North Shore University Hospital

Preliminary Site Assessment Work Plan

100 – 150 Community Drive
Great Neck, NY

September, 2007

Environmental Resources Management
520 Broad Hollow Road
Melville, New York 11747

PRELIMINARY SITE ASSESSMENT WORK PLAN

100-150 Community Drive
Great Neck, NY

September, 2007

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Prepared for:

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1.0 INTRODUCTION

Environmental Resources Management (ERM) is pleased to submit this Preliminary Site Assessment (PSA) Work Plan (WP) for the 100 -150 Community Drive site located in the Village of Great Neck, Nassau County, New York ("Site"). This WP has been prepared in accordance with the:

- specifications set forth in the New York State Department of Environmental Conservation (NYSDEC) Order on Consent, Index #: D1-0500-06-12.

Task 1 of the Order on Consent is the preparation of this PSA WP, Quality Assurance Project Plan (QAPP) and Health and Safety Plan (HASP), which defines all necessary operating parameters, procedures and protocols for performance of the PSA in one, comprehensive document. It is intended to:

- Identify the overall objectives of the PSA;
- Identify and describe both the technical approach and Scope of Work of the PSA;
- Define procedures and protocols for sampling and analysis, quality assurance (QA)/quality control (QC), and health and safety that will be used to implement field operations associated with the PSA;
- Establish data management and presentation guidelines;
- Establish progress and final reporting guidelines;
- Present the overall anticipated project schedule; and
- Identify key project team members and their corresponding responsibilities and management/QA/QC roles on the project;

This document is intended to be followed by all personnel working on the PSA to ensure the generation of reliable data and measurement activities such that the resultant data and evaluations are scientifically valid, defensible, comparable, and of known precision and accuracy.

1.1 PURPOSE AND OBJECTIVES

This report evaluates pre-existing environmental information from investigations conducted on and in the vicinity of the Site. ERM has relied on the pre-existing information and its understanding of the local

hydrogeologic regime and fate and transport of volatile organic compounds (VOCs) in the environment to assess the environmental media beneath the Site.

Further, this report summarizes the results of additional testing performed by ERM on behalf of the owner of the Site. ERM initiated additional testing to further evaluate the impacts to the Site. Also, ERM participated in a sampling event performed at the Site by representatives of the NYSDEC. The pre-existing environmental information, together with the recent testing performed by ERM, establishes the basis for ERM's recommendation.

1.1.1 Purpose and Objectives

A Preliminary Site Assessment (PSA) of 100- 150 Community Drive will be carried out. The PSA is designed to determine the extent of Freon 22 impacted groundwater beneath and in the vicinity of the Site, and to identify and investigate, if possible, other facilities with past operations and/or disposal practices within the expanded plume area that may have contributed to the contamination.

1.1.2 Site Setting

The Site is located in the Village of Great Neck in Nassau County, New York. Land usage in this portion of Great Neck includes both commercial and residential properties. The commercial properties in the study area are primarily located along Community Drive and Route 25A. There is a small residential community located directly north of the property on Pond Hill Road. See Figure 1-1 for Study Area Location.

The study area is approximately bounded by Community Drive to the east, Route 25A to the north, Allen Drive to the west, and Fresh Meadow Country Club to the south. Nassau County identifies the property as Section 2, Block 358, Lot 49.

1.1.3 Site History

In the past chlorodifluoromethane (Freon 22), has been used as a refrigerant in air conditioning systems using groundwater as a heat exchange medium. In these systems, groundwater is pumped from a supply well, through a chiller containing Freons as a heat transfer media and then the groundwater is discharged back to the subsurface, generally through a diffusion well(s).

North Shore University Hospital (NSUH) is the current owner of the building at 100 - 150 Community Drive, Great Neck, New York (100 - 150 Community Drive) that, in the past, was air conditioning by a system that

rejected heat via a groundwater. Chillers, i.e., machines that removed heat via a vapor-compression were located on the first floor of the building, apparently contained Freon 22. The air condition system, at Community Drive was installed in the latter part of the 1960s (1967 based on the first supply well construction log). A 1993 Prepurchase Engineering Survey, prepared for the hospital[1], indicated that air conditioning system contained two chillers, one of which was inoperative at the time of the inspection. The other chiller was no longer connected to the groundwater extraction system and instead exchanged heat via an evaporative condensing system.

