

NYSDEC

1996 CLEAN WATER/CLEAN AIR BOND ACT
ENVIRONMENTAL RESTORATION PROJECTS
TITLE 5

REMEDIAL WORK PLAN

FREDERICK PROPERTY ENVIRONMENTAL RESTORATION PROJECT
147 STATE STREET

NYSDEC SITE B00131-8

MANCHESTER, NEW YORK

Submitted To:

NYS DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF ENVIRONMENTAL REMEDIATION
AND
NYS DEPARTMENT OF HEALTH

Submitted By:

VILLAGE OF MANCHESTER, NEW YORK

JANUARY 2005

REVISED JULY 2005

VILLAGE OF MANCHESTER, NEW YORK

REMEDIAL WORK PLAN

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1. SUMMARY OF THE SITE INVESTIGATION/ REMEDIAL ALTERNATIVES REPORT.

A Site Investigation/ Remedial Alternatives Report was submitted to NYSDEC Division of Environmental Restoration in September of 2003. An Addendum to the Report was provided on December 19, 2003. An Environmental Restoration Record of Decision presenting the selected remedy was prepared in March of 2004. The Record of Decision is attached as Appendix A.

The Assessment of the Site in the Record of Decision finds that actual or threatened releases of hazardous substances and/or petroleum products from the site if not addressed by implementing the remedial action recommended by the ROD, presents a current or potential significant threat to public health and/or the environment.

The selected remedy consists of the following components:

- Building Demolition, including removal of floor drainage system and subsurface hydraulic lift units, as well as evaluation of surrounding soil conditions.
- Removal of the dry well area behind the building and evaluation of surrounding/underlying soil conditions.
- Removal of contaminated soils to prevent further groundwater contamination.
- An operation, maintenance and monitoring program to track natural attenuation of contaminants in groundwater following source soil removal.
- Institutional controls to restrict groundwater usage and prevent vapor intrusion into any future buildings at the site.

A summary table of sampling results and standards, criteria and guidance values is found in Table 1 of the ROD.

2. PROJECT IMPLEMENTATION

2.1. GENERAL.

Implementation of the project will follow recommendations from the Site Investigation/ Remedial Alternatives Report, dated September 2003 and amended December 2003, and the Record of Decision issued by NYSDEC in March of 2004. Actions to be taken at the Frederick Property include dry well closure, contaminated soil removal, building demolition, removal of hydraulic lifts, soil characterization and groundwater monitoring.

Contract Documents (Appendix B) will be prepared for the dry well closure, contaminated soil removal, building demolition, removal of the hydraulic lifts and soil characterization. An outline of the Operation, Monitoring and Maintenance Plan (Appendix D) details continuing groundwater monitoring, site management requirements and institutional controls.

2.2. BUILDING DEMOLITION.

The existing building shall be demolished to access potentially contaminated soils associated with the hydraulic lifts and floor drainage system. The demolition debris will be removed to an approved landfill. Soil from the area of the hydraulic lifts and floor drainage system will be characterized by approved sampling and testing techniques and disposed of, if required.

2.3. DRY WELL CLOSURE.

There is a suspected dry well south of the former garage which will be closed. Existing sludge or waste water from the injection well (dry well) shall be pumped and disposed of by discharge to a waste water treatment facility. Large stone fill shall be removed and disposed of at an approved landfill. Piping from the building to the dry well shall be removed. All inlets to the system must be plugged.

Sampling shall be performed to characterize the surrounding soil and determine if the soil needs to be removed to an approved landfill. The number and location of confirmatory soil samples shall be in accordance with the requirements of Section 5.4. (A) 2 ii (2) of Draft DER 10, Technical Guidance for Site Investigation and Remediation, and are as follows:

2. PROJECT IMPLEMENTATION (continued)

2.3. DRY WELL CLOSURE. (continued)

- One sample from the bottom of each sidewall for every 30 linear feet of sidewall.
- One sample from the excavation bottom for every 900 square feet of bottom area.

Based on these guidelines and the anticipated size of the dry well excavation (i.e. no more than 30 feet by 30 feet), it is anticipated that four (4) sidewall samples and one (1) base sample will be required for the dry well excavation. Confirmatory soil samples from the dry well excavation shall be analyzed for TCL VOCs, SVOCs and PCBs with ASP Category B deliverables.

Sample locations have been shown on the Site Plan included in Appendix C - Soil Handling Plan.

2.4. DISPOSAL OF CONTAMINATED SOIL.

As identified in the SI/RA Report, contaminated soil around the site building and area adjacent to the former pump island will be removed. Soil removal will follow a Soil Handling Plan (Appendix C). Soil will be staged on polyethylene sheeting for screening by a qualified person with a calibrated photo ionization detector. The excavation will be backfilled with run of bank gravel. Staged soil will be sampled in accordance with the Soil Handling Plan and disposed of accordingly. A Remediation Report will be prepared summarizing site activities.

The number and location of samples is provided in Appendix C.

2.5. MANAGEMENT OF CONTAMINATED GROUNDWATER.

Based on the ROD, management of contaminated groundwater consists of a groundwater monitoring program to be carried out annually for a period of five (5) years. Groundwater monitoring will be part of the Operation, Monitoring and Maintenance Plan. Annual samples will be taken from the wells and analyzed in accordance with the plan and annual report prepared for NYSDEC.

Given historical groundwater elevations, the potential exists that handling and disposal of groundwater may be necessary.

If significant groundwater is encountered in excavations, a frac tank will be staged at the site. Groundwater encountered in excavations will then be pumped into the tank pending waste characterization and disposal, if necessary.

2. PROJECT IMPLEMENTATION (continued)

2.6. SITE MANAGEMENT.

Based on the ROD (Appendix A), a site management plan will be prepared at the conclusion of remedial work, and will include an evaluation of the potential for vapor intrusion for any buildings developed on site, including provisions for mitigation of any impact identified, and identify any use restrictions, such as groundwater.

2.7. INSTITUTIONAL CONTROLS.

Based on the ROD (Appendix A), institutional controls to be implemented upon completion of the remedy will take the form of an environmental easement that will require compliance with the approved Site Management Plan (SMP), restrict the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by NYSDOH, and will require the property owner to submit to NYSDEC an annual certification.

2.8. CONTRACT DOCUMENTS.

Contract Documents are included in Appendix B.

3. PROJECT SCHEDULE

The following schedule assumes the project will continue as currently envisioned:

- | | | |
|-----|------------------------------------------------------------------------------------|----------------------|
| 1. | Village of Manchester requests participation in ERP Remedial Program | June 16, 2004 |
| 2. | NYSDEC declares project eligible for funding | November 2004 |
| 3. | Department prepares SAC/SAC Amendment | December 22, 2004 |
| 5. | Village executes SAC/SAC Amendment | February 2005 |
| 6. | Department executes SAC/SAC Amendment | June 2005 |
| 7. | Prepare Remedial Work Plan and Contract Documents
(Concurrent with SAC process) | 6 months |
| 8. | Perform Work | July - October 2005 |
| 9. | Submit completion report | December 1, 2005 |
| 10. | Perform annual groundwater monitoring | December 2005 - 2010 |
| 11. | Certify site institutional and engineering controls | December 2005 - 2010 |

4. QUALITY ASSURANCE PROJECT PLAN

4.1. GENERAL.

The purpose of this Section is to present the quality assurance/quality control (QA/QC) procedures to be implemented during performance of the tasks outlined in the Remedial Work Plan. These procedures must provide data quality that is sufficient to meet the Remedial Work Plan objectives. The overall objective of the Remedial Work Plan is to further investigate areas of the site, remove contaminated soils and monitor groundwater to assess effectiveness of remediation. Based on this general objective, the following specific objectives have been established for the Remedial Work Plan:

1. Characterize nature and extent of chemical constituents in on-site soil, adjacent to the hydraulic lifts and dry well.
2. Provide information necessary to implement remedial measures to address the presence of chemical constituents in environmental media at the site.

4.2. DATA QUALITY OBJECTIVES.

Based on site history, the Remedial Work Plan activities covered under the Quality Assurance Project Plan include the following on-site field investigation activities:

1. Soil investigation related to the following:
 - Building demolition and hydraulic lift removal.
 - Dry well closure.
 - Contaminated soil removal.
2. Groundwater monitoring.

Preliminary Data Quality Objectives were identified to ensure that the data generated during field investigations will be of adequate quality and sufficient quantity to form a sound basis for decision making purposes relative to the above objectives. Data quality objectives have been specified for each data collection activity or investigation.

4. QUALITY ASSURANCE PROJECT PLAN (continued)

4.2. DATA QUALITY OBJECTIVES. (continued)

Data Quality Objectives Summary for each of the investigation efforts is presented below. The summary consists of Data Quality Objectives relative to the following items:

1. Data uses.
2. Data types.
3. Data quality.
4. Data quantity.
5. Sampling and analytical methods.
6. Data precision, accuracy, representativeness, completeness, comparability and sensitivity (PARCCS) parameters.

The analytical levels discussed in the following sections with regard to data quality are defined as follows:

Field Screening - This level is characterized by the use of field instruments that can provide real-time data to assist in choosing of samples for laboratory testing, record physical parameters such as pH and temperature, and for health and safety support. This data can be used in revising sampling plans and determining the extent or presence/absence of chemical constituents at a site.

Laboratory Analysis Using ASP Methods - This level involves the use of ASP protocols containing rigorous QA/QC, with Category B deliverables for data validation. ASP data are used for initial site characterization to obtain an overall assessment of the environmental impact on the site media. Analytical methods for future investigation will be based on an evaluation of this data. This data is the highest quality obtained during investigation.

Laboratory Analysis Using Methods Other Than ASP - This level involves the use of standard USEPA SW-846 approved methods. Some procedures are equivalent to ASP, containing the same rigorous QA/QC protocols as used in ASP analyses, but without the ASP requirements for documentation. Non-ASP data are used for additional site characterization, groundwater monitoring, and for confirmation of field screening data. This data is still usable and reliable since rigorous SW-846 protocols are adhered to.

4. QUALITY ASSURANCE PROJECT PLAN (continued)

4.2. DATA QUALITY OBJECTIVES. (continued)

Non-Standard Methods - Analyses which may require method modification and/or development. Non-Standard Methods are used to provide data that cannot be obtained through standard methods. Analysis of samples at this level may involve research, development, and documentation of a new method or the modification of an existing method.

4.3. SOIL INVESTIGATION.

4.3.1. Data Uses.

Soil investigation is designed to generate data to support the following evaluations:

- a. Determine the presence and extent of chemical constituents in soil at the site.
- b. Evaluate if soil may be used for on site backfill or disposed of at an approved landfill.

4.3.2. Data Types.

Soil investigation will include the collection and analysis of soil samples for a wide range of compounds, including compounds of interest (petroleum-product constituents). Later phases will focus on identified compounds of concern. The types and frequency of QA/QC samples to be collected are outlined in the next section. Visual examination and PID screening of soil samples from excavations will be conducted to evaluate subsurface conditions at the site and to select soil samples for laboratory analysis as described in the Remedial Work Plan.

Soil chemical parameters selected for analysis are provided in the Remedial Work Plan.

4. QUALITY ASSURANCE PROJECT PLAN (continued)

4.3. SOIL INVESTIGATION. (continued)

4.3.3. Data Quality.

Both ASP and Non-ASP (SW-846) analytical methods will be used. All confirmatory samples (e.g., excavation soil samples and final groundwater samples) will be analyzed with ASP Category B protocols. A Data Usability Summary Report (DUSR) will be provided for all ASP data. Waste characterization samples and groundwater samples collected as part of a groundwater monitoring program will be Non-ASP.

Field screening methods will be used for screening of soil samples with a PID to pick samples for laboratory testing.

4.3.4. Data Quantity.

Confirmatory sampling requirements are detailed in Appendix C. Given the anticipated sizes of the three (3) excavation areas, it is anticipated that four (4) sidewall samples and one (1) bottom sample will be collected for each excavated area. Approximately fifteen (15) total confirmatory soil samples area anticipated.

Sample locations have been shown on the Site Plan included in Appendix C - Soil Handling Plan.

Additional samples will be collected for petroleum compounds if warranted by screening or visual observation and to fill data gaps (supplemental investigation). The frequency of QA/QC samples is listed in Section 4.4.4.

4.3.5. Sampling and Analytical Methods.

Soil sampling and handling procedures are provided in Section 4.6. Laboratory analytical methods for soil will be ASP for compounds listed in the work plan. Methods for additional samples will be determined once the first phase of soil data has been evaluated.

4.3.6. PARCCS Parameters.

Data representativeness is achieved by soil sampling locations across the site. Data precision and comparability is achieved through employing standard USEPA/NYSDEC approved methods. Sensitivity is evaluated by analyzing matrix spikes/ matrix spike duplicates (MS/MSD). Data completeness will be assessed after receipt of the round of data.

4. QUALITY ASSURANCE PROJECT PLAN (continued)

4.4. GROUNDWATER MONITORING.

4.4.1. Data Uses.

The groundwater monitoring program is designed to generate water quality data to evaluate the quality of groundwater over time.

Groundwater monitoring data will also be used to assess risks to human health and the environment associated with any chemical constituents detected, and to evaluate requirements for continued monitoring.

4.4.2. Data Types.

Water quality data is required to meet the objectives of the groundwater monitoring program. Water quality data will consist of field parameters, including pH, temperature and conductivity as well as any laboratory parameters.

4.4.3. Data Quality.

Non-ASP (SW-846) analytical methods will be used.

4.4.4. Data Quantity.

The groundwater monitoring program will involve the collection of groundwater samples from a minimum of eight (8) monitoring wells installed as part of the Site Investigation Work Plan. Groundwater elevation measurements will also be obtained from each monitoring well. The quantity of groundwater samples will be a minimum of eight (8) on-site samples. The frequency of QA/QC samples is listed in the next section. Groundwater samples will need to be collected yearly for five (5) years following completion of the remediation.

4. QUALITY ASSURANCE PROJECT PLAN (continued)

4.4. GROUNDWATER MONITORING. (continued)

4.4.5. Sampling and Analytical Methods.

Groundwater level measurement procedures, water quality measurement procedures and groundwater sampling procedures are provided in Section 4.6. Sampling Procedures. The laboratory analytical methods for groundwater samples will be determined once soil data has been evaluated.

4.4.6. PARCCS Parameters.

Data representativeness is achieved by location of monitoring wells across the site. Data precision and comparability is achieved through employing standard USEPA/NYSDEC approved methods. Sensitivity is evaluated by analyzing matrix spikes/ matrix spike duplicates (MS/MSD). Data completeness will be assessed after receipt of the round of groundwater data.

4.5. QA/QC SAMPLES.

Duplicate soil samples will not be collected during this program due to the difficulty of obtaining true duplicates of inhomogeneous soil. However, the laboratory will be requested to run a series of duplicate analyses on sample extracts as a check on laboratory procedures (MS/MSD). One duplicate groundwater sample will be collected for each yearly groundwater sample.

One equipment blank per sampling day will be collected to ensure that non-dedicated sampling devices have been effectively decontaminated. The equipment blanks will be collected after the sampling equipment has been decontaminated by running de-ionized water through the equipment and into two 40-ml VOA vials. The equipment blank will be analyzed for volatiles only.

One trip blank per sample shipment will be submitted for analysis to the laboratory to evaluate the possibility of air borne cross-contamination of samples in the field. The trip blank will be prepared and supplied by the laboratory and will accompany samples in the field and to the laboratory. The trip blank will be analyzed for volatiles only.

4. QUALITY ASSURANCE PROJECT PLAN (continued)

4.6. SAMPLING PROCEDURES.

4.6.1. Soil Sample Containers.

Sampling jars will be supplied by the laboratory and only new, unused jars will be used. The soil samples will be sealed in laboratory-supplied jars, and stored on ice pending transfer to the analytical laboratory. Quality control samples (trip blanks, field blanks) will be prepared using 40-ml VOA vials preserved with HCl and filled with de-ionized water. The VOA vials and all sample containers will be supplied by the analytical laboratory and will be transported in a common container.

4.6.2. Groundwater Sampling Procedures.

- a. Groundwater samples will be collected in order; first from monitoring wells considered least impacted, followed by those considered most impacted.
- b. Measurements of total organic vapor concentrations will be performed using a Photoionization Detector (PID) by removing the well vault cover and opening the well cap slightly and placing the instrument probe beneath the cap. After the reading has been obtained, the well cap will be completely removed and the well will be allowed to ventilate for a period of 3 to 5 minutes. After the wellhead has been ventilated, a measurement in the breathing zone will be collected. See the Health and Safety Plan for specific health and safety procedures.
- c. Depth to water will be measured from the top of the well casing to the top of the water surface to the nearest 0.01-foot during sampling. Ground surface and top of casing elevations will be surveyed to within 0.01 foot so that water elevation can be calculated.
- d. An interface sounding device capable of detecting free-phase hydrocarbons will be used if free product is detected in well.

4. QUALITY ASSURANCE PROJECT PLAN (continued)

4.6. SAMPLING PROCEDURES. (continued)

4.6.2. Groundwater Sampling Procedures. (continued)

- e. Elevation of groundwater in feet will be calculated and recorded given the elevation of the top of the wellhead and depth to water.
- f. Low-flow (minimal drawdown) groundwater sampling procedures will be utilized. Groundwater samples will be collected utilizing a bladder pump to minimize volatilization. A flow rate of 0.5 L/min or less will be used to achieve minimal drawdown (<0.1 m) and minimize stress to the system.
- g. A flow-through cell will be utilized to monitor water quality parameters, including pH, conductivity, ORP, turbidity, dissolved oxygen and temperature. Stabilization will be achieved when three (3) successive readings taken every three (3) to five (5) minutes are within $\pm 10\%$ for turbidity, dissolved oxygen and temperature. The same device will be used for sampling as was used for purging at the same stabilized flow rate.
- h. Departures from the standard sampling procedure will be documented in the field logbook.

4. QUALITY ASSURANCE PROJECT PLAN (continued)

4.6. SAMPLING PROCEDURES. (continued)

4.6.2. Groundwater Sampling Procedures. (continued)

- i. Samples to be analyzed for volatile organic compounds will be obtained so that the sample container is headspace free. All such samples will be collected in 40-milliliter (ml) vials with Teflon septa. The container will be immediately capped so that volatilization is minimized. This will be achieved by filling the container to slightly overflowing, forming a meniscus at the mouth of the container. The cap will be placed upon the convex meniscus and tightly sealed. To check that the sample is air-free, the container will be inverted and the cap gently tapped. The absence of entrapped air indicated a successful seal. When air is evident in the container, the entire sample will be discarded and another sample will be collected. Evacuation and sampling data for each well will be recorded in the field logbook at the time of sampling.

4.6.3. Sample Handling.

Sample Labeling. Samples of soil and groundwater collected in the field will be labeled immediately. Labels with adhesive backing will be completed with indelible ink and affixed to the side of the sample container. Information written on sample labels will include:

- a. Project number
- b. Site location
- c. Sample location (monitor well, or borehole number and depth)
- d. Analyses required
- e. Sample number
- f. Initials of sampler
- g. Date
- h. Time

The label will be attached securely to the sample container to minimize loss or mutilation. Each label will be filled out as completely as possible prior to collecting the sample.

4. QUALITY ASSURANCE PROJECT PLAN (continued)

4.6. SAMPLING PROCEDURES. (continued)

4.6.3. Sample Handling. (continued)

Sample Seals. If samples are to be sent to a fixed-base laboratory via courier, seals will be placed over the container lids to discourage and detect unauthorized tampering with the samples. The sample seals will include the following information:

- a. Project number
- b. Sample number
- c. Initials of sampler
- d. Date
- e. Time.

Chain-of-Custody Procedures. The chain-of-custody for possession and responsibility of samples must be documented from the time and place of sample acquisition to the time and place of their final destination. To maintain and document sample possession, chain-of-custody procedures will be followed that include the completion of chain-of-custody records and various other requirements.

1. Chain-of-custody is defined as a documented record of the transfer of responsibility for the care and safekeeping of acquired samples from one person or organization to another.
2. A sample is under custody if it is: 1) physically in one's possession, 2) in plain view after being placed in one's physical possession, or 3) locked in a designated and identified secure area where tampering is prevented.
3. The field personnel initially taking the sample are responsible for the care and custody of the sample until it is properly transferred to delivery or laboratory personnel.
4. Records concerning sample handling and transportation will be kept in the field logbook.

4. QUALITY ASSURANCE PROJECT PLAN (continued)

4.6. SAMPLING PROCEDURES. (continued)

4.6.3. Sample Handling. (continued)

5. All samples will be accompanied by a chain-of-custody record. The chain-of-custody record will provide the project number, sample name, name of sampler, site location, sample matrix, number of containers, and the analysis required. Each person or organization who relinquishes and/or receives responsibility for the samples shall sign, date, and retain one copy of the record for his/her files.
6. The chain-of-custody record will be filled out completely. Each sample will be described completely on separate lines. No duplication or ditto marks will be used. An individual record will be completed for each final destination.
7. All ice chests will be sealed with duct tape until received by the laboratory receiving-agent to prevent unauthorized tampering.

4.6.4. Decontamination Procedures.

Sampling equipment will be decontaminated prior to and between samples and/or sampling locations as follows:

1. Remove excess soil with knife or spatula.
2. Clean in solution ofalconox and water.
3. Rinse using potable water.
4. Let air dry.

If free-phase product is encountered during sampling, an additional rinse of diluted methanol followed by a potable water rinse will be added to the above procedure.

4. QUALITY ASSURANCE PROJECT PLAN (continued)

4.6. SAMPLING PROCEDURES. (continued)

4.6.5. Disposal of Waste.

All staged soil shall be stored on and covered with plastic sheeting to prevent run-off. Petroleum-contaminated or hazardous soils shall be removed from the site within 90 days of generation.

Wastes generated during field work will be stored on plastic, soil from excavation. Upon receipt of laboratory analysis, waste will be disposed of in accordance with current hazardous waste regulations. All waste will be properly monitored as to date of generation, content, pending laboratory testing, and telephone number of contact person. Once hazardous waste determination has been made, labels will be updated to reflect proper waste codes.

Used protective clothing will be disposed of as solid waste unless covered with free-phase product, in which case it will be containerized and disposed of with the other containerized waste.

5. OPERATION, MONITORING AND MAINTENANCE PLAN

Operation, monitoring and maintenance is the last phase of remediation and continues until the site is closed out. The following items from the Record of Decision will be implemented through the Operation, Monitoring and Maintenance Plan (OM&M):

1. Since the preferred remedy will not immediately meet groundwater standards, a monitoring program will be instituted for minimum of five (5) years. Key monitoring points will include up gradient wells at the site (MW-1 and RW-1), wells in the vicinity of the former tanks (MW-2/RW-2 and MW-3/RW-3), and the wells down gradient of the building (MW-5) and the dry well area (MW-6). This program will allow the effectiveness of the selected remedy to be monitored and will be a component of the operation, maintenance and monitoring for the site. The monitoring program will be evaluated after five (5) years to determine if further monitoring is necessary.
2. A Site Management Plan will be developed to evaluate the potential for vapor intrusion for any buildings developed on the site, including provisions for mitigation of any impacts identified; and to identify any use restrictions.
3. The property owner will provide an annual certification, prepared and submitted by a professional engineer or environmental professional which will certify that the institutional controls and engineering controls put in place are unchanged from the previous certifications and nothing has occurred that will impair the ability of the control to protect public health or the environment or constitute a violation or failure to comply with any operation and maintenance or site management plan.
4. Imposition of an institutional control in form of an environmental easement that will require compliance with the approved site management plan; restrict the use of groundwater as a source of potable or process water, with necessary water quality treatment as determined by NYSDOH, and require the property owner to complete and submit to NYSDEC an annual certification.

An outline of the Operation, Monitoring and Maintenance Plan is included as Appendix D. Drawing No. 4360-8 showing the location of groundwater monitoring wells is included in Appendix D.

APPENDIX A
RECORD OF DECISION



Department of Environmental Conservation

Division of Environmental Remediation

**Environmental Restoration
Record of Decision
Frederick Property
Village of Manchester,
Ontario County, New York
Site Number B-00131-8**

March 2004

New York State Department of Environmental Conservation
GEORGE E. PATAKI, *Governor* ERIN M. CROTTY, *Commissioner*

DECLARATION STATEMENT
ENVIRONMENTAL RESTORATION RECORD OF DECISION

Frederick Property Environmental Restoration Site
Village of Manchester, Ontario County, New York
Site No. B-00131-8

Statement of Purpose and Basis

The Record of Decision (ROD) presents the selected remedy for the Frederick Property site, an environmental restoration site. The selected remedial program was chosen in accordance with the New York State Environmental Conservation Law and is not inconsistent with the National Oil and Hazardous Substances Pollution Contingency Plan of March 8, 1990 (40CFR300), as amended.

