3 Environmental Setting

The site is a relatively flat 5.36 acres and lies at an elevation less than 10 feet above mean sea level (msl). The ground water table lies at an approximate elevation of 5 feet above msl at the site. The site is bordered on the north by Oyster Bay Harbor and to the west by Beekman Beach

Fill has been placed across the entire Site. Some of the fill is composed of former dredge spoils from earlier dredging around the boat pier.

1.3.1 Geology

Long Island is comprised of Cretaceous and Pleistocene unconsolidated deposits underlain by Early Paleozoic to Precambrian bedrock. The hydrogeology of Long Island has been well documented over the years by the USGS (Doriski and Wilde-Katz, 1983; Smolensky et al, 1989). Three major aquifers are present on Long Island: the upper glacial aquifer, the Magothy aquifer and the Lloyd aquifer.

Basement

Basement is composed of Precambrian to Early Paleozoic igneous or metamorphic consolidated bedrock. Unconformably overlying the basement is the Late Cretaceous Raritan Formation, of fluvio-deltaic depositional origin. The Upper Cretaceous deposits are unconformably overlain by a veneer of Pliocene and Pleistocene deposits, chiefly of glacial origin.

Cretaceous

Raritan Formation: The Raritan Formation is divided into the basal Lloyd Sand Member and the overlying Raritan Clay Member. The Lloyd Sand rests

unconformably on bedrock and is about 200 feet thick in the vicinity of the Site. The top of the Lloyd Sand is found at approximately 200-250 feet below msl. It is composed of white and grey fine to coarse sand and gravel, commonly with a clayey matrix. The contact with the overlying clay member is gradational.

The Raritan Clay Member is composed chiefly of bedded variegated clay and silt, locally containing interbedded sands. Lignite fragments and iron and pyrite nodules are common. The clay member is approximately 100 feet thick in the vicinity of the Site (Smolensky, et al. 1989). The Raritan Clay is the most widespread hydrologic confining layer on Long Island. The Raritan's updip erosional pinchout generally is located subparallel to the northern coast of Nassau County. The clay unit dips gently to the south-southeast.

Cenozoic-Quaternary

After the Cretaceous, deep erosion of the land surface took place as a response to fluctuations in sea level. Sedimentological evidence indicates that sea level falls exposed the entire Atlantic continental margin during the Miocene epoch, which would have promoted rejuvenation and deep incision of rivers and streams across the Coastal Plain. Later deposition of abundant fluvial and glacial clastic deposits during the Pliocene and Quaternary filled these incised buried valleys. The top of the Cretaceous sequence is marked by a highly irregular erosion surface upon which rests deposits of Pleistocene and, in some places, Pliocene age.

Deposits of Pleistocene age mantle the Cretaceous formations. Within the study area, the Pleistocene deposits include three depositional sequences: the fluvial Jameco Gravel and marine Gardiners Clay; and the much more widespread Late Pleistocene glacial deposits of the Wisconsin glacial stage. Undifferentiated gravels and clays described in buried valleys within southern Long Island have been attributed to the Jameco Gravel and Gardiners Clay units. The Jameco Gravel and Gardiners Clay formations are well-defined, mapable stratigraphic units beneath the southern margin of Long Island where they are of hydrogeological significance. These stratigraphic units are not recognized in the vicinity of the Site. The remainder of the Pleistocene succession belongs to the Wisconsin glacial stage Upper Glacial Deposits.

The thickness of the Pleistocene Upper Glacial Deposits in the study area varies but averages 100 feet. The thickness and distribution of the Pleistocene Upper Glacial Deposits were controlled by the older, now buried paleotopography discussed above. The pattern of stream and river valleys that dissected the surface of Long Island during the Cenozoic likely was later modified by Pleistocene overriding ice sheets and meltwater erosion and deposition.

1.3.2 Hydrogeology

The hydrogeology of Long Island has been well documented over the years by the USGS and others. Hydrogeologic information provided in the USGS Water-Resources Investigations Report 03-4288: *Hydrogeology and Extent of Saltwater Intrusion* i*n the*

Northern Part of the Town of Oyster Bay, Nassau County, New York: 1995-98 identifies the following units in the Site area:

Upper Glacial Aquifer

The upper glacial aquifer is the surficial unit on Long Island and is therefore entirely unconfined. Along the Harbor Hill and Ronkonkoma terminal moraines and parts of the north shore, the unit is composed of till consisting of poorly sorted clay, sand, gravel, and boulders. The till is generally poorly permeable and may contain perched water. The outwash deposits that are found are mainly between, and south of, the moraines. The outwash deposits are moderately to highly permeable, consisting of gray, brown, and yellow fine to very coarse sand and gravel. The upper glacial aquifer is approximately 50 feet thick in the Site area; however the saturated thickness may be much lower. The estimated average horizontal hydraulic conductivity generally exceeds 225 ft/day.

North Shore Confining Unit

The North Shore confining unit underlies the Upper Glacial Aquifer and is a sequence of Pleistocene-aged clay and silt deposits that are locally present along the northern shore of Nassau County. The unit consists of marine and postglacial lake deposits including olive brown and olive gray clay and silt deposits with minor lenses containing shells. The unit contains a minor sand unit that is moderately permeable. This unit is approximately 150 feet thick in the Site area.

Raritan Clay

Underlying the North Shore Confining Unit is the Cretaceous Age clay member of the Raritan Formation, referred to as the Raritan clay. The Raritan clay is the major confining unit on Long Island. The unit is about 100 feet thick in the Site area. This confining unit consists of solid, multicolored, compact clay (gray, white, red, or tan) with interbedded lenses of sand. The average vertical hydraulic conductivity is reported to be approximately 0.001 ft/day.

Lloyd Aquifer

The Lloyd Sand Member of the Raritan Formation of the Late Cretaceous Age overlies the saprolitic bedrock surface and is Long Island's deepest aquifer. The Lloyd sand was deposited as a series of braided streams and deltaic deposits consisting of white and pale yellow sand with interbedded lenses of gravel and white clay (Smolensky et al, 1989). The aquifer does not outcrop on Long Island and is believed to extend to the north beneath Long Island Sound in eastern Nassau County and in Suffolk County, and offshore to the south, beyond the barrier beaches. The Lloyd aquifer is confined in most places, except where the overlying Raritan clay has been eroded away. The thickness of the Lloyd aquifer in the Site area is about 200 feet. The average horizontal hydraulic conductivity is reported to be approximately 40 ft/day with a 10:1 vertical anisotropy.

Ground Water

Based on Nassau County regional groundwater information obtained in the *Nassau County Groundwater Monitoring Program, 2002-2003* (NCDPW, 2005) the water table lies at an elevation of less than 10 feet above mean sea level (MSL) near the Site. Flow in the water table aquifer (Upper Glacial) is generally to the north towards the adjacent Oyster Bay. Previous work at the Site identified some perched water in the central portion of the Site.

Section 2
Scope of Work

2.1 Site Visit and Work Plan Development

A site visit was conducted on January 10, 2008. During this visit, potential investigation locations were selected with NYSDEC. The information obtained during the site visit was incorporated into the Work Plan.

This Work Plan references procedures detailed in the CDM Generic Quality Assurance Project Plan (QAPP) dated July 2007, which has been provided to NYSDEC for Contract Number D-004437-24. The Generic QAPP presents methods that will be used to collect field data including project samples, and focuses on the analytical methods and quality assurance/quality control (QA/QC) procedures that will be used to analyze project samples, ensure the data are of known and acceptable quality, and manage the resultant data.

This Work Plan also includes a site specific Health and Safety Plan (HASP) presented in Appendix A. The HASP describes the site health and safety for the field activities that will be performed.

2.2 Utility Mark Outs and Site Coordination

Prior to any sampling being conducted at the site, the underground utilities will be properly marked out. A private utility locating firm will be retained to mark the utilities and clear the boring locations prior to drilling.

The NYSDEC project manager will be provided a minimum of ten (10) days notice before mobilization to allow the Division of Environmental Remediation to coordinate site access with the NYSDEC Regional Supervisor of Natural Resources, the NYSDEC Regional Operations Supervisor, the Region One Operations Sr. Supt. of Construction, and a representative of the current major tenant of the office building, Bldg G, and a representative of the site engineering design and construction consultant, Cameron Engineering. Sampling will be conducted to minimize interferences with the renovation contractor's activities.

2.3 Soil Vapor Investigation

A soil vapor investigation will be conducted to determine if vapor phase contaminants are present within the investigation area. Nine soil vapor samples will be collected at locations previously determined by NYSDEC. These locations include eight outdoor and one indoor location.

- #1 – sub-slab soil vapor sample beneath the office Bldg. G basement (currently being used by various tenants)
- #2 – outdoor sample by the eastern side of the former Blacksmith Shop and close to the location of the former fuel oil UST on the western side of the former Electric Shop

- #3 – outdoor soil vapor sample by the former paint shop where solvents were historically used

- #4 – outdoor soil vapor sample by the former location of an outdoor degreasing unit that used PCE. This unit was located outside the eastern wall of the former Electric Shop. Some limited residual PCE soil contamination in this area could not be excavated due to structural safety issues for this building.

- #5 – outdoor soil vapor sample in the northeastern corner of the former northern indoor boat repair building. Waste oils and gasoline were apparently discharged to the unpaved soils in this building. This sampling point is also close to the former location of a fuel oil UST that leaked, which was located outside the northern wall of the former Saw Mill and Joiner Shop.

- #6 – outdoor soil vapor sample in the vicinity of the former auto body shop, Bldg I, where a new bathroom is currently under construction. This sample will not be collected immediately adjacent to the new bathroom to avoid potential detection related to the new construction. The results of this sample will be used to determine if further sampling is needed in this area after the building construction has been completed.

- #7 – outdoor soil vapor sample by the location of the former eastern indoor yacht storage building, Bldg J. Waste oils and gasoline were spilled and boat painting took place inside the former building. This sample location will be placed towards the eastern portion of this former building and will not be collected immediately adjacent to the new storage building being constructed nearby. The results of this sample will be used to determine if further sampling is needed in this area after the building construction has been completed.

- #8 – outdoor soil vapor sample by the former location of an aboveground waste oil storage tank. Historical spills were evident by this tank prior to remediation.

- #9 – outdoor soil vapor sample at a location hydraulically downgradient (north) of the former degreasing unit where one would expect to find any remants of a chlorinated solvent plume. Residual PCE or related breakdown products, such as trichloroethene, dichloroethene, and vinyl chloride that could volatize and result in contaminated soil vapors above the impacted groundwater

These samples will be collected in accordance with the NYSDEC Division of Environmental Remediation *Technical Guidance for Site Investigation and Remediated*, dated December 2002 and *NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York* (SVI Guidance), dated October 2006. Final sample results will be provided within the standard turnaround time (30 days).

2.3.1 Outdoor Soil Vapor Sample Collection

Soil vapor samples will be collected at the eight locations (SV-02 through SV-09) selected by NYSDEC which are indicated on Figure 4. Soil vapor boreholes will be

drilled using direct-push technology to drive stainless steel rods equipped with a detachable stainless steel drive point to the desired depth. Methods will be utilized to limit the impact to special ornamental grasses located near the soil vapor locations north of West End Avenue. The site will be restored to the original conditions after the sampling if any damages have occurred to plants or structures within the vicinity of the soil vapor sampling locations. The samples will be collected at approximately four feet below ground surface (bgs) or just above the water table interface, provided that the depth to groundwater is less than four feet. The bottom of the probe screen will be placed at least 0.5 feet from the groundwater interface to avoid drawing water into the soil vapor samples. Soil cuttings from each borehole will be visually classified and screened with a photoionization detector (PID) meter. Soil vapor point installation procedures are detailed in Section 3.7 of the Generic QAPP.

Prior to collection of soil vapor samples, the temporary soil vapor probes will be purged in accordance with the NYSDOH SVI Guidance. Two to three implant volumes (i.e. volume of the sample probe and tube) will be purged at a flow rate which does not exceed 200 milliliters (ml) per minute with a maximum of three volumes being extracted. A Tedlar™ bag will be filled toward the end of the purge volume to be screened using a PID meter. The PID readings will be observed and recorded on the appropriate field form. The samples will be collected using laboratory-certified clean summa canisters with two-hour flow regulators and an initial vacuum of 28 inches Hg ± 2 inches. A vacuum of 5 inches Hg ± 1 inch must be present when sample collection is terminated. The soil vapor purging and sampling procedures are detailed further in Section 3.7 of the Generic QAPP.

Tracer gas will be used to evaluate short-circuiting of the sampling zone with ambient air. All soil vapor sampling locations at each site will be evaluated with tracer gas in accordance with the NYSDOH SVI guidance. The tracer gas sampling procedure is provided in Section 3.7 of the Generic QAPP.

Upon completion of sampling, the sample tubing will be removed and the temporary soil vapor probe location backfilled with bentonite slurry. Each location will then be marked with a stake/flag labeled with the proper sample identification and illustrated on the site map so that it can be located at a later date.