The air conditioning system at 100-150 Community Drive initially consisted of a supply well completed in the Magothy Aquifer (N-8255) and a diffusion well completed in the Lloyd Aquifer (N-8375D). A new supply well (N-8456), completed in the Lloyd Aquifer, was constructed in 1969 to replace N-8255, reportedly because the differences in natural groundwater chemistry between the groundwater pumped from the Magothy and discharged into the Lloyd Aquifer was causing metal precipitation (iron), which was fouling the discharge well screen.

Freon 22 has been detected in groundwater samples collected in northwestern Nassau County in a study being conducted by Lockheed Martin Corporation (LMC). The Manhasset-Lakeville Water District (MLWD) has also detected Freon 22 in public supply well N-12802 located on Community Drive near the 100 - 150 Community Drive building.

In 2005, the New York State Department of Environmental Conservation (NYSDEC) requested that NSUH perform a Freon investigation to evaluate whether or not the former air conditioning system at 100-150 Community Drive may have contributed to the Freon 22 contamination observed in well N-12802. NS-LIJ retained Environmental Resources Management (ERM) to provide environmental consulting services and to carry out the study.

In August 2005, ERM issued a Freon Investigation Report on behalf of NSUH. The investigation revealed no Freon 22 contaminant in the former Magothy Supply (N-8255) at the 100 - 150 Community Drive. However, groundwater samples collected from N-8456 (Lloyd replacement supply well) and N-8375D (diffusion well) at 100 - 150 Community Drive contained Freon 22 at concentrations of 19 ppb (April 2005), and 14 ppb and 18 ppb (June 2005 [split samples]); and 63 ppb (April) and 50 ppb and 60 ppb (June [split samples]), respectively. The Freon 22 concentrations are in excess of the 5 microgram per liter (µg/L [ppb]) Class GA POC

[1] North Shore Community Services (NSCS) purchased the building in 1996 (the building was transferred from NSCS, a corporation under common ownership with North Shore Health Systems [NSHS], to NSHS in April 2005.

standard. No other contaminants were detected in these wells. Sampling results are provided in Table 1-1 and the raw chemical data are provided in Attachment 1.

NYSDEC requested that LMC carry out a groundwater modeling study of the Lloyd Aquifer to attempt to determine if the Freon 22 contamination observed in the Lloyd Aquifer beneath 100 - 150 Community Drive could be a source of the Freon 22 detected in MLWD well N-12802. The modeling study was performed by Camp Dresser McKee (CDM) on behalf of LMC.

Two groundwater modeling simulations were performed: groundwater flow and past transport of Freon 22. The simulations were done using the Nassau County regional groundwater model (2003 Update Version). CDM revised the model "to include more grid detail near N-12802 and the wells at 100 – 150 Community Drive to better represent horizontal and vertical groundwater flow patterns near the wells". Also, the revised model included updated regional pumping assignments and revised groundwater recharge rates in Queens based on recent United States Geological Survey (USGS) modeling.[2] Freon 22 transport was modeled using a range of **assumed** (emphasis added) timing and duration of Freon 22 releases at 100 – 150 Community Drive and Freon 22 mass loading rates at 100 – 150 Community Drive were also **assigned** (emphasis added) so that the magnitude of simulated concentrations at supply well N-12802 was consistent with observed concentrations.

Two transport scenarios were evaluated by CDM, the first involving a continuous release of Freon 22 at 100 – 150 Community Drive from 1968 to 1974 and the second of a short duration release for one day in 1968. Pumpage at 100 – 150 Community Drive was assumed to be 100 gallons per minute (gpm) in both scenarios. CDM concluded that "the simulation results indicate that diffusion well N-8375D could have been a source of the Freon 22 observed in MLWD well N-12802 in 2002-2004. For assumed release durations ranging from 1 day to 12 years and assumed release timing ranging from 1968 to 1980, mass released at N-8375D migrated to N-12802.[2]"

ERM reviewed and commented on the CDM Modeling Study. ERM found that:

- the extraction/discharge rate of 100 gpm at 100-150 Community Drive, assumed by CDM in both scenarios, appears to be too low based on the pump specifications of the submersible pump

[2] CDM Draft Memorandum to Girish Desai (NYSDEC) from Kris Masterson, Bob Fitzgerald (CDM). December 2005

removed from the Lloyd supply well (N-8456), which indicate that the pump is capable of pumping at a rate of 500 gpm;
- leakage of the air conditioning chillers immediately after installation seems unlikely; and
- selection of arbitrary date on which the long term leakage stopped or the chillers were taken out of service is unsupported and undocumented.