This decision is based on the Administrative Record of the New York State Department of Environmental Conservation (NYSDEC) for the Frederick Property environmental restoration site, and the public's input to the Proposed Remedial Action Plan (PRAP) presented by the NYSDEC. A listing of the documents included as a part of the Administrative Record is included in Appendix B of the ROD.

Assessment of the Site

Actual or threatened releases of hazardous substances and/or petroleum products from this site, if not addressed by implementing the response action selected in this ROD, presents a current or potential significant threat to public health and/or the environment.

Description of Selected Remedy

Based on the results of the Site Investigation/Remedial Alternatives Report (SI/RAR) for the Frederick Property site and the criteria identified for evaluation of alternatives, the NYSDEC has selected a removal action as the remedy. The components of the remedy are as follows:

- Building demolition, including removal of a floor drainage system and subsurface hydraulic lift units, as well as an evaluation of surrounding soil conditions;
- Removal of a dry well area behind the building and evaluation of surrounding/underlying soil conditions;
- Removal of contaminated soils to prevent further groundwater contamination;
- An operation, maintenance, and monitoring program to track natural attenuation of contaminants in groundwater following source soil removal; and

- Institutional controls to restrict groundwater usage and prevent vapor intrusion into any future buildings at the site.

New York State Department of Health Acceptance

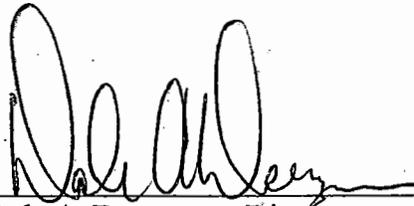
The New York State Department of Health (NYSDOH) concurs that the remedy selected for this site is protective of human health.

Declaration

The selected remedy is protective of human health and the environment, complies with State and Federal requirements that are legally applicable or relevant and appropriate to the remedial action to the extent practicable, and is cost effective.

MAR 31 2004

Date



Dale A. Desnoyers, Director
Division of Environmental Remediation

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Environmental Restoration RECORD OF DECISION

Frederick Property
Village of Manchester, Ontario County, New York
Site No. B-00131-8
March 2004

SECTION 1: SUMMARY OF THE RECORD OF DECISION

The New York State Department of Environmental Conservation (NYSDEC), in consultation with the New York State Department of Health (NYSDOH), has selected a remedy for the Frederick Property Environmental Restoration Project. The presence of hazardous substances has created threats to human health and/or the environment that are addressed by this remedy.

The 1996 Clean Water/ Clean Air Bond Act provides funding to municipalities for the investigation and cleanup of brownfields. Under the Environmental Restoration (Brownfields) Program, the state provides grants to municipalities to reimburse eligible costs for site investigation and remediation activities. Once remediated the property can then be reused.

As more fully described in Sections 3 and 5 of this document, past automotive fueling operations and vehicle service have resulted in the disposal of hazardous substances, including volatile organic compounds (VOCs). These hazardous substances have contaminated the soil and groundwater at the site, and have resulted in:

- a threat to human health associated with potential exposure to contaminated subsurface soils and groundwater, as well as potential inhalation of contaminated indoor air in any future buildings at the site; and
- an environmental threat associated with the impacts of contaminants to subsurface soils and groundwater.

To eliminate or mitigate these threats, the NYSDEC has selected the following remedy to allow for restricted future use (including residential, recreational, commercial, or industrial) of the site:

- Building demolition, including removal of a floor drainage system and subsurface hydraulic lift units, as well as an evaluation of surrounding soil conditions;
- Removal of a dry well area behind the building and evaluation of surrounding/underlying soil conditions;
- Removal of soils contaminated at levels above SCGs to prevent further groundwater contamination;

- An operation, maintenance, and monitoring program to track natural attenuation of contaminants in groundwater following source soil removal; and
- Institutional controls to restrict groundwater usage and prevent vapor intrusion into any future buildings at the site.

The selected remedy, discussed in detail in Section 8, is intended to attain the remediation goals identified for this site in Section 6. The remedy must conform with officially promulgated standards and criteria that are directly applicable, or that are relevant and appropriate. The selection of a remedy must also take into consideration guidance, as appropriate. Standards, criteria and guidance are hereafter called SCGs.

SECTION 2: SITE LOCATION AND DESCRIPTION

The Frederick Property is located at 147 State Street in a mixed residential and light industrial area of the Village of Manchester, Ontario County (see Figure 1). State Street is accessible from State Routes 96 and 21, which intersect about 1 mile northeast of the site. The New York State Thruway is located just north of this intersection. The nearest surface water body, Padleford Brook, is located approximately one mile south of the site.

The site is approximately one-half acre in size and contains one building having a footprint of approximately 1,200 square feet, which was formerly used as an automobile service station. The building is currently in poor condition and unsafe to occupy.

The surrounding properties to the north, east, and west are generally residential, with the exception of an automobile service shop and junk yard located to the northwest of the site across State Street. Spancrete, a pre-cast concrete manufacturing facility, is located to the south of the site beyond a former railroad right-of-way.

SECTION 3: SITE HISTORY

3.1: Operational/Disposal History

The site was operated as a gasoline filling station and automobile repair facility from approximately 1930 until the 1960s. Subsequent to the station's closing, the Village of Manchester obtained ownership of the property and has used it for general storage purposes since.

There are no records or reports of spills during the site's operation. However, past leakage from underground petroleum storage tanks and piping systems/filling areas is evident. Other potential sources of contamination identified at the site include a floor drainage system and associated dry well area behind the building and subsurface vehicle lift units in the building. The dry well area consists of an underground drainage pipe that discharges to an area of large stone fill material for the purpose of liquid waste disposal from the floor drainage system.

3.2: Remedial History

There have been no known environmental investigations or remedial actions to address hazardous substance disposal at the site prior to the site investigation discussed in this PRAP.

SECTION 4: ENFORCEMENT STATUS

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

Since no viable PRPs have been identified, there are currently no ongoing enforcement actions. However, legal action may be initiated at a future date by the state to recover state response costs should PRPs be identified. The Village of Manchester will assist the state in its efforts by providing all information to the state which identifies PRPs. The Village will also not enter into any agreement regarding response costs without the approval of the NYSDEC.

SECTION 5: SITE CONTAMINATION

The Village of Manchester has recently completed a site investigation (SI) to determine the nature and extent of any contamination by hazardous substances at this environmental restoration site.

5.1: Summary of the Site Investigation

The purpose of the SI was to define the nature and extent of any contamination resulting from previous activities at the site. The SI was conducted between October 2000 and November 2003. The field activities and findings of the investigation are described in the SI/RAR report.

The following activities were conducted during the SI:

- Research of historical information;
- A geophysical survey to determine possible underground tank locations;
- Collection of 17 confirmatory soil samples following the removal of six underground storage tanks (USTs) and surrounding contaminated soils;
- Collection of five surface soil samples to identify potential exposure concerns.
- Excavation of two test pits for a visual and analytical evaluation of subsurface soils near the former pump island;
- Installation of 11 soil borings and 10 monitoring wells for analysis of soils and groundwater as well as physical properties of soil and hydrogeologic conditions;

To determine whether the soil and groundwater contain contamination at levels of concern, data from the investigation were compared to the following SCGs:

- Groundwater, drinking water, and surface water SCGs are based on NYSDEC "Ambient Water Quality Standards and Guidance Values" and Part 5 of the New York State Sanitary Code.
- Soil SCGs are based on the NYSDEC "Technical and Administrative Guidance Memorandum (TAGM) 4046; Determination of Soil Cleanup Objectives and Cleanup Levels".

Based on the SI results, in comparison to the SCGs and potential public health and environmental exposure routes, certain media and areas of the site require remediation. These are summarized below. More complete information can be found in the SI report.

5.1.1: Site Geology and Hydrogeology

Soils identified at the site during this investigation consist of a 6 to 12 inch layer of topsoil or gravel fill overlying glacial till. The glacial till primarily consists of sandy silt with some clay and traces of gravel. A thin (generally less than one foot), discontinuous sand layer was observed in the majority of soil borings between depths of 3 and 6.5 feet below grade. Carbonate bedrock was encountered at 8.5 to 11.5 feet below grade.

Groundwater was generally encountered within 3 to 7 feet below the ground surface. Groundwater generally flows in a southerly direction at the northern end of the site and more of an easterly direction in the southern portion of the site (see Figure 2). There is also a downward component to groundwater flow at the site; from the overburden soils toward the more permeable upper bedrock horizon.

There is public water serving the area; therefore, groundwater is not being utilized for drinking water purposes. However, the Spancrete facility to the south of the site is an industrial user of groundwater and its use may influence the groundwater flow direction at the site.

5.1.2: Nature of Contamination

As described in the SI report, many soil and groundwater samples were collected to characterize the nature and extent of contamination. As summarized in Table 1, the main categories of contaminants that exceed their SCGs are volatile organic compounds (VOCs) and semivolatile organic compounds (SVOCs).

The VOCs of concern include both petroleum-related compounds (e.g., benzene, toluene, ethylbenzene, xylenes) and chlorinated solvent-related compounds (e.g. tetrachloroethene (PCE), trichloroethene (TCE), cis-1,2-dichloroethene (cis-1,2- DCE)). These compounds vary in their toxicity, with benzene, PCE, and TCE being more toxic. They volatilize readily into air but dissolve only slightly in groundwater.

The petroleum contamination is the result of past fueling operations at the site. Whereas, the chlorinated solvent compounds appear to be migrating onto the site through groundwater from an, as yet unidentified, off-site source. With regard to the chlorinated compounds, the initial release

probably consisted of PCE and the remaining chlorinated compounds (TCE and cis-1,2-DCE) are likely present as degradation products.

The only SVOC of potential concern is 4-methylphenol, which is likely petroleum-related. This compound is a cresol and is found in crude oil. It is generally not considered as toxic as the VOCs discussed above. The remaining SVOC listed in Table 1, bis(2-ethylhexyl)phthalate, is most likely a sampling artifact related to the plastic tubing used to collect the samples.

5.1.3: Extent of Contamination

This section describes the findings of the investigation for all environmental media that were investigated.

Chemical concentrations are reported in parts per billion (ppb) for water and parts per million (ppm) for soil. For comparison purposes, where applicable, SCGs are provided for each medium. Table 1 summarizes the degree of contamination for the contaminants of concern in soil and groundwater and compares the data with the SCGs for the site. The following are the media which were investigated and a summary of the findings of the investigation.

Surface Soil

A total of five surface soil samples were collected from zero to two inches below grade at various locations at the site and analyzed for VOCs, SVOCs, PCBs, and metals. Samples locations are shown on Figure 3 (SS-101 through SS-105). No contaminants were identified at levels above SCGs in surface soils. Metals were detected within the expected range of naturally occurring background soils for the area.

Subsurface Soil

A total of 30 subsurface soil samples were collected for this project and analyzed for VOCs, SVOCs, PCBs, and metals. Of these samples, 17 were collected from the tank pits following removal of the USTs and associated contaminated soil (see Section 5.2), 2 were collected from test pits excavated in the vicinity of the former pump island (designated TP-101 and TP-102 on Figure 3), and 11 were collected from soil borings installed at various locations on the site (designated GP-101 through GP-111 on Figure 3).

Only two of the 30 soil sample locations contained VOC compounds at levels above SCGs. These locations were the northern sample from the east wall of the on-site gasoline tank pit and the nearby test pit location TP-101 (see Figure 3). Both samples were collected at depths of approximately 6 feet below grade. The VOCs detected at levels above SCGs are 1,3,5-trimethylbenzene, 1,2,4-trimethylbenzene, and xylenes, which are all petroleum related. The magnitude of the exceedances is up to 17 times the SCG value (xylenes at 20 ppm vs SCG of 1.2 ppm).

SVOC and PCB compounds were not detected in subsurface soils at levels above SCGs. Metals were detected within the expected range of naturally occurring background soils for the area.

Groundwater

A total of 10 groundwater monitoring wells were installed at the site (see Figure 2). These include 7 wells installed in overburden soils (designated MW-1 through MW-7) and 3 wells installed in the upper bedrock (designated RW-1 through RW-3). The screened intervals are generally in the range of 2 to 10 feet below grade for the overburden wells and 14 to 19 feet below grade for the bedrock wells. Two rounds of groundwater samples were collected from each of these wells and analyzed for VOCs, SVOCs, PCBs, and metals. The first round was collected in May 2002 and the second round was collected in October 2002.

Groundwater samples collected from three of the wells (RW-1, RW-2, and RW-3) contained VOCs at levels above SCGs. The first round of samples detected only petroleum-related VOCs (RW-2 only) at levels above SCGs. In the second round, no petroleum-related VOCs were detected at levels above SCGs, while chlorinated solvent compounds were detected at levels above SCGs in each of the bedrock wells. The magnitude of the exceedances was up to 62 times the SCG for petroleum-related compounds (1,2,4-trimethylbenzene at 310 ppb vs. SCG of 5 ppb) and 12 times the SCG for chlorinated solvent-related compounds (tetrachlorethene at 59 ppb vs. SCG of 5 ppb). Contaminant concentrations in groundwater that exceed SCGs are shown on Figure 4.

The chlorinated solvent-related VOCs were only detected in the bedrock monitoring wells and appear to be migrating onto the site from an unknown off-site source. This determination is based on the facts that these compounds were not detected in on-site soils and their concentrations in groundwater are greatest in the most upgradient well at the site (RW-1). The same chlorinated compounds have also been detected in the former municipal water supply well located approximately one-half mile west of the site. This water supply well is no longer in use and the source of the contamination has not yet been identified.

The petroleum-related VOCs were only detected in the first round samples from bedrock monitoring well RW-2. The MW-2/RW-2 well cluster is located just downgradient of the area of petroleum-contaminated soils identified at the site. The reason these compounds were detected in bedrock monitoring well RW-2 and not in the adjacent overburden monitoring well MW-2 may be due to the installation of MW-2 within the fill soils used to backfill the former tank pit. Another factor may be the downward component to the groundwater flow at the site, from the less permeable overburden toward the more permeable upper bedrock horizon.

The reduction in the petroleum-related VOCs in RW-2 from the first round to the second round of sampling is likely attributable to seasonal variation in the groundwater table. Groundwater elevations were generally 4 to 6 feet below grade in May 2002 and 6 to 9 feet below grade in October 2002. This indicates that groundwater flow through contaminated subsurface soils (and downward movement to the bedrock horizon) was likely occurring to a greater extent during the first round than the second round. This reduction may also be attributed to a general decline in petroleum concentrations in groundwater at the site since the removal of the on-site underground storage tanks and associated contaminated soil (November 2000, see Section 5.2). However, additional groundwater data collected during periods of higher groundwater elevation (generally the spring time) would be needed for confirmation of this decline.

The second round groundwater samples collected from two of the wells (MW-6 and RW-3) contained the SVOC 4-methylphenol at levels above the SCG. The magnitude of this exceedance was up to 10 times the SCG (51 ppb vs SCG of 5 ppb). The only other SVOC detected at levels above SCGs was bis(2-ethylhexyl)phthalate, which is most likely a sampling artifact related to the plastic tubing used to collect the samples.

PCB compounds were not detected in groundwater samples. The only metal compounds detected in groundwater at levels above SCGs were iron, magnesium, manganese, and sodium. These are indicative of naturally occurring levels in groundwater and are not considered site contaminants.

5.2: Interim Remedial Measures

An interim remedial measure (IRM) is conducted at a site when a source of contamination or exposure pathway can be effectively addressed before completion of the SI/RAR. The Village of Manchester removed a total of six underground storage tanks (USTs) from the site and adjacent property as IRMs during this project. The former tank locations are shown on Figure 3.

In November 2000, two gasoline USTs and one waste oil UST were removed from the site. The gasoline tanks had capacities of 3,000 and 4,000 gallons and the waste oil tank had a capacity of 500 gallons.

Approximately 280 tons of obviously contaminated soil surrounding the gasoline tanks were removed and transported offsite to a permitted waste disposal facility. Six confirmatory soil samples were collected from the sidewalls of the gasoline tank pit and analyzed for VOCs, SVOCs, PCBs, and metals. Because contaminated soils were removed to the top of the bedrock surface, no confirmatory soil samples were collected from the bottom of this tank pit. As discussed in Section 5.1.3 and shown on Figure 3, only the confirmatory sample from the north end of the east tank pit wall contained contaminants at levels above SCGs.

No contaminated soils were evident following removal of the waste oil tank. Two confirmatory soil samples were collected from this tank pit and analyzed for VOCs, SVOCs, PCBs, and metals. One sample was collected from the bottom of the tank pit and the second was composited from each of the four sidewalls. No compounds were identified in these soil samples at levels above SCGs.

In September 2001, three 500-gallon gasoline USTs that were identified on the adjacent property were removed. The former use of these tanks was evidently associated with fueling operations at the Frederick Property.

Approximately 14 tons of obviously contaminated soil surrounding the off-site gasoline tanks were removed and transported to a permitted waste disposal facility. The soil contamination detected at this location appeared to be from historic overfills/spillage and there was no evidence of leakage from these three tanks. Nine confirmatory soil samples were collected from the sidewalls and bottom of the off-site gasoline tank pit excavation and analyzed for VOCs, SVOCs, and total lead. None of the confirmatory samples from the off-site tank pit contained contaminants at levels above SCGs.

5.3: Summary of Human Exposure Pathways:

This section describes the types of human exposures that may present added health risks to persons at or around the site. A discussion of human exposure pathways can be found in Section 6 of the SI report.

An exposure pathway describes the means by which an individual may be exposed to contaminants originating from a site. An exposure pathway has five elements: [1] a contaminant source, [2] contaminant release and transport mechanisms, [3] a point of exposure, [4] a route of exposure, and [5] a receptor population.

The source of contamination is the location where contaminants were released to the environment (any waste disposal area or point of discharge). Contaminant release and transport mechanisms carry contaminants from the source to a point where people may be exposed. The exposure point is a location where actual or potential human contact with a contaminated medium may occur. The route of exposure is the manner in which a contaminant actually enters or contacts the body (e.g., ingestion, inhalation, or direct contact). The receptor population is the people who are, or may be, exposed to contaminants at a point of exposure.

An exposure pathway is complete when all five elements of an exposure pathway exist. An exposure pathway is considered a potential pathway when one or more of the elements currently does not exist, but could in the future.

There are no completed pathways which are known to exist either on-site or off-site at this time. Public water serves the area; therefore, ingestion of contaminated groundwater is unlikely. Potential pathways of exposure to site contaminants which may occur during future excavation/construction activities or may affect occupants of any future buildings at the site include:

- Direct contact or incidental ingestion of contaminated soils;
- Inhalation of contaminated dust generated during construction activities;
- Direct contact or ingestion of contaminated groundwater; and
- Inhalation of VOCs from contaminated soil and groundwater migration into indoor air.

It is expected that this property will be developed for reuse; therefore, remediation and/or institutional controls will be required to mitigate the potential future exposure pathways.

5.4: Summary of Environmental Impacts

This section summarizes the existing and potential future environmental impacts presented by the site. Environmental impacts include existing and potential future exposure pathways to fish and wildlife receptors, as well as damage to natural resources such as aquifers and wetlands.

There are no significant environmental resources (i.e., creeks/streams, wetlands, habitats, etc.) located at or adjacent to the Frederick Property site. Based on the absence of any significant

contamination in the downgradient wells at the site (MW-4, MW-6, and MW-7), off-site migration of site-related contaminants through groundwater to environmental receptors is not presently of concern. No pathways for environmental exposure or ecological risks have been identified. However, site contaminants have adversely impacted the groundwater resource at the site.

SECTION 6: SUMMARY OF THE REMEDIATION GOALS AND THE PROPOSED USE OF THE SITE

Goals for the remedial program have been established through the remedy selection process stated in 6 NYCRR Part 375-1.10. At a minimum, the remedy selected must eliminate or mitigate all significant threats to public health and/or the environment presented by the hazardous substances disposed at the site through the proper application of scientific and engineering principles.

The Village of Manchester has not yet proposed a specific future use for the Frederick Property. Future uses may include restricted residential, recreational, commercial, or industrial development.

The remediation goals for this site are to eliminate or reduce to the extent practicable:

- exposures of persons at or around the site to VOCs and SVOCs in soils and groundwater;
- the release of contaminants from soil into groundwater that may create exceedances of groundwater quality standards; and
- the release of contaminants from subsurface soils and groundwater into indoor air through soil vapor.

Further, the remediation goals for the site include attaining, to the extent practicable, SCGs for soil and groundwater.

SECTION 7: SUMMARY OF THE EVALUATION OF ALTERNATIVES

The selected remedy must be protective of human health and the environment, be cost-effective, and comply with other statutory requirements. A preliminary evaluation of remedial alternatives for the Frederick Property Site is presented in Section 7 of the SI/RAR, which is available at the document repositories identified in Section 1.

Given the relatively limited extent of contaminated soils and groundwater related to former site activities, an engineering judgement was made to eliminate certain long-term (i.e. bioremediation) and/or high capital cost (i.e. soil stripping) alternatives at the outset as impractical.

A summary of the remedial alternatives that were considered for this site are discussed below. The present worth represents the amount of money invested in the current year that would be sufficient to cover all present and future costs associated with the alternative. This enables the costs of remedial alternatives to be compared on a common basis. As a convention, a time frame of five years was used to evaluate present worth costs for alternatives with an indefinite duration. This does not imply that operation, maintenance, or monitoring would cease after five years if remediation goals are not achieved.

7.1: Description of Remedial Alternatives

The following three potential remedies were considered to address the contaminated soils and groundwater at the site.

Alternative 1: No Further Action

The No Further Action (NFA) alternative recognizes remediation of the site conducted under previously completed IRMs. It is evaluated as a procedural requirement and as a basis for comparison. To evaluate the effectiveness of the remediation completed under the IRM, only continued monitoring would be necessary. A five-year groundwater monitoring program is assumed.

This alternative would leave the site in its present condition and would not provide any additional protection to human health or the environment.

Present Worth:	\$43,500
Capital Cost:	\$0
Annual O&M:	\$10,000
Time to Implement	not applicable

Alternative 2: Institutional Controls

This alternative is similar to the NFA alternative, in that no additional remediation would take place; however, institutional controls (ICs) would be used to provide additional protection to public health. The following items would be included:

- An operation, maintenance, and monitoring (OM&M) program, including a five-year groundwater monitoring program;
- Development of a site management plan to: (a) address residual contaminated soils that may be excavated from the site during future redevelopment. The plan would require soil characterization and, where applicable, disposal/reuse in accordance with NYSDEC regulations; (b) evaluate the potential for vapor intrusion for any buildings developed on the site, including provision for mitigation of any impacts identified; and (c) identify any use restrictions (property development and groundwater use);
- The property owner would provide an annual certification, prepared and submitted by a professional engineer or environmental professional acceptable to the Department, which would certify that the institutional controls and engineering controls put in place, are unchanged from the previous certification and nothing has occurred that would impair the ability of the control to protect public health or the environment or constitute a violation or failure to comply with any operation an maintenance or soil management plan; and
- An environmental easement would be utilized to: (a) require compliance with the approved site management plan, (b) limit the use and development of the property to commercial or industrial uses only; (c) restrict use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH; and, (d) require

the property owner to complete and submit to the NYSDEC the annual certification described above.

Present Worth:	\$56,000
Capital Cost:	\$12,500
Annual O&M:	\$10,000

Alternative 3: Removal Action

The Removal Action (RA) alternative would be implemented to remove any remaining sources of contamination at the site, which would also allow petroleum contamination in groundwater to improve over time. The following items would be included:

- Building demolition to access potentially contaminated areas beneath the building associated with the hydraulic lift units and floor drainage system. These areas have not been adequately characterized due to safety concerns associated with the dilapidated building;
- Closure of the dry well area. This would consist of excavation and removal of the large stone fill used to construct the system and characterization of surrounding/underlying soils;
- Excavation and off-site disposal of soils with contamination remaining above SCGs. This would include the known contaminated soils in the vicinity of the former tanks/pump island, as well as any contaminated soils that may be identified beneath the building and/or in the vicinity of the dry well area. It is assumed that up to 500 tons of contaminated soil may be removed;
- An operation, maintenance, and monitoring (OM&M) program, including a five-year groundwater monitoring program; and
- Institutional controls to restrict groundwater usage at the site and prevent vapor intrusion into any future buildings on the property. The ICs would be similar to those described under Alternative 2, except that property use restrictions and the soil management aspect of the site management plan would not be required assuming contaminated soils are adequately removed to levels below SCGs.