Soil vapor and ambient air samples will be analyzed by a NYSDOH approved Environmental Laboratory Approval Program (ELAP) certified lab for volatiles using EPA Method TO-15. The holding time is fourteen (14) days from the verified time of sample collection. A duplicate soil vapor sample will be collected at the soil vapor point which appears to be most contaminated. If no contamination is observed, the duplicate will be taken at location SV-04, near the location of the former outdoor degreasing unit. Air sample results will be provided in micrograms per cubic meter ($\mu g/m^3$). The analysis will achieve detected limits of 1 $\mu g/m^3$ for each compound except for TCE, VC and carbon tetrachloride, which will have a detection limit of 0.25 $\mu g/m^3$. For specific parameters identified by the NYSDOH, where the selected parameters may have a higher detection limit (e.g. acetone), the higher detection limits will be designated by the NYSDOH.

2.3.2 Sub-Slab Soil Vapor Sample Collection

One sub-slab soil vapor sample (SS-01) will be collected from the basement level of the sailing school office building. A temporary sub-slab soil sampling implant will be hand drilled to approximately one foot, piercing the concrete slab. The implant installation and soil vapor sampling procedures are detailed in Section 3.8 of the Generic QAPP.

The selected soil vapor sample location shall be placed away from floor penetrations and co-located with a basement indoor air sample. Three borehole volumes will be purged from the subsurface at a rate less than 200ml per minute and captured in a Tedlar™ bag using the low-flow pump. PID readings will be observed from this sample and the highest reading shall be recorded on the appropriate field form.

The sample shall be collected with a 6 Liter, laboratory-certified summa canister with an 8-hour regulator and an initial vacuum of 38 inches Hg +/- 2 inches. A vacuum of 5 inches Hg +/- 1 inch must be present when the sample collection is completed. The sub-slab sample will be collected concurrently with the indoor and outdoor air samples. The sample location will be marked and included on the site map.

The sub-slab sample will be analyzed for volatiles using EPA Method TO-15 by a NYSDOH approved ELAP certified lab. The holding time is fourteen (14) days from the verified time of sample collection. The analysis will achieve detected limits of 1 $\mu g/m^3$ for each compound except for TCE, VC and carbon tetrachloride, which will have a detection limit of 0.25 $\mu g/m^3$. For specific parameters identified by the NYSDOH, where the selected parameters may have a higher detection limit (e.g. acetone), the higher detection limits will be designated by the NYSDOH.

Due to the potential for groundwater to be present beneath the basement slab, collection of sub-slab soil vapors may not be possible. If groundwater is determined to be beneath the slab during the site investigation, the sub-slab soil vapor sample will not be taken. If feasible, the collection of a groundwater sample shall be attempted to determine the VOC concentrations beneath the sailing school office building. The groundwater sample would be collected from the sump on the south side of the basement, after purging of the sump pump. Sample collection procedures are detailed below.

2.4 Ground Water Investigation

A ground water investigation will be conducted at the site to determine whether VOC groundwater contamination is present. The investigation will include collecting direct push ground water samples at two locations. One sample (GW-01) will be taken near the former vapor degreasing unit and the second at a location believed to be hydraulically down gradient of the degreaser (GW-02) (See Figure 6).

As discussed above, if a sub-slab soil vapor sample can not be collected due to the presence of groundwater beneath the slab of the office building, a groundwater sample (WS-01) will be collected from the sump in the rear of the basement.

2.4.1 Direct Push Ground Water Sample Collection

Groundwater samples will be collected at two locations (GW-01 and GW-02) using direct push technology. Macro-core soil samples will be collected continuously at each of the groundwater sample locations to verify that saturated soil has been encountered. Once saturated soil is verified, a temporary well screen will be set approximately 5 feet into the water table. The water table is reported to be 5 feet below ground surface (bgs) at the site. The groundwater sample will be collected via dedicated Teflon lined tubing. The detailed groundwater sampling procedure is provided in Section 3.6 of the Generic QAPP.

Upon completion of the sampling, the sample tubing will be removed and the temporary monitoring well locations will be backfilled with indigenous soil or bentonite and marked with a stake/flag which shall be labeled with the proper sample identification and shall be illustrated on the site map so that it can be located at a later date.

The ground water samples will be analyzed by a NYSDOH approved ELAP certified lab for VOCS by EPA Method OLM04.3.

2.4.2 Sump Water Sample Collection

If necessary, a groundwater sample will be collected from the sump located in the rear of the basement of the office building. The sump hatch will be opened and the sump evaluated to determine the best sampling method. Prior to sample collection, the water volume of the sump will be purged by either manually activating the sump's pump or utilizing a whaler pump. Once the sump has been purged, a groundwater sample will be collected using a bailer or other appropriate method determined in the field.

2.5 Ambient Air Sample Collection

Indoor air sampling will be conducted on the basement level of the office building. An outdoor ambient air samples will be collected upwind of the site. The protocol for this effort shall follow the NYSDOH SVI Guidance.

2.5.2 Indoor (Ambient) Air Sample Collection

Ambient indoor air samples will be collected from the sailing school's office at the basement level (BF-01 and BF-02). One sample will be located on the western side of the basement, which is used as a meeting room, while the second will be collected from the rear (southern) portion of the basement (See Figure 5). Prior to sampling, an inspection of the general site conditions will be performed to include the completion of the NYSDOH *Indoor Air Quality Questionnaire and Building Inventory*, documentation of weather conditions outside and the temperature inside the building, ambient air screening with a PID and selection of air sampling locations. A copy of the questionnaire is provided in Appendix A of the Generic QAPP.

The indoor air samples will be collected with a 6 Liter, laboratory-certified summa canister regulated for an 8-hour sample collection and sample rate less then 200 milliliters per minute. The samples will be collected concurrently with the sub-slab vapor samples from the basement and the outdoor air sample. The summa canister will be placed in such a location as to collect a representative sample from the breathing zone at four or six feet above the floor.

The indoor air sample analysis will be conducted by a NYSDOH approved ELAP certified lab for volatiles using EPA Method TO-15. The holding time is fourteen (14) days from the verified time of sample collection. The analysis will achieve detected limits of 1 µg/m^3 for each compound except for TCE, VC and carbon tetrachloride, which will have a detection limit of 0.25 µg/m^3. For specific parameters identified by the NYSDOH, where the selected parameters may have a higher detection limit (e.g. acetone), the higher detection limits will be designated by the NYSDOH.

2.5.3 Outdoor (Ambient) Air Sample Collection

One outdoor ambient air samples (OA-1) will be collected at the site. The sample will be collected upwind of the site. The sample location will be determined based on wind direction on the day of sampling.

The outdoor ambient air samples will be collected with a laboratory-certified summa canister regulated for a 8-hour sample collection, with a sample rate less then 200 milliliters per minute and an initial vacuum of 28 inches Hg +\- 2 inches. The summa canister will be placed in such a location as to collect a representative sample from the breathing zone at three to five feet above site grade. Sample collection will coincide with the indoor air and sub-slab sampling activities.

The outdoor air sample analysis will be conducted by a NYSDOH approved ELAP certified lab for volatiles using EPA Method TO-15. The holding time is fourteen (14) days from the verified time of sample collection. The analysis will achieve detected limits of 1 µg/m^3 for each compound except for TCE, VC and carbon tetrachloride, which will have a detection limit of 0.25 µg/m^3. For specific parameters identified by the NYSDOH, where the selected parameters may have a higher detection limit (e.g. acetone), the higher detection limits will be designated by the NYSDOH.

2.6 Field Documentation and Reporting

2.6.1 Field Documentation Procedures

Field notebooks will be used during all on-site work. A dedicated field notebook will be maintained by the field technician overseeing the site activities. In addition to the notebook, any and all original sampling forms, and purge forms used during the field activities, will be submitted to the NYSDEC as part of the final report. Field and sampling procedures, including installation of the sample boreholes, existing monitoring wells, etc., will be photo-documented.

2.6.2 Sample Identification

Each sample collected will be designated by an alphanumeric code that will identify the type of sampling and the specific sample designation (identifier). Each sample shall begin with the NYSDEC Site Number for the Jakobson Shipyard site (130055). The following terminology shall be used for the samples collected during this investigation:

Soil Vapor Samples
130055-SV-xx: soil vapor sample
130055-SS-xx: sub-slab sample

Structure Air Samples
130055-BF-xx: basement-level indoor ambient air
130055-OA-xx: outdoor ambient air

Groundwater Samples
130055-WS-xx: water samples collected at sump locations
130055-GW-xx: direct push groundwater samples

2.6.3 Reporting

A total of four copies of a draft letter report will be submitted by CDM that documents the work conducted and presents the results of the sample analysis for review and comment by NYSDEC and NYSDOH. CDM shall revise the draft letter and print the requested number of copies based on receipt of the comment letter. One copy of the final letter report; text, tables, maps, photos, etc., will be submitted as a single pdf file. All electronic files will be submitted to NYSDEC on a compact disc. The site investigation data will be submitted in the most recent version of the NYSDEC Electronic Data Deliverable (EDD) with the final report submission. Currently this is the USEPA Region 2 EDD dated December 2003. All air samples results will be reported in $\mu g/m^3$

2.6.4 Laboratory Analysis and Validation

All samples will be analyzed by a NYSDOH approved ELAP certified laboratory. Groundwater samples will be analyzed for VOCs by EPA method OLM04.3. Soil vapor and air samples will be analyzed by EPA Method TO-15. Air sample results will be provided in micrograms per cubic meter. A NYSDEC ASP Category B data deliverable will be provided for these analyses.

All samples collected will be validated in accordance with NYSDEC Data Usability Summary Report (DUSR) guidance by a party that is independent of the laboratory which performed the analyses and CDM. A usability analysis will be conducted by a qualified data validator and a DUSR will be submitted to the NYSDEC.

Section 3
Project Schedule

The following tabulation provides the proposed project schedule and key milestones for this work assignment. As currently planned, field work will be initiated within two weeks of written receipt of final work plan approval. Field activity duration for the soil vapor intrusion investigation activities is estimated to be one week assuming no delays are experienced due to inclement weather, site access problems, or for other unforeseen reason

The scheduled submittal dates for deliverables are based on standard laboratory turnaround times of four weeks, and turnaround for data validation of three weeks.

Project Milestone	**Date**
Issue Work Assignment (WA)	December 14, 2007
Work Assignment Acceptance	December 20, 2007
Submit Task 1 Draft Work Plan	February 1, 2008
DEC/DOH Comment on Draft Work Plan	February 20, 2008
Submit Task 1 (Final Work Plan) Deliverable	February 28, 2008
Notice to Proceed (NTP)	March 13, 2008
Commence Task 2 Field Work	March 24 2008
Task 2 Field Work Completed	March 28, 2008
Task 3 Submit Draft Site Characterization Report	May 16, 2008
Approve Draft Report	30 Days after Draft Report Submitted
Task 3 Submit Final Site Characterization Report	30 Days after Approval of Draft Report

Section 4
Budget Estimates

Estimated Budget and Level of Effort (LOE) Summary
Jakobson Shipyard
Oyster Bay, New York
Site No. 1-30-055

Task Items	Description/Cost	Dollars
1	Work Plan Development	$8,035
2	Vapor Intrusion Investigation	$19,589
3	Field Documentation & Reporting	$13,008
	Total Estimate Budget (Tasks 1 - 3)	**$40,633**

Appendix B presents the detailed costs by task and subtask on the NYSDEC schedule 2.11.

General Assumptions:

- Work will be performed in March 2008.
- All costs are based upon the scope and schedule provided in this Work Plan. Costs associated with project delays or expedited schedules beyond CDM's control are not assumed.
- CDM will provide one hard copy by mail and one electronic file (pdf) by e-mail for each report submitted to the NYSDEC.

Task 1 - Work Plan Development:

- Only conference calls are anticipated to be necessary for this phase. Meetings are not assumed to be required for this task.
- Only one round of comments received concurrently is anticipated on draft deliverables. The review comments will be consolidated by NYSDEC. It is assumed that comments are minimal in nature and no re-evaluation is required. It is assumed that all comments can be addressed in 8 hours.
- Project management, subcontractor procurement, scheduling, budgeting, administrative activities are included in this task.
- The Work Plan should include the description of the major tasks and sub-tasks to be performed including pertinent information to conduct field activities, potential

areas of concern, analytical methods and sampling methods, a staffing plan identifying key and technical staff, identification of areas of subcontracting, work assignment budget, and a site specific Health and Safety Plan.

- A Citizens Participation Plan (CPP) is not required for this project
- Laboratory grade helium is not required to be used for tracer gas testing.
- A site-specific Quality Assurance Project Plan (QAPP) will not be required for this project. All of the relevant procedures for the project are detailed in CDM's July 2007 Generic QAPP

Task 2 – Vapor Intrusion Investigation:

- A notice to proceed must be received at least one week prior to mobilization.
- NYSDEC will provide access to all sampling and drilling locations.
- Drilling, analytical, surveying and validation services will be subcontracted.
- CDM will provide oversight during field activities, collect samples and maintain sample chain-of-custody.
- No schedule delays are assumed due to inclement weather or equipment failure.
- Delays due to the site owner or public are not assumed.
- Project management, subcontractor procurement, scheduling, budgeting, administrative activities are included in this task.
- One direct push rig mobilization is expected
- It is assumed that no subsurface soil samples will be collected for laboratory analysis during the investigation.
- CDM assumes that the utility markouts/boring clearance will take one day and the soil vapor investigation will take 2-3 days.
- CDM assumes that all material and equipment staged in access areas will be removed to allow easy access to all sampling locations by the drilling equipment.
- One PID unit will be utilized for air monitoring.
- It is assumed that one drum will be utilized for IDW.
- It is currently assumed that IDW disposal will not be necessary for the site. NYSDEC has indicated that unless visible contamination or elevated PID readings are observed, soil can be spread on the ground in the vicinity of the borings. If

IDW is generated, it is assumed that NYSDEC will provide an area on-site for storage of IDW prior to disposal.