1.1.4 Site Hydrogeology

The upper surface of the Lloyd aquifer ranges in depth from 100 feet below land surface on the north shore to more than 1,500 feet on the south shore. Aquifer thickness increases southward from 50 feet to about 500 feet. Transmissivity ranges from 1,500 to 19,000 feet squared per day. All recharge (35 to 40 million gallons per day) and nearly all discharge is through the overlying confining unit (Raritan Clay). The potentiometric-surface configuration of the Lloyd aquifer at any given time is dependent upon the balance between recharge, discharge, and pumping (both in the Lloyd itself and the overlying Magothy aquifer). In the western third of the Island (where the Site is located), heavy pumpage from the Lloyd and overlying aquifers has created localized depressions in the potentimetric suface (USGS; 1986).

The December 2005 CDM report titled "Lloyd Aquifer Groundwater Flow and Freon 22 Transport Analysis" uses historic fluid level data collected from various sources to simulate flow direction in the Lloyd aquifer in this region of Nassau County. The report states " flow direction in the Lloyd Aquifer in this region of Long Island is quite variable over time due to changes in pumping at production wells in the area. When either well N-1618 or N-12802 was pumping, a southerly flow direction from 100 - 150 Community Drive towards these wells was simulated. This was especially the case in the mid to late 1980s when the pumping from N-1618 was the greatest. When neither well was pumping, the simulated Lloyd flow direction was typically westerly to northerly in the vicinity of the 100 – 150 Community Drive Property".

2.0 SCOPE OF WORK

The PSA Scope of Work, presented herein, is based on the tasks initially identified in the Order on Consent. These tasks are identified and described in detail below.

2.1 PRELIMINARY SITE ASSESSMENT

The Scope of Work contemplated by the Order on Consent involves an investigation that includes:

Data and Records Search: Available historic information (documents, maps, aerial photos, building permits, reports, etc.) shall be located and reviewed. The consultant will also review all existing data. Potential sources and areas of contamination will be identified.

Groundwater Modeling: ERM will have CDM perform additional modeling runs to evaluate different release scenarios and to predict current concentrations to optimally locate where groundwater monitoring wells are to be installed.

Property Ownership: ERM will establish access agreements with the owners of all off-Site properties where monitoring wells are to be installed.

Well Rehabilitation: The two Lloyd wells present on-Site (N-8456 and N-8375D) will be rehabilitated for future use as monitoring wells. Both wells will be redeveloped to try to clean out sediments that have accumulated over the years, and a televiewer will be lowered down to inspect the condition of the screens. If the screens have collapsed or are in poor condition new screens will be placed in the wells.

Groundwater Monitoring Wells: Groundwater monitoring wells may be installed. Monitoring well locations and screen zone settings will be selected based upon the results of the August 2005 Freon Investigation and new modeling runs to be completed as part of the PSA.

Monitoring Well Maintenance: Yearly inspections of the three new monitoring wells and the two existing on-Site wells (N-8456 and N-8375D) will be conducted and any needed maintenance will be performed.

Groundwater Sampling: Groundwater samples will be collected from each of the newly installed wells and two existing Lloyd wells (N-8456 and N-8375D). Groundwater samples will be analyzed for VOCs including Freon

11, Freon 12, Freon 21, Freon 22, Freon 113, Freon 123a and Total Freon by Contract Laboratory Program (CLP) Method OLC03.2.

Water Level Logging: In an attempt to gain a better understanding of the hydrology in the area and the effects of the surrounding supply wells on the regional groundwater flow, data loggers will be placed in each of the Lloyd wells to collect fluid level measurements for a period of 4 weeks. The data will then be downloaded and compared to the supply well pumping records.

Survey: At the completion of field sampling activities a New York State licensed surveyor will establish the location and elevation of each newly installed monitoring well. Elevations of all well casings and ground surface and their corresponding latitude and longitude coordinates will be determined to within 0.01 feet, based on USGS datum.

Data Usability Summary Report(DUSR): All groundwater analytical data will be evaluated to determine whether the data, meets the site/project specific data quality objectives and data use as specified in the Draft DER10 Technical Guidance.