The time to design and implement this remedy is expected to be 6 to 12 months. The remediation goals should be readily met upon completion of the removal action. Only the long-term monitoring plan would be necessary for confirmation of its effectiveness. ICs would be implemented to ensure protection of public health related to any contaminants remaining in groundwater.

Present Worth:	\$122,000
Capital Cost:	\$78,500
Annual O&M:	\$10,000

7.2: Evaluation of Remedial Alternatives

The criteria to which potential remedial alternatives are compared are defined in 6 NYCRR Part 375, which governs the remediation of inactive hazardous waste disposal sites in New York State. For each criterion, a brief description is provided, followed by an evaluation of the alternatives against that criterion. The rationale for the remedy appears in Section 8.

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

1. Protection of Human Health and the Environment. This criterion is an overall evaluation of each alternative's ability to protect public health and the environment.

The NFA alternative would not be protective of human health or the environment since it would not achieve remediation goals described in Section 6.

The IC alternative would be protective of human health by preventing potential exposure pathways. However, there would not be an immediate benefit to the environment in that existing contaminants would remain in place at the site.

The RA alternative would be protective of human health and the environment by removing the source of petroleum contamination and limiting any potential exposures to residual contaminants in groundwater.

2. Compliance with New York State Standards, Criteria, and Guidance (SCGs). Compliance with SCGs addresses whether a remedy will meet environmental laws, regulations, and other standards and criteria. In addition, this criterion includes the consideration of guidance which the NYSDEC has determined to be applicable on a case-specific basis. The most significant SCGs identified for this site are 6NYCRR Part 703 Water Quality Regulations, NYSDEC Technical and Operational Guidance Series (TOGS) 1.1.1., and NYSDEC TAGM 4046. The documents identify groundwater standards and guidelines and soil cleanup objectives which are protective of human health and the environment.

The NFA alternative would not meet this criterion in that soils and groundwater would remain at the property at levels above SCGs.

Although the IC alternative would not achieve SCGs for soils or groundwater, it would provide a mechanism to prevent human exposure to the contaminants.

The RA alternative would provide for the removal of soils containing contaminants at levels above SCGs. By removing the source of contamination on the property, this alternative would also allow for natural attenuation of groundwater to achieve groundwater SCGs for petroleum compounds over time. The chlorinated compounds in groundwater at the site are the result of an unknown off-site source and would not be directly addressed by this remedy. However, the use of ICs would prevent human exposure to these contaminants on the property. Note that a remedy capable of meeting groundwater SCGs for the chlorinated compounds at the site would be ineffective as it would not address the off-site source of this contamination.

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

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

The NFA and IC alternatives would not have any short term impacts to the community or on-site workers since no active remediation would take place.

The RA alternative would have some potential short term impacts to the community or on-site workers during the implementation phase. The handling of contaminated soils may present potential short-term exposures to on-site workers and others in the vicinity of the work activities. Proven, reliable, and effective mitigative measures would be utilized to address short-term effects. These measures may include temporary fence installation, dust suppression controls during excavations, and implementation of a site-specific health and safety plan. The remediation goals for soil would be attained in the short term, while groundwater quality related to the petroleum contamination would be expected to improve over the longer term.

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

The NFA alternative would not be effective in the long term at minimizing the risks to human health or the environment, since those risks would continue to be unacceptable.

The IC alternative would effectively minimize threats to public health over the long term, but would not directly address risks to the environment.

The RA alternative would provide for the permanent removal of petroleum contaminated soils from the site. Petroleum contaminated groundwater would be expected to improve over the long term. The chlorinated compounds related to an unidentified off-site source would likely persist until the source is identified and cleaned up. ICs would be implemented to prevent human exposure to the contaminants that may remain in groundwater at the site.

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

The NFA and IC alternatives would not reduce the toxicity, mobility, or volume of the wastes at the site.

The RA alternative would permanently remove the entire volume of the wastes in soil at the site at levels above SCGs. Petroleum contamination in groundwater is expected to decrease in the long term following removal of the source soils.

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

The NFA alternative would be the easiest to implement since no active remedial measures would be taken.

The IC alternative would also be relatively easy to implement. However, some administrative challenges may exist in regard to obtaining the environmental easement on the property and ensuring that it remains protective of human health.

The RA alternative is technically and administratively feasible and can be readily implemented at the site. As with the IC alternative, there may be some administrative challenges associated with that aspect of this remedy. However, the ICs associated with this alternative would be substantially less cumbersome to the municipality than the IC alternative, in that property use restrictions and a soil management plan would not be required.

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

The NFA alternative would be the least expensive to implement since there would be minimal cost associated with implementation of the long term monitoring

The IC alternative would be somewhat more expensive than the NFA alternative in that costs associated with implementing the ICs are factored in.

The RA alternative would be the most expensive of the three alternatives. However, there would be a substantial benefit to the environment and there would be no property use restrictions or soil management plan that the municipality would have to comply with. These benefits may ultimately make this alternative less costly in the long term in that it may improve the marketability of the property.

This final criterion is considered a "modifying criterion" and is taken into account after evaluating those above. It is evaluated after public comments on the Proposed Remedial Action Plan have been received.

8. Community Acceptance - Concerns of the community regarding the SI/RA reports and the PRAP have been evaluated. The responsiveness summary (Appendix A) presents the public comments received and the manner in which the NYSDEC addressed the concerns raised. In general, the public comments received were supportive of the selected remedy.

SECTION 8: SUMMARY OF THE SELECTED REMEDY

Based on the Administrative Record (Appendix B) and the discussion presented below, the NYSDEC has selected the Removal Action alternative as the remedy for this site. The elements of this remedy are described at the end of this section.

The selected remedy is based on the results of the SI and the evaluation of alternatives presented in Section 7.2. The RA alternative was selected because, as described below, it satisfies the threshold criteria and provides the best balance of the primary balancing criteria described in Section 7.2. It will achieve the remediation goals for the site by removing the soils that create the most significant threat to public health and the environment, greatly reducing the source of petroleum contamination to groundwater, and creating the conditions needed to restore groundwater quality to the extent practicable.

The IC alternative would also comply with the threshold selection criteria but to a lesser degree and with lower certainty. The NFA alternative does not comply with the threshold criteria and, therefore, was eliminated from further consideration.

Because both the IC and RA alternatives satisfy the threshold criteria to at least some degree, the five balancing criteria were also evaluated in selecting a final remedy for the site.

While there will be more potential short term impacts associated with the RA alternative than the IC alternative, these impacts can be easily controlled as discussed in Section 7.2. The time needed to achieve the remediation goals would be shortest for the RA alternative.

Achieving long-term effectiveness is best accomplished by excavation and removal of the contaminated overburden soils. The RA alternative is favorable because it will result in the removal of all contaminated soil at the site at levels above SCGs. The RA alternative will also eliminate the need for property use restrictions and for a soil management plan.

The RA alternative will provide for the complete removal of the volume of waste in on-site soils at levels above SCGs. The IC alternative would not provide any reduction in the toxicity, mobility, or volume of the wastes.

Both the IC and RA alternatives are readily implementable. However, administrative challenges associated with the property use limitations and soil management plan aspects of the IC alternative do not exist for the RA alternative.

Although the cost of the IC alternative is less, the RA alternative is favorable because it is a permanent remedy that will eliminate the continuing source of groundwater contamination at the site.

The estimated present worth cost to implement the remedy is \$122,000. The cost to construct the remedy is estimated to be \$78,500 and the estimated average annual operation, maintenance, and monitoring costs for 5 years is \$10,000.

The elements of the selected remedy are as follows:

1. A remedial design program to provide the details necessary for the construction, operation, maintenance, and monitoring of the remedial program.
2. Building demolition to access potentially contaminated areas beneath the building associated with the hydraulic lift units and floor drainage system. These areas were not adequately characterized during the investigation due to safety concerns associated with the dilapidated building.
3. Closure of the dry well area. This will consist of excavation and removal of the large stone fill used to construct the system and characterization of surrounding/underlying soils.
4. Excavation and off-site disposal of soils with contamination remaining above SCGs. This will include the known contaminated soils in the vicinity of the former tanks/pump island, as well as any contaminated soils that may be identified beneath the building and/or in the vicinity of the dry well area. This action will eliminate source areas resulting in a significant reduction of petroleum-related impacts to groundwater.
5. Since the preferred remedy will not immediately meet groundwater standards, a monitoring program will be instituted for a minimum of five years. Key monitoring points will include the upgradient wells at the site (MW-1/RW-1), wells in the vicinity of the former tanks (MW-2/RW-2 and MW-3/RW-3), and the wells downgradient of the building (MW-5) and dry well area (MW-6). This program will allow the effectiveness of the selected remedy to be monitored and will be a component of the operation, maintenance, and monitoring for the site. The monitoring program will be evaluated after five years to determine whether further monitoring is necessary.
6. Development of a site management plan to: (a) evaluate the potential for vapor intrusion for any buildings developed on the site, including provisions for mitigation of any impacts identified; and (b) identify any use restrictions (e.g., groundwater).
7. The property owner will provide an annual certification, prepared and submitted by a professional engineer or environmental professional acceptable to the Department, which will certify that the institutional controls and engineering controls put in place, are unchanged from the previous certification and nothing has occurred that will impair the ability of the control to protect public health or the environment or constitute a violation or failure to comply with any operation and maintenance or site management plan.
8. Imposition of an institutional control in form of an environmental easement that will: (a) require compliance with the approved site management plan; (b) restrict use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH; and (c) require the property owner to complete and submit to the NYSDEC an annual certification.

SECTION 9: HIGHLIGHTS OF COMMUNITY PARTICIPATION

As part of the Frederick Property environmental restoration process, a number of Citizen Participation activities were undertaken to inform and educate the public about conditions at the site

and the potential remedial alternatives. The following public participation activities were conducted for the site:

- Repositories for documents pertaining to the site were established.
- A public contact list, which included nearby property owners, elected officials, local media and other interested parties, was established.
- A Citizen Participation Plan was prepared in June 2000.
- A Fact Sheet was mailed in October 2000 announcing the beginning of fieldwork at the site.
- A Fact Sheet was mailed in December 2000 announcing the removal of underground storage tanks from the site.
- A Fact Sheet was mailed in February 2004 announcing the public meeting and availability of the PRAP for public review.
- A public comment period was held from February 12 through March 28, 2004 to receive input on the PRAP from any interested parties.
- A public meeting was held on February 26, 2004 to present and receive comments on the PRAP.
- A responsiveness summary (Appendix A) was prepared to address the comments received during the public comment period for the PRAP.

TABLE 1
Nature and Extent of Contamination
 November 2000 - October 2002

SUBSURFACE SOIL	Contaminants of Concern	Concentration Range Detected (ppm) ^a	SCG ^b (ppm) ^c	Frequency of Exceeding SCG
Volatile Organic Compounds (VOCs)	1,3,5-Trimethylbenzene	ND ^c to 6.4	3.3	1 of 35
	1,2,4-Trimethylbenzene	ND to 20	10	1 of 35
	Xylenes	ND to 20	1.2	2 of 35

GROUNDWATER	Contaminants of Concern	Concentration Range Detected (ppb) ^a	SCG ^b (ppb) ^c	Frequency of Exceeding SCG
Volatile Organic Compounds (VOCs)	Benzene	ND to 29	1	2 ^d of 22
	cis-1,2-Dichloroethene	ND to 14	5	4 ^d of 22
	Ethylbenzene	ND to 120	5	2 ^d of 22
	Isopropyl Benzene	ND to 22	5	2 ^d of 22
	p-Isopropyltoluene	ND to 5.2	5	1 of 22
	Napthalene	ND to 80	10	2 ^d of 22
	n-Propylbenzene	ND to 44	5	2 ^d of 22
	Tetrachloroethene	ND to 59	5	4 ^d of 22
	Toluene	ND to 12	5	2 ^d of 22
	Trichloroethene	ND to 14	5	3 ^d of 22
	1,3,5-Trimethylbenzene	ND to 43	5	2 ^d of 22
	1,2,4-Trimethylbenzene	ND to 310	5	2 ^d of 22
	Xylenes	ND to 296	5	2 ^d of 22
Semivolatile Organic Compounds (SVOCs)	Bis(2-Ethylhexyl)Phthalate	ND to 260	50	4 ^d of 22
	4-Methylphenol	ND to 51	5	2 of 22

^a ppb = parts per billion, which is equivalent to micrograms per liter, ug/L, in water;
 ppm = parts per million, which is equivalent to milligrams per kilogram, mg/kg, in soil;

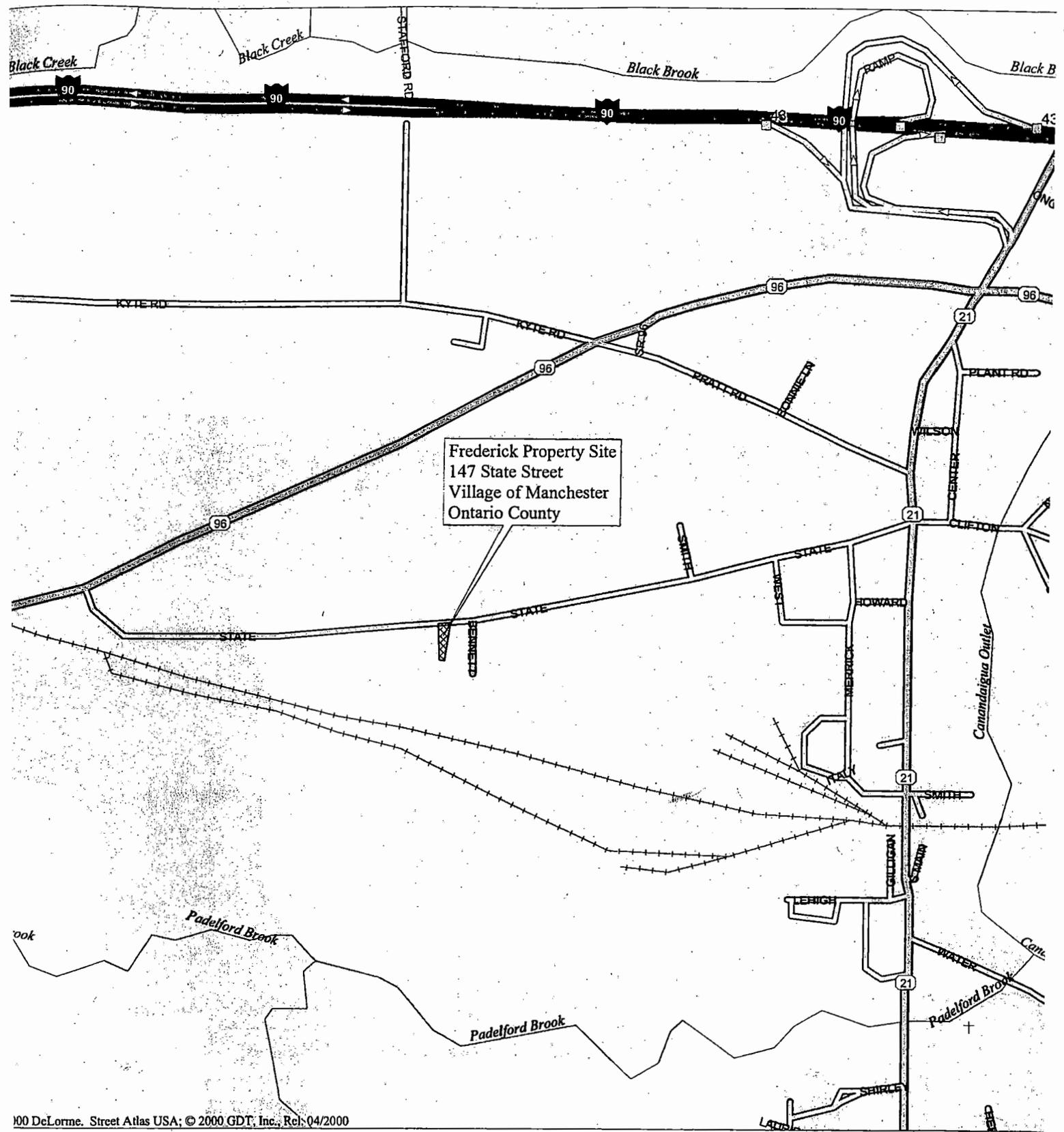
^b SCG = standards, criteria, and guidance values; {list SCGs for each medium}

^c ND - indicates the contaminant was not detected at or above the method detection limit achieved by the laboratory.

^d This compound was detected in samples collected from one or more monitoring wells and in a duplicate sample collected from one of these wells that was sent "blind" to the laboratory. Results from the duplicate sample are used when greater than the associated sample.

Table 2
Remedial Alternative Costs

Remedial Alternative	Capital Cost	Annual OM&M	Total Present Worth
No Further Action	\$0	\$10,000	\$43,500
Institutional Controls	\$12,500	\$10,000	\$56,000
Removal Action	\$78,500	\$10,000	\$122,000



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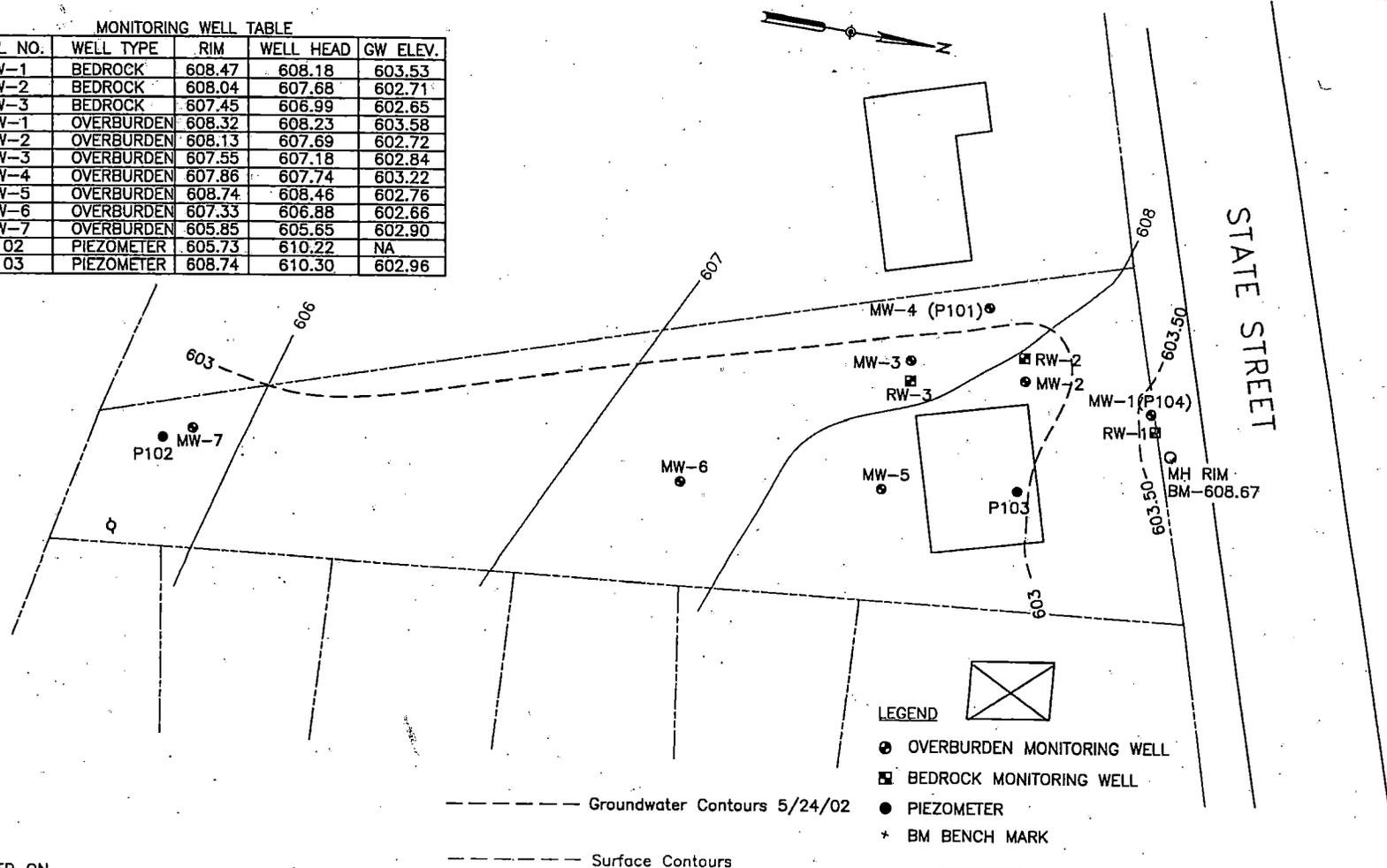
Scale 1:12,500 (at center)
 1000 Feet
 100 Meters

- Local Road
- State Route
- Toll Highway
- Exit
- ++ Railroad
- + Cemetery
- Population Center
- Woodland
- River/Canal



FIGURE 1 - SITE LOCATION MAP

MONITORING WELL TABLE				
WELL NO.	WELL TYPE	RIM	WELL HEAD	GW ELEV.
RW-1	BEDROCK	608.47	608.18	603.53
RW-2	BEDROCK	608.04	607.68	602.71
RW-3	BEDROCK	607.45	606.99	602.65
MW-1	OVERBURDEN	608.32	608.23	603.58
MW-2	OVERBURDEN	608.13	607.69	602.72
MW-3	OVERBURDEN	607.55	607.18	602.84
MW-4	OVERBURDEN	607.86	607.74	603.22
MW-5	OVERBURDEN	608.74	608.46	602.76
MW-6	OVERBURDEN	607.33	606.88	602.66
MW-7	OVERBURDEN	605.85	605.65	602.90
P102	PIEZOMETER	605.73	610.22	NA
P103	PIEZOMETER	608.74	610.30	602.96



NOTE:
ELEVATIONS BASED ON
USGS ELEVATION OF 609.00
AT THE INTERSECTION OF THE
CENTERLINES OF BENNETT AVE.
AND STATE STREET.