- Sample points will be located using GPS. Surveying will not be conducted.

Task 4 - Field Documentation and Reporting:

- Only conference calls are anticipated to be necessary for this phase. Meetings are not assumed to be required for this task.
- Only one round of comments received concurrently is anticipated on draft deliverables. The review comments will be consolidated by NYSDEC. It is assumed that comments are minimal in nature and no re-evaluation is required. It is assumed that all comments can be addressed within 12 hours.
- During site work, digital photographs and field notes will be kept.
- A letter report will be developed including a description of work conducted with field notes, photos, validated analytical data, figures, field measurements, and summary tables.
- It is assumed that two data tables (one groundwater, one soil vapor and air) and two figures (identifying groundwater data and soil vapor air data) will be necessary for the letter report.

Section 5
Staffing Plan

This project management organization for this project is to provide a clear delineation of functional responsibility and authority.

5.1 Program Manager – Michael A. Memoli, P.E., DEE

The primary responsibilities for program management activities rest with the Program Manager (PRM). The Program Manager, Mr. Memoli, will have ultimate contract responsibility for the project, including responsibility for the technical content of all engineering work. Mr. Memoli will direct, review and approve all project deliverables, schedule staff and resources, resolve scheduling conflicts and identify and solve potential program problems. He will be directly accountable to NYSDEC's Division of Hazardous Waste Remediation for program execution. He has authority to assign staff, negotiate and execute contracts and amendments, as well as execute subcontracts. The PRM will communicate directly with CDM's Project Manager.

5.2 Project Manager – Jessica R. Beattie, P.G.

The Project Manager, Ms. Jessica Beattie, will have the overall responsibility for the technical and financial aspects of this project. She will assign technical staff, maintain control of the project budget and schedule, prepare monthly progress reports, review and approve project invoices, evaluate the technical quality of the project deliverables as well as the adherence to QA/QC procedures and manage subcontractors. She will serve as CDM's point of contact for this project.

5.3 Program Quality Assurance Manager – Jeniffer M. Oxford

The Program Quality Assurance Officer, Ms. Jeniffer Oxford, will monitor QC activities of program management and technical staff, as well as identify and report needs of corrective action to the Program Manager. He will also conduct an internal review of all project deliverables prepared by CDM staff and sign off on the final investigation reports.

5.4 Health and Safety Officer – Christopher S. Marlowe, C.I.H., Q.E.P

The Program Health and Safety Officer, Mr. Chris Marlow, will review and make recommendations to the Subcontractors on health and safety plans for compliance with OSHA requirements. He will develop a Health and Safety plan for CDM and NYSDEC employees, handle over-sight activities, evaluate the performance of health and safety officers and maintain required health and safety records. He will report to the Program Manager

5.56 Field Manager/Health and Safety Site Supervisor/Coordinator – Frank Robinson

The Field Manager, Mr. Frank Robinson, will be responsible for overseeing and coordinating field activities. This will include, but is not limited to: overseeing the sampling activities, coordinating drill work, coordinating work with other subcontractors and monitoring health and safety conditions in accordance with the approved Health and Safety Plan. He is directly accountable to the Project Manager.

As the Health and Safety Site Supervisor/Coordinator, he will be responsible for ensuring that the Health and Safety Plan is implemented during field activities and that a copy of the site-specific Health and Safety Plan are maintained at the site at all times. He is also responsible for upgrading or downgrading personnel protection based on actual conditions at the time of the investigation. The Coordinator must also present an overview of the Health and Safety Plan to field personnel prior to initiating any field activities and is responsible for insuring that field personnel sign off on this plan. The Coordinator will contact the Program Health and Safety Officer if any questions or issues arise during the field activities that she cannot answer.

Section 6
Subcontracting

Appendix C presents a comparison of quotes from various subcontractors. CDM proposes to engage subcontractors to provide the following services for this work assignment:

6.1 Geophysical Survey (Utility Markout) – Radar Solutions.

At this time, CDM is proposing to use Radar Solutions (WBE) to perform the geophysical survey work. They are located in Waltham, Massachusetts.

6.2 Direct Push Drilling – Zebra Environmental Corp.

CDM will be using Zebra Environmental Corp (Zebra) as the direct push subcontractor. They are located at 30 N. Prospect Avenue, Lynbrook, New York 11563.

6.2 Analytical Laboratory – ChemTech

At this time, CDM is proposing to use ChemTech (MBE) as the analytical laboratory subcontractor. They are located at 284 Sheffield Street, Mountainside, New Jersey, 07092.

6.3 Data Validation – Environmental Data Validation, Inc.

At this time, CDM is proposing to use Environmental Data Validation, Inc. (WBE) as the data validation subcontractor. They are located at 1326 Orangewood Avenue, Pittsburgh, Pennsylvania 15216

6.4 M/WBE Reporting – Kenneth Shider

At this time, CDM is proposing to utilize Ken Shider (M/WBE consultant) to prepare the quarterly M/WBE reports that are required by NYSDEC.

6.5 IDW Disposal – SeaCoast Environmental Services, Inc.

At this time, CDM is proposing to utilize SeaCoast Environmental Services, Inc. as the IDW disposal subcontractor, should one be needed. They are located at 716 Newman Springs Rd, PMB 292 Lincroft, New Jersey 07738. It is not anticipated that there will be any soil contamination encountered as a result of the vapor intrusion investigation and the amount of soil cuttings is expected to be minimal. Consequently, utilization of SeaCoast Environmental Services, Inc. is not anticipated unless the cuttings contain visible contamination or elevated PID readings.

Section 7
MBE/WBE Utilization Plan

To meet the requirements of the MBE/WBE program, CDM has prepared the following utilization plan:

Total Dollar Value of the work assignment	**$40,633**
MBE Percentage Goal	15%
MBE Dollar Value Goal	$6,094
WBE Percentage Goal	5%
WBE Dollar Value Goal	$2,031
Combined MBE/WBE Percentage Goal	20%
Combined MBE/WBE Dollar Value Goal	$8,125

Minority and woman-owned firms are expected to participate as follows:

Services to be Provided	Description of Services	Subcontractor Name and Contact Information	Proposed Subcontract Price
WBE – Utility Markout	Utility Markouts	Radar Solutions	$2,195
MBE - Laboratory Analysis	Air and Water Sample Analysis	ChemTech Joe Dockery (908) 789-8900	$3998
M/WBE Quarterly Reports	M/WBE Quarterly Reports	Kenneth Shider (518) 269-2207	$600
WBE - Data Validation	DUSR	Environmental Data Validation Maxine Walters (412) 341-5281	$662
		TOTAL	$7,455

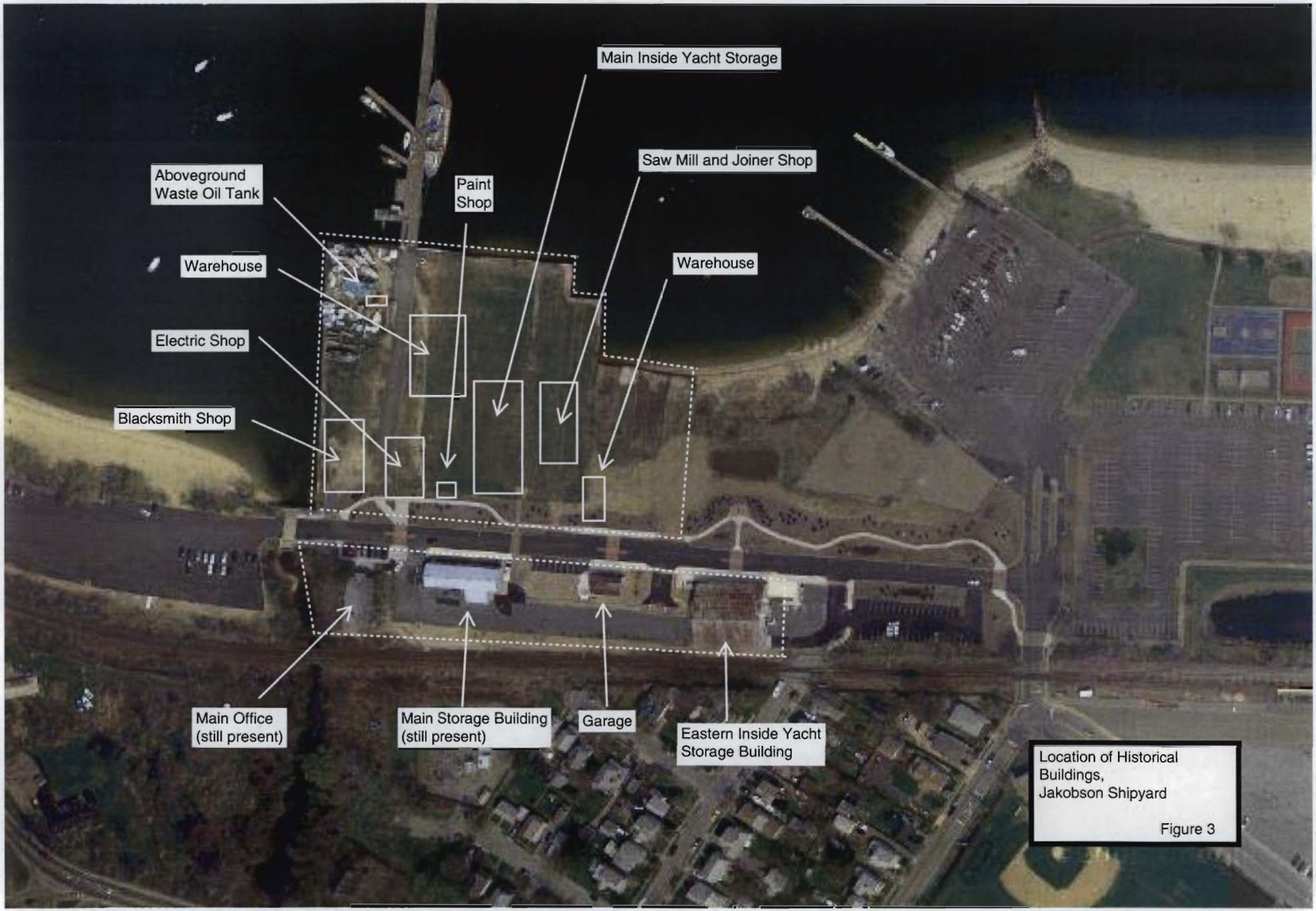
Acronyms

ASP	Analytical Services Protocol
CPP	Citizen Participation Plan
CDM	Camp Dresser and McKee
EDD	Electronic Data Deliverable
EPA	United States Environmental Protection Agency
DCE	dichloroethene
DNAPL	dense non-aqueous phase liquid
ft/day	feet per day
HASP	health and safety plan
mg/L	micrograms per liter
mL/g	milliliter per gram
NYSDEC	New York State Department of Environmental Conservation
PCE	tetrachloroethylene
PID	photoionization detector
ppb	parts per billion
QA/QC	quality control/quality assurance
QAPP	quality assurance project plan
TCE	trichloroethylene
SPDES	State Pollutant Discharge Elimination System
SVOCs	semi-volatile organic compounds
µ/L	micrograms per liter
UV	ultraviolet
VOCs	volatile organic compounds
SVOCs	semi-volatile organic compounds
WA	Work Assignment

Figures


N
Public Boat Ramp (under construction)
Open Area with Walkway and Open Overlooks
Theodore Roosevelt Memorial Park
Beechman Beach
Former Capone Property
West End Avenue
Sailing School Building
Sailing Storage and Rowing Shell Bldg.
New Public Bathrooms (under construction)
New Storage Building (under construction)
Former Jakobson Shipyard
Current Site Usage
Figure 1


Former Site
Operations
Jakobson Shipyard
Figure 2



Location of Historical Buildings, Jakobson Shipyard

Figure 3


Soil Vapor Locations:
#1 - Office area- sub slab sample
#2 - Former Blacksmith Shop and Fuel Oil UST
#3 - Former Paint Shop
#4 - Former Outdoor Degreasing Unit
#5 - Former Indoor Boat Repair and Fuel Oil UST
#6 - Former Auto Body Shop
#7 - Former Indoor Boat Repair (eastern side of former building)
#8 - Former Waste Oil Tank
#9 - Downgradient of the Outdoor Degreaser
#1
#2
#3
#4
#5
#6
#7
#8
#9
New Public Bathroom
New Storage Building
- Former Building Location
- Site Boundary
- New Buildings (under construction)
Proposed Soil Gas Sampling Locations
Jakobson Shipyard
Figure 4