Report: Upon completion of the PSA site investigation, a report will be generated. The report will include a summary of the analytical data, evaluation of the data and recommendations for additional investigative activities necessary to fill existing data gaps.

The core field investigative activities of the PSA are discussed in Subtasks 2A through 2M below, which comprise the Detailed Field Activities Plan (FAP). To streamline the FAP, and ensure that the field activities are executed in consistent and safe manner, the FAP is supported by the following documents:

- Appendix A: Standard Operating Procedures (SOP);
- Appendix B: Quality Assurance Project Plan (QAPP); and
- Appendix C: Site Specific Health and Safety Plan (HASP).

Strict adherence to the SOPs, the QAPP and HASP will ensure the generation of reliable data and measurement activities such that resultant data and evaluations of the same are scientifically valid, defensible, comparable and of known precision and accuracy.

2.1.1 Subtask 2A: Historic Records Search

Available historic and contemporary information (documents, topographic and tax maps, aerial photos, building permits, reports, etc.) shall be located and reviewed. Information sources may include NYSDEC's Region 1 and Central Office (Albany) files, the Town of Great

Neck, and Nassau County Health Department (NCHD) files. Additional potential sources and areas of contamination will be identified, if possible. Wells, screened in the Lloyd aquifer within a one-mile radius of 100-150 Community Drive are shown on figure 2-1. Available water quality data for these wells are presented in Table 2-1.

2.1.2 Subtask 2B: Groundwater Modeling

As indicated in Section 1.1.3 (above) ERM raised some concerns regarding the groundwater modeling carried out by CDM[3] and requested CDM perform additional modeling runs to:

- evaluate different release scenarios at 100 – 150 Community Drive;
- evaluate if a release of Freon 22 from a source on Route 25A (Northern Boulevard) could be a source of Freon 22 to MLWD well N-12802; and
- predict current Freon 22 concentrations in the Lloyd aquifer to optimally locate the proposed groundwater monitoring well.

Specifically, ERM will arrange for CDM to carry additional modeling runs to:

- simulate Freon transport with extraction/discharge rates at 100-150 Community Drive set at 300 and 460 gpm to evaluate the Lloyd Freon 22 transport for the same period evaluated in the December 16 2005 Modeling Report where pumping at 100-150 Community Drive was set at 100 gpm;
- evaluate a one-time catastrophic release in the latter years of operation of the extraction/discharge system, i.e., between 1978 and 1987; and
- use the model to predict current Freon 22 concentrations in the Lloyd Aquifer in the vicinity of 100-150 Community Drive so that proposed monitoring well may be optimally located.

In ERM 's 2006 February modeling comment letter to the NYSDEC, ERM suggested that the model also be used to evaluate remedial scenarios. Modeling runs to evaluate clean-up strategies can only be conducted if the residual concentrations of Freon 22 beneath the Site are determined/confirmed by installation of monitoring wells.

2.1.3 Subtask 2C: Underground Utility Markouts

ERM's Health and Safety policy requires that underground utility markouts be performed at the areas to be investigated prior to finalization

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[3] ***ERM 6 February 2006 letter to Girish Desai (NYSDEC) regarding Lloyd Aquifer Groundwater Flow and Freon-22 Transport Analysis, December 16, 2005***

of sampling locations, and/or any intrusive field investigation is undertaken. As part of this survey, the Underground Utilities Protection Organization (UFPO) will be contacted as required by law. Any information identified by utility mark outs that suggests the location of underground utility lines will be considered in design of the field-sampling program. Drilling will only be performed at a safe distance from all utilities. If subsurface lines and other utilities are identified during the proposed utility markouts, they will be surveyed for inclusion on the site topographic base map, if deemed appropriate.

2.1.4 Subtask 2D: Site Access

ERM anticipates installing the three proposed wells off-Site on adjacent properties. ERM will contact/establish access agreements with the owners of all off-Site properties where monitoring wells are to be installed. All drilling equipment will be staged on-Site.

ERM will finalize access arrangements with property owners once the schedule for the field investigation is confirmed following issuance of a Notice-To-Proceed by NYSDEC.