BASEMAP PREPARED BY SNIEDZE ASSOCIATES
CONSULTING ENGINEERS, CANANDAIGUA, NY



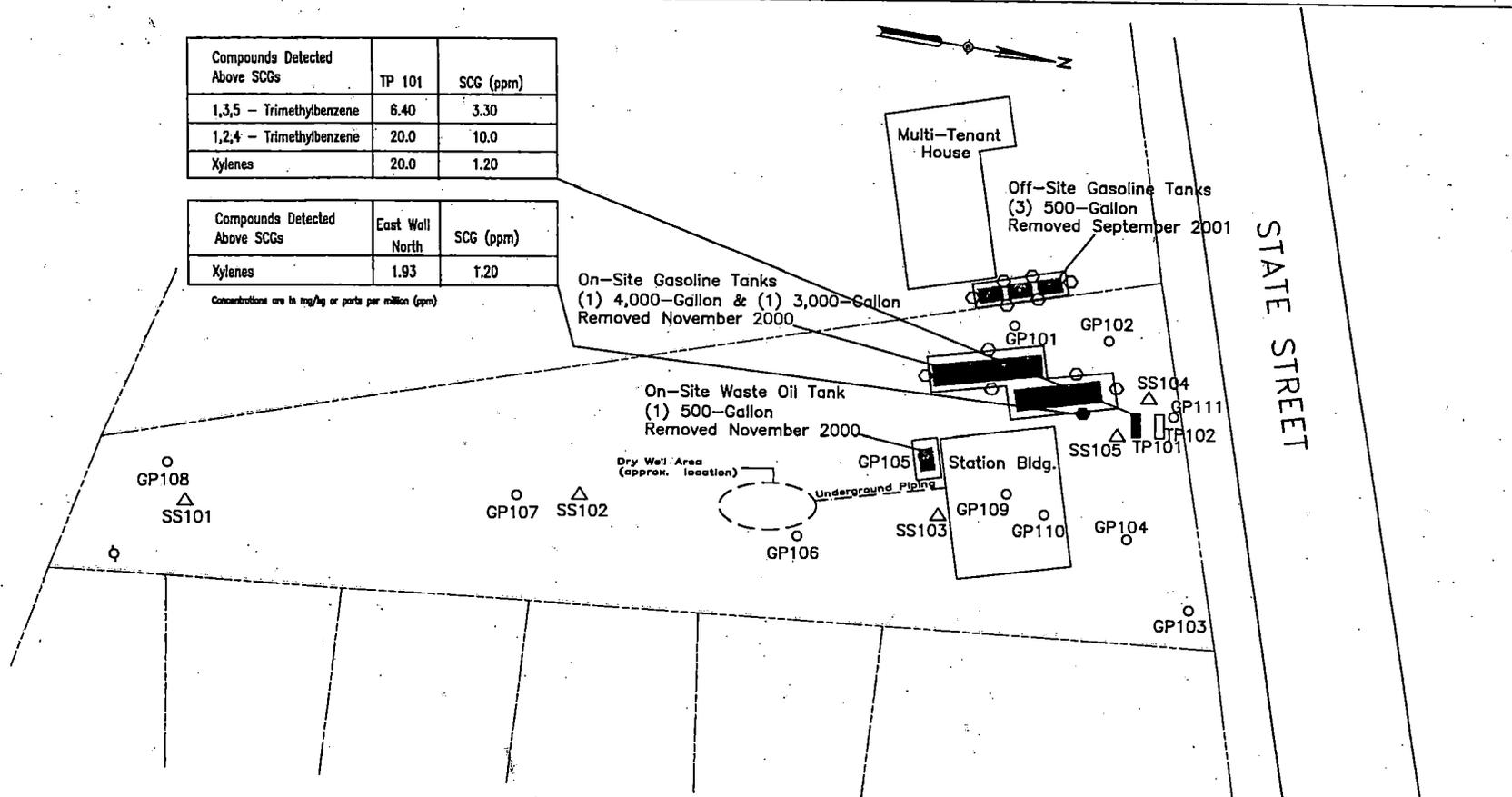
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FREDERICK PROPERTY VILLAGE OF MANCHESTER, ONTARIO COUNTY SITE NO. 8-00131-8	
ENVIRONMENTAL RESTORATION PROPOSED REMEDIAL ACTION PLAN FIGURE 2 - GROUNDWATER ELEVATIONS	
SCALE: 1"=30'	JANUARY 2004

Compounds Detected Above SCGs	TP 101	SCG (ppm)
1,3,5 - Trimethylbenzene	6.40	3.30
1,2,4 - Trimethylbenzene	20.0	10.0
Xylenes	20.0	1.20

Compounds Detected Above SCGs	East Wall North	SCG (ppm)
Xylenes	1.93	1.20

Concentrations are in mg/kg or parts per million (ppm)



LEGEND

- GEOPROBE SOIL BORING
- △ SURFACE SOIL SAMPLE
- TEST PIT
- TANK PIT SOIL SAMPLE
- CONTAMINANT CONCENTRATION ABOVE SCG VALUES

BASEMAP PREPARED BY SNIEDZE ASSOCIATES
CONSULTING ENGINEERS, CANANDAIGUA, NY



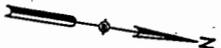
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FREDERICK PROPERTY
VILLAGE OF MANCHESTER, ONTARIO COUNTY
SITE NO. B-00131-8

ENVIRONMENTAL RESTORATION
PROPOSED REMEDIAL ACTION PLAN
FIGURE 3 - SOIL SAMPLING
RESULTS ABOVE SCGs

SCALE: 1"=30'

JANUARY 2004



RW-2	05/02	10/02
Benzene	29	ND
Cis-1,2-Dichloroethene	ND	14
Ethylbenzene	120	ND
Isopropylbenzene	22	ND
P-Isopropyltoluene	5.2	ND
Napthalene	80	ND
N-Propylbenzene	44	ND
Tetrachloroethene	ND	48
Toluene	12	ND
Trichloroethene	ND	13
1,3,5-Trimethylbenzene	43	ND
1,2,4-Trimethylbenzene	310	ND
Xylenes	296	ND

MW-4	05/02	10/02
Bis(2-Ethylhexyl)Phthalate	110	ND

RW-3	05/02	10/02
Cis-1,2-Dichloroethene	ND	5.6
Tetrachloroethene	ND	13
Trichloroethene	ND	5.1
4-Methylphenol	ND	51

MW-7	05/02	10/02
Bis(2-Ethylhexyl)Phthalate	260	ND

MW-6	05/02	10/02
4-Methylphenol	ND	13

MW-5	05/02	10/02
Bis(2-Ethylhexyl)Phthalate	110	ND

RW-1	05/02	10/02
Cis-1,2-Dichloroethene	ND	13
Tetrachloroethene	1.4 J	59
Trichloroethene	ND	14

MW-1	05/02	10/02
Bis(2-Ethylhexyl)Phthalate	67	ND

LEGEND

- OVERBURDEN MONITORING WELL
 - BEDROCK MONITORING WELL
 - PIEZOMETER
- All concentrations are in ug/L or parts per billion (ppb)
 ND = non detect
 J = detected below the Quantition Limit

BASEMAP PREPARED BY SHIEDZE ASSOCIATES
 CONSULTING ENGINEERS, CANANDAIGUA, NY



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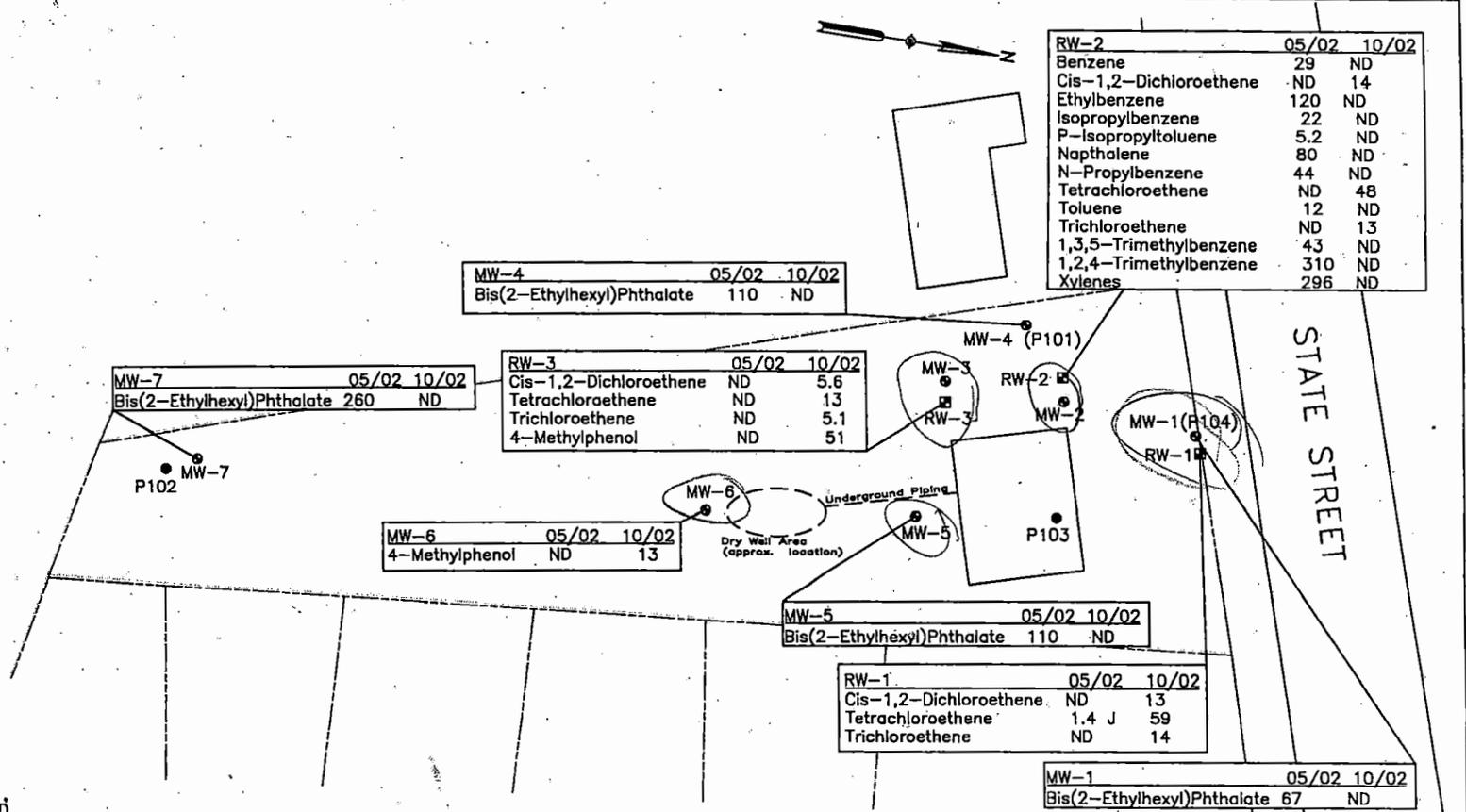
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 VILLAGE OF MANCHESTER, ONTARIO COUNTY
 SITE NO. B-00131-8

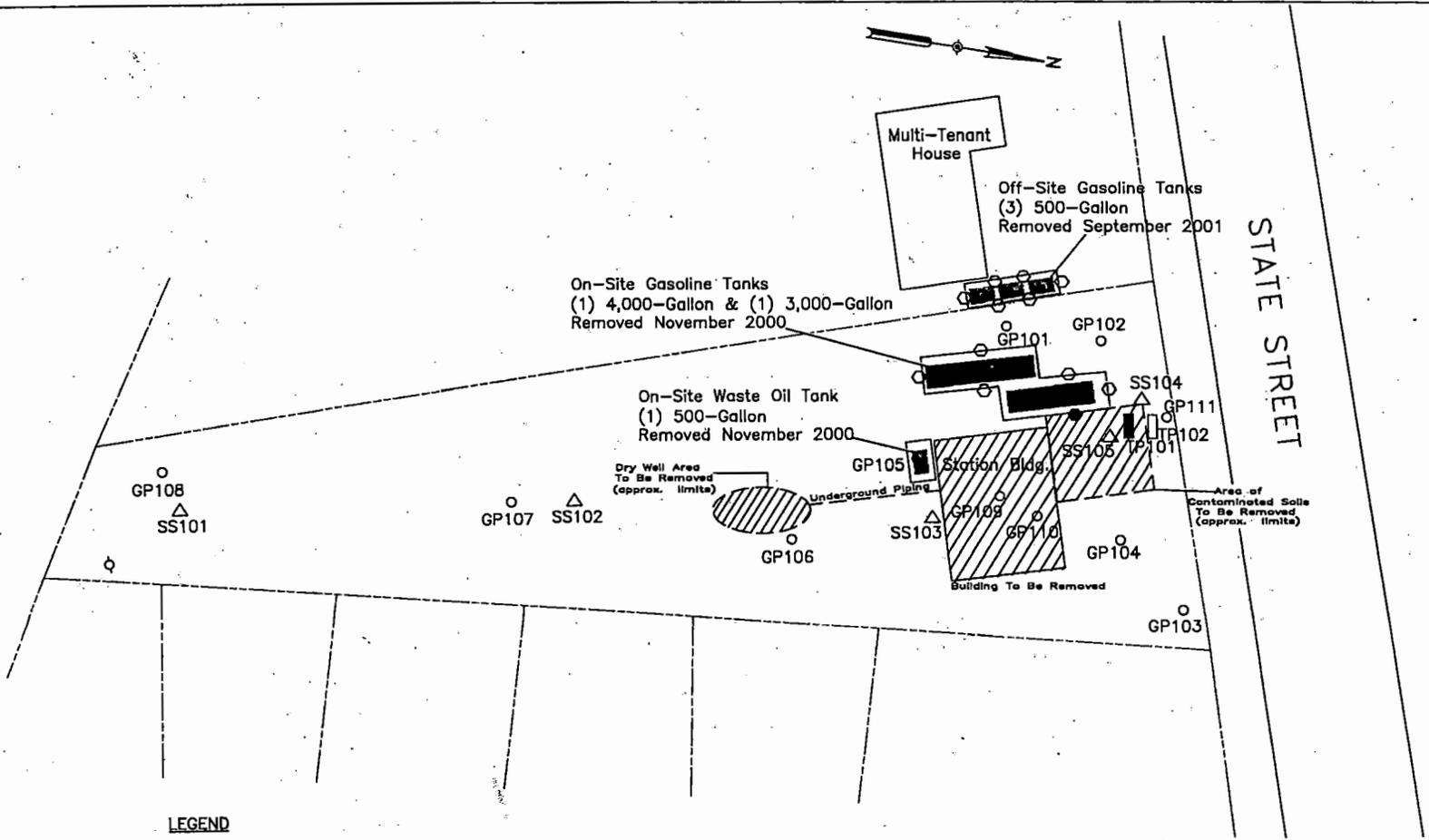
ENVIRONMENTAL RESTORATION
 PROPOSED REMEDIAL ACTION PLAN
 FIGURE 4 - GROUNDWATER SAMPLING
 RESULTS ABOVE SCGs

SCALE: 1"=30'

JANUARY 2004

STATE STREET





LEGEND

- GEOPROBE SOIL BORING
- △ SURFACE SOIL SAMPLE
- TEST PIT
- TANK PIT SOIL SAMPLE
- CONTAMINANT CONCENTRATION ABOVE SCG VALUES

BASEMAP PREPARED BY SNIEDZE ASSOCIATES
CONSULTING ENGINEERS, CANANDAIGUA, NY



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FREDERICK PROPERTY VILLAGE OF MANCHESTER, ONTARIO COUNTY SITE NO. B-00131-8	
ENVIRONMENTAL RESTORATION PROPOSED REMEDIAL ACTION PLAN FIGURE 5 - SITE REMEDIATION PLAN	
SCALE: 1"=30'	JANUARY 2004

APPENDIX A

Responsiveness Summary

RESPONSIVENESS SUMMARY

Frederick Property Environmental Restoration Site Village of Manchester, Ontario County, New York Site No. B-00131-8

The Proposed Remedial Action Plan (PRAP) for the Frederick Property site, was prepared by the New York State Department of Environmental Conservation (NYSDEC) in consultation with the New York State Department of Health (NYSDOH) and was issued to the document repositories on February 12, 2004. The PRAP outlined the remedial measure proposed for the contaminated soil and groundwater at the Frederick Property site.

The release of the PRAP was announced by sending a notice to the public contact list, informing the public of the opportunity to comment on the proposed remedy.

A public meeting was held on February 26, 2004, which included a presentation of the Site Investigation/Remedial Alternatives Report (SI/RAR) and a discussion of the proposed remedy. The meeting provided an opportunity for citizens to discuss their concerns, ask questions and comment on the proposed remedy. These comments have become part of the Administrative Record for this site. The public comment period for the PRAP ended on March 28, 2004.

This responsiveness summary responds to all questions and comments raised during the public comment period. The following are the comments received, with the NYSDEC's responses:

COMMENT 1: Under the new Environmental Restoration Program, if the village is given 90% funding and another 10% grant funding comes from another source, would the State be subtracting 10% from the 90%?

RESPONSE 1: Recently enacted enhancements to the ERP will provide up to 90% State reimbursement for eligible remediation costs on the site. The Village may obtain additional funding from other non-responsible Party sources and the State will not deduct such funding from the 90% reimbursement amount.

COMMENT 2: Does the State have any recommendations for the site's new use?

RESPONSE 2: It is up to the property owner (Village of Manchester) to determine future use of the site. The selected remedy does not include any property use restrictions, other than groundwater use limitations and the prevention of vapor intrusion into any future buildings.

COMMENT 3: I think you said that as of October 7, 2003, this new program will start to work more rapidly to increase the cleanup of sites. What does this mean?

RESPONSE 3: While there isn't an actual mechanism in place to speed the process up, the State is trying to encourage increased participation from municipalities by increasing the

reimbursement amount from 75% to 90%. The NYSDEC has also been working on an internal streamlining process, separate from the legislative changes, to try to speed up many of our own procedures.

COMMENT 4: You started this cleanup project in 1999 and it took four years to get to this point. This gas station was a relatively small operation. How long will it take the State to cleanup larger operations like Victor Auto Parts? Centuries?

RESPONSE 4: Environmental investigations are an inherently iterative process, requiring multiple successive steps prior to completion. In addition, the level of investigation required under the ERP is significantly more comprehensive than what may be completed by a private party without State funding and an ultimate release of liability. The cleanup phase of this project is expected to be significantly less time consuming. It should likely take a year or less to complete the removal action once the application for State funding of remediation costs is approved.

There is an open spill file for the Victor Auto Parts Site, which is not related to the Frederick Property Site. NYSDEC staff are involved in the oversight of the investigation/cleanup work and are available to answer any questions related to the Victor Auto Parts Site, including the time frame for completion.

COMMENT 5: Can you keep the same engineering firm, familiar with this site, to do the remaining clean up? That would speed up the clean up process.

RESPONSE 5: The Village may continue to use the same consultant for the clean up work, as long as they are retained in accordance with General Municipal Law.

COMMENT 6: I would like to see the building demolished and re-zoned residential in a quick way.

RESPONSE 6: The building demolition can likely be completed within one year of application approval. It is up to the Village to determine any future zoning changes for the site. The selected remedy does not include any restrictions that should affect zoning decisions.

COMMENT 6: I'm concerned about my home. I live across the street from the site, on the north side of the site. My home was built in 1971 and is below the bedrock, since I had a basement built. Can this contamination come into my basement? My property slopes downward toward my home. I do get water in my basement, and there's a white powder left when the water evaporates.

RESPONSE 6: The extent of the site-related contamination has been defined and it is not migrating off the property. Additionally, the groundwater flow direction at the site is generally from the north to the south, away from your property. The types of contaminants identified at the site would not leave the residue noted in your basement. That may be due to a common mineralization process.

COMMENT 7: When I purchased the property next door, west of the site, there was a lot of water in the basement. I put a sump pump in the basement. I don't get any more water in the basement. Where is the water?

RESPONSE 7: Activities related to the site investigation at the Frederick Property would not cause this. While we don't know the exact cause, the precast concrete manufacturing facility to the south of the site is an industrial user of groundwater. Their use may influence the groundwater table at your property.

COMMENT 8: During the five-year monitoring, how often will the wells be sampled?

RESPONSE 8: After the remedy is complete, the wells will be sampled once annually for a minimum of five years. Results will then be evaluated to determine whether additional monitoring is needed.

COMMENT 9: How much is being done to find that unknown source of contamination?

RESPONSE 9: As mentioned in Section 5.1.3 of the ROD, the relatively low levels of chlorinated solvent compounds detected in site groundwater appear to be migrating onto the property from an off-site source that has not yet been identified. The same chlorinated compounds have been detected in the former municipal water supply well located approximately one-half mile west of the site. This well is no longer in use and the Village is now supplied public water by the adjacent Town of Farmington.

The NYSDEC is evaluating available information regarding this contamination to assess the degree of threat and prioritize it along with numerous other concerns across the State. The contaminant levels detected to date are not substantially elevated and there is no imminent threat to drinking water, as groundwater in this area is no longer used as a drinking water source. At a minimum, the continued groundwater monitoring aspect of the selected remedy will enable us to track changes in contaminant levels over time. If the concentrations start to increase and it appears this may be a significant threat, we would consider using the State Superfund program to identify and cleanup the source.

Ms. Ellen Cirulli submitted a letter (received February 19, 2004), which included the following comment:

COMMENT 10: I live across the street from this site. It's an eyesore. I'd like to see a very speedy cleanup completion on this site. I'd like the building torn down and the property rezoned residential.

RESPONSE 10: The selected remedy includes building demolition. The NYSDEC will work with the Village to achieve as timely a cleanup as possible. As noted in the response to Comment 6, it is up to the Village to determine any future zoning changes for the site. The selected remedy does not include any restrictions that should affect zoning decisions.

APPENDIX B

Administrative Record

Administrative Record

Frederick Property Environmental Restoration Site Village of Manchester, Ontario County, New York Site No. B-00131-8

1. "Citizen Participation Plan for Frederick Property", dated June 2000, prepared by the Village of Manchester.
2. "Site Investigation Work Plan, Frederick Property Environmental Restoration Project", dated June 2000, prepared by Sniedze Associates.
3. Letter dated July 20, 2000 from Rob W. Ryan, P.E. of NYSDEC, providing conditional approval of the Work Plan
4. "Site Investigation/Remedial Alternatives Report", dated September 2000 (revised October 2000), prepared by Sniedze Associates.
5. Letter dated November 25, 2003 from Gregory B. MacLean, P.E. of NYSDEC responding to the SI/RA Report and requesting additional information.
6. Letter dated December 19, 2003 from Robert H. Raeman, Sniedze Associates, Addendum to SI/RAR.
7. Letter dated December 30, 2003 from Robert H. Raeman, Sniedze Associates, providing additional information related to the SI/RAR.
8. Proposed Remedial Action Plan for the Frederick Property site, dated February 2004, prepared by the NYSDEC

APPENDIX B

CONTRACT DOCUMENTS

CONTRACT DOCUMENTS

VILLAGE OF MANCHESTER, NEW YORK

**FREDERICK PROPERTY
ENVIRONMENTAL RESTORATION PROJECT
147 STATE STREET**

NYSDEC SITE B00131-8

SITE REMEDIATION

JANUARY 2005



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SNIEDZE ASSOCIATES

CONSULTING ENGINEERS

482 North Main Street

Canandaigua, NY 14424-1049

(585) 394-2630

VILLAGE OF MANCHESTER, NEW YORK

FREDERICK PROPERTY ENVIRONMENTAL RESTORATION PROJECT
147 STATE STREET
NYSDEC SITE B00131-8

SITE REMEDIATION

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VILLAGE OF MANCHESTER, NEW YORK

FREDERICK PROPERTY ENVIRONMENTAL RESTORATION PROJECT
147 STATE STREET
NYSDEC SITE B00131-8

SITE REMEDIATION

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Figure 1, Project Location Map

Drawing No. 4360-9, Remediation Plan

Drawing No. 4360-10, Sample Location Plan

*IT IS A VIOLATION OF THE NEW YORK STATE
EDUCATION LAW FOR ANY PERSON, UNLESS HE
IS ACTING UNDER THE DIRECTION OF A LICENSED
PROFESSIONAL ENGINEER, TO ALTER THIS
DOCUMENT IN ANY WAY.*

VILLAGE OF MANCHESTER, NEW YORK

FREDERICK PROPERTY ENVIRONMENTAL RESTORATION PROJECT
147 STATE STREET
NYSDEC SITE B00131-8

SITE REMEDIATION

INVITATION TO BID

Sealed bids will be received by the Village of Manchester, New York for site remediation of the Frederick Property located at 147 State Street. Site remediation shall include removal and disposal of concrete slab and foundation, hydraulic lift and lift pit removal, dry well closure, soil removal and disposal, soil sampling and testing, backfill, site restoration and all related work.

A pre-bid meeting will be held at 147 State Street on _____, 2005 at 10:00 a.m.

Bids will be received and publicly opened and bid prices read aloud at the following place and time:

Place: Village of Manchester
8 Clifton Street
Manchester, NY 14504

Date:

Time:

The Contract Documents may be examined or obtained at the office of Sniedze Associates, Consulting Engineers, 482 North Main Street, Canandaigua, New York 14424.

Deposit in the form of a check or money order, made payable to the Village of Manchester is required in the amount of Fifty Dollars (\$50.00) for each set of Contract Documents. Full refund will be made for the return of each set in good condition within thirty days of the receipt of bids.

Requests for mailing of Contract Documents shall be made to Sniedze Associates. A nonrefundable fee of \$20.00 will be charged for handling and mailing of Contract Documents. A separate check in the amount of \$20.00 made payable to Sniedze Associates must accompany all such requests.

Bidders shall not include in their bid proposal sales and compensating use taxes of the State of New York and of counties, or cities, on all materials, equipment and supplies incorporated in this project.

Bid Security in the amount of five (5) percent of the total Bid submitted must accompany the Bid in accordance with the Instructions to Bidders.

The Village of Manchester reserves the right to reject any and all bids.