- Former Building Location
- Site Boundary
- Indoor and Outdoor Sampling Locations
Note: An ambient air sample (Sample D) will be collected at a location upwind of the site
A- West side of Basement
B- South side of Basement
Proposed Indoor and Outdoor Air Sampling Locations
Jakobson Shipyard
Figure 5

Proposed Groundwater and Optional Sump Water Sampling Locations

Jakobson Shipyard Figure 6

Table

Table 2-1
Analytical Program Summary
Jakobson Shipyard
Oyster Bay, New York

Analytical Parameter	Sample Matrix	Number of Samples	Analytical Method	Field Duplicates (a)	MS/MSDs (b)	Field Blank/Ambient Air Blank (c)	Trip Blanks (d)	Container (e)	Sample Preservation	Holding Time
SOIL VAPOR SAMPLES										
Volatile Organic Compounds	Air	8	EPA TO-15	1	(b)	0	0	1.4-liter SUMMA canister with 2-hour regulator	None	15 days
SUB-SLAB SOIL VAPOR SAMPLES										
VOCs	Air	1	EPA TO-15	0	(b)	0	0	6-liter SUMMA canister with 8-hour regulator	None	15 days
INDOOR AIR SAMPLES										
VOCs	Air	2[f]	EPA TO-15	0	(b)	0	0	6-liter SUMMA canister with 8-hour regulator	None	15 days
OUTDOOR AIR (AMBIENT AIR) SAMPLES										
VOCs	Air	1	EPA TO-15	0	(b)	0	0	6-liter SUMMA canister with 8-hour regulator	None	15 days
GROUNDWATER SAMPLES										
CLP TCL Purgable Organics+10	Groundwater	3	EPA OLM04.3	1	0	1	1	3 - 40ml clear glass vial with Teflon septum	HCl to pH <2; Cool to 4^{o}C	14 days

Notes:
(a) A minimum of 5% of all samples should be collected in duplicate
(b) SUMMA canisters containing samples are not spiked in the field.
(c) one field blank will be collected per day of sampling
(d) Trip blanks will be shipped with each sample cooler containing a groundwater sample
(e) Cannister should be used within 15 days of being shipped to the field for sample collection.
(f) Indoor air samples to be collected on the basement: one on the western side of the basement (meeting room), one on southern portion

Appendix A

HEALTH AND SAFETY PLAN (HASP)

HEALTH AND SAFETY PLAN FORM

CDM Health and Safety Program

This document is for the exclusive use of CDM and its subcontractors

CDM (Camp Dresser & McKee)

PROJECT DOCUMENT #:

PROJECT NAME	Soil Vapor Intrusion Evaluation at Jakobson Shipyard	**PROJECT#**	0897-63006	**REGION**	Region 1
SITE ADDRESS	West End Avenue, Oyster Bay, Nassua County, New York	**CLIENT ORGANIZATION**			NYSDEC
		CLIENT CONTACT			Bob Stewart
		CLIENT CONTACT PHONE #			631-444-0244

( ) AMENDMENT TO EXISTING APPROVED H&SP?

( ) H&SP AMENDMENT NUMBER? _____ **( ) DATE OF PREVIOUS H&SP APPROVAL** _____

OBJECTIVES OF FIELD WORK:
(e.g. collect surface soil samples):

(1) Conduct a geophysical survey to clear boring locations. (2) Collect eight soil vapor samples. (3) Collect one sub slab sample (if water table location interferes with sub slab sample gathering, collect a groundwater sample from the sump pump at similar location). (4) Collect two groundwater samples. (5) Collect two indoor air and two outdoor air samples.

SITE TYPE: *Check as many as applicable*

Active	(x)	Landfill	( )	Unknown	( )
Inactive	( )	Uncontrolled	( )	Military	( )
Secure	(x)	Industrial	( )	Other (specify)	
Unsecure	( )	Recovery	( )		
Enclosed space	( )	Well Field	( )		

All requirements described in the **CDM Health and Safety Manual** are incorporated in this health and safety plan by reference.

PERSONNEL AND RESPONSIBILITIES **NAMES OF WORK CREW MEMBERS**	**COMPANY or DIVISION**	**SUPERVISORY TRAINED?**	**PROJECT OR SITE RESPONSIBILITIES**	**Tasks On Site?**
Jessica Beattie	CDM	YES	Work Assignment Manager	No
Shawna Martinelli	CDM	NO	Site Engineer	1-5
Frank Robinson	CDM	YES	Health & Safety Coordinator	1-5
Geophysical Subcontractor	Radar Solutions		Subcontractor	1
Drilling Subcontractor	Zebra		Subcontractor	2&4

BACKGROUND REVIEW: (x) Complete ( ) Incomplete

SITE MAP: *Show Exclusion, Contamination Reduction, and Support Zones. Indicate Evacuation and Reassembly Points*

HEALTH AND SAFETY PLAN FORM *This document is for the exclusive* **CDM** (Camp Dresser & McKee)
CDM Health and Safety Program *use of CDM and its subcontractors* **PROJECT DOCUMENT #:**

HISTORY: *Summarize conditions that relate to hazard. Include citizen complaints, spills, previous investigations or agency actions, known injuries, etc.*

The investigation will focus on areas of the site were soil was not fully excavated during initial remediation and where the potential for residual soil contamination exists according to the initial work assignment prepared by NYSDEC. The investigation will also focus on residual VOC contamination at the water table that could potentially result in vapor intrusion to nearby buildings.

WASTE TYPES: () Liquid ( ) Solid ( ) Sludge ( ) Gas ( ) Unknown (x) Other, specify:contaminated soil and groundwater

WASTE CHARACTERISTICS: *Check as many as applicable.*

( ) Corrosive ( ) Flammable ( ) Radioactive
( ) Toxic (x) Volatile ( ) Reactive
( ) Inert Gas ( ) Unknown
(x) Other:heavy metals (specifically TBT and lead), fuel oil, PCE and other VOC and SVOC soil and groundwater contamination

WORK ZONES:

The exclusion zone will include all points within 10 feet of the investigation activities or sampling location. The contamination reduction zone will consist of a ten foot annulus outside of the exclusion zone. The support zone will be a 10 foot annulu outside of the CRZ. All zones are mobile and will be established and moved as work crew moves.

HAZARDS OF CONCERN: *Check as many as applicable.*

( ) Heat Stress CDM Guideline
(x) Cold Stress CDM Guideline
( ) Explosive/Flammable
( ) Oxygen Deficient
( ) Radiological
( ) Biological
( ) Other: _____
( ) Other: _____
(x) Noise CDM Guideline
( ) Inorganic Chemicals
(x) Organic Chemicals
( ) Motorized Traffic
(x) Heavy Machinery
(x) Slips & Falls CDM Guideline

FACILITY'S PAST AND PRESENT DISPOSAL METHODS AND PRACTICES:

The site was previously used as a ship yard for the manufacture of steel tug boats and was later used primarily for the repair and maintenance of commercial boats and yachts. The sandblasting, painting, metal finishing and degreasing operations which occured on the site resulted in soil and groundwater contamination. "The former operators were extremely sloppy." It is believed that direct discharge of VOC and SVOC waste occured on site. Two leaking underground storage tanks containing fuel oil were also discovered and removed from the site.

This plan incorporates CDM's procedure for: *(Click on the relevant topics to download the hazard guideline. Delete irrelevant topics.)*

Housekeeping	Traffic and Work Zone Safety	Tools and Power Equipment	Working Safely Around Geoprobes
Manual Material Handling	Excavations	Working Around Heavy Equipment	Hazardous Waste Site Controls
Electrical Safety	Ladders	Working Near or Over Water	Working Safely Around Drill Rigs
Lock Out/Tag Out	Scaffolds	Flammable and Combustible Liquids	
Compressed Gases	Mechanized Personnel Lifts	Hazardous Waste Site Decontamination	

DESCRIPTION AND FEATURES: *Include principal operations and unusual features (containers, buildings, dikes, power lines, hillslopes, rivers, etc.)*

The site is located on either side of West End Avenue in Oyster Bay, Nassau County, New York. It is currently being redeveloped as a waterfront harbor park. The park will have multiple uses including a walkway with overlooks, a public boat launch, a fishing pier and a sailing school. The Site is bordered on the north by Oyster Bay Harbor, Beekman Beach to the west, and the former Capone Property to the east. Theodore Roosevelt Memorial Park is located a short distance further east of the site. All of the former site buildings located north of West End Avenue were demolished. These former buildings were a Paint Shop, Electric Shop, Blacksmith Shop, Warehouse, Storage building, and Saw Mill and Joiner Shop. Two of the former shipyard buildings (a Main Office and Storage Building) located south of West End Avenue have been renovated and are being used as a Sailing School/Office and a Storage Building. Currently, two new buildings, a public restroom and an additional storage building, are under construction south of West End Avenue and east of the existing structures. A Garage and Yacht Storage Building were previously located where the new construction is occuring.

SURROUNDING POPULATION: ( ) Residential ( ) Industrial ( ) Commercial ( ) Rural ( ) Urban OTHER:

HAZARDOUS MATERIAL SUMMARY: ***Highlight or bold waste types and estimate amounts by category.***

CHEMICALS: *Amount/Units:*	**SOLIDS:** *Amount/Units:*	**SLUDGES:** *Amount/Units:*	**SOLVENTS:** *Amount/Units:*	**OILS:** *Amount/Units:*	**OTHER:** *Amount/Units:*
Acids	Flyash	**Paints**	Ketones	**Oily Wastes**	Laboratory
Pickling Liquors	Mill or Mine Tailings	Pigments	**Aromatics**	Gasoline	Pharmaceutical
Caustics	Asbestos	Metals Sludges	Hydrocarbons	**Diesel Oil**	Hospital
Pesticides	Ferrous Smelter	POTW Sludge	Alcohols	Lubricants	Radiological
Dyes or Inks	Non-Ferrous Smelter	Distillation Bottoms	**Halogenated (chloro, bromo)**	Polynuclear Aromatics	Municipal
Cyanides	**Metals(heavy metals,lead, TBT)**	Aluminum	Esters	PCBs	Construction
Phenols	Dioxins		Ethers	Heating Oil	Munitions
Halogens					
Other - *specify*	Other - *specify*	Other - *specify*	**Other -*PCE, other VOCs and SVOCs***	**Other - *Fuel Oil***	Other - *specify*

KNOWN CONTAMINANTS	HIGHEST OBSERVED CONCENTRATION	PEL/TLV *ppm or mg/m3 (specify)*	IDLH *ppm or mg/m3 (specify)*	Warning Concentration *(in ppm)*	SYMPTOMS & EFFECTS OF ACUTE EXPOSURE	PHOTO IONIZATION POTENTIAL
1,2 Dichloroethylene	**U / S**	200 ppm	1,000 ppm	1.1 ppm	Irritated eyes, CNS depression	10.00
Diesel Fuel	**U / S**	100 mg/m3	NE	10 ppm	Vomiting, diarrhea, insomnia, dizziness, headache	NA
Tetrachloroethylene	**U / S**	25 ppm	150 ppm	47 ppm	Irritated eyes, nose, throat, flushed face & neck, dizziness	9.32
Trichloroethylene	**U / S**	50 ppm	1,000 ppm	82 ppm	Vertigo, visual disturbance, headache, drowsiness	9.45
Vinyl chloride	**U / S**	1 ppm	Carc.	NA	Weakness, stomach pain, cancer	10.00
Mercury and compounds (skin)	**U / S**	25 µg/m3	10 mg/m3	NA	Severe abdominal pain tremors, weakness, GI irritation, fatigue	10.40
Copper (fume)	**U / S**	200 µg/m3	100 mg/m3	Dust	Nasal perforation, metal taste	Dust
Lead compounds	**U / S**	50 µg/m3	100 mg/m3	Dust	Fatigue, pallor, colic, insomnia	Dust
Zinc (fumes)	**U / S**	2 mg/m3	NE	Dust	Sweet metal taste, dry throat, cough, tight chest, chills	Dust

NA = Not Available **NE = None Established** **U = Unknown**

Verify your access to an MSDS for each chemical you will use at the site.

S = Soil SW = Surface Water T = Tailings W = Waste TK = Tanks SD = Sediment
A = Air GW = Ground Water SL = Sludge D = Drums L = Lagoons OFF = Off-Site

HEALTH AND SAFETY PLAN FORM **CDM Health and Safety Program**	*This document is for the exclusive use of CDM and its subcontractors*	**CDM** (Camp Dresser & McKee) **PROJECT DOCUMENT #:**	
SPECIFIC TASK DESCRIPTIONS	**Disturbing the Waste?**	**TASK - SPECIFIC HAZARDS**	**HAZARD & SCHEDULE**
1 Overseeing geophysical survey of the site (mark utilities and clear boring locations)	Intrusive (Non-intrusive)	Slips trips and falls, cold stress	Low Hazard Mar-08
2 Collect soil vapor samples. Technique: Direct push technology	(Intrusive) Non-intrusive	Materials handling, coming into contact with contamined materials	Low Hazard Mar-08
3 Collect sub-slab vapor sample. Technique: hammer drill	(Intrusive) Non-intrusive	Materials handling, coming into contact with contamined materials	Low Hazard Mar-08
4 Collect Groundwater Samples. Technique: Direct push technology	(Intrusive) Non-intrusive	Materials handling, coming into contact with contamined materials	Low Hazard Mar-08
5 Collect indoor and outdoor air samples.	Intrusive (Non-intrusive)	Materials handling, coming into contact with contamined materials	Low Hazard Mar-08
6	Intrusive Non-intrusive		
SPECIALIZED TRAINING REQUIRED:		**SPECIAL MEDICAL SURVEILLANCE REQUIREMENTS:**	

OVERALL HAZARD EVALUATION: ( ) High ( ) Medium (x) Low ( ) Unknow *(Where tasks have different hazards, evaluate each.)*

JUSTIFICATION: Use of Geo probe technology on a site that New York State previously accepted as "clean."