2.1.5 Subtask 2E: Well Rehabilitation

The two existing Lloyd wells present on-Site (N-8456 and N-8375D) will be rehabilitated. Presently these wells contain a large amount of suspended solids and may have several feet of sediments at their bottoms. The sounded depths of these wells do not agree with well construction data obtained from the NYSDEC. Both wells will be redeveloped in an attempt to remove sediments and lower the turbidity enough that a down hole televiewer can record the condition of the well screen. At this point a determination will be made whether or not the screens need replacement.

2.1.6 Subtask 2F: Monitoring Well Installation

Three new groundwater monitoring wells will be installed in the Study Area (see Figure 2-2 for proposed monitoring well locations). These locations will be confirmed by the additional modeling that will be carried out in Subtask 2B. The screen zones of the new wells will be set in the Lloyd aquifer at a depth of approximately 600' below ground surface (bgs). A dual casing method will be utilized in the construction of the wells to prevent the migration of groundwater between the Magothy Aquifer and the Lloyd Aquifer. An ten-inch carbon steel casing will be drilled and grouted 20 feet into the confining unit above the Lloyd aquifer (Raritan Clay). Once the grout has cured, water from inside the eight- inch casing will be evacuated and drilling will commence to the desired completion depth. A four- inch diameter stainless steel riser pipe and a

ten-foot, four- inch diameter 0.010 slot stainless steel screen will be used in the construction of the monitoring wells. Well construction details are presented in 2-3.

At the completion of monitoring well installations, each well will be developed following the protocols presented in Appendix A.

The applicable standard operating procedures that will be employed during this activity are summarized below and presented in Appendix A.

Section	Standard Operating Procedure
A.1	SOP 1 Water Level Measurement Procedure
A.2	SOP 2 Monitoring Well Construction
A.3	SOP 3 Monitoring Well Development
A.5	SOP 5 Groundwater pH And Temperature
A.6	SOP 6 Measurement Of Groundwater Specific Conductance
A.7	SOP 7 Measurement Of Groundwater Turbidity
A.8	SOP 8 Measurement Of Groundwater Dissolved Oxygen
A.9	SOP 9 Equipment Decontamination

2.1.7 Subtask 2G: Monitoring Well Maintenance

To ensure the construction and integrity of the newly installed monitoring wells and to ensure that run-off is not entering the Lloyd aquifer, the three new monitoring wells and the two existing on-Site wells (N-8456 and N-8375D), will be inspected yearly. Any needed maintenance will be identified and performed. Tasks that will be performed during the inspections are as follows:

- Inspection of curb box for cracks or other structural defects;
- Inspection and cleaning of well lid gaskets;
- Inspection of well lid bolts and seals around bolts;
- Inspection of curb box interior for signs of water infiltration;
- Inspection of riser cap and lock; and
- Sounding of wells to verify debris has not accumulated in the wells and the well screens are in good condition.

2.1.8 Subtask 2H: Groundwater Sampling

Approximately two weeks following well development activities, groundwater samples will be collected from each of the newly installed wells, and from the existing Lloyd wells (N-8456 and N-8375D). Each groundwater sample will be analyzed for TCL VOCs including Freon 11, Freon 12, Freon 21, Freon 22, Freon 113, Freon 123a and Total Freon using USEPA SW-846 Method 8260. The laboratory will be responsible for achieving a detection limit of 0.5 ppb. Tentatively identified compounds (the ten highest concentration) will be reported.

It is anticipated that USEPA low-flow well sampling techniques will be utilized. Well purging will continue until the turbidity of the recovered well water is less than 50 Nephelometric Turbidity Units (NTUs), and the pH, conductivity and temperature measurements of the purge water have stabilized within 10% for a minimum of three consecutive measurements.

Section	Standard Operating Procedure
A.1	SOP 1 Water Level Measurement Procedure
A.4	SOP 4 Groundwater Sampling
A.5	SOP 5 Groundwater pH And Temperature
A.6	SOP 6 Measurement Of Groundwater Specific Conductance
A.7	SOP 7 Measurement Of Groundwater Turbidity
A.8	SOP 8 Measurement Of Groundwater Dissolved Oxygen
A.9	SOP 9 Equipment Decontamination

The applicable standard operating procedures that will be employed during this activity are summarized below and presented in Appendix A.

2.1.9 Subtask 2I: Water Level Logging

In an attempt to gain a better understanding of the hydrology in the area and the effects of the surrounding supply wells on the regional groundwater flow, data loggers will be placed in each of the Lloyd wells to collect fluid level measurements for a period of four weeks. The data will then be downloaded and compared to the surrounding supply well pumping records to determine groundwater flow direction and relative impact of nearby pumping centers.