Angela M. D'Arduini
Village Clerk/Treasurer

STANDARD FORM OF INSTRUCTIONS TO BIDDERS



Jointly Issued by

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1150 17TH STREET, N.W., WASHINGTON, D.C. 20036

1. Defined Terms.

Terms used in these Instructions to Bidders which are defined in the Standard General Conditions of the Construction Contract, NSPE-ACEC Document 1910-8, CSI 56465 (1990 editions) have the meanings assigned to them in the General Conditions. The term "Successful Bidder" means the lowest, qualified, responsible Bidder to whom Owner (on the basis of Owner's evaluation as hereinafter provided) makes an award.

2. Copies of Bidding Documents.

2.1. Complete sets of the Bidding Documents in the number and for the deposit sum, if any, stated in the Advertisement or Invitation may be obtained from Engineer (unless another issuing office is designated in the Advertisement or Invitation to Bid). The deposit will be refunded to Bidders who submit a bona fide Bid and return the Bidding Documents in good condition within ten days after opening of Bids.

2.2. Complete sets of Bidding Documents shall be used in preparing Bids; neither Owner nor Engineer assume any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.

2.3. Owner and Engineer in making copies of Bidding Documents available on the above terms do so only for the purpose of obtaining Bids on the Work and do not confer a license or grant for any other use.

3. Qualifications of Bidders.

To demonstrate qualifications to perform the Work, each Bidder must be prepared to submit within five days of Owner's request written evidence of the types set forth in the Supplementary Conditions, such as financial data, previous experience and evidence of authority to conduct business in the jurisdiction where the Project is located. Each Bid must contain evidence of Bidder's qualification to do business in the state where the Project is located or covenant to obtain such qualification prior to award of the contract.

4. Examination of Contract Documents and Site.

4.1. Before submitting a Bid, each Bidder must (a) examine the Contract Documents thoroughly, (b) visit the site to familiarize himself with local conditions that may in any manner affect cost, progress or performance of the Work, (c) familiarize himself with federal, state and local laws, ordinances, rules and regulations that may in any manner affect cost, progress or performance of the Work; and (d) study and carefully correlate Bidder's observations with the Contract Documents.

4.2. Reference is made to the Supplementary Conditions for the identification of those reports of investigations and tests of subsurface and latent physical conditions at the site or otherwise affecting cost, progress or performance of the Work which have been relied upon by Engineer in preparing the Drawings and Specifications. Owner will make copies of such reports available to any Bidder requesting them. These reports are not guaranteed as to accuracy or completeness, nor are they part of the Contract Documents. Before submitting his Bid each Bidder will, at his own expense, make such additional investigations and tests as the Bidder may deem necessary to determine his Bid for performance of the Work in accordance with the time, price and other terms and conditions of the Contract Documents.

4.3. On request Owner will provide each Bidder access to the site to conduct such investigations and tests as each Bidder deems necessary for submission of his Bid.

4.4. The lands upon which the Work is to be performed, rights-of-way for access thereto and other lands designated for use by Contractor in performing the Work are identified in the Supplementary Conditions, General Requirements or Drawings.

4.5. The submission of a Bid will constitute an incontrovertible representation by the Bidder that he has complied with every requirement of this Article 4 and that the Contract Documents are sufficient in scope and detail to indicate and convey understanding of all terms and conditions for performance of the Work.

5. Interpretations.

All questions about the meaning or intent of the Contract Documents shall be submitted to Engineer in writing. Replies will be issued by Addenda mailed or delivered to all parties recorded by Engineer as having received the Bidding Documents. Questions received less than ten days prior to the date for opening of Bids will not be answered. Only questions answered by formal written Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.

6. Bid Security.

6.1. Bid Security shall be made payable to Owner, in an amount of five percent of the Bidder's maximum Bid price and in the form of a certified or bank check or a Bid Bond (on form attached, if a form is prescribed) issued by a Surety meeting the requirements of paragraph 5.1 of the General Conditions.

6.2. The Bid Security of the Successful Bidder will be retained until such Bidder has executed the Agreement and furnished the required Contract Security, whereupon it will be returned; if the successful Bidder fails to execute and deliver the Agreement and furnish the required Contract Security within 15 days of the Notice of Award, Owner may annul the Notice of Award and the Bid Security of that Bidder will be forfeited. The Bid Security of any Bidder whom Owner believes to have a reasonable chance of receiving the award may be retained by Owner until the earlier of the seventh day after the "effective date of the Agreement" (which term is defined in the General Conditions) by Owner to Contractor and the required Contract Security is furnished or the sixty-first day after the Bid opening. Bid Security of other Bidders will be returned within seven days of the Bid opening.

7. Contract Time.

The number of days within which, or the date by which, the Work is to be completed (the Contract Time) is set forth in the Bid Form and will be included in the Agreement.

8. Liquidated Damages.

Provisions for liquidated damages, if any, are set forth in the Agreement.

9. Substitute Material and Equipment.

The Contract, if awarded, will be on the basis of material and equipment described in the Drawings or specified in the Specifications without consideration of possible substitute or "or-equal" items. Whenever it is indicated in the Drawings or

specified in the Specifications that a substitute or "or-equal" item of material or equipment may be furnished or used by Contractor if acceptable to Engineer, application for such acceptance will not be considered by Engineer until after the "effective date of the Agreement". The procedure for submission of any such application by Contractor and consideration by Engineer is set forth in paragraphs 6.7, 6.7.1 and 6.7.2 of the General Conditions which may be supplemented in the General Requirements.

10. Subcontractors, etc.

10.1. If the Supplementary Conditions require the identity of certain Subcontractors and other persons and organizations to be submitted to Owner in advance of the Notice of Award, the apparent Successful Bidder, and any other Bidder so requested, will within seven days after the day of the Bid opening submit to Owner a list of all Subcontractors and other persons and organizations (including those who are to furnish the principal items of material and equipment) proposed for those portions of the Work as to which such identification is so required. Such list shall be accompanied by an experience statement with pertinent information as to similar projects and other evidence of qualification for each such Subcontractor, person and organization if requested by Owner. If Owner or Engineer after due investigation has reasonable objection to any proposed Subcontractor, other person or organization, either may before giving the Notice of Award request the apparent Successful Bidder to submit an acceptable substitute without an increase in Bid price. If the apparent Successful Bidder declines to make any such substitution, the contract shall not be awarded to such Bidder, but his declining to make any such substitution will not constitute grounds for sacrificing his Bid Security. Any Subcontractor, other person or organization so listed and to whom Owner or Engineer does not make written objection prior to the giving of the Notice of Award will be deemed acceptable to Owner and Engineer.

10.2. In contracts where the Contract Price is on the basis of Cost-of-the-Work Plus a Fee, the apparent Successful Bidder, prior to the Notice of Award, shall identify in writing to Owner those portions of the Work that such Bidder proposes to subcontract and after the Notice of Award may only subcontract other portions of the Work with Owner's written consent.

10.3. No Contractor shall be required to employ any Subcontractor, other person or organization against whom he has reasonable objection.

11. Bid Form.

11.1. The Bid Form is attached hereto; additional copies may be obtained from Engineer.

11.2. Bid Forms must be completed in ink or by typewriter. The Bid price of each item on the form must be stated in words and numerals; in case of a conflict, words will take precedence.

11.3. Bids by corporations must be executed in the corporate name by the president or a vice-president (or other corporate officer accompanied by evidence of authority to sign) and the corporate seal must be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation shall be shown below the signature.

11.4. Bids by partnerships must be executed in the partnership name and signed by a partner, whose title must appear

under the signature and the official address of the partnership must be shown below the signature.

11.5. All names must be typed or printed below the signature.

11.6. The Bid shall contain an acknowledgment of receipt of all Addenda (the numbers of which shall be filled in on the Bid Form).

11.7. The address to which communications regarding the Bid are to be directed must be shown.

12. Submission of Bids.

Bids shall be submitted at the time and place indicated in the Invitation to Bid and shall be included in an opaque sealed envelope, marked with the Project title and name and address of the Bidder and accompanied by the Bid Security and other required documents. If the Bid is sent through the mail or other delivery system the sealed envelope shall be enclosed in a separate envelope with the notation "BID ENCLOSED" on the face thereof.

13. Modification and Withdrawal of Bids.

13.1. Bids may be modified or withdrawn by an appropriate document duly executed (in the manner that a Bid must be executed) and delivered to the place where Bids are to be submitted at any time prior to the opening of Bids.

13.2. If, within twenty-four hours after Bids are opened, any Bidder files a duly signed written notice with Owner and promptly thereafter demonstrates to the reasonable satisfaction of Owner that there was a material and substantial mistake in the preparation of his Bid, that Bidder may withdraw his Bid and the Bid Security will be returned. Thereafter, that Bidder will be disqualified from further bidding on the Work.

14. Opening of Bids.

Bids will be opened (publicly)

14.1. When Bids are opened publicly they will read aloud, and an abstract of the amounts of the base Bids and major alternates (if any) will be made available after the opening of Bids.

14.2. When Bids are opened privately, an abstract of the same information will (not) be made available to Bidders within seven days after the date of Bid opening.

15. Bids to Remain Open.

All Bids shall remain open for **45** days after the day of the Bid opening, but Owner may, in his sole discretion, release any Bid and return the Bid Security prior to that date.

16. Award of Contract.

16.1. Owner reserves the right to reject any and all Bids, to waive any and all informalities and to negotiate contract terms with the Successful Bidder, and the right to disregard all nonconforming, nonresponsive or conditional Bids. Discrepancies between words and figures will be resolved in favor of words. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum.

16.2. In evaluating Bids, Owner shall consider the qualifications of the Bidders, whether or not the Bids comply with

the prescribed requirements, and alternates and unit prices if requested in the Bid forms. It is Owner's intent to accept alternates (if any are accepted) in the order in which they are listed in the Bid form but Owner may accept them in any order or combination.

16.3. Owner may consider the qualifications and experience of Subcontractors and other persons and organizations (including those who are to furnish the principal items of material or equipment) proposed for those portions of the Work as to which the identity of Subcontractors and other persons and organizations must be submitted as provided in the Supplementary Conditions. Operating costs, maintenance considerations, performance data and guarantees of materials and equipment may also be considered by Owner.

16.4. Owner may conduct such investigations as he deems necessary to assist in the evaluation of any Bid and to establish the responsibility, qualifications and financial ability of the Bidders, proposed Subcontractors and other persons and organizations to do the Work in accordance with the Contract Documents to Owner's satisfaction within the prescribed time.

16.5. Owner reserves the right to reject the Bid of any Bidder who does not pass any such evaluation to Owner's satisfaction.

16.6. If the contract is to be awarded it will be awarded to the lowest Bidder whose evaluation by Owner indicates to Owner that the award will be in the best interests of the Project.

16.7. If the contract is to be awarded, Owner will give the Successful Bidder a Notice of Award within 45 days after the day of the Bid opening.

17. Performance and Other Bonds.

Paragraph 5.1 of the General Conditions and the Supplementary Conditions set forth Owner's requirements as to performance and other Bonds. When the Successful Bidder delivers the executed Agreement to Owner it shall be accompanied by the required Contract Security.

18. Signing of Agreement.

When Owner gives a Notice of Award to the Successful Bidder, it will be accompanied by at least three unsigned counterparts of the Agreement and all other Contract Documents. Within fifteen days thereafter Contractor shall sign and deliver at least three counterparts of the Agreement to Owner with all other Contract Documents attached. Within ten days thereafter Owner will deliver all fully signed counterparts to Contractor. Engineer will identify those portions of the Contract Documents not fully signed by Owner and Contractor and such identification shall be binding on all parties.

VILLAGE OF MANCHESTER, NEW YORK

FREDERICK PROPERTY ENVIRONMENTAL RESTORATION PROJECT
147 STATE STREET
NYSDEC SITE B00131-8

SITE REMEDIATION

BID FORM

THIS BID SUBMITTED TO:

Village of Manchester, New York

1. The undersigned BIDDER proposes and agrees, if this Bid is accepted, to enter into an agreement with OWNER in the form included in the Contract Documents to perform and furnish all Work as specified or indicated in the Contract Documents for the Contract Price and within the Contract Time indicated in this Bid and in accordance with the other terms and conditions of the Contract Documents.
2. BIDDER accepts all of the terms and conditions of the Advertisement or Invitation to Bid and Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for forty-five (45) days after the day of Bid opening. BIDDER will sign and submit the Agreement with the Bonds and other documents required by the Bidding Requirements within fifteen (15) days after the date of OWNER's Notice of Award.
3. In submitting this Bid, BIDDER represents, as more fully set forth in the Agreement, that:
 - (a) BIDDER has examined copies of all the Bidding Documents and of the following Addenda (receipt of all which is hereby acknowledged):

Date

Number

- (b) BIDDER has familiarized itself with the nature and extent of the Contract Documents, Work, site, locality, and all local conditions and Laws and Regulations that in any manner may affect cost, progress, performance or furnishing of the Work.
- (c) BIDDER has studied carefully all reports and drawings of subsurface conditions and drawings of physical conditions which are identified in the Supplementary Conditions as provided in paragraph 4.2 of the General Conditions, and accepts the determination set forth in paragraph SC-4.2 of the Supplementary Conditions of the extent of the technical data contained in such reports and drawings upon which BIDDER is entitled to reply.

- (d) BIDDER has obtained and carefully studied (or assumes responsibility for obtaining and carefully studying) all such examinations, investigations, explorations, tests, reports and studies (in addition to or to supplement those referred to in (c) above) which pertain to the subsurface or physical conditions at the site or otherwise may affect the cost, progress, performance or furnishing of the Work as BIDDER considers necessary for the performance or furnishing of the Work at the Contract Price, within the Contract Time and in accordance with the other terms and conditions of the Contract Documents, including specifically the provisions of paragraph 4.2 of the General Conditions; and no additional examinations, investigations, explorations, tests, reports, studies or similar information or data are or will be required by BIDDER for such purposes.
 - (e) BIDDER has reviewed and checked all information and data shown or indicated on the Contract Documents with respect to existing Underground Facilities at or contiguous to the site and assumes responsibility for the accurate location of said Underground Facilities. No additional examinations, investigations, explorations, tests, reports, studies or similar information or data in respect of said Underground Facilities are or will be required by BIDDER in order to perform and furnish the Work at the Contract Price, within the Contract Time and in accordance with the other terms and conditions of the Contract Documents, including specifically the provisions of paragraph 4.3 of the General Conditions.
 - (f) BIDDER has correlated the results of all such observations, examinations, investigations, explorations, tests, reports and studies with the terms and conditions of the Contract Documents.
 - (g) BIDDER has given ENGINEER written notice of all conflicts, errors or discrepancies that it has discovered in the Contract Documents and the written resolution thereof by ENGINEER is acceptable to BIDDER.
 - (h) This Bid is genuine and not made in the interest of or on behalf of any undisclosed person, firm or corporation is not submitted in conformity with any agreement or rules of any group, association, organization or corporation; BIDDER has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid; BIDDER has not solicited or induced any person, firm or corporation to refrain from bidding; and BIDDER has not sought by collusion to obtain for itself any advantage over any other Bidder or over OWNER.
4. BIDDER will complete the Work for unit prices stated in the Unit Price Schedule which is attached hereto and made a part hereof.

Quantities are not guaranteed. Final payment will be based on actual quantities.

5. BIDDER agrees that the Work will be substantially complete within _____ calendar days after the date when the Contract Time commences to run as provided in paragraph 2.3 of the General Conditions, and completed and ready for final payment within _____ calendar days after the date when the Contract Time commences to run.

6. The following documents are attached to and made a condition of this Bid:

(a) Required Bid Security in the form of _____.

(b) A tabulation of Subcontractors, Suppliers and other persons and organizations required to be identified in this Bid. (See Supplementary Conditions Instructions to Bidders, Article 10. Subcontractors, Etc., page SC-6).

(c) Required BIDDER's Qualification Statement with supporting data. (See Supplementary Conditions Instructions to Bidders, Article 3. Qualifications of Bidders, page SC-6).

7. Communications concerning this Bid shall be addressed to:

The address of Bidder indicated below.

8. The terms used in this Bid which are defined in the General Conditions of the Construction Contract included as part of the Contract Documents have the meanings assigned to them in the General Conditions.

SUBMITTED on _____, 20 _____.

If BIDDER is:

An Individual

By _____
(Individual's Name)

doing business as: _____
Business address: _____

Phone No.: _____ Fax No.: _____
Federal Identification Number: _____

A Partnership

By _____ (SEAL)
(Firm Name)

(General partner)

Business address: _____

Phone No.: _____ Fax No.: _____
Federal Identification Number: _____

A Corporation

By _____
(Corporation Name)

(State of Incorporation)

By _____
(Name of person authorized to sign)

(Title)

(Corporate Seal)

Attest _____
(Secretary)

Business address: _____

Phone No.: _____ Fax No.: _____
Federal Identification Number: _____

VILLAGE OF MANCHESTER, NEW YORK
 FREDERICK PROPERTY ENVIRONMENTAL RESTORATION PROJECT
 147 STATE STREET
 NYSDEC SITE B00131-8

SITE REMEDIATION

UNIT PRICE SCHEDULE

Name of Bidder _____ Date _____

Item No.	Item	Unit	Unit Price (Words and Figures)	Quantity	Total
A	Site Preparation	Lump Sum	_____ (\$ _____)	1	
B	Demolition	Lump Sum	_____ (\$ _____)	1	
C	Dry Well Closure	Lump Sum	_____ (\$ _____)	1	
D	Select Granular Fill	C.Y.	_____ (\$ _____)	400	
E	Soil Sampling and Testing	Each	_____ (\$ _____)	25	
F	On-Site Soil Storage	Lump Sum	_____ (\$ _____)	1	
G	Soil Removal and Disposal	C.Y.	_____ (\$ _____)	400	
H	Site Restoration	Lump Sum	_____ (\$ _____)	1	

TOTAL BID AMOUNT (Page BF-5) _____

Manchester-V-SR

BF-5

BIDDER'S QUALIFICATION STATEMENT

NAME OF BIDDER: _____

LIST OF SIMILAR PROJECTS COMPLETED WITHIN THE LAST FIVE (5) YEARS

Project Description	Owner and Address	Contract Amount	Completion Date	Project Engineer, Address and Telephone Number

Attach detailed information on corporate history, corporate structure including background and experience of principal personnel, current work under contracts, and financial data.

SUBMITTED ON: _____, 20_____.

SIGNATURE: _____

BY: _____

TITLE: _____

LIST OF SUBCONTRACTORS

NAME OF BIDDER: _____

The CONTRACTOR shall not award WORK to SUBCONTRACTOR(s) in excess of twenty-five (25%) of the total CONTRACT PRICE. The amount of each subcontract shall be shown below. Subcontract amount on this form shall be based on the unit prices in the Contractor's Bid.

Name & Address	Subcontract Amount	Percent of Contract Price	Description of Subcontract
TOTALS	\$	%	

Attach for each Subcontractor an experience statement and a list of similar projects including project description, cost, and name, address and telephone number of project owner and project engineer.

SUBMITTED ON: _____, 20____.

SIGNATURE: _____

BY: _____

TITLE: _____

NONCOLLUSIVE BIDDING CERTIFICATION

Pursuant to Section 103-d of the General Municipal Law of the State of New York, the bidder and each person signing on behalf of the bidder, by submission of this bid, hereby certifies, under penalty of perjury, that to the best of knowledge and belief:

1. The prices in this bid have been arrived at independently without collusion, consultation, communication, or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other bidder or with any competitor;
2. Unless otherwise required by law, the prices which have been quoted in this bid have not been knowingly disclosed by the bidder and will not knowingly be disclosed by the bidder prior to opening, directly or indirectly, to any other bidder or to any competitor; and
3. No attempt has been made or will be made by the bidder to induce any other person, partnership or corporation to submit or not to submit a bid for the purpose of restricting competition.

SIGNATURE: _____

Name of Bidder: _____

Address of Bidder: _____

By: _____

Title: _____

ACKNOWLEDGEMENT

(Acknowledgement by Principal, unless it be a corporation)

State of New York)
County of _____)ss.:

On the _____ day of _____, 20_____
personally came _____ to me known to be the person
described in and who executed the foregoing and he acknowledged that he executed the same.

(Signature of Notary Public)

(Notary's seal to be attached)

ACKNOWLEDGEMENT

(Acknowledgement by Principal, if a corporation)

State of New York)
County of _____)ss.:

On the _____ day of _____, 20_____
before me personally came _____ to me known, who
being by me duly sworn, did depose and say that he resides at _____
_____ in _____; that he is the _____ of
_____ the corporation described in and
which executed the foregoing instrument, that he knew the seal of said Corporation; that seal
affixed to said instrument was said corporate seal; that it was so affixed by order of the Board
of Directors of said corporation; and that he signed his name thereto by like order.
Sworn to before me this _____ day of _____, 20_____.

(Signature of Notary Public)

(Notary's seal to be attached)

ACKNOWLEDGEMENT

(Acknowledgement by Municipal Corporation)

State of New York)
County of _____)ss.:

On the _____ day of _____, 20_____
before me personally came _____ to me known, who
being by me duly sworn, did depose and say that he resides in the _____
_____, New York, that he is the _____ of
_____ the municipal corporation described
and which executed the within instrument; that he knows the seal of said municipal corporation;
that the seal affixed to said instrument is such corporate seal; that it is so affixed by order of the
_____ of said municipal corporation pursuant to a
resolution which was duly adopted, and that he signed his name thereto by like order.

(Signature of Notary Public)

(Notary's seal to be attached)

NOTICE OF AWARD

TO: _____

ADDRESS: _____

PROJECT: Frederick Property Environmental Restoration Project, Site Remediation

CONTRACT FOR Frederick Property Environmental Restoration Project, Site Remediation

You are notified that your Bid dated _____, 20____ for the above Contract has been considered. You are the apparent successful bidder and have been awarded a Contract for Frederick Property Environmental Restoration Project, Site Remediation.

The Contract Price of your Contract is _____

_____ Dollars (\$_____).

Three (3) copies of the Agreement accompany this Notice of Award. Three (3) sets of the Contract Documents will be delivered separately or otherwise made available to you immediately.

You must comply with the following conditions precedent within fifteen days of the date of this Notice of Award, that is by _____, 20_____.

1. You must deliver to the OWNER three (3) fully executed counterparts of the Agreement.
2. You must deliver with the executed Agreement, the Contract Security (Bonds) as specified in the Instructions to Bidders (paragraph 17), General Conditions (paragraph 5.1.).
3. You must deliver with the executed Agreement, insurance certificates for coverage as specified in the General Conditions (paragraph 5.4. through 5.10.) and Supplementary Conditions (paragraph 5.4.).

Failure to comply with these conditions within the time specified will entitle OWNER to consider your bid abandoned, to annul this Notice of Award and to declare your Bid Security forfeited.

Within ten days after you comply with those conditions, OWNER will return to you one (1) fully signed counterpart of the Agreement with the Contract Documents attached.

Village of Manchester, New York
Owner

By _____
Bruce E. Miles

Mayor
Title

VILLAGE OF MANCHESTER, NEW YORK

FREDERICK PROPERTY ENVIRONMENTAL RESTORATION PROJECT
147 STATE STREET
NYSDEC SITE B00131-8

SITE REMEDIATION

AGREEMENT

THIS AGREEMENT is dated as of the _____ day of _____

in the year 20____ by and between the **Village of Manchester, New York** (hereinafter called OWNER) and _____

(thereinafter called CONTRACTOR).

OWNER and CONTRACTOR, in consideration of the mutual covenants hereinafter set forth, agree as follows:

Article 1. WORK.

CONTRACTOR shall complete all Work as specified or indicated in the Contract Documents. The Work is generally described as follows:

FREDERICK PROPERTY ENVIRONMENTAL RESTORATION PROJECT
SITE REMEDIATION

The Project for which the Work under the Contract Documents may be the whole or only a part is generally described as follows:

FREDERICK PROPERTY ENVIRONMENTAL RESTORATION PROJECT
SITE REMEDIATION

Article 2. ENGINEER.

The Project has been designed by Sniedze Associates, Consulting Engineers, 482 North Main Street, Canandaigua, NY 14424, who is hereinafter called ENGINEER and who is to act as OWNER's representative, assume all duties and responsibilities and have the rights and authority assigned to ENGINEER in the Contract Documents in connection with completion of the Work in accordance with the Contract Documents.

Article 3. CONTRACT TIME.

The Work will be substantially completed within _____ days from the date when the Contract Time commences to run as provided in paragraph 2.3 of the General Conditions, and completed and ready for final payment in accordance with paragraph 14.13 of the General Conditions within _____ days from the date when the Contract Time commences to run.