FIRE/EXPLOSION POTENTIAL: ( ) High ( ) Medium (x) Low ( ) Unknown

HEALTH AND SAFETY PLAN FORM | *This document is for the exclusive* | **CDM** (Camp Dresser & McKee)

CDM Health and Safety Program | *use of CDM and its subcontractors* | **PROJECT DOCUMENT #:**

PROTECTIVE EQUIPMENT: *Specify by task. Indicate type and/or material, as necessary. Group tasks if possible. Use copies of this sheet if needed.*

BLOCK A

TASKS: 1 - 2 - 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10
LEVEL: A - B - C - **D - Modified**
(x) Primary ( ) Contingency

Respiratory: **(X) Not needed**
( ) SCBA, Airline:
( ) APR:
( ) Cartridge:
( ) Escape Mask:
( ) Other:

Head and Eye: ( ) Not needed
(X) Safety Glasses:
( ) Face Shield:
( ) Goggles:
(X) Hard Hat:
( ) Other:

Boots: ( ) Not needed
(X) Steel-Toe **(X) Steel Shank**
( ) Rubber **(X) Leather**
( ) Overboots:

Prot. Clothing: ( ) Not needed
( ) Encapsulated Suit:
( ) Splash Suit
( ) Apron:
( ) Tyvek Coverall or
( ) Saranex Coverall
( ) Cloth Coverall:
(X) Other:work clothes

Gloves: **Except Task 1**
(X) Undergloves: Latex
(X) Gloves: Nitrile
( ) Overgloves:

Other: specify below
( ) Tick Spray
( ) Flotation Device If Over Water
(X) Hearing Protection
(X) Sun Screen

BLOCK B

TASKS: 1 - 2 - 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10
LEVEL: A - B - C - D - Modified
( ) Primary (x) Contingency

Respiratory: ( ) Not needed
( ) S
( ) A
( ) C
( ) E Mask:
( ) O

Head and Eye: ( ) Not needed
( ) Safety Glasses:
( ) Face Shield:
( ) Goggles:
( ) H
( ) O

B ed
eel-To l Shan
( ) Rubber ( ) Leather
( ) Overboots: Latex

Prot. Clothing: ( ) Not needed
( ) psulat Suit:
( ) Splash S
( ) n.
( ) k C all or
( ) nex ll
( ) Cloth Coverall:
( ) Other:

Gloves: ( ) Not needed
( ) Undergloves:
( ) Gloves:
( ) erglo

Other: spe io
x Sp
( ) Float. Device If Over Water
( ) Hearing Protection
( ) Sun Screen

BLOCK C

TASKS: 1 - 2 - 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10
LEVEL: A - B - C - D - Modified
( ) Primary ( ) Contingency

Respiratory: ( ) Not needed
( ) SCBA, Airline:
( ) APR:
( ) Cartridge:
( ) Escape Mask:
( ) Other:

Head and Eye: ( ) Not needed
( ) Safety Glasses:
( ) Face Shield:
( ) Goggles:
( ) Hard Hat:
( ) Other:

Boots: ( ) Not needed
( ) Steel-Toe ( ) Steel Shank
( ) Rubber ( ) Leather
( ) Overboots:

Prot. Clothing: ( ) Not needed
( ) Encapsulated Suit:
( ) Splash Suit
( ) Apron:
( ) Tyvek Coverall
( ) Saranex Coverall
( ) Cloth Coverall:
( ) Other:

Gloves: ( ) Not needed
( ) Undergloves:
( ) Gloves:
( ) Overgloves:

Other: specify below
( ) Tick Spray
( ) Flotation Device
( ) Hearing Protection
( ) Sun Screen

BLOCK D

TASKS: 1 - 2 - 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10
LEVEL: A - B - C - D - Modified
( ) Primary ( ) Contingency

Respiratory: ( ) Not needed
( ) SCBA, Airline:
( ) APR:
( ) Cartridge:
( ) Escape Mask:
( ) Other:

Head and Eye: ( ) Not needed
( ) Safety Glasses:
( ) Face Shield:
( ) Goggles:
( ) Hard Hat:
( ) Other:

Boots: ( ) Not needed
( ) Steel-Toe ( ) Steel Shank
( ) Rubber ( ) Leather
( ) Overboots:

Prot. Clothing: ( ) Not needed
( ) Encapsulated Suit:
( ) Splash Suit
( ) Apron:
( ) Tyvek Coverall
( ) Saranex Coverall
( ) Cloth Coverall:
( ) Other:

Gloves: ( ) Not needed
( ) Undergloves:
( ) Gloves:
( ) Overgloves:

Other: specify below
( ) Tick Spray
( ) Flotation Device
( ) Hearing Protection
( ) Sun Screen

This health and safety plan form constitutes hazard analysis per 29 CFR 1910.132

HEALTH AND SAFETY PLAN FORM		*This document is for the exclusive*		**CDM** (Camp Dresser & McKee)
CDM Health and Safety Program		*use of CDM and its subcontractors*		**PROJECT DOCUMENT #:**
MONITORING EQUIPMENT:	*Specify by task. Indicate type as necessary. Attach additional sheets if needed.*			
INSTRUMENT	**TASK**	**ACTION GUIDELINES**		**COMMENTS**
Combustible Gas Indicator	1-2-3-4-5-6-7-8	0-10% LEL 10-25% LEL >25% LEL 21.0% O2 <21.0% O2 <19.5% O2	*No explosion hazard* *Potential explosion hazard; notify SHSC* *Explosion hazard; interrupt task/evacuate* *Oxygen normal* *Oxygen deficient; notify SHSC* *Interrupt task/evacuate*	**(X) Not Needed**
Radiation Survey Meter	1-2-3-4-5-6-7-8	3 x Background: >2mR/hr:	*Notify HSM* *Establish REZ*	**(X) Not Needed**
Photoionization Detector 10.6eV Lamp Type OVM	1-2-3-4-5-6-7-8	*Specify:* 0 to 2 ppm: Level D. 2 to 15 ppm: Level D, use detector tubes >15 ppm: Leave area. Call HSM		( ) Not Needed Monitor breathing zone continuously. Compare action levels to time-averaged breathing zone measurements
Flame Ionization Detector Type_____	1-2-3-4-5-6-7-8	*Specify:*		**(X) Not Needed**
Single Gas Type Vinyl chloride	1-2-3-4-5-6-7-8	*Specify:* <0.5 ppm: Level D >0.5 ppm: Leave area. Call HSM		**(X) Not Needed** Team will draw detector tubes for vinyl chloride whenever PID levels rise.
Respirable Dust Monitor Type_____ Type_____	1-2-3-4-5-6-7-8	*Specify:* If team observes visible concentrations of airborne dust or dry, windy conditions, a dust suppressant will be utilized.		( ) Not Needed
Other *Specify:* Type_____ Type_____	1-2-3-4-5-6-7-8	*Specify:* If team notices unusual odors or irritation of the eye or throat, they will leave the area.		( ) Not Needed
Other *Specify:* Type_____ Type_____	1-2-3-4-5-6-7-8	*Specify:*		( ) Not Needed

DECONTAMINATION PROCEDURES

ATTACH SITE MAP INDICATING EXCLUSION, DECONTAMINATION, & SUPPORT ZONES AS PAGE TWO

Personnel Decontamination	**Sampling Equipment Decontamination**	**Heavy Equipment Decontamination**
Summarize below or attach diagram;	*Summarize below or attach diagram;*	*Summarize below or attach diagram;*
Team members will remove their protective clothing in the following order. 1. Equipment drop. 2. Glove removal. 3. Hand and face wash.	Sampling equipment will be decontaminated by: 1. Gross mechanical removal of dirt. 2. Detergent in water wash. 3. Potable water rinse. 4. Distilled water rinse.	CDM will require heavy equipment contractors to decontaminate their equipment before it leaves the site.
( ) Not Needed	( ) Not Needed	( ) Not Needed
Containment and Disposal Method	**Containment and Disposal Method**	**Containment and Disposal Method**
Disposable protective equipment will be disposed of, unless heavily contaminated. If heavily contaminated, disposable equipment will be contained in drums and left on the site for proper disposal.	Sampling equipment cleaning water solutions will be allowed to drain to the groundwater. If heavily contaminated, disposable equipment will be contained in drums and left on site for proper disposal.	Decontamination fluids will be released to the ground, unless heavily contaminated. If heavily contaminated, contractor will contain the waste in drums and leave them on site for proper disposal

HAZARDOUS MATERIALS TO BE BROUGHT ONSITE

Preservatives		*Decontamination*		*Calibration*	
( ) Hydrochloric Acid	( ) Zinc Acetate	(x) Alconox ™	( ) Hexane	(x) 100 ppm isobutylene	( ) Hydrogen Sulfide
( ) Nitric Acid	( ) Ascorbic Acid	( ) Liquinox ™	( ) Isopropanol	( ) Methane	( ) Carbon Monoxide
( ) Sulfuric Acid	( ) Acetic Acid	( ) Acetone	( ) Nitric Acid	( ) Pentane	( ) pH Standards
( ) Sodium Hydroxide	( ) Other:	( ) Methanol	( ) Other:	( ) Hyrogen	( ) Conductivity Std
		( ) Mineral Spirits		( ) Propane	( ) Other:

HEALTH AND SAFETY PLAN FORM *This document is for the exclusive* **CDM** (Camp Dresser & McKee)

CDM Health and Safety Program *use of CDM and its subcontractors* **PROJECT DOCUMENT #:**

EMERGENCY CONTACTS

Water Supply	
Site Telephone	516-922-7245
EPA Release Report #:	800 / 424 - 8802
CDM 24-Hour Emergency #:	PSG 732 / 539 - 8128
Facility Management	Joe Bernard
Other (specify)	
CHEMTREC Emergency #:	800 / 424 - 9300

SAFETY NARRATIVE: *Summarize below*

If CDM work team observes hazards for which they have not prepared, they will withdraw from the area and call the CDM Project Manager.

SHSC will designtate evacuation routes. Teams will cease work if they see lighting or thunder storms in the area.

CDM may rely on instruments operated by contractor personnel only upon HSM approval. If contractor directs a higher level of protection than this pla does, CDM personnel will wear that level. CDM personnel may choose to wear more protection than directed by this plan.

Contractor will be expected to inspect its equipment and certify its suitability for the project to the CDM site health and safety coordinator.

HEALTH AND SAFETY PLAN APPROVALS (H&S Mgr must sign each plan)

Prepared by	S. Martinelli	Date	1/14/2008
HSC Signature	APPROVED By Chris Marlowe at 1:51 pm, Feb 01, 2008	Date	
HSM Signature		Date	Feb 01, 2008

EMERGENCY CONTACTS	**NAME**	**PHONE**
Health and Safety Manager	Chris Marlowe	732 / 590 - 4632
Project Manager	Jessica Beattie	732-225-7000
Site Safety Coordinator	Frank Robinson	516/496-8400
Client Contact	Bob Stewart	631-444-0244
Other *(specify)*		
Environmental Agency		
State Spill Number	New York	(800) 457 - 7362
Fire Department		911
Police Department		911
State Police		911
Health Department	Nassau County	516-571-3314
Poison Control Center	Nationwide	800 / 222 - 1222
Occupational Physician	Kenneth Chase	800 / 777 - WOHA

MEDICAL EMERGENCY		**PHONE**
Hospital Name:	Glen Cove Hospital	516-674-7300
Hospital Address	101 Saint Andrews Ln	Glen Cove, NY
Name of Contact at Hospital:		
Name of 24-Hour Ambulance:		

Route to Hospital:

1. Head east on W End Ave toward Shore Ave
2. Turn right at Shore Ave
3. Turn right at Larrabee Ave
4. Turn right at W Main St
5. Slight left at Mill Hill Rd
6. Continue straight onto Oyster Bay Rd
7. Turn right to stay on Oyster Bay Rd
8. Continue on Buckram Rd
9. Continue on Forest Ave
10. Turn left at Walnut Rd
11. Turn right at St Andrews Ln

Distance to Hospital 5.6 miles

HEALTH AND SAFETY PLAN SIGNATURE FORM

CDM Health and Safety Plan

All site personnel must sign this form indicating receipt of the H&SP. Keep this original on site. It becomes part of the permanent project files. Send a copy to the Health and Safety Manager (HSM).