2.1.10 Subtask 2J: Site Survey

At the conclusion of PSA field activities, a New York State-licensed surveyor will survey the Study Area to locate all monitoring wells. The elevations of all monitoring well casings will be established to within +/- 0.01 feet based on the NGVD 86 datum. A notch will be placed in all interior casings to provide the reference point from which to collect future groundwater elevation measurements.

All surveyor collected latitude, longitude and elevation data will be provided to ERM in an ASCII file and imported in to GISKEY database format.

2.1.11 Subtask 2K: Management of Investigative Derived Wastes

The following section describes the general protocol for handling and disposal of solid and liquid investigative derived waste (IDW) generated during the implementation of the RI. Waste generated during the investigation is expected to consist of trash (boxes, paper, etc.), auger

cuttings, decontamination wash water, groundwater monitoring well purge water, and used protective clothing.

The following guidance documents and regulations may be relied upon to guide the management, staging, storage and disposal of RI-generated IDW:

- NYSDEC's TAGM #4032 on " Disposal of Drill Cuttings" {November 21, 1989};
- NYSDEC's RCRA TAGM #3028 on " Contained-In Criteria for Environmental Media" {November 30, 1992};
- 40 C. F. R. Part 262 (Standards Applicable to Generators of Hazardous Waste);
- 40 C. F. R. Part 263 (Standards Applicable to Transporters of Hazardous Waste;
- 40 C. F. R. Part 264 (Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities); and
- 40 C. F. R. Part 268 (Land Disposal Restrictions).

Accordingly, handling and disposal will be as follows:

- Cuttings from monitoring well installations will be collected on plastic sheeting and stored in roll-off containers.
- Liquids generated from equipment decontamination, groundwater monitoring well development/purging will be collected in drums at the point of generation. The collected water will be transported and stored in a FRAC tank that will be staged on-Site. The water will be sampled and disposed of accordingly.
- Used protective clothing and equipment that is suspected to be contaminated with hazardous waste will be placed in plastic bags, and packed in 55-gallon ring-top drums.
- All drums will be labeled according to the borehole/well number. The drilling subcontractor shall move the drums on a daily basis at the direction of ERM's Hydrogeologist to the staging area.
- ERM will procure waste transport and disposal subcontractor services to properly dispose of all IDW in accordance with all local, State and Federal regulations.
- Non-contaminated trash, debris and protective clothing will be placed in a trash dumpster and disposed of by a local garbage hauler.

2.1.12 Subtask 2L: Analytical Data Quality Evaluation

Data quality objectives and analytical requirements are detailed in the QAPP (Appendix B). All laboratory data will be reviewed, validated and qualified as necessary to assess data usability by direct comparison to the specified data quality objectives and/or procedures set forth in the QAPP. ERM's QA/QC Officer will carry out formal data analysis as specified in the QAPPs. Data Validation Reports will be submitted to the NYSDEC along "Category B Deliverables" for all laboratory analytical work.

2.1.13 Subtask 2M: Report

Upon completion of the PSA, a report will be generated. The report will include a summary of the work performed on-Site, the analytical data collected during the sampling events, evaluation of the data and conclusions and recommendations for additional investigative activities necessary to fill existing data gaps.

3.0 MONTHLY PROGRESS REPORTING

ERM will submit Monthly Progress Reports (MPRs) to NYSDEC on, or before the 20th of each month following NYSDEC issuance of Notice-To-Proceed. Each MPR will address the following topics:

- Accomplishments during the reporting period.
- Problems encountered during the reporting period.
- Compliance with project schedule and budget.
- Projected changes in Scope of Work.

All raw and validated data shall be forwarded to the NYSDEC as soon as it becomes available. All reports and correspondence will be provided in Adobe Acrobat format in addition to providing paper copies. All drawings and tables will be submitted in AutoCAD LT 2000 and Microsoft formats, respectively.

4.0 DETAILED WORK ASSIGNMENT SCHEDULE

The 100 - 150 Community Drive Freon 22 PSA Implementation Schedule, including milestones and deliverables for the PSA is presented in Figure 4-1.