Article 4. CONTRACT PRICE.

OWNER shall pay CONTRACTOR for completion of the Work in accordance with the Contract Documents in current funds as follows:

The amounts determined for the total number of each of the Units of work actually performed at the Unit Prices stated in the Unit Price Schedule attached hereto.

Article 5. PAYMENT PROCEDURES.

CONTRACTOR shall submit Applications for Payment in accordance with Article 14 of the General Conditions. Applications for Payment will be processed by ENGINEER as provided in the General Conditions.

5.1. *Progress Payments.* OWNER shall make progress payments on account of the Contract Price on the basis of CONTRACTOR's Applications for Payment as recommended by ENGINEER once a month during construction as provided below. All progress payments will be on the basis of the progress of the Work measured by the schedule of values established in paragraph 2.9 of the General Conditions (and in case of Unit Price Work based on the number of units completed) or, in the event there is no schedule of values, as provided in the General Requirements.

5.1.1. Prior to Substantial Completion, progress payments will be made in an amount equal to the percentage indicated below, but, in each case, less the aggregate of payments previously made and less such amounts as ENGINEER shall determine, or OWNER may withhold, in accordance with paragraph 14.7 of the General Conditions.

_____ 95 _____ % of Work completed.

5.1.2. Upon Substantial Completion, in an amount sufficient to increase total payments to CONTRACTOR to 98 % of the Contract Price, less such amounts as ENGINEER shall determine, or OWNER may withhold, in accordance with paragraph 14.7 of the General Conditions.

5.2. *Final Payment.* Upon final completion and acceptance of the Work in accordance with paragraph 14.13 of the General Conditions, OWNER shall pay the remainder of the Contract Price as recommended by ENGINEER as provided in said paragraph 14.13.

Article 6. INTEREST.

All moneys not paid when due as provided in Article 14 of the General Conditions shall bear interest at the maximum rate allowed by law at the place of the Project.

Article 7. CONTRACTOR'S REPRESENTATIONS.

In order to induce OWNER to enter into this Agreement CONTRACTOR makes the following representations:

- 7.1. CONTRACTOR has familiarized itself with the nature and extent of the Contract Documents, Work, site, locality, and all local conditions and Laws and Regulations that in any manner may affect cost, progress, performance or furnishing of the Work.
- 7.2. CONTRACTOR has studied carefully all reports of explorations and tests of subsurface conditions and drawings of physical conditions which are identified in the Supplementary Conditions as provided in paragraph 4.2 of the General Conditions, and accepts the determination set forth in paragraph SC-4.2 of the Supplementary Conditions of the extent of the technical data contained in such reports and drawings upon which CONTRACTOR is entitled to reply.
- 7.3. CONTRACTOR has obtained and carefully studied (or assumes responsibility for obtaining and carefully studying) all such examinations, investigations, explorations, tests, reports and studies (in addition to or to supplement those referred to in paragraph 7.2 above) which pertain to the subsurface or physical conditions at or contiguous to the site or otherwise may affect the cost, progress, performance or furnishing of the Work as CONTRACTOR considers necessary for the performance or furnishing of the Work at the Contract Price, within the Contract Time and in accordance with the other terms and conditions of the Contract Documents, including specifically the provisions of paragraph 4.2 of the General Conditions; and no additional examinations, investigations, explorations, tests, reports, studies or similar information or data are or will be required by CONTRACTOR for such purposes.
- 7.4. CONTRACTOR has reviewed and checked all information and data shown or indicated on the Contract Documents with respect to existing Underground Facilities at or contiguous to the site and assumes responsibility for the accurate location of said Underground Facilities. No additional examinations, investigations, explorations, tests, reports, studies or similar information or data in respect of said Underground Facilities are or will be required by CONTRACTOR in order to perform and furnish the Work at the Contract Price, within the Contract Time and in accordance with the other terms and conditions of the Contract Documents, including specifically the provisions of paragraph 4.3 of the General Conditions.
- 7.5. CONTRACTOR has correlated the results of all such observations, examinations, investigations, explorations, tests, reports and studies with the terms and conditions of the Contract Documents.
- 7.6. CONTRACTOR has given ENGINEER written notice of all conflicts, errors or discrepancies that he has discovered in the Contract Documents and the written resolution thereof by ENGINEER is acceptable to CONTRACTOR.

Article 8. CONTRACT DOCUMENTS.

The Contract Documents which comprise the entire agreement between OWNER and CONTRACTOR concerning the Work consist of the following:

- 8.1. This Agreement (pages 1 to 6, inclusive).
- 8.2. Exhibits to this Agreement (page BF-5, inclusive).
- 8.3. Performance and other Bonds.
- 8.4. Notice of Award (pages NA-1, inclusive).
- 8.5. Notice to Proceed (page NP-1, inclusive).
- 8.6. General Conditions (pages 1 to 42, inclusive).
- 8.7. Supplementary Conditions.
- 8.8. Specifications bearing the title Frederick Property Environmental Restoration Project, Site Remediation and consisting of 7 Sections and 14 pages, as listed in the table of contents thereof.
- 8.9. Figure 1, Project Location Map.
- 8.10. Drawing No. 4360-9, Remediation Plan.
- 8.11. Addenda number _____ dated _____, inclusive.
- 8.12. Bid Form (pages BF-1 to BF-9, inclusive).

There are no Contract Documents other than those listed above in this Article 8. The Contract Documents may only be amended, modified or supplemented as provided in paragraphs 3.5 and 3.6 of the General Conditions.

Article 9. MISCELLANEOUS.

- 9.1. Terms used in this Agreement which are defined in Article 1 of the General Conditions will have the meanings indicated in the General Conditions.
- 9.2. No assignment by a party hereto of any rights under or interests in the Contract Documents will be binding on another party hereto without the written consent of the party sought to be bound; and specifically but without limitation moneys that may become due and moneys that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.
- 9.3. OWNER and CONTRACTOR each binds itself, its partners, successors, assigns and legal representatives to the other party hereto, its partners, successors, assigns and legal representatives in respect of all covenants, agreements and obligations contained in the Contract Documents.

IN WITNESS WHEREOF, OWNER and CONTRACTOR have signed this Agreement in triplicate. One counterpart each has been delivered to OWNER, CONTRACTOR and ENGINEER. All portions of the Contract Documents have been signed or identified by OWNER and CONTRACTOR or by ENGINEER on their behalf.

This Agreement will be effective on _____, 20_____.

OWNER Village of Manchester, CONTRACTOR _____
New York _____

By _____ By _____
Bruce E. Miles, Mayor
(Corporate Seal) (Corporate Seal)

Address for Giving Notices

Village of Manchester
8 Clifton Street
Manchester, NY 14504

Address for Giving Notices

ACKNOWLEDGEMENT

(Acknowledgement by Principal, unless it be a corporation)

State of New York)
County of _____)ss.:
On the _____ day of _____, 20____
personally came _____ to me known to be the
person described in and who executed the foregoing and he acknowledged that he
executed the same.

(Signature of Notary Public)

(Notary's seal to be attached)

ACKNOWLEDGEMENT

(Acknowledgement by Principal, if a corporation)

State of New York)
County of _____)ss.:
On the _____ day of _____, 20____
before me personally came _____ to me known,
who being by me duly sworn, did depose and say that he resides at _____
_____ in _____; that he is the _____
_____ of _____ the corporation
described in and which executed the foregoing instrument, that he knew the seal of said
Corporation; that seal affixed to said instrument was said corporate seal; that it was so
affixed by order of the Board of Directors of said corporation; and that he signed his name
thereto by like order.
Sworn to before me this _____ day of _____, 20____.

(Signature of Notary Public)

(Notary's seal to be attached)

ACKNOWLEDGEMENT

(Acknowledgement by Municipal Corporation)

State of New York)
County of _____)ss.:
On the _____ day of _____, 20____
before me personally came _____ to me known,
who being by me duly sworn, did depose and say that he resides in the _____
_____, New York, that he is the _____
_____ of _____ the municipal
corporation described and which executed the within instrument; that he knows the seal
of said municipal corporation; that the seal affixed to said instrument is such corporate
seal; that it is so affixed by order of the _____ of
said municipal corporation pursuant to a resolution which was duly adopted, and that he
signed his name thereto by like order.

(Signature of Notary Public)

(Notary's seal to be attached)

Date _____

NOTICE TO PROCEED

TO: _____

ADDRESS: _____

PROJECT: Frederick Property Environmental Restoration Project, Site Remediation

CONTRACT FOR Frederick Property Environmental Restoration Project, Site Remediation

You are notified that the Contract Time under the above Contract will commence to run on _____, 20____. By that date, you are to start performing your obligations under the Contract Documents. In accordance with Article 3 of the Agreement, the dates of Substantial Completion and Final Completion are _____, 20____ and _____, 20____, respectively.

Before you may start any Work at the site, Paragraph 2.7 of the General Conditions provides that you must deliver to the OWNER (with copies to ENGINEER) certificates of insurance which you are required to purchase and maintain in accordance with the CONTRACT DOCUMENTS.

Also, before you may start any Work at the site, you must _____

Village of Manchester, New York
Owner
By _____
Bruce E. Miles

Mayor

Title

**STANDARD
GENERAL CONDITIONS
OF THE
CONSTRUCTION CONTRACT**

Prepared by
Engineers Joint Contract Documents Committee

and

Issued and Published Jointly By



PROFESSIONAL ENGINEERS IN PRIVATE PRACTICE
A practice division of the
NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS

AMERICAN CONSULTING ENGINEERS COUNCIL

AMERICAN SOCIETY OF CIVIL ENGINEERS

This document has been approved and endorsed by

The Associated General Contractors of America

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by OWNER	9.10-9.11, 10.4, 11.2, 13.14

GENERAL CONDITIONS

ARTICLE I—DEFINITIONS

Wherever used in these General Conditions or in the other Contract Documents the following terms have the meanings indicated which are applicable to both the singular and plural thereof:

1.1. *Addenda*—Written or graphic instruments issued prior to the opening of Bids which clarify, correct or change the Bidding Requirements or the Contract Documents.

1.2. *Agreement*—The written contract between OWNER and CONTRACTOR covering the Work to be performed; other Contract Documents are attached to the Agreement and made a part thereof as provided therein.

1.3. *Application for Payment*—The form accepted by ENGINEER which is to be used by CONTRACTOR in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.

1.4. *Asbestos*—Any material that contains more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by the United States Occupational Safety and Health Administration.

1.5. *Bid*—The offer or proposal of the bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

1.6. *Bidding Documents*—The advertisement or invitation to Bid, instructions to bidders, the Bid form, and the proposed Contract Documents (including all Addenda issued prior to receipt of Bids).

1.7. *Bidding Requirements*—The advertisement or invitation to Bid, instructions to bidders, and the Bid form.

1.8. *Bonds*—Performance and Payment bonds and other instruments of security.

1.9. *Change Order*—A document recommended by ENGINEER, which is signed by CONTRACTOR and OWNER and authorizes an addition, deletion or revision in the Work, or an adjustment in the Contract Price or the Contract Times, issued on or after the Effective Date of the Agreement.

1.10. *Contract Documents*—The Agreement, Addenda (which pertain to the Contract Documents), CONTRACTOR's Bid (including documentation accompanying the Bid and any post Bid documentation submitted prior to the Notice of Award) when attached as an exhibit to the Agreement, the Notice to Proceed, the Bonds, these General Conditions, the Supplementary Conditions, the Specifications and the Drawings as the same are more specifically identified in the Agree-

ment, together with all Written Amendments, Change Orders, Work Change Directives, Field Orders and ENGINEER's written interpretations and clarifications issued pursuant to paragraphs 3.5, 3.6.1, and 3.6.3 on or after the Effective Date of the Agreement. Shop Drawing submittals approved pursuant to paragraphs 6.26 and 6.27 and the reports and drawings referred to in paragraphs 4.2.1.1 and 4.2.2.2 are not Contract Documents.

1.11. *Contract Price*—The moneys payable by OWNER to CONTRACTOR for completion of the Work in accordance with the Contract Documents as stated in the Agreement (subject to the provisions of paragraph 11.9.1 in the case of Unit Price Work).

1.12. *Contract Times*—The numbers of days or the dates stated in the Agreement: (i) to achieve Substantial Completion, and (ii) to complete the Work so that it is ready for final payment as evidenced by ENGINEER's written recommendation of final payment in accordance with paragraph 14.13.

1.13. *CONTRACTOR*—The person, firm or corporation with whom OWNER has entered into the Agreement.

1.14. *defective*—An adjective which when modifying the word Work refers to Work that is unsatisfactory, faulty or deficient, in that it does not conform to the Contract Documents, or does not meet the requirements of any inspection, reference standard, test or approval referred to in the Contract Documents, or has been damaged prior to ENGINEER's recommendation of final payment (unless responsibility for the protection thereof has been assumed by OWNER at Substantial Completion in accordance with paragraph 14.8 or 14.10).

1.15. *Drawings*—The drawings which show the scope, extent and character of the Work to be furnished and performed by CONTRACTOR and which have been prepared or approved by ENGINEER and are referred to in the Contract Documents. Shop drawings are not Drawings as so defined.

1.16. *Effective Date of the Agreement*—The date indicated in the Agreement on which it becomes effective, but if no such date is indicated it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.

1.17. *ENGINEER*—The person, firm or corporation named as such in the Agreement.

1.18. *ENGINEER's Consultant*—A person, firm or corporation having a contract with ENGINEER to furnish services as ENGINEER's independent professional associate or consultant with respect to the Project and who is identified as such in the Supplementary Conditions.

1.19. *Field Order*—A written order issued by ENGINEER which orders minor changes in the Work in accordance with paragraph 9.5 but which does not involve a change in the Contract Price or the Contract Times.

1.20. *General Requirements*—Sections of Division 1 of the Specifications.

1.21. *Hazardous Waste*—The term Hazardous Waste shall have the meaning provided in Section 1004 of the Solid Waste Disposal Act (42 USC Section 6903) as amended from time to time.

1.22. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, rules, regulations, ordinances, codes and orders of any and all governmental bodies, agencies, authorities and courts having jurisdiction.

1.23. *Liens*—Liens, charges, security interests or encumbrances upon real property or personal property.

1.24. *Milestone*—A principal event specified in the Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all the Work.

1.25. *Notice of Award*—The written notice by OWNER to the apparent successful bidder stating that upon compliance by the apparent successful bidder with the conditions precedent enumerated therein, within the time specified, OWNER will sign and deliver the Agreement.

1.26. *Notice to Proceed*—A written notice given by OWNER to CONTRACTOR (with a copy to ENGINEER) fixing the date on which the Contract Times will commence to run and on which CONTRACTOR shall start to perform CONTRACTOR's obligations under the Contract Documents.

1.27. *OWNER*—The public body or authority, corporation, association, firm or person with whom CONTRACTOR has entered into the Agreement and for whom the Work is to be provided.

1.28. *Partial Utilization*—Use by OWNER of a substantially completed part of the Work for the purpose for which it is intended (or a related purpose) prior to Substantial Completion of all the Work.

1.29. *PCBs*—Polychlorinated biphenyls.

1.30. *Petroleum*—Petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute), such as oil, petroleum, fuel oil, oil sludge, oil refuse, gasoline, kerosene, and oil mixed with other non-Hazardous Wastes and crude oils.

1.31. *Project*—The total construction of which the Work to be provided under the Contract Documents may be the whole, or a part as indicated elsewhere in the Contract Documents.

1.32. *Radioactive Material*—Source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954 (42 USC Section 2011 et seq.) as amended from time to time.

1.33. *Resident Project Representative*—The authorized representative of ENGINEER who may be assigned to the site or any part thereof.

1.34. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.

1.35. *Shop Drawings*—All drawings, diagrams, illustrations, schedules and other data or information which are specifically prepared or assembled by or for CONTRACTOR and submitted by CONTRACTOR to illustrate some portion of the Work.

1.36. *Specifications*—Those portions of the Contract Documents consisting of written technical descriptions of materials, equipment, construction systems, standards and workmanship as applied to the Work and certain administrative details applicable thereto.

1.37. *Subcontractor*—An individual, firm or corporation having a direct contract with CONTRACTOR or with any other Subcontractor for the performance of a part of the Work at the site.

1.38. *Substantial Completion*—The Work (or a specified part thereof) has progressed to the point where, in the opinion of ENGINEER as evidenced by ENGINEER's definitive certificate of Substantial Completion, it is sufficiently complete, in accordance with the Contract Documents, so that the Work (or specified part) can be utilized for the purposes for which it is intended; or if no such certificate is issued, when the Work is complete and ready for final payment as evidenced by ENGINEER's written recommendation of final payment in accordance with paragraph 14.13. The terms "substantially complete" and "substantially completed" as applied to all or part of the Work refer to Substantial Completion thereof.

1.39. *Supplementary Conditions*—The part of the Contract Documents which amends or supplements these General Conditions.

1.40. *Supplier*—A manufacturer, fabricator, supplier, distributor, materialman or vendor having a direct contract with CONTRACTOR or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by CONTRACTOR or any Subcontractor.

1.41. *Underground Facilities*—All pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels or other such facilities or attachments, and any encasements containing such facilities which have been installed underground to furnish any of the following services or materials: electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, sewage and drainage removal, traffic or other control systems or water.

1.42. *Unit Price Work*—Work to be paid for on the basis of unit prices.

1.43. *Work*—The entire completed construction or the various separately identifiable parts thereof required to be furnished under the Contract Documents. Work includes and is the result of performing or furnishing labor and furnishing and incorporating materials and equipment into the construction, and performing or furnishing services and furnishing documents, all as required by the Contract Documents.

1.44. *Work Change Directive*—A written directive to CONTRACTOR, issued on or after the Effective Date of the Agreement and signed by OWNER and recommended by ENGINEER, ordering an addition, deletion or revision in the Work, or responding to differing or unforeseen physical conditions under which the Work is to be performed as provided in paragraph 4.2 or 4.3 or to emergencies under paragraph 6.23. A Work Change Directive will not change the Contract Price or the Contract Times, but is evidence that the parties expect that the change directed or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order following negotiations by the parties as to its effect, if any, on the Contract Price or Contract Times as provided in paragraph 10.2.

1.45. *Written Amendment*—A written amendment of the Contract Documents, signed by OWNER and CONTRACTOR on or after the Effective Date of the Agreement and normally dealing with the nonengineering or nontechnical rather than strictly construction-related aspects of the Contract Documents.

ARTICLE 2—PRELIMINARY MATTERS

Delivery of Bonds:

2.1. When CONTRACTOR delivers the executed Agreements to OWNER, CONTRACTOR shall also deliver to OWNER such Bonds as CONTRACTOR may be required to furnish in accordance with paragraph 5.1.

Copies of Documents:

2.2. OWNER shall furnish to CONTRACTOR up to ten copies (unless otherwise specified in the Supplementary Conditions) of the Contract Documents as are reasonably necessary for the execution of the Work. Additional copies will be furnished, upon request, at the cost of reproduction.

Commencement of Contract Times; Notice to Proceed:

2.3. The Contract Times will commence to run on the thirtieth day after the Effective Date of the Agreement, or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within thirty days after the Effective Date of the Agreement. In no event will the

Contract Times commence to run later than the sixtieth day after the day of Bid opening or the thirtieth day after the Effective Date of the Agreement, whichever date is earlier.

Starting the Work:

2.4. CONTRACTOR shall start to perform the Work on the date when the Contract Times commence to run, but no Work shall be done at the site prior to the date on which the Contract Times commence to run.

Before Starting Construction:

2.5. Before undertaking each part of the Work, CONTRACTOR shall carefully study and compare the Contract Documents and check and verify pertinent figures shown thereon and all applicable field measurements. CONTRACTOR shall promptly report in writing to ENGINEER any conflict, error, ambiguity or discrepancy which CONTRACTOR may discover and shall obtain a written interpretation or clarification from ENGINEER before proceeding with any Work affected thereby; however, CONTRACTOR shall not be liable to OWNER or ENGINEER for failure to report any conflict, error, ambiguity or discrepancy in the Contract Documents, unless CONTRACTOR knew or reasonably should have known thereof.

2.6. Within ten days after the Effective Date of the Agreement (unless otherwise specified in the General Requirements), CONTRACTOR shall submit to ENGINEER for review:

2.6.1. a preliminary progress schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract Documents;

2.6.2. a preliminary schedule of Shop Drawing and Sample submittals which will list each required submittal and the times for submitting, reviewing and processing such submittal;

2.6.3. a preliminary schedule of values for all of the Work which will include quantities and prices of items aggregating the Contract Price and will subdivide the Work into component parts in sufficient detail to serve as the basis for progress payments during construction. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

2.7. Before any Work at the site is started, CONTRACTOR and OWNER shall each deliver to the other, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance which either of them or any additional insured may reasonably request) which CONTRACTOR and OWNER respectively are required to purchase and maintain in accordance with paragraphs 5.4, 5.6 and 5.7.

Preconstruction Conference:

2.8. Within twenty days after the Contract Times start to run, but before any Work at the site is started, a conference

attended by CONTRACTOR, ENGINEER and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to in paragraph 2.6, procedures for handling Shop Drawings and other submittals, processing Applications for Payment and maintaining required records.

Initially Acceptable Schedules:

2.9. Unless otherwise provided in the Contract Documents, at least ten days before submission of the first Application for Payment a conference attended by CONTRACTOR, ENGINEER and others as appropriate will be held to review for acceptability to ENGINEER as provided below the schedules submitted in accordance with paragraph 2.6. CONTRACTOR shall have an additional ten days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to CONTRACTOR until the schedules are submitted to and acceptable to ENGINEER as provided below. The progress schedule will be acceptable to ENGINEER as providing an orderly progression of the Work to completion within any specified Milestones and the Contract Times, but such acceptance will neither impose on ENGINEER responsibility for the sequencing, scheduling or progress of the Work nor interfere with or relieve CONTRACTOR from CONTRACTOR's full responsibility therefor. CONTRACTOR's schedule of Shop Drawing and Sample submissions will be acceptable to ENGINEER as providing a workable arrangement for reviewing and processing the required submittals. CONTRACTOR's schedule of values will be acceptable to ENGINEER as to form and substance.

ARTICLE 3—CONTRACT DOCUMENTS: INTENT,
AMENDING, REUSE

Intent:

3.1. The Contract Documents comprise the entire agreement between OWNER and CONTRACTOR concerning the Work. The Contract Documents are complementary; what is called for by one is as binding as if called for by all. The Contract Documents will be construed in accordance with the law of the place of the Project.

3.2. It is the intent of the Contract Documents to describe a functionally complete Project (or part thereof) to be constructed in accordance with the Contract Documents. Any Work, materials or equipment that may reasonably be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the intended result will be furnished and performed whether or not specifically called for. When words or phrases which have a well-known technical or construction industry or trade meaning are used to describe Work, materials or equipment, such words or phrases shall be interpreted in accordance with that meaning. Clarifi-

cations and interpretations of the Contract Documents shall be issued by ENGINEER as provided in paragraph 9.4.

3.3. Reference to Standards and Specifications of Technical Societies; Reporting and Resolving Discrepancies:

3.3.1. Reference to standards, specifications, manuals or codes of any technical society, organization or association, or to the Laws or Regulations of any governmental authority, whether such reference be specific or by implication, shall mean the latest standard, specification, manual, code or Laws or Regulations in effect at the time of opening of Bids (or, on the Effective Date of the Agreement if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.

3.3.2. If, during the performance of the Work, CONTRACTOR discovers any conflict, error, ambiguity or discrepancy within the Contract Documents or between the Contract Documents and any provision of any such Law or Regulation applicable to the performance of the Work or of any such standard, specification, manual or code or of any instruction of any Supplier referred to in paragraph 6.5, CONTRACTOR shall report it, to ENGINEER in writing at once, and, CONTRACTOR shall not proceed with the Work affected thereby (except in an emergency as authorized by paragraph 6.23) until an amendment or supplement to the Contract Documents has been issued by one of the methods indicated in paragraph 3.5 or 3.6; provided, however, that CONTRACTOR shall not be liable to OWNER or ENGINEER for failure to report any such conflict, error, ambiguity or discrepancy unless CONTRACTOR knew or reasonably should have known thereof.