SITE NAME/NUMBER: Jakobson Shipyard

DIVISION/LOCATION: PSG/EDISON

CERTIFICATION:

I understand, and agree to comply with, the provisions of the above referenced H&SP for work activities on this project. I agree to report any injuries, illnesses or exposure incidents to the site Health and Safety Coordinator (SHSC). I agree to inform the SHSC about any drugs (legal and illegal) that I take within three days of site work.

PRINTED NAME	SIGNATURE	DATE

Appendix B

SCHEDULE 2.11

Schedule 2.11(a)

Summary of Work Assignment Price

Work Assignment Number D004437-24

1) Direct Salary Costs (Schedules 2.10(a) and 2.11(b))	$9,264
2) Indirect Costs (Schedule 2.10(g))	$15,554
3) Direct Non-Salary Costs (Schedules 2.10(b)(c)(d) and 2.11(c)(d))	$2,004

4) Subcontract Costs

Cost-Plus-Fixed-Fee Subcontracts (Schedule 2.10(e) and 2.11(e))

	Name of Subcontractor	Services To Be Performed	Subcontract Price
i)	Ken Schider Consulting	W/MBE Reporting	$600
ii)			
iii)			

A) Total Cost-Plus-Fixed-Fee Subcontracts $600

Unit Price Subcontracts (Schedule 2.10 (f) and 2.11 (f))

	Name of Subcontractor	Services To Be Performed	Subcontract Price
i)	Zebra Environmental	Direct Push Driller	$4,275
ii)	Chemtech	MBE Laboratory	$3,998
iii)	Environmental Data Validation	WBE Data Validator	$662
iv)	Radar Solutions	WBE Geophysical Survey	$2,195
v)			

B) Total Unit Price Subcontracts $11,130

5) Subcontract Management Fee	$343
6) Total Subcontract Costs (lines 4A + 4B + 5)	$12,073
7) Fixed Fee (Schedule 2.10(h))	$1,737
8) Total Work Assignment Price (Lines 1 + 2 + 3 + 6 + 7)	$40,633

Engineer/Contract # D004437-24
Project Name Jakobson Shipyard
Work Assignment No. D004437-24

Date Prepared: _____

Schedule 2.11(b)
Direct Labor Hours Budgeted

Labor Classification	***IX***		***VIII***		***VII***		***VI***		***IV***		***III***		***II***		***I***		***Admin Support***		***Total No. of Direct Labor Hours and Costs Budgeted***	
*Av. Salary Rate ($) Year 2008	$65.24		$59.42		$52.09		$45.95		$32.86		$28.62		$25.52		$21.12		$21.12		0	
Description	Hours	Cost	Hours	Cost	Hours	Cost	Hours	Cost	Hours	Cost	Hours	Cost	Hours	Cost	Hours	Cost	Hours	Cost	Hours	Cost
Task 1 Work Plan Development	2	$130.48	4	$237.68	1	$52.09	20	$919.00		$0.00		$0.00	52	$1,327.04		$0	4	$84.48	83	$2,750.77
Task 2 Soil Vapor Intrusion Investigatoin	1	$65.24	1	$59.42		$0.00	12	$551.40	40	$1,314.40		$0.00	8	$204.16		$0	2	$42.24	64	$2,236.86
Task 3 Field Documentation and Reporting	2	$130.48	4	$237.68	8	$416.72	24	$1,102.80		$0.00	60	$1,717.20	23	$586.96		$0	4	$84.48	125	$4,276.32
Total Hours	5		9		9		56		40		60		83		0		10		272	
Total Direct Labor Cost ($) **Year 2008**		$326.20		$534.78		$468.81		$2,573.20		$1,314.40		$1,717.20		$2,118.16		$0		$211.20		$9,263.95

* For multiple years use one average salary rate row for each year and each years subtotal Labor Cost.

Engineer/Contract # D004437

Project Name Jakobson Shipyard

Work Assignment No. D004437-24

Date Prepared: _____

Schedule 2.11(b-1)
Direct Administrative Labor Hours Budgeted

Labor Classification		*IX*	*VIII*	*VII*	*VI*	*V*	*IV*	*III*	*II*	*I*	*Admin. Support*	*Total No. of Direct Labor Hrs.*
Task 1	Work Plan Development/Records Search	1	0	0	0	0	0	0	0	0	4	5
Task 2	Site Characterization	1	0	0	0	0	0	0	0	0	2	3
Task 3	Field Documentation and Reporting	1	0	0	0	0	0	0	0	0	4	5
TOTAL HOURS		3	0	0	0	0	0	0	0	0	10	13

Contract/Project administrative hours would include (subject to contract allowability) but not necessarily be limited to the following activities:

1) Work Plan Budget Development
   > Conflict of Interest Check
   > Budget schedules & supporting documentation
2) Review work assignment (WA) progress
   > Conduct progress reviews
   > Prepare monthly project report
   > Update WA progress schedule
   > Prepare M/WBE Utilization Report
3) Contractor Application for Payment (CAP)
   > Oversee and prepare monthly CAP
4) Program Management
   > Prepare monthly cost control report
   > Cost control reviews
<> Staffing Plans
   >Manage subcontracts
   > NSPE list update
   > Equipment inventory
5) Miscellaneous
   > Conduct Health and Safety Reviews
   > Word processing and graphic artists
   > Report editing

Contract/Project Administration hours would **not** inclu

1) QA/QC reviews
2) Techincal oversight by management
3) Develop subcontracts
4) Work plan development
5) Review of deliverables

Schedule 2.11 (c)

Direct Non-Salary Costs
***Work Assignment Number* D004437-24**

	Item		Max. Reimbursement * Rate (Specify Unit)	Est. No. of Units	Total Estimated Cost
A)	Other				
1)	Shipping Task 1		LS	1	$50.00
2)	Outside Printing Task 1		LS	1	$100.00
3)	Shipping Task 3		LS	1	$50.00
4)	Outside Printing Task 3		LS	1	$100.00
		Sub-Total Other			$300.00
B)	Miscellaneous Task 2 - Soil Vapor Investigation				
1)	Meals (per day)		$64.00	3	$192.00
2)	Lodging (per day)		$159.00	0	$0.00
3)	Mileage (per mile)		$0.505	200	$101.00
4)	PPE (level D) (per day)		$15.00	3	$45.00
5)	Tolls		$15.00	6	$90.00
6)	LVE		$1.00	64	$64.00
		Sub-Total Miscellaneous Task 2			$492.00
		Total Direct Non-Salary Costs			**$792.00**

Work Assignment No. D004437-24

Schedule 2.11(d) 3

Maximum Reimbursement Rate for Vendor Rented Equipment

Item	Max Reimbursement Rate ($)*	Est. Usage (unit of time)	Est. Rental Cost ($) (Col. 2 x 3)
Task 2			
Helium Meter (per day)	$75.00	3	$225.00
Low Flow Pump (per day)	$25.75	3	$77.25
Tedlar Bags (each)	$15.00	11	$165.00
Teflon-lined tubing (per ft)	$1.50	40	$60.00
GPS unit (per day)	$160.00	1	$160.00
MiniRae (per day)	$75.00	3	$225.00
Helium Gas	$100.00	3	$300.00
		TOTAL:	**$1,212**

* Reimbursement will be made at the Maximum Reimbursement rate or the actual rental rate, whichever is less.

Schedule 2.11 (e)

Cost-Plus-Fixed-Fee Subcontracts
Work Assignment Number **D004437-24**

Name of Subcontractor	**Services to be Performed**	**Subcontract Price**
Ken Schider Consulting	**M/WBE Reporting**	**$599.97**

A) Direct Salary Costs

Professional Responsibility Level	**Labor Classification**	**Ave. Reimbursement Rate ($/Hr.)**	**Max. Reimbursement Rate ($/Hr.)**	**Est. No. of Hours**	**Total Est Direct Salary Cost (Ave. Reimb. Rate x Est. # of Hrs.)**
IV	Eng/Scientist 4	$32.60	$36.78	8	$260.80

Total Direct Salary Costs **$260.80**

Footnotes:

1) The labor rate averages and maximums shall be adjusted by a rate equal to the increase in the CPI index CUURA101SAO-"All Urban Consumers-New York-Northern N.J.-Long Island" for the previous year. This index is published by the U.S. Department of Labor's Bureau of Labor Statistics. The adjustment will be calculated every January and will be effective for subsequent work assignment billing and budgeting purposes.
2) Schedule 2.11(e) may be re-negotiated after four (4) years at the request of either party. Any revision as a result of re-negotiation will be subject to the approval of the Office of the State Comptroller.
3) The maximum annual escalation is limited to 5%.
4) Reimbursement will be limited to the lesser of either the individual's actual hourly rate or the maximum rate for each labor
5) Reimbursement will be limited to the maximum reimbursement rate for the professional responsibility level of the actual work
6) Only those labor classifications indicated with an asterisk will be entitled to overtime.
7) Reimbursement for technical time of principals, owners, and officers will be limited to the maximum reimbursement rate of that category, the actual hourly labor rate paid, or the State M-6 rate, whichever is lower.
8) Maximum reimbursement rates may be exceeded for work assignment activities that are under the jurisdiction of the Schedule of Prevailing Wage Rates set by the New York State Department of Labor.

B) Indirect Costs

Indirect costs shall be paid based on a percentage of direct salary costs incurred which shall not exceed a maximum of 115 % or the actual rate calculated in accordance with 48 CFR Federal Acquisition Regulation, whichever is lower.

Amount budgeted for indirect costs is: **$299.92**

C) Maximum Reimbursement Rates for Direct Non-Salary Costs

Item	**Max Reimbursement Rate (Specify Unit)**	**Est. No. of Units**	**Total Est. Cost**
1) Travel	See Schedule 2.10 (d) for rates		
2) Supplies			

Total Direct Non-Salary Costs **$0**

D) Fixed Fee

The fixed fee is: 7% **$39.25**
See Schedule 2.10 (h) for how the fixed fee should be claimed.

Schedule 2.11 (f)

Unit Price Subcontracts
Work Assignment Number **D004437-24**

Name of Subcontractor	Services to be Performed	Subcontract Price	Management Fee
Radar Solutions	**WBE Utility Locate**	**$2,195**	**$110**

Item	Max. Reimbursement Rate (Specify Uni	Est. No. of Units	Total Est. Cost
Geophysical Survey (Clear Drilling Locations)			
Unit & Operator	$2,195 day	1	$2,195
Subtotal-Subcontract Price			**$2,195**
Subcontract Management Fee*			**$110**
TOTAL			**$2,305**

Schedule 2.11 (f)

Unit Price Subcontracts
Work Assignment Number **D004437-24**

Name of Subcontractor	Services to be Performed	Subcontract Price	Management Fee
Environmental Data Validation	**WBE Data Validator**	**$661.66**	**$33.08**

Item	Max. Reimbursement Rate (Specify Unit)	Est. No. of Units	Total Est. Cost
DATA VALIDATION Task 2A			
WATER VOCs OLM04.3	$23.22 /Sample	6	$139
Air TO-15	$20.09 /Sample	13	$261
Air TO-15 Dilution	$20.09 /Sample	13	$261
Subtotal-Subcontract Price			**$662**
Subcontract Management Fee*			**$33.08**
TOTAL			**$694.74**

* A subcontract management fee of 5% has been included for M/WBE subcontracts.

Schedule 2.11 (f)

Unit Price Subcontracts
Work Assignment Number **DOO4437-24**

Name of Subcontractor	Services to be Performed	Subcontract Price	Management Fee
Zebra Environmental	**Direct Push**	**$4,275.35**	**$0.00**

Item	Unit Cost		Est. No. of Units	Total Est. Cost
MOB/DEMOB				
Mob/Demob Geoprobe	155	trip	2	$310.00
DRILL RIG AND CREW				
Geoprobe Unit w/ Operator	$1,365	day	2	$2,730.00
Macro Core Samples	$9.45	sample	2	$18.90
Shallow Soil Vapor Implants	$99.75	pt	8	$798.00
1" Sch40 PVC Riser	$4.73	per ft	10	$47.30
1" Sch40 PVC 010 Slot Screen	$4.99	per ft	10	$49.90
1" PVC Cap	$3.15	ea	2	$6.30
Sand and Bentonite Grouting of 3" hole to ground surface	$2.36	per ft	20	$47.20
Standby Time	$210.00	hr	1	$210.00
55-Gallon DOT Drum	$57.75	ea	1	$57.75
Subtotal-Subcontract Price				**$4,275.35**
Subcontract Management Fee*				**$0.00**
TOTAL				**$4,275.35**

* Subcontract Management Fee of 5% on Subcontracts over $10,000

Schedule 2.11 (f)

Unit Price Subcontracts
Work Assignment Number D004437-24

Name of Subcontractor **ChemTech**
Services to be Performed **MBE Laboratory**
Subcontract Price **$3,998**
Management Fee **$199.92**

Item	Max. Reimbursement Rate	Specify Unit	Est. No. of Units	Total Est. Cost
Task 2- Site Characterization				
SAMPLING EQUIPMENT				
Summa Cannisters/Regulators	$35.00	Sample	15	$525
Cannister Re-Certification	$105.00	Canister	2	$210
LABORATORY ANALYSIS				
Groundwater				
VOCs OLM04.3 Water	$95.00	Sample	6	$570
Air				
TO-15 Air	$187.95	Sample	13	$2,443
SEDD	$125.00	each	2	$250
			Subtotal-Subcontract Price	**$3,998.35**
			Subcontract Management Fee*	**$199.92**
			TOTAL	**$4,198.27**

* A subcontract management fee of 5% has been included for W/MBE subcontracts.