The timeline outlined in the attached schedule begins upon the NYSDEC's issuance of a notice to proceed. ERM will endeavor to adhere to the schedule at all times, but there are several critical path items related to execution of the PSA fieldwork (i.e. drilling site access and logistical issues) and several cycles of draft/final document review by NYSDEC. As such, it may be necessary to modify and revise the schedule as the PSA progresses because of:

- Potential new requirements or activities that may be requested by the NYSDEC;
- Force majeure;
- Severe weather conditions preventing timely completion of scheduled field activities; or
- Other matters beyond ERM's or the NYSDEC's reasonable anticipation and control.

5.0 PROJECT STAFFING PLAN

Staffing for the 100 - 150 Community Drive Preliminary Site Assessment will be from ERM's Melville New York, and New York City Offices.

While all personnel involved in an investigation and in the generation of data are implicitly a part of the overall project management and QA program, certain members of the Project Team have specifically designated responsibilities. Project Team members with specific management and QA roles in the PSA are the NYSDEC Project Manager (NYSDEC PM), the ERM Project Director (PD), the ERM Project Manager (PM), the ERM Field Team Leader (FTL) and the ERM QA/QC Officer. In the following sections, the roles and responsibilities of key personnel are identified. Professional profiles of key staff members are presented in Appendix D.

5.1 ERM PROJECT DIRECTOR

The ERM PD, Dr. Gregory Shkuda, Ph. D., will report to the RPM. Dr. Shkuda will oversee the ERM PM, and be responsible for all technical aspects of the project including the overall quality of the project and project deliverables for ERM. Dr. Shkuda has extensive experience with the management and coordination of multi-disciplinary RI/FS and remedial projects in New York State. Dr. Shkuda will report to the ERM Principal-in-Charge – Ernest Rossano.

5.2 ERM PROJECT MANAGER

The ERM PM, Mr. Eugene Gabay, will report to the ERM PD and the RPM. Mr. Gabay will oversee the ERM QA/QC Officer and the ERM FTL, field investigation staff, and any subcontractors. Mr. Gabay will also be responsible for all technical aspects of the project for ERM. This includes scheduling, communicating to the RPM and the ERM PD, technical development and review of all field activities, subcontracting, and the overall quality of the project and project deliverables for ERM. Mr. Gabay will be the primary contact between ERM and NYSDEC, as directed by the RPM. Mr. Gabay has extensive experience in the management and coordination of multi-disciplinary RI/FS and remedial projects in New York State.

5.3 ERM QA/QC OFFICER

The QA/QC Officer, Mr. Andrew Coenen, will report to the ERM PM and the ERM PD. Mr. Coenen will be responsible for interface with the analytical laboratory, and will prepare the Data Usability Report that ERM will prepare as part of this WA. Mr. Coenen will have overall responsibility for QA/QC review of all analytical data generated during the field investigation, data validation and qualification of analytical results in terms of data usability. Mr. Coenen has extensive analytical laboratory experience and experience in the validation of analytical data and the protocols and QC specifications of the analytical methods listed in the NYSDEC ASP and the data validation guidance, USEPA Contract Laboratory Program National Functional Guidelines for Organic Data review (February 1994) and USEPA Region II CLP Data Review SOP.

5.4 ERM FIELD TEAM LEADER

The FTL, Mr. Michael Mattern will report to the ERM PM and the ERM PD. Mr. Mattern will be responsible for the day-to-day management and coordination of ERM field staff and subcontractors. Mr. Mattern will be responsible for the implementation and quality of the field activities. Mr. Mattern has extensive environmental field investigation/subcontractor oversight experience in New York State.

5.5 PROJECT HEALTH AND SAFETY COORDINATOR

Mr. Ernie Rossano, will be the Project Health and Safety Coordinator. Mr. Rossano will report to the ERM PM and the ERM PD. Mr. Rossano has extensive experience as a Project Health and Safety Coordinator for multi-disciplinary RI/FS and remedial projects in New York State. Mr. Rossano experience includes the preparation and implementation of site-specific health and safety plans, field oversight, and field health and safety audits.

6.0 CITIZEN PARTICIPATION

A Public Information Repository will be established at a local library. Initially, copies of the PSA Work Plan will be placed in the repository. As additional documents and/or reports become available, copies will also be placed in the repository. The library that will be used as the repository is:

Manhasset Public Library
30 Onderdonk Avenue
Manhasset, New York 11030
516.627.2300

7.0 REFERENCES

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