3.3.3. Except as otherwise specifically stated in the Contract Documents or as may be provided by amendment or supplement thereto issued by one of the methods indicated in paragraph 3.5 or 3.6, the provisions of the Contract Documents shall take precedence in resolving any conflict, error, ambiguity or discrepancy between the provisions of the Contract Documents and:

3.3.3.1. the provisions of any such standard, specification, manual, code or instruction (whether or not specifically incorporated by reference in the Contract Documents); or

3.3.3.2. the provisions of any such Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

No provision of any such standard, specification, manual, code or instruction shall be effective to change the duties and responsibilities of OWNER, CONTRACTOR or ENGINEER, or any of their subcontractors, consultants, agents, or employees from those set forth in the Contract Documents, nor shall it be effective to assign to OWNER, ENGINEER or any of ENGINEER's Consultants, agents or employees any duty or authority to supervise or direct the furnishing or

performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of paragraph 9.13 or any other provision of the Contract Documents.

3.4. Whenever in the Contract Documents the terms "as ordered," "as directed," "as required," "as allowed," "as approved" or terms of like effect or import are used, or the adjectives "reasonable," "suitable," "acceptable," "proper" or "satisfactory" or adjectives of like effect or import are used to describe a requirement, direction, review or judgment of ENGINEER as to the Work, it is intended that such requirement, direction, review or judgment will be solely to evaluate, in general, the completed Work for compliance with the requirements of and information in the Contract Documents and conformance with the design concept of the completed Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective shall not be effective to assign to ENGINEER any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of paragraph 9.13 or any other provision of the Contract Documents.

Amending and Supplementing Contract Documents:

3.5. The Contract Documents may be amended to provide for additions, deletions and revisions in the Work or to modify the terms and conditions thereof in one or more of the following ways:

- 3.5.1. a formal Written Amendment,
- 3.5.2. a Change Order (pursuant to paragraph 10.4), or
- 3.5.3. a Work Change Directive (pursuant to paragraph 10.1).

3.6. In addition, the requirements of the Contract Documents may be supplemented, and minor variations and deviations in the Work may be authorized, in one or more of the following ways:

- 3.6.1. a Field Order (pursuant to paragraph 9.5),
- 3.6.2. ENGINEER's approval of a Shop Drawing or Sample (pursuant to paragraphs 6.26 and 6.27), or
- 3.6.3. ENGINEER's written interpretation or clarification (pursuant to paragraph 9.4).

Reuse of Documents:

3.7. CONTRACTOR, and any Subcontractor or Supplier or other person or organization performing or furnishing any of the Work under a direct or indirect contract with OWNER (i) shall not have or acquire any title to or ownership rights in any

of the Drawings, Specifications or other documents (or copies of any thereof) prepared by or bearing the seal of ENGINEER or ENGINEER's Consultant, and (ii) shall not reuse any of such Drawings, Specifications, other documents or copies on extensions of the Project or any other project without written consent of OWNER and ENGINEER and specific written verification or adaptation by ENGINEER.

**ARTICLE 4—AVAILABILITY OF LANDS;
SUBSURFACE AND PHYSICAL
CONDITIONS; REFERENCE POINTS**

Availability of Lands:

4.1. OWNER shall furnish, as indicated in the Contract Documents, the lands upon which the Work is to be performed, rights-of-way and easements for access thereto, and such other lands which are designated for the use of CONTRACTOR. Upon reasonable written request, OWNER shall furnish CONTRACTOR with a correct statement of record legal title and legal description of the lands upon which the Work is to be performed and OWNER's interest therein as necessary for giving notice of or filing a mechanic's lien against such lands in accordance with applicable Laws and Regulations. OWNER shall identify any encumbrances or restrictions not of general application but specifically related to use of lands so furnished with which CONTRACTOR will have to comply in performing the Work. Easements for permanent structures or permanent changes in existing facilities will be obtained and paid for by OWNER, unless otherwise provided in the Contract Documents. If CONTRACTOR and OWNER are unable to agree on entitlement to or the amount or extent of any adjustments in the Contract Price or the Contract Times as a result of any delay in OWNER's furnishing these lands, rights-of-way or easements, CONTRACTOR may make a claim therefor as provided in Articles 11 and 12. CONTRACTOR shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

4.2. Subsurface and Physical Conditions:

4.2.1. *Reports and Drawings:* Reference is made to the Supplementary Conditions for identification of:

4.2.1.1. *Subsurface Conditions:* Those reports of explorations and tests of subsurface conditions at or contiguous to the site that have been utilized by ENGINEER in preparing the Contract Documents; and

4.2.1.2. *Physical Conditions:* Those drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the site (except Underground Facilities) that have been utilized by ENGINEER in preparing the Contract Documents.

4.2.2. *Limited Reliance by CONTRACTOR Authorized; Technical Data:* CONTRACTOR may rely upon the general accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," CONTRACTOR may not rely upon or make any claim against OWNER, ENGINEER or any of ENGINEER's Consultants with respect to:

4.2.2.1. the completeness of such reports and drawings for CONTRACTOR's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by CONTRACTOR and safety precautions and programs incident thereto, or

4.2.2.2. other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings, or

4.2.2.3. any CONTRACTOR interpretation of or conclusion drawn from any "technical data" or any such data, interpretations, opinions or information.

4.2.3. *Notice of Differing Subsurface or Physical Conditions:* If CONTRACTOR believes that any subsurface or physical condition at or contiguous to the site that is uncovered or revealed either:

4.2.3.1. is of such a nature as to establish that any "technical data" on which CONTRACTOR is entitled to rely as provided in paragraphs 4.2.1 and 4.2.2 is materially inaccurate, or

4.2.3.2. is of such a nature as to require a change in the Contract Documents, or

4.2.3.3. differs materially from that shown or indicated in the Contract Documents, or

4.2.3.4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents; then

CONTRACTOR shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as permitted by paragraph 6.23), notify OWNER and ENGINEER in writing about such condition. CONTRACTOR shall not further disturb such conditions or perform any Work in connection therewith (except as aforesaid) until receipt of written order to do so.

4.2.4. *ENGINEER's Review:* ENGINEER will promptly review the pertinent conditions, determine the necessity of OWNER's obtaining additional exploration or tests with respect thereto and advise OWNER in writing (with a copy to CONTRACTOR) of ENGINEER's findings and conclusions.

4.2.5. *Possible Contract Documents Change:* If ENGINEER concludes that a change in the Contract Documents is required as a result of a condition that meets one or more of the categories in paragraph 4.2.3., a Work Change Directive or a Change Order will be issued as provided in Article 10 to reflect and document the consequences of such change.

4.2.6. *Possible Price and Times Adjustments:* An equitable adjustment in the Contract Price or in the Contract Times, or both, will be allowed to the extent that the existence of such uncovered or revealed condition causes an increase or decrease in CONTRACTOR's cost of, or time required for performance of, the Work; subject, however, to the following:

4.2.6.1. such condition must meet any one or more of the categories described in paragraphs 4.2.3.1 through 4.2.3.4, inclusive;

4.2.6.2. a change in the Contract Documents pursuant to paragraph 4.2.5 will not be an automatic authorization of nor a condition precedent to entitlement to any such adjustment;

4.2.6.3. with respect to Work that is paid for on a Unit Price Basis, any adjustment in Contract Price will be subject to the provisions of paragraphs 9.10 and 11.9; and

4.2.6.4. CONTRACTOR shall not be entitled to any adjustment in the Contract Price or Times if;

4.2.6.4.1. CONTRACTOR knew of the existence of such conditions at the time CONTRACTOR made a final commitment to OWNER in respect of Contract Price and Contract Times by the submission of a bid or becoming bound under a negotiated contract; or

4.2.6.4.2. the existence of such condition could reasonably have been discovered or revealed as a result of any examination, investigation, exploration, test or study of the site and contiguous areas required by the Bidding Requirements or Contract Documents to be conducted by or for CONTRACTOR prior to CONTRACTOR's making such final commitment; or

4.2.6.4.3. CONTRACTOR failed to give the written notice within the time and as required by paragraph 4.2.3.

If OWNER and CONTRACTOR are unable to agree on entitlement to or as to the amount or length of any such equitable adjustment in the Contract Price or Contract Times, a claim may be made therefor as provided in Articles 11 and 12. However, OWNER, ENGINEER and ENGINEER's Consultants shall not be liable to CONTRACTOR for any claims, costs, losses or damages sustained by CONTRACTOR on or in connection with any other project or anticipated project.

4.3. *Physical Conditions—Underground Facilities:*

4.3.1. *Shown or Indicated:* The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the site is based on

information and data furnished to OWNER or ENGINEER by the owners of such Underground Facilities or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:

4.3.1.1. OWNER and ENGINEER shall not be responsible for the accuracy or completeness of any such information or data; and

4.3.1.2. The cost of all of the following will be included in the Contract Price and CONTRACTOR shall have full responsibility for: (i) reviewing and checking all such information and data, (ii) locating all Underground Facilities shown or indicated in the Contract Documents, (iii) coordination of the Work with the owners of such Underground Facilities during construction, and (iv) the safety and protection of all such Underground Facilities as provided in paragraph 6.20 and repairing any damage thereto resulting from the Work.

4.3.2. *Not Shown or Indicated:* If an Underground Facility is uncovered or revealed at or contiguous to the site which was not shown or indicated in the Contract Documents, CONTRACTOR shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by paragraph 6.23), identify the owner of such Underground Facility and give written notice to that owner and to OWNER and ENGINEER. ENGINEER will promptly review the Underground Facility and determine the extent, if any, to which a change is required in the Contract Documents to reflect and document the consequences of the existence of the Underground Facility. If ENGINEER concludes that a change in the Contract Documents is required, a Work Change Directive or a Change Order will be issued as provided in Article 10 to reflect and document such consequences. During such time, CONTRACTOR shall be responsible for the safety and protection of such Underground Facility as provided in paragraph 6.20. CONTRACTOR shall be allowed an increase in the Contract Price or an extension of the Contract Times, or both, to the extent that they are attributable to the existence of any Underground Facility that was not shown or indicated in the Contract Documents and that CONTRACTOR did not know of and could not reasonably have been expected to be aware of or to have anticipated. If OWNER and CONTRACTOR are unable to agree on entitlement to or the amount or length of any such adjustment in Contract Price or Contract Times, CONTRACTOR may make a claim therefor as provided in Articles 11 and 12. However, OWNER, ENGINEER and ENGINEER's Consultants shall not be liable to CONTRACTOR for any claims, costs, losses or damages incurred or sustained by CONTRACTOR on or in connection with any other project or anticipated project.

Reference Points:

4.4. OWNER shall provide engineering surveys to establish reference points for construction which in ENGINEER's judgment are necessary to enable CONTRACTOR to proceed with the Work. CONTRACTOR shall be responsible for laying out the Work, shall protect and preserve the established reference points and shall make no changes or relocations

without the prior written approval of OWNER. CONTRACTOR shall report to ENGINEER whenever any reference point is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points by professionally qualified personnel.

4.5. Asbestos, PCBs, Petroleum, Hazardous Waste or Radioactive Material:

4.5.1. OWNER shall be responsible for any Asbestos, PCBs, Petroleum, Hazardous Waste or Radioactive Material uncovered or revealed at the site which was not shown or indicated in Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work and which may present a substantial danger to persons or property exposed thereto in connection with the Work at the site. OWNER shall not be responsible for any such materials brought to the site by CONTRACTOR, Subcontractor, Suppliers or anyone else for whom CONTRACTOR is responsible.

4.5.2. CONTRACTOR shall immediately: (i) stop all Work in connection with such hazardous condition and in any area affected thereby (except in an emergency as required by paragraph 6.23), and (ii) notify OWNER and ENGINEER (and thereafter confirm such notice in writing). OWNER shall promptly consult with ENGINEER concerning the necessity for OWNER to retain a qualified expert to evaluate such hazardous condition or take corrective action, if any. CONTRACTOR shall not be required to resume Work in connection with such hazardous condition or in any such affected area until after OWNER has obtained any required permits related thereto and delivered to CONTRACTOR special written notice: (i) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work, or (ii) specifying any special conditions under which such Work may be resumed safely. If OWNER and CONTRACTOR cannot agree as to entitlement to or the amount or extent of an adjustment, if any, in Contract Price or Contract Times as a result of such Work stoppage or such special conditions under which Work is agreed by CONTRACTOR to be resumed, either party may make a claim therefor as provided in Articles 11 and 12.

4.5.3. If after receipt of such special written notice CONTRACTOR does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then OWNER may order such portion of the Work that is in connection with such hazardous condition or in such affected area to be deleted from the Work. If OWNER and CONTRACTOR cannot agree as to entitlement to or the amount or extent of an adjustment, if any, in Contract Price or Contract Times as a result of deleting such portion of the Work, then either party may make a claim therefor as provided in Articles 11 and 12. OWNER may have such deleted portion of the Work performed by OWNER's own forces or others in accordance with Article 7.

4.5.4. To the fullest extent permitted by Laws and Regulations, OWNER shall indemnify and hold harmless CONTRACTOR, Subcontractors, ENGINEER, ENGINEER's

Consultants and the officers, directors, employees, agents, other consultants and subcontractors of each and any of them from and against all claims, costs, losses and damages arising out of or resulting from such hazardous condition, provided that: (i) any such claim, cost, loss or damage is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom, and (ii) nothing in this subparagraph 4.5.4 shall obligate OWNER to indemnify any person or entity from and against the consequences of that person's or entity's own negligence.

4.5.5. The provisions of paragraphs 4.2 and 4.3 are not intended to apply to Asbestos, PCBs, Petroleum, Hazardous Waste or Radioactive Material uncovered or revealed at the site.

ARTICLE 5—BONDS AND INSURANCE

Performance, Payment and Other Bonds:

5.1. CONTRACTOR shall furnish Performance and Payment Bonds, each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all CONTRACTOR'S obligations under the Contract Documents. These Bonds shall remain in effect at least until one year after the date when final payment becomes due, except as provided otherwise by Laws or Regulations or by the Contract Documents. CONTRACTOR shall also furnish such other Bonds as are required by the Supplementary Conditions. All Bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Audit Staff, Financial Management Service, Surety Bond Branch, U.S. Treasury Department. (Phone 202-874-6850). All Bonds signed by an agent must be accompanied by a certified copy of such agent's authority to act.

5.2. If the surety on any Bond furnished by CONTRACTOR is declared a bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of paragraph 5.1, CONTRACTOR shall within ten days thereafter substitute another Bond and surety, both of which must be acceptable to OWNER.

5.3. Licensed Sureties and Insurers; Certificates of Insurance:

5.3.1. All Bonds and insurance required by the Contract Documents to be purchased and maintained by OWNER or CONTRACTOR shall be obtained from surety or insurance

companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue Bonds or insurance policies for the limits and coverages so required. Such surety and insurance companies shall also meet such additional requirements and qualifications as may be provided in the Supplementary Conditions.

5.3.2. CONTRACTOR shall deliver to OWNER, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by OWNER or any other additional insured) which CONTRACTOR is required to purchase and maintain in accordance with paragraph 5.4. OWNER shall deliver to CONTRACTOR, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by CONTRACTOR or any other additional insured) which OWNER is required to purchase and maintain in accordance with paragraphs 5.6 and 5.7 hereof.

CONTRACTOR's Liability Insurance:

5.4. CONTRACTOR shall purchase and maintain such liability and other insurance as is appropriate for the Work being performed and furnished and as will provide protection from claims set forth below which may arise out of or result from CONTRACTOR's performance and furnishing of the Work and CONTRACTOR's other obligations under the Contract Documents, whether it is to be performed or furnished by CONTRACTOR, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform or furnish any of the Work, or by anyone for whose acts any of them may be liable:

5.4.1. claims under workers' compensation, disability benefits and other similar employee benefit acts;

5.4.2. claims for damages because of bodily injury, occupational sickness or disease, or death of CONTRACTOR's employees;

5.4.3. claims for damages because of bodily injury, sickness or disease, or death of any person other than CONTRACTOR's employees;

5.4.4. claims for damages insured by customary personal injury liability coverage which are sustained: (i) by any person as a result of an offense directly or indirectly related to the employment of such person by CONTRACTOR, or (ii) by any other person for any other reason;

5.4.5. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom; and

5.4.6. claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle.

The policies of insurance so required by this paragraph 5.4 to be purchased and maintained shall:

5.4.7. with respect to insurance required by paragraphs 5.4.3 through 5.4.6 inclusive, include as additional insureds (subject to any customary exclusion in respect of professional liability) OWNER, ENGINEER, ENGINEER's Consultants and any other persons or entities identified in the Supplementary Conditions, all of whom shall be listed as additional insureds, and include coverage for the respective officers and employees of all such additional insureds;

5.4.8. include the specific coverages and be written for not less than the limits of liability provided in the Supplementary Conditions or required by Laws or Regulations, whichever is greater;

5.4.9. include completed operations insurance;

5.4.10. include contractual liability insurance covering CONTRACTOR's indemnity obligations under paragraphs 6.12, 6.16 and 6.31 through 6.33;

5.4.11. contain a provision or endorsement that the coverage afforded will not be cancelled, materially changed or renewal refused until at least thirty days prior written notice has been given to OWNER and CONTRACTOR and to each other additional insured identified in the Supplementary Conditions to whom a certificate of insurance has been issued (and the certificates of insurance furnished by the CONTRACTOR pursuant to paragraph 5.3.2 will so provide);

5.4.12. remain in effect at least until final payment and at all times thereafter when CONTRACTOR may be correcting, removing or replacing *defective* Work in accordance with paragraph 13.12; and

5.4.13. with respect to completed operations insurance, and any insurance coverage written on a claims-made basis, remain in effect for at least two years after final payment (and CONTRACTOR shall furnish OWNER and each other additional insured identified in the Supplementary Conditions to whom a certificate of insurance has been issued evidence satisfactory to OWNER and any such additional insured of continuation of such insurance at final payment and one year thereafter).

OWNER's Liability Insurance:

5.5. In addition to the insurance required to be provided by CONTRACTOR under paragraph 5.4, OWNER, at OWNER's option, may purchase and maintain at OWNER's expense OWNER's own liability insurance as will protect OWNER against claims which may arise from operations under the Contract Documents.

Property Insurance:

5.6. Unless otherwise provided in the Supplementary Conditions, OWNER shall purchase and maintain property insur-

ance upon the Work at the site in the amount of the full replacement cost thereof (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). This insurance shall:

5.6.1. include the interests of OWNER, CONTRACTOR, Subcontractors, ENGINEER, ENGINEER's Consultants and any other persons or entities identified in the Supplementary Conditions, each of whom is deemed to have an insurable interest and shall be listed as an insured or additional insured;

5.6.2. be written on a Builder's Risk "all-risk" or open peril or special causes of loss policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, falsework and Work in transit and shall insure against at least the following perils: fire, lightning, extended coverage, theft, vandalism and malicious mischief, earthquake, collapse, debris removal, demolition occasioned by enforcement of Laws and Regulations, water damage, and such other perils as may be specifically required by the Supplementary Conditions;

5.6.3. include expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects);

5.6.4. cover materials and equipment stored at the site or at another location that was agreed to in writing by OWNER prior to being incorporated in the Work, provided that such materials and equipment have been included in an Application for Payment recommended by ENGINEER; and

5.6.5. be maintained in effect until final payment is made unless otherwise agreed to in writing by OWNER, CONTRACTOR and ENGINEER with thirty days written notice to each other additional insured to whom a certificate of insurance has been issued.

5.7. OWNER shall purchase and maintain such boiler and machinery insurance or additional property insurance as may be required by the Supplementary Conditions or Laws and Regulations which will include the interests of OWNER, CONTRACTOR, Subcontractors, ENGINEER, ENGINEER's Consultants and any other persons or entities identified in the Supplementary Conditions, each of whom is deemed to have an insurable interest and shall be listed as an insured or additional insured.

5.8. All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained by OWNER in accordance with paragraphs 5.6 and 5.7 will contain a provision or endorsement that the coverage afforded will not be cancelled or materially changed or renewal refused until at least thirty days' prior written notice has been given to OWNER and CONTRACTOR and to each other additional insured to whom a certificate of insurance has been issued and will contain waiver provisions in accordance with paragraph 5.11.

5.9. OWNER shall not be responsible for purchasing and maintaining any property insurance to protect the interests of CONTRACTOR, Subcontractors or others in the Work to the extent of any deductible amounts that are identified in the Supplementary Conditions. The risk of loss within such identified deductible amount, will be borne by CONTRACTOR, Subcontractor or others suffering any such loss and if any of them wishes property insurance coverage within the limits of such amounts, each may purchase and maintain it at the purchaser's own expense.

5.10. If CONTRACTOR requests in writing that other special insurance be included in the property insurance policies provided under paragraphs 5.6 or 5.7, OWNER shall, if possible, include such insurance, and the cost thereof will be charged to CONTRACTOR by appropriate Change Order or Written Amendment. Prior to commencement of the Work at the site, OWNER shall in writing advise CONTRACTOR whether or not such other insurance has been procured by OWNER.

5.11. Waiver of Rights:

5.11.1. OWNER and CONTRACTOR intend that all policies purchased in accordance with paragraphs 5.6 and 5.7 will protect OWNER, CONTRACTOR, Subcontractors, ENGINEER, ENGINEER's Consultants and all other persons or entities identified in the Supplementary Conditions to be listed as insureds or additional insureds in such policies and will provide primary coverage for all losses and damages caused by the perils covered thereby. All such policies shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any of the insureds or additional insureds thereunder. OWNER and CONTRACTOR waive all rights against each other and their respective officers, directors, employees and agents for all losses and damages caused by, arising out of or resulting from any of the perils covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Subcontractors, ENGINEER, ENGINEER's Consultants and all other persons or entities identified in the Supplementary Conditions to be listed as insureds or additional insureds under such policies for losses and damages so caused. None of the above waivers shall extend to the rights that any party making such waiver may have to the proceeds of insurance held by OWNER as trustee or otherwise payable under any policy so issued.

5.11.2. In addition, OWNER waives all rights against CONTRACTOR, Subcontractors, ENGINEER, ENGINEER's Consultants and the officers, directors, employees and agents of any of them, for:

5.11.2.1. loss due to business interruption, loss of use or other consequential loss extending beyond direct physical loss or damage to OWNER's property or the Work caused by, arising out of or resulting from fire or other peril, whether or not insured by OWNER; and

5.11.2.2. loss or damage to the completed Project or part thereof caused by, arising out of or resulting from fire or other insured peril covered by any property insurance maintained on the completed Project or part thereof by OWNER during partial utilization pursuant to paragraph 14.10, after substantial completion pursuant to paragraph 14.8 or after final payment pursuant to paragraph 14.13.

Any insurance policy maintained by OWNER covering any loss, damage or consequential loss referred to in this paragraph 5.11.2 shall contain provisions to the effect that in the event of payment of any such loss, damage or consequential loss the insurers will have no rights of recovery against any of CONTRACTOR, Subcontractors, ENGINEER, ENGINEER's Consultants and the officers, directors, employees and agents of any of them.

Receipt and Application of Insurance Proceeds

5.12. Any insured loss under the policies of insurance required by paragraphs 5.6 and 5.7 will be adjusted with OWNER and made payable to OWNER as fiduciary for the insureds, as their interests may appear, subject to the requirements of any applicable mortgage clause and of paragraph 5.13. OWNER shall deposit in a separate account any money so received, and shall distribute it in accordance with such agreement as the parties in interest may reach. If no other special agreement is reached the damaged Work shall be repaired or replaced, the moneys so received applied on account thereof and the Work and the cost thereof covered by an appropriate Change Order or Written Amendment.

5.13. OWNER as fiduciary shall have power to adjust and settle any loss with the insurers unless one of the parties in interest shall object in writing within fifteen days after the occurrence of loss to OWNER's exercise of this power. If such objection be made, OWNER as fiduciary shall make settlement with the insurers in accordance with such agreement as the parties in interest may reach. If no such agreement among the parties in interest is reached, OWNER as fiduciary shall adjust and settle the loss with the insurers and, if required in writing by any party in interest, OWNER as fiduciary shall give bond for the proper performance of such duties.

Acceptance of Bonds and Insurance; Option to Replace:

5.14. If either party (OWNER or CONTRACTOR) has any objection to the coverage afforded by or other provisions of the Bonds or insurance required to be purchased and maintained by the other party in accordance with Article 5 on the basis of non-conformance with the Contract Documents, the objecting party shall so notify the other party in writing within ten days after receipt of the certificates (or other evidence requested) required by paragraph 2.7. OWNER and CONTRACTOR shall each provide to the other such additional information in respect of insurance provided as the other may reasonably request. If either party does not purchase or maintain all of the Bonds and insurance required of such party by the Contract Documents, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage. Without prejudice to any other right or remedy, the other party may elect to obtain equivalent Bonds or insurance to protect such other party's interests at the expense of the party who was

required to provide such coverage, and a Change Order shall be issued to adjust the Contract Price accordingly.

Partial Utilization—Property Insurance:

5.15. If OWNER finds it necessary to occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work, such use or occupancy may be accomplished in accordance with paragraph 14.10; provided that no such use or occupancy shall commence before the insurers providing the property insurance have acknowledged notice thereof and in writing effected any changes in coverage necessitated thereby. The insurers providing the property insurance shall consent by endorsement on the policy or policies, but the property insurance shall not be cancelled or permitted to lapse on account of any such partial use or occupancy.

ARTICLE 6—CONTRACTOR'S RESPONSIBILITIES

Supervision and Superintendence:

6.1. CONTRACTOR shall supervise, inspect and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. CONTRACTOR shall be solely responsible for the means, methods, techniques, sequences and procedures of construction, but CONTRACTOR shall not be responsible for the negligence of others in the design or specification of a specific means, method, technique, sequence or procedure of construction which is shown or indicated in and expressly required by the Contract Documents. CONTRACTOR shall be responsible to see that the completed Work complies accurately with the Contract Documents.

6.2. CONTRACTOR shall keep on the Work at all times during its progress a competent resident superintendent, who shall not be replaced without written notice to OWNER and ENGINEER except under extraordinary circumstances. The superintendent will be CONTRACTOR's representative at the site and shall have authority to act on behalf of CONTRACTOR. All communications to the superintendent shall be as binding as if given to CONTRACTOR.

Labor, Materials and Equipment:

6.3. CONTRACTOR shall provide competent, suitably qualified personnel to survey, lay out and construct the Work as required by the Contract Documents. CONTRACTOR shall at all times maintain good discipline and order at the site. Except as otherwise required for the safety or protection of persons or the Work or property at the site or adjacent thereto, and except as otherwise indicated in the Contract Documents, all Work at the site shall be performed during regular working hours and

CONTRACTOR will not permit overtime work or the performance of Work on Saturday, Sunday or any legal holiday without OWNER's written consent given after prior written notice to ENGINEER.

6.4. Unless otherwise specified in the General Requirements, CONTRACTOR shall furnish and assume full responsibility for all materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities and all other facilities and incidentals necessary for the furnishing, performance, testing, start-up and completion of the Work.

6.5. All materials and equipment shall be of good quality and new, except as otherwise provided in the Contract Documents. All warranties and guarantees specifically called for by the Specifications shall expressly run to the benefit of OWNER. If required by ENGINEER, CONTRACTOR shall furnish satisfactory evidence (including reports of required tests) as to the kind and quality of materials and equipment. All materials and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned in accordance with instructions of the applicable Supplier, except as otherwise provided in the Contract Documents.

Progress Schedule:

6.6. CONTRACTOR shall adhere to the progress schedule established in accordance with paragraph 2.9 as it may be adjusted from time to time as provided below:

6.6.1. CONTRACTOR shall submit to ENGINEER for acceptance (to the extent indicated in paragraph 2.9) proposed adjustments in the progress schedule that will not change the Contract Times (or Milestones). Such adjustments will conform generally to the progress schedule then in effect and additionally will comply with any provisions of the General Requirements applicable thereto.

6.6.2. Proposed adjustments in the progress schedule that will change the Contract Times (or Milestones) shall be submitted in accordance with the requirements of paragraph 12.1. Such adjustments may only be made by a Change Order or Written Amendment in accordance with Article 12.

6.7. Substitutes and "Or-Equal" Items:

6.7.1. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the specification or description is intended to establish the type, function and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent or "or-equal" item or no substitution is permitted, other items of material or equipment or material or equipment of other Suppliers may be accepted by ENGINEER under the following circumstances:

6.7.1.1. "Or-Equal": If in ENGINEER's sole discretion an item of material or equipment proposed by CONTRACTOR is functionally equal to that named and sufficiently similar so that no change in related Work will be required, it may be considered by ENGINEER as an "or-equal" item, in which case review and approval of the proposed item may, in ENGINEER's sole discretion, be accomplished without compliance with some or all of the requirements for acceptance of proposed substitute items.

6.7.1.2. *Substitute Items*: If in ENGINEER's sole discretion an item of material or equipment proposed by CONTRACTOR does not qualify as an "or-equal" item under subparagraph 6.7.1.1, it will be considered a proposed substitute item. CONTRACTOR shall submit sufficient information as provided below to allow ENGINEER to determine that the item of material or equipment proposed is essentially equivalent to that named and an acceptable substitute therefor. The procedure for review by the ENGINEER will include the following as supplemented in the General Requirements and as ENGINEER may decide is appropriate under the circumstances. Requests for review of proposed substitute items of material or equipment will not be accepted by ENGINEER from anyone other than CONTRACTOR. If CONTRACTOR wishes to furnish or use a substitute item of material or equipment, CONTRACTOR shall first make written application to ENGINEER for acceptance thereof, certifying that the proposed substitute will perform adequately the functions and achieve the results called for by the general design, be similar in substance to that specified and be suited to the same use as that specified. The application will state the extent, if any, to which the evaluation and acceptance of the proposed substitute will prejudice CONTRACTOR's achievement of Substantial Completion on time, whether or not acceptance of the substitute for use in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with OWNER for work on the Project) to adapt the design to the proposed substitute and whether or not incorporation or use of the substitute in connection with the Work is subject to payment of any license fee or royalty. All variations of the proposed substitute from that specified will be identified in the application and available maintenance, repair and replacement service will be indicated. The application will also contain an itemized estimate of all costs or credits that will result directly or indirectly from acceptance of such substitute, including costs of redesign and claims of other contractors affected by the resulting change, all of which will be considered by ENGINEER in evaluating the proposed substitute. ENGINEER may require CONTRACTOR to furnish additional data about the proposed substitute.

6.7.1.3. *CONTRACTOR's Expense*: All data to be provided by CONTRACTOR in support of any proposed "or-equal" or substitute item will be at CONTRACTOR's expense.

6.7.2. *Substitute Construction Methods or Procedures*: If a specific means, method, technique, sequence or procedure of

construction is shown or indicated in and expressly required by the Contract Documents, CONTRACTOR may furnish or utilize a substitute means, method, technique, sequence or procedure of construction acceptable to ENGINEER. CONTRACTOR shall submit sufficient information to allow ENGINEER, in ENGINEER's sole discretion, to determine that the substitute proposed is equivalent to that expressly called for by the Contract Documents. The procedure for review by ENGINEER will be similar to that provided in subparagraph 6.7.1.2.

6.7.3. *Engineer's Evaluation*: ENGINEER will be allowed a reasonable time within which to evaluate each proposal or submittal made pursuant to paragraphs 6.7.1.2 and 6.7.2. ENGINEER will be the sole judge of acceptability. No "or-equal" or substitute will be ordered, installed or utilized without ENGINEER's prior written acceptance which will be evidenced by either a Change Order or an approved Shop Drawing. OWNER may require CONTRACTOR to furnish at CONTRACTOR's expense a special performance guarantee or other surety with respect to any "or-equal" or substitute. ENGINEER will record time required by ENGINEER and ENGINEER's Consultants in evaluating substitutes proposed or submitted by CONTRACTOR pursuant to paragraphs 6.7.1.2 and 6.7.2 and in making changes in the Contract Documents (or in the provisions of any other direct contract with OWNER for work on the Project) occasioned thereby. Whether or not ENGINEER accepts a substitute item so proposed or submitted by CONTRACTOR, CONTRACTOR shall reimburse OWNER for the charges of ENGINEER and ENGINEER's Consultants for evaluating each such proposed substitute item.

Concerning Subcontractors, Suppliers and Others:

6.8.1. CONTRACTOR shall not employ any Subcontractor, Supplier or other person or organization (including those acceptable to OWNER and ENGINEER as indicated in paragraph 6.8.2), whether initially or as a substitute, against whom OWNER or ENGINEER may have reasonable objection. CONTRACTOR shall not be required to employ any Subcontractor, Supplier or other person or organization to furnish or perform any of the Work against whom CONTRACTOR has reasonable objection.

6.8.2. If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers or other persons or organizations (including those who are to furnish the principal items of materials or equipment) to be submitted to OWNER in advance of the specified date prior to the Effective Date of the Agreement for acceptance by OWNER and ENGINEER, and if CONTRACTOR has submitted a list thereof in accordance with the Supplementary Conditions, OWNER's or ENGINEER's acceptance (either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in the bidding documents or the Contract Documents) of any such Subcontractor, Supplier or other person or organization so identified may be revoked on the basis of reasonable objection after due investigation, in which case CONTRACTOR shall submit an acceptable substitute, the Contract Price will be adjusted by the difference in the cost occasioned by such

substitution and an appropriate Change Order will be issued or Written Amendment signed. No acceptance by OWNER or ENGINEER of any such Subcontractor, Supplier or other person or organization shall constitute a waiver of any right of OWNER or ENGINEER to reject *defective* Work.

6.9.1. CONTRACTOR shall be fully responsible to OWNER and ENGINEER for all acts and omissions of the Subcontractors, Suppliers and other persons and organizations performing or furnishing any of the Work under a direct or indirect contract with CONTRACTOR just as CONTRACTOR is responsible for CONTRACTOR's own acts and omissions. Nothing in the Contract Documents shall create for the benefit of any such Subcontractor, Supplier or other person or organization any contractual relationship between OWNER or ENGINEER and any such Subcontractor, Supplier or other person or organization, nor shall it create any obligation on the part of OWNER or ENGINEER to pay or to see to the payment of any moneys due any such Subcontractor, Supplier or other person or organization except as may otherwise be required by Laws and Regulations.

6.9.2. CONTRACTOR shall be solely responsible for scheduling and coordinating the Work of Subcontractors, Suppliers and other persons and organizations performing or furnishing any of the Work under a direct or indirect contract with CONTRACTOR. CONTRACTOR shall require all Subcontractors, Suppliers and such other persons and organizations performing or furnishing any of the Work to communicate with the ENGINEER through CONTRACTOR.

6.10. The divisions and sections of the Specifications and the identifications of any Drawings shall not control CONTRACTOR in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.

6.11. All Work performed for CONTRACTOR by a Subcontractor or Supplier will be pursuant to an appropriate agreement between CONTRACTOR and the Subcontractor or Supplier which specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of OWNER and ENGINEER. Whenever any such agreement is with a Subcontractor or Supplier who is listed as an additional insured on the property insurance provided in paragraph 5.6 or 5.7, the agreement between the CONTRACTOR and the Subcontractor or Supplier will contain provisions whereby the Subcontractor or Supplier waives all rights against OWNER, CONTRACTOR, ENGINEER, ENGINEER's Consultants and all other additional insureds for all losses and damages caused by, arising out of or resulting from any of the perils covered by such policies and any other property insurance applicable to the Work. If the insurers on any such policies require separate waiver forms to be signed by any Subcontractor or Supplier, CONTRACTOR will obtain the same.

Patent Fees and Royalties:

6.12. CONTRACTOR shall pay all license fees and royalties and assume all costs incident to the use in the performance

of the Work or the incorporation in the Work of any invention, design, process, product or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product or device is specified in the Contract Documents for use in the performance of the Work and if to the actual knowledge of OWNER or ENGINEER its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by OWNER in the Contract Documents. To the fullest extent permitted by Laws and Regulations, CONTRACTOR shall indemnify and hold harmless OWNER, ENGINEER, ENGINEER's Consultants and the officers, directors, employees, agents and other consultants of each and any of them from and against all claims, costs, losses and damages arising out of or resulting from any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product or device not specified in the Contract Documents.

Permits:

6.13. Unless otherwise provided in the Supplementary Conditions, CONTRACTOR shall obtain and pay for all construction permits and licenses. OWNER shall assist CONTRACTOR, when necessary, in obtaining such permits and licenses. CONTRACTOR shall pay all governmental charges and inspection fees necessary for the prosecution of the Work, which are applicable at the time of opening of Bids, or, if there are no Bids, on the Effective Date of the Agreement. CONTRACTOR shall pay all charges of utility owners for connections to the Work, and OWNER shall pay all charges of such utility owners for capital costs related thereto such as plant investment fees.

Laws and Regulations:

6.14.1. CONTRACTOR shall give all notices and comply with all Laws and Regulations applicable to furnishing and performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither OWNER nor ENGINEER shall be responsible for monitoring CONTRACTOR's compliance with any Laws or Regulations.

6.14.2. If CONTRACTOR performs any Work knowing or having reason to know that it is contrary to Laws or Regulations, CONTRACTOR shall bear all claims, costs, losses and damages caused by, arising out of or resulting therefrom; however, it shall not be CONTRACTOR's primary responsibility to make certain that the Specifications and Drawings are in accordance with Laws and Regulations, but this shall not relieve CONTRACTOR of CONTRACTOR's obligations under paragraph 3.3.2.

Taxes:

6.15. CONTRACTOR shall pay all sales, consumer, use and other similar taxes required to be paid by CONTRACTOR in accordance with the Laws and Regulations of the place of

the Project which are applicable during the performance of the Work.

Use of Premises:

6.16. CONTRACTOR shall confine construction equipment, the storage of materials and equipment and the operations of workers to the site and land and areas identified in and permitted by the Contract Documents and other land and areas permitted by Laws and Regulations, rights-of-way, permits and easements, and shall not unreasonably encumber the premises with construction equipment or other materials or equipment. CONTRACTOR shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof or of any adjacent land or areas, resulting from the performance of the Work. Should any claim be made by any such owner or occupant because of the performance of the Work, CONTRACTOR shall promptly settle with such other party by negotiation or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law. CONTRACTOR shall, to the fullest extent permitted by Laws and Regulations, indemnify and hold harmless OWNER, ENGINEER, ENGINEER's Consultant and anyone directly or indirectly employed by any of them from and against all claims, costs, losses and damages arising out of or resulting from any claim or action, legal or equitable, brought by any such owner or occupant against OWNER, ENGINEER or any other party indemnified hereunder to the extent caused by or based upon CONTRACTOR's performance of the Work.

6.17. During the progress of the Work, CONTRACTOR shall keep the premises free from accumulations of waste materials, rubbish and other debris resulting from the Work. At the completion of the Work CONTRACTOR shall remove all waste materials, rubbish and debris from and about the premises as well as all tools, appliances, construction equipment and machinery and surplus materials. CONTRACTOR shall leave the site clean and ready for occupancy by OWNER at Substantial Completion of the Work. CONTRACTOR shall restore to original condition all property not designated for alteration by the Contract Documents.

6.18. CONTRACTOR shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall CONTRACTOR subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

Record Documents:

6.19. CONTRACTOR shall maintain in a safe place at the site one record copy of all Drawings, Specifications, Addenda, Written Amendments, Change Orders, Work Change Directives, Field Orders and written interpretations and clarifications (issued pursuant to paragraph 9.4) in good order and annotated to show all changes made during construction. These record documents together with all approved Samples and a counterpart of all approved Shop Drawings will be available to ENGINEER for reference. Upon completion of

the Work, these record documents, Samples and Shop Drawings will be delivered to ENGINEER for OWNER.

Safety and Protection:

6.20. CONTRACTOR shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. CONTRACTOR shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:

6.20.1. all persons on the Work site or who may be affected by the Work;

6.20.2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the site; and

6.20.3. other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities and Underground Facilities not designated for removal, relocation or replacement in the course of construction.

CONTRACTOR shall comply with all applicable Laws and Regulations of any public body having jurisdiction for safety of persons or property or to protect them from damage, injury or loss; and shall erect and maintain all necessary safeguards for such safety and protection. CONTRACTOR shall notify owners of adjacent property and of Underground Facilities and utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation and replacement of their property. All damage, injury or loss to any property referred to in paragraph 6.20.2 or 6.20.3 caused, directly or indirectly, in whole or in part, by CONTRACTOR, any Subcontractor, Supplier or any other person or organization directly or indirectly employed by any of them to perform or furnish any of the Work or anyone for whose acts any of them may be liable, shall be remedied by CONTRACTOR (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of OWNER or ENGINEER or ENGINEER's Consultant or anyone employed by any of them or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of CONTRACTOR or any Subcontractor, Supplier or other person or organization directly or indirectly employed by any of them). CONTRACTOR's duties and responsibilities for safety and for protection of the Work shall continue until such time as all the Work is completed and ENGINEER has issued a notice to OWNER and CONTRACTOR in accordance with paragraph 14.13 that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).

Safety Representative:

6.21. CONTRACTOR shall designate a qualified and experienced safety representative at the site whose duties and

responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.

Hazard Communication Programs:

6.22. CONTRACTOR shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the site in accordance with Laws or Regulations.

Emergencies:

6.23. In emergencies affecting the safety or protection of persons or the Work or property at the site or adjacent thereto, CONTRACTOR, without special instruction or authorization from OWNER or ENGINEER, is obligated to act to prevent threatened damage, injury or loss. CONTRACTOR shall give ENGINEER prompt written notice if CONTRACTOR believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby. If ENGINEER determines that a change in the Contract Documents is required because of the action taken by CONTRACTOR in response to such an emergency, a Work Change Directive or Change Order will be issued to document the consequences of such action.

6.24. Shop Drawings and Samples:

6.24.1. CONTRACTOR shall submit Shop Drawings to ENGINEER for review and approval in accordance with the accepted schedule of Shop Drawings and Sample submittals (see paragraph 2.9). All submittals will be identified as ENGINEER may require and in the number of copies specified in the General Requirements. The data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials and similar data to show ENGINEER the materials and equipment CONTRACTOR proposes to provide and to enable ENGINEER to review the information for the limited purposes required by paragraph 6.26.

6.24.2. CONTRACTOR shall also submit Samples to ENGINEER for review and approval in accordance with said accepted schedule of Shop Drawings and Sample submittals. Each Sample will be identified clearly as to material, Supplier, pertinent data such as catalog numbers and the use for which intended and otherwise as ENGINEER may require to enable ENGINEER to review the submittal for the limited purposes required by paragraph 6.26. The numbers of each Sample to be submitted will be as specified in the Specifications.

6.25. Submittal Procedures:

6.25.1. Before submitting each Shop Drawing or Sample, CONTRACTOR shall have determined and verified:

6.25.1.1. all field measurements, quantities, dimensions, specified performance criteria, installation requirements, materials, catalog numbers and similar information with respect thereto,

6.25.1.2. all materials with respect to intended use, fabrication, shipping, handling, storage, assembly and installation pertaining to the performance of the Work, and

6.25.1.3. all information relative to CONTRACTOR's sole responsibilities in respect of means, methods, techniques, sequences and procedures of construction and safety precautions and programs incident thereto.

CONTRACTOR shall also have reviewed and coordinated each Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents.

6.25.2. Each submittal will bear a stamp or specific written indication that CONTRACTOR has satisfied CONTRACTOR's obligations under the Contract Documents with respect to CONTRACTOR'S review and approval of that submittal.

6.25.3. At the time of each submission, CONTRACTOR shall give ENGINEER specific written notice of such variations, if any, that the Shop Drawing or Sample submitted may have from the requirements of the Contract Documents, such notice to be in a written communication separate from the submittal; and, in addition, shall cause a specific notation to be made on each Shop Drawing and Sample submitted to ENGINEER for review and approval of each such variation.

6.26. ENGINEER will review and approve Shop Drawings and Samples in accordance with the schedule of Shop Drawings and Sample submittals accepted by ENGINEER as required by paragraph 2.9. ENGINEER's review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. ENGINEER's review and approval will not extend to means, methods, techniques, sequences or procedures of construction (except where a particular means, method, technique, sequence or procedure of construction is specifically and expressly called for by the Contract Documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions. CONTRACTOR shall make corrections required by ENGINEER, and shall return the required number of corrected copies of Shop Drawings and submit as required new Samples for review and approval. CONTRACTOR shall direct specific attention in writing to revisions other than the corrections called for by ENGINEER on previous submittals.

6.27. ENGINEER's review and approval of Shop Drawings or Samples shall not relieve CONTRACTOR from responsibility for any variation from the requirements of the Contract

Documents unless CONTRACTOR has in writing called ENGINEER's attention to each such variation at the time of submission as required by paragraph 6.25.3 and ENGINEER has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample approval; nor will any approval by ENGINEER relieve CONTRACTOR from responsibility for complying with the requirements of paragraph 6.25.1.

6.28. Where a Shop Drawing or Sample is required by the Contract Documents or the schedule of Shop Drawings and Sample submissions accepted by ENGINEER as required by paragraph 2.9, any related Work performed prior to ENGINEER's review and approval of the pertinent submittal will be at the sole expense and responsibility of CONTRACTOR.

Continuing the Work:

6.29. CONTRACTOR shall carry on the Work and adhere to the progress schedule during all disputes or disagreements with OWNER. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as permitted by paragraph 15.5 or as OWNER and CONTRACTOR may otherwise agree in writing.

6.30. CONTRACTOR's General Warranty and Guarantee:

6.30.1. CONTRACTOR warrants and guarantees to OWNER, ENGINEER and ENGINEER's Consultants that all Work will be in accordance with the Contract Documents and will not be *defective*. CONTRACTOR's warranty and guarantee hereunder excludes defects or damage caused by:

6.30.1.1. abuse, modification or improper maintenance or operation by persons other than CONTRACTOR, Subcontractors or Suppliers; or

6.30.1.2. normal wear and tear under normal usage.

6.30.2. CONTRACTOR's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of CONTRACTOR's obligation to perform the Work in accordance with the Contract Documents:

6.30.2.1. observations by ENGINEER;

6.30.2.2. recommendation of any progress or final payment by ENGINEER;

6.30.2.3. the issuance of a certificate of Substantial Completion or any payment by OWNER to CONTRACTOR under the Contract Documents;

6.30.2.4. use or occupancy of the Work or any part thereof by OWNER;

6.30.2.5. any acceptance by OWNER or any failure to do so;

6.30.2.6. any review and approval of a Shop Drawing or Sample submittal or the issuance of a notice of acceptability by ENGINEER pursuant to paragraph 14.13;

6.30.2.7. any inspection, test or approval by others; or

6.30.2.8. any correction of *defective* Work by OWNER.

Indemnification:

6.31. To the fullest extent permitted by Laws and Regulations, CONTRACTOR shall indemnify and hold harmless OWNER, ENGINEER, ENGINEER's Consultants and the officers, directors, employees, agents and other consultants of each and any of them from and against all claims, costs, losses and damages (including but not limited to all fees and charges of engineers, architects, attorneys and other professionals and all court or arbitration or other dispute resolution costs) caused by, arising out of or resulting from the performance of the Work, provided that any such claim, cost, loss or damage: (i) is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom, and (ii) is caused in whole or in part by any negligent act or omission of CONTRACTOR, any Subcontractor, any Supplier, any person or organization directly or indirectly employed by any of them to perform or furnish any of the Work or anyone for whose acts any of them may be liable, regardless of whether or not caused in part by any negligence or omission of a person or entity indemnified hereunder or whether liability is imposed upon such indemnified party by Laws and Regulations regardless of the negligence of any such person or entity.

6.32. In any and all claims against OWNER or ENGINEER or any of their respective consultants, agents, officers, directors or employees by any employee (or the survivor or personal representative of such employee) of CONTRACTOR, any Subcontractor, any Supplier, any person or organization directly or indirectly employed by any of them to perform or furnish any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under paragraph 6.31 shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for CONTRACTOR or any such Subcontractor, Supplier or other person or organization under workers' compensation acts, disability benefit acts or other employee benefit acts.

6.33. The indemnification obligations of CONTRACTOR under paragraph 6.31 shall not extend to the liability of ENGINEER and ENGINEER's Consultants, officers, directors, employees or agents caused by the professional negligence, errors or omissions of any of them.

Survival of Obligations:

6.34. All representations, indemnifications, warranties and guarantees made in, required by or given in accordance with

the Contract Documents, as well as all continuing obligations indicated in the Contract Documents, will survive final payment, completion and acceptance of the Work and termination or completion of the Agreement.

ARTICLE 7—OTHER WORK

Related Work at Site:

7.1. OWNER may perform other work related to the Project at the site by OWNER's own forces, or let other direct contracts therefor which shall contain General Conditions similar to