Schedule 2.11 (g) - Summary

Monthly Cost Control Report
Summary of Fiscal Information

Engineer **Camp Dresser & McKee**
Contract No. **D004437**
Project Name **Jakobson Shipyard**
Work Assignment No. **D004437-24**
Summary of Tasks
Percentage Completed

Date Prepared _____
Billing Period _____
Payment No. _____ **Invoice No.** _____

Expenditure Category	*A*	*B*	*C*	*D*	*E*	*F*	*G*	*H*
	Costs Claimed This Period	*Paid to Date*	*Total Disallowed to Date*	*Total Costs Incurred to Date (A+B+C)*	*Estimated Costs to Completion*	*Estimated Total Work Assignment Price (A+B+E)*	*Approved Budget*	*Estimated Under/Over (G-F)*
1. Direct Salary Costs	$0	$0	$0	$0			$9,264	$0
2. Indirect Costs - '167.9%	$0	$0	$0	$0			$15,554	$0
3. Subtotal Direct Salary Costs and Indirect Costs	$0	$0	$0	$0			$24,818	$0
4. Travel	$0	$0	$0	$0			$293	$0
5. Other Non-Salary Costs	$0	$0	$0	$0			$1,711	$0
6. Subtotal Direct Non-Salary Costs	$0	$0	$0	$0			$2,004	$0
7. Subcontractors	$0	$0	$0	$0			$11,730	$0
7a. Subcontract Mgt. Fee	$0	$0	$0	$0			$343	$0
8. Total Work Assignment Cost	$0	$0	$0	$0			$38,895	$0
9. Fixed Fee	$0	$0	$0	$0			$1,737	$0
10. Total Work Assignment Price	$0	$0	$0	$0			$40,633	$0

Project Manager (Engineer) **Jessica Beattie**

Date _____

Schedule 2.11 (g)

Monthly Cost Control Report
Summary of Fiscal Information

Engineer Camp Dresser & McKee
Contract No. D004437
Project Name Jakobson Shipyard
Work Assignment No. D004437-24
Task #/Name Task 1 - Work Plan Development
Complete 0%

Date Prepared
Billing Period
Invoice No.

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* *Estimated Total Work Assignment Price (A+B+E)*	*G* *Approved Budget*	*H* *Estimated Under/Over (G-F)*
1. Direct Salary Costs	$0	$0	$0	$0			$2,751	$0
2. Indirect Costs - '167.9%	$0	$0	$0	$0			$4,619	$0
3. Subtotal Direct Salary Costs and Indirect Costs	$0	$0	$0	$0			$7,369	$0
4. Travel	$0	$0	$0	$0			$0	$0
5. Other Non-Salary Costs	$0	$0	$0	$0			$150	$0
6. Subtotal Direct Non-Salary Costs	$0	$0	$0	$0			$150	$0
7. Subcontractors	$0	$0	$0	$0			$0	$0
7a. Subcontract Mgt. Fee	$0	$0	$0	$0			$0	$0
8. Total Work Assignment Cost	$0	$0	$0	$0			$7,519	$0
9. Fixed Fee	$0	$0	$0	$0			$516	$0
10. Total Work Assignment Price	$0	$0	$0	$0			$8,035	$0

Project Manager (Engineer) Jessica Beattie

Date

Schedule 2.11 (g)

Monthly Cost Control Report
Summary of Fiscal Information

Engineer Camp Dresser & McKee
Contract No. D004437
Project Name Jakobson Shipyard
Work Assignment No. D004437-24
Task #/Name Task 2- Soi Vapor Intrusion Investigation
Complete 0%

Date Prepared
Billing Period
Invoice No.

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* *Estimated Total Work Assignment Price (A+B+E)*	*G* *Approved Budget*	*H* *Estimated Under/Over (G-F)*
1. Direct Salary Costs	$0	$0	$0	$0			$2,237	$0
2. Indirect Costs 167.9%	$0	$0	$0	$0			$3,756	$0
3. Subtotal Direct Salary Costs and Indirect Costs	$0	$0	$0	$0			$5,993	$0
4. Travel	$0	$0	$0	$0			$293	$0
5. Other Non-Salary Costs	$0	$0	$0	$0			$1,411	$0
6. Subtotal Direct Non-Salary Costs	$0	$0	$0	$0			$1,704	$0
7. Subcontractors	$0	$0	$0	$0			$11,130	$0
7a. Subcontract Mgt. Fee	$0	$0	$0	$0			$343	$0
8. Total Work Assignment Cost	$0	$0	$0	$0			$19,170	$0
9. Fixed Fee	$0	$0	$0	$0			$419	$0
10. Total Work Assignment Price	$0	$0	$0	$0			$19,589	$0

Project Manager (Engineer) Jessica Beattie

Date

Schedule 2.11 (g)

Monthly Cost Control Report
Summary of Fiscal Information

Engineer Camp Dresser & McKee
Contract No. D004437
Project Name Jakobson Shipyard
Work Assignment No. D004437-24
Task #/Name Task 3 - Field Documentation and Reporting
Complete 0%

Date Prepared
Billing Period
Invoice No.

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* *Estimated Total Work Assignment Price (A+B+E)*	*G* *Approved Budget*	*H* *Estimated Under/Over (G-F)*
1. Direct Salary Costs	$0	$0	$0	$0			$4,276	$0
2. Indirect Costs 167.9%	$0	$0	$0	$0			$7,180	$0
3. Subtotal Direct Salary Costs and Indirect Costs	$0	$0	$0	$0			$11,456	$0
4. Travel	$0	$0	$0	$0			$0	$0
5. Other Non-Salary Costs	$0	$0	$0	$0			$150	$0
6. Subtotal Direct Non-Salary Costs	$0	$0	$0	$0			$150	$0
7. Subcontractors	$0	$0	$0	$0			$600	$0
7a. Subcontract Mgt. Fee	$0	$0	$0	$0			$0	$0
8. Total Work Assignment Cost	$0	$0	$0	$0			$12,206	$0
9. Fixed Fee	$0	$0	$0	$0			$802	$0
10. Total Work Assignment Price	$0	$0	$0	$0			$13,008	$0

Project Manager (Engineer) Jessica Beattie

Date

Schedule 2.11 (g) - Supplemental

Cost Control Report for Subcontracts

Engineer Camp Dresser & McKee
Contract No. D004437
Project Name Jakobson Shipyard
Work Assignment No. D004437-24

Date Prepared
Billing Period
Invoice No.

Subcontract Name	*A* *Subcontract Costs Claimed this Application Inc. Resubmittals*	*B* *Subcontract Costs Approved for Payment on Previous Applications*	*C* *Total Subcontract Costs to Date (A plus B)*	*D* *Subcontract Approved Budget*	*E* *Management Fee Budget*	*F* *Management Fee Paid*	*G* *Total Costs to Date (C plus F)*
1. Radar Solutions	$0	$0	$0	$2,195	$110	$0	$0
2. Environmental Data Validation	$0	$0	$0	$662	$33	$0	$0
3. Zebra Environmental	$0	$0	$0	$4,275	$0	$0	$0
4. ChemTech	$0	$0	$0	$3,998	$200	$0	$0
5. Ken Schider	$0	$0	$0	$600	$0	$0	$0
6.	$0	$0	$0	$0	$0	$0	$0
TOTALS	$0	$0	$0	$11,730	$343	$0	$0

Project Manager (Engineer) Jessica Beattie **Date**

NOTES:

1) Costs listed in Columns A, B, C & D do not include any management fee costs.
2) Management fee is applicable to only properly procured, satisfactorily completed, unit price subcontracts over $10,000.
3) Line 11, Cloumn G should equal Line 7 (Subcontractors), Column D of Summary Cost Control Report.

Schedule 2.11(h)
Monthly Cost Control Report
Summary of Labor Hours

Number of Direct Labor Hours Expended to Date/Estimated Number of Direct Labor Hours to Completion

Engineer/Contract # **D004437**
Project Name **Jakobson Shipyard**
Work Assignment No. **D004437-24**

Date Prepared _____
Billing Period _____
Invoice No. _____

NSPE Labor Classification	*IX Exp/Est*	*VIII Exp/Est*	*VII Exp/Est*	*VI Exp/Est*	*V Exp/Est*	*III Exp/Est*	*II Exp/Est*	*I Exp/Est*	*Admin.*	*Total No. of Direct Labor Hrs. Exp/Est*
Task 1A & 1B	0 / 2	0 / 4	0 / 1	0 / 20	0 / 0	0 / 0	0 / 52	0 / 0	0 / 4	0 / 83
Task 2	0 / 1	0 / 1	0 / 0	0 / 12	0 / 40	0 / 0	0 / 8	0 / 0	0 / 2	0 / 64
Task 3	0 / 2	0 / 4	0 / 8	0 / 24	0 / 0	0 / 60	0 / 23	0 / 0	0 / 4	0 / 125
Total Hours	0 / 5	0 / 9	0 / 9	0 / 56	0 / 40	0 / 60	0 / 83	0 / 0	0 / 10	0 / 272

* Expended/Estimated

Appendix C

CONTRACTOR BACKUP

Jakobson Shipyard
Subcontractor Quote Comparison

Soil Vapor and Groundwater Point Installation	Quantity	Units	SGS		Zebra		Hydro Tech	
			Unit Rate	Cost	Unit Rate	Cost	Unit Rate	Cost
Mob/Demob								
Senior Technician/Driller	16	per hour	included	included	included	included	$28.50	$456.00
Technician	16	per hour	included	included	included	included	$23.50	$376.00
Rig Mileage Rate	Subcontractor Specific	per mile		$600	included	included	$1.35	$108.00
Support Truck	Subcontractor Specific			$350	included	included	included	included
Per Diem Rate	2	per day	$150.00	$300	$155	$310	$90.00	$180.00
Drill Rig and Crew								
Truck Drill Rig & Crew	2	per day	$1,749.00	$3,498.00	$1,365.00	$2,730	$1,384.53	$2,769
Soil Vapor Point Installation								
Shallow Soil Vapor Point Installation (0-8')*	8	each	$121.90	$975.20	$99.75	$798.00	$115.50	$924
Soil Sampling & Temporary Monitoring Wells								
3" Macro Core Soil Samples with Acetate Liners	2	each	$11.66	$23.32	$9.45	$18.90	$4.04	$8
1" Sch40 PVC Riser	10	per foot	$7.42	$74.20	$4.73	$47.25	$2.36	$24
1" Sch40 PVC 010 Slot Screen including sand to 6" above screen	10	per foot	$10.60	$106.00	$4.99	$49.88	$3.99	$40
1" PVC Cap	2	each	$4.24	$8.48	$3.15	$6.30	$4.73	$9
Sand and Bentonite Grouting of 3" hole to ground surface	20	per foot	$5.30	$106.00	$2.36	$47.25	$12.44	$249
Miscellaneous								
Decontamination	2	per hour	$174.90	$349.80	$0.00	$0.00	$47.25	$94.50
Standby Time	1	per hour	$192.90	$192.90	$210.00	$210.00	$103.95	$103.95
55-Gallon DOT Drum	1	each	$69.00	$69.00	$57.75	$57.75	$54.08	$54.08
	TOTAL			**$6,652.90**		**$4,275.33**		**$5,395.50**

Geophysical Survey	Radar Solutions (WBE)	Hagar-Richter (WBE)	Nu-Terra LLC (WBE)
Totals	$2,195	$2,550	*

*Declined to respond

New York State
Department of Environmental Conservation
Division of Environmental Remediation

Subcontract Certification

On behalf of the Contractor named below, I hereby certify that the subcontract named below was procured in accordance with the terms of the prime contract and all applicable requirements of the State of New York. I also hereby certify that the executed subcontract includes all appropriate language and all required documents were completed appropriately and were acceptable. Specifically, I hereby certify the following:

1. The Contractor has determined that the subcontractor is qualified. A statement of qualifications for the subcontractor is maintained. It does include a statement of compliance with all licenses, certifications and permits, if applicable. (Note: For laboratories, this can be determined at: http://www.wadsworth.org/labservices.htm).

2. The Contractor has determined the costs are reasonable. A procurement record supporting the determination is maintained.

3. The Contractor performed a Conflict of Interest (COI) check, if applicable, and documented it in writing. (Refer to Appendix B, clause III (e) for applicability. (Note that for standby subcontractors, the COI certification must be submitted to the project manager upon activation.)

4. For subcontracts in excess (or anticipated to be) of $10,000 the subcontractor submitted an acceptable New York State Uniform Contracting Questionnaire. For subconsultants in excess (or anticipated to be) of $10,000 the subconsultant submitted an acceptable New York State Vendor Responsibility Questionnaire. (Information related to vendor responsibility can be found at http://www.osc.state.ny.us/agencies/gbull/g221.htm.)

5. The subcontract includes pass down requirements from Appendix B of the prime contract related to Minority and Women Business Enterprises/WBE and Conflict of Interest (COI).

6. The Subcontract includes the termination clause required in the prime contract.

7. The subcontract does not include "pay if paid" type clauses which are unenforceable in New York State.

8. Insurance carriers associated with the subcontract are licensed to do business in New York State. The State of New York and the Department of Environmental Conservation are named as additional insurers on the policies. Insurance limits meet prime contract requirements. (Note that licensed insurance can be determined at: http://www.ins.state.ny.us and Best's Rating can be determined at http://www.ambest.com). Pollution liability insurance (for example, drilling subcontractors) and professional liability insurance (for example, subcontracts for professional services and laboratories) is included as appropriate.

9. Documentation supporting this certification is maintained and will be provided within 10 days of any request.

Jessica R Beattie — 2/27/08

Signature of Contractor's Authorized Representative — Date

CDM — D004437-24

Contractor Name — Contract No. WA No.

Environmental Data Validation

Subcontractor Name

3/2/07

New York State
Department of Environmental Conservation
Division of Environmental Remediation

Subcontract Certification

On behalf of the Contractor named below, I hereby certify that the subcontract named below was procured in accordance with the terms of the prime contract and all applicable requirements of the State of New York. I also hereby certify that the executed subcontract includes all appropriate language and all required documents were completed appropriately and were acceptable. Specifically, I hereby certify the following:

1. The Contractor has determined that the subcontractor is qualified. A statement of qualifications for the subcontractor is maintained. It does include a statement of compliance with all licenses, certifications and permits, if applicable. (Note: For laboratories, this can be determined at: http://www.wadsworth.org/labservices.htm).

2. The Contractor has determined the costs are reasonable. A procurement record supporting the determination is maintained.

3. The Contractor performed a Conflict of Interest (COI) check, if applicable, and documented it in writing. (Refer to Appendix B, clause III (e) for applicability. (Note that for standby subcontractors, the COI certification must be submitted to the project manager upon activation.)

4. For subcontracts in excess (or anticipated to be) of $10,000 the subcontractor submitted an acceptable New York State Uniform Contracting Questionnaire. For subconsultants in excess (or anticipated to be) of $10,000 the subconsultant submitted an acceptable New York State Vendor Responsibility Questionnaire. (Information related to vendor responsibility can be found at http://www.osc.state.ny.us/agencies/qbull/g221.htm.)

5. The subcontract includes pass down requirements from Appendix B of the prime contract related to Minority and Women Business Enterprises/WBE and Conflict of Interest (COI).

6. The Subcontract includes the termination clause required in the prime contract.

7. The subcontract does not include "pay if paid" type clauses which are unenforceable in New York State.

8. Insurance carriers associated with the subcontract are licensed to do business in New York State. The State of New York and the Department of Environmental Conservation are named as additional insurers on the policies. Insurance limits meet prime contract requirements. (Note that licensed insurance can be determined at: http://www.ins.state.ny.us and Best's Rating can be determined at http://www.ambest.com). Pollution liability insurance (for example, drilling subcontractors) and professional liability insurance (for example, subcontracts for professional services and laboratories) is included as appropriate.

9. Documentation supporting this certification is maintained and will be provided within 10 days of any request.

Jessica Beattie — 2/27/08

Signature of Contractor's Authorized Representative — Date

CDM — D004437-24

Contractor Name — Contract No. WA No.

ChemTech

Subcontractor Name — 3/2/07

CDM

Subcontractor Conflict of Interest Certification

The undersigned, representing ChemTech hereby certifies for the Jakobson Shipyard Site No. 1-30-055:

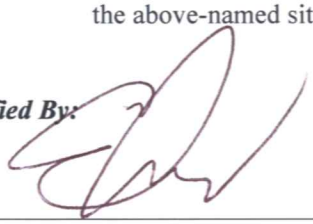
1) That I have been informed by the Camp Dresser & McKee who the known potentially responsible parties are for the subject site, and

2) That to the best of my knowledge, ChemTech and the employees of the firm to be assigned to this project have no conflict of interest with the work proposed at this site, and

3) That presently ChemTech has no contracts with, nor imminent prospects of contracts with, potentially responsible parties associated with the above-named site, and

4) That ChemTech has no responsibilities to potentially responsible parties associated with the above-named site.

Certified By:



Signature of Subcontractor

ChemTech Consulting Group, Inc.

Subcontracting Firm

2/28/08

Date

New York State
Department of Environmental Conservation
Division of Environmental Remediation

Subcontract Certification

On behalf of the Contractor named below, I hereby certify that the subcontract named below was procured in accordance with the terms of the prime contract and all applicable requirements of the State of New York. I also hereby certify that the executed subcontract includes all appropriate language and all required documents were completed appropriately and were acceptable. Specifically, I hereby certify the following:

1. The Contractor has determined that the subcontractor is qualified. A statement of qualifications for the subcontractor is maintained. It does include a statement of compliance with all licenses, certifications and permits, if applicable. (Note: For laboratories, this can be determined at: http://www.wadsworth.org/labservices.htm).

2. The Contractor has determined the costs are reasonable. A procurement record supporting the determination is maintained.

3. The Contractor performed a Conflict of Interest (COI) check, if applicable, and documented it in writing. (Refer to Appendix B, clause III (e) for applicability. (Note that for standby subcontractors, the COI certification must be submitted to the project manager upon activation.)

4. For subcontracts in excess (or anticipated to be) of $10,000 the subcontractor submitted an acceptable New York State Uniform Contracting Questionnaire. For subconsultants in excess (or anticipated to be) of $10,000 the subconsultant submitted an acceptable New York State Vendor Responsibility Questionnaire. (Information related to vendor responsibility can be found at http://www.osc.state.ny.us/agencies/gbull/g221.htm.)

5. The subcontract includes pass down requirements from Appendix B of the prime contract related to Minority and Women Business Enterprises/WBE and Conflict of Interest (COI).

6. The Subcontract includes the termination clause required in the prime contract.

7. The subcontract does not include "pay if paid" type clauses which are unenforceable in New York State.

8. Insurance carriers associated with the subcontract are licensed to do business in New York State. The State of New York and the Department of Environmental Conservation are named as additional insurers on the policies. Insurance limits meet prime contract requirements. (Note that licensed insurance can be determined at: http://www.ins.state.ny.us and Best's Rating can be determined at http://www.ambest.com). Pollution liability insurance (for example, drilling subcontractors) and professional liability insurance (for example, subcontracts for professional services and laboratories) is included as appropriate.

9. Documentation supporting this certification is maintained and will be provided within 10 days of any request.

Jessica R Beattie — 2/27/08

Signature of Contractor's Authorized Representative — Date

CDM — D004437-24

Contractor Name — Contract No. WA No.

Zebra Environmental Corp.

Subcontractor Name — 3/2/07

New York State
Department of Environmental Conservation
Division of Environmental Remediation

Subcontract Certification

On behalf of the Contractor named below, I hereby certify that the subcontract named below was procured in accordance with the terms of the prime contract and all applicable requirements of the State of New York. I also hereby certify that the executed subcontract includes all appropriate language and all required documents were completed appropriately and were acceptable. Specifically, I hereby certify the following:

1. The Contractor has determined that the subcontractor is qualified. A statement of qualifications for the subcontractor is maintained. It does include a statement of compliance with all licenses, certifications and permits, if applicable. (Note: For laboratories, this can be determined at: http://www.wadsworth.org/labservices.htm).

2. The Contractor has determined the costs are reasonable. A procurement record supporting the determination is maintained.

3. The Contractor performed a Conflict of Interest (COI) check, if applicable, and documented it in writing. (Refer to Appendix B, clause III (e) for applicability. (Note that for standby subcontractors, the COI certification must be submitted to the project manager upon activation.)

4. For subcontracts in excess (or anticipated to be) of $10,000 the subcontractor submitted an acceptable New York State Uniform Contracting Questionnaire. For subconsultants in excess (or anticipated to be) of $10,000 the subconsultant submitted an acceptable New York State Vendor Responsibility Questionnaire. (Information related to vendor responsibility can be found at http://www.osc.state.ny.us/agencies/gbull/g221.htm.)

5. The subcontract includes pass down requirements from Appendix B of the prime contract related to Minority and Women Business Enterprises/WBE and Conflict of Interest (COI).

6. The Subcontract includes the termination clause required in the prime contract.

7. The subcontract does not include "pay if paid" type clauses which are unenforceable in New York State.

8. Insurance carriers associated with the subcontract are licensed to do business in New York State. The State of New York and the Department of Environmental Conservation are named as additional insurers on the policies. Insurance limits meet prime contract requirements. (Note that licensed insurance can be determined at: http://www.ins.state.ny.us and Best's Rating can be determined at http://www.ambest.com). Pollution liability insurance (for example, drilling subcontractors) and professional liability insurance (for example, subcontracts for professional services and laboratories) is included as appropriate.

9. Documentation supporting this certification is maintained and will be provided within 10 days of any request.

Jessica Beattie — 2/27/08

Signature of Contractor's Authorized Representative — Date

CDM — D004437-24

Contractor Name — Contract No. WA No.

RADAR Solutions INTERNATIONAL

Subcontractor Name

3/2/07

CDM

Subcontractor Conflict of Interest Certification

The undersigned, representing Radar Solutions International hereby certifies for the Jakobson Shipyard Site No. 1-30-055:

1) That I have been informed by the Camp Dresser & McKee who the known potentially responsible parties are for the subject site, and

2) That to the best of my knowledge, Radar Solutions International and the employees of the firm to be assigned to this project have no conflict of interest with the work proposed at this site, and

3) That presently Radar Solutions International has no contracts with, nor imminent prospects of contracts with, potentially responsible parties associated with the above-named site, and

4) That Radar Solutions International has no responsibilities to potentially responsible parties associated with the above-named site.

Certified By:

Signature of Subcontractor

Radar Solutions International

Subcontracting Firm

2/27/08

Date

New York State
Department of Environmental Conservation
Division of Environmental Remediation

Subcontract Certification

On behalf of the Contractor named below, I hereby certify that the subcontract named below was procured in accordance with the terms of the prime contract and all applicable requirements of the State of New York. I also hereby certify that the executed subcontract includes all appropriate language and all required documents were completed appropriately and were acceptable. Specifically, I hereby certify the following:

1. The Contractor has determined that the subcontractor is qualified. A statement of qualifications for the subcontractor is maintained. It does include a statement of compliance with all licenses, certifications and permits, if applicable. (Note: For laboratories, this can be determined at: http://www.wadsworth.org/labservices.htm).

2. The Contractor has determined the costs are reasonable. A procurement record supporting the determination is maintained.

3. The Contractor performed a Conflict of Interest (COI) check, if applicable, and documented it in writing. (Refer to Appendix B, clause III (e) for applicability. (Note that for standby subcontractors, the COI certification must be submitted to the project manager upon activation.)

4. For subcontracts in excess (or anticipated to be) of $10,000 the subcontractor submitted an acceptable New York State Uniform Contracting Questionnaire. For subconsultants in excess (or anticipated to be) of $10,000 the subconsultant submitted an acceptable New York State Vendor Responsibility Questionnaire. (Information related to vendor responsibility can be found at http://www.osc.state.ny.us/agencies/gbull/g221.htm.)

5. The subcontract includes pass down requirements from Appendix B of the prime contract related to Minority and Women Business Enterprises/WBE and Conflict of Interest (COI).

6. The Subcontract includes the termination clause required in the prime contract.

7. The subcontract does not include "pay if paid" type clauses which are unenforceable in New York State.

8. Insurance carriers associated with the subcontract are licensed to do business in New York State. The State of New York and the Department of Environmental Conservation are named as additional insurers on the policies. Insurance limits meet prime contract requirements. (Note that licensed insurance can be determined at: http://www.ins.state.ny.us and Best's Rating can be determined at http://www.ambest.com). Pollution liability insurance (for example, drilling subcontractors) and professional liability insurance (for example, subcontracts for professional services and laboratories) is included as appropriate.

9. Documentation supporting this certification is maintained and will be provided within 10 days of any request.

Jessica R Beattie — 1/22/08

Signature of Contractor's Authorized Representative — Date

CDM — D004437-24

Contractor Name — Contract No. WA No.

Kenneth Shider

Subcontractor Name

3/2/07

CDM

Subcontractor Conflict of Interest Certification

The undersigned, Kenneth Shider, hereby certifies for the Jakobson Shipyard Site No. 1-30-055:

1) That I have been informed by the Camp Dresser & McKee who the known potentially responsible parties are for the subject site, and

2) That to the best of my knowledge, I have no conflict of interest with the work proposed at this site, and

3) That presently I have no contracts with, nor imminent prospects of contracts with, potentially responsible parties associated with the above-named site, and

4) That I have no responsibilities to potentially responsible parties associated with the above-named site.

Certified By:

Kenneth Shider

Signature of Subcontractor

Ken Shider Consulting

Subcontracting Firm

1/25/08

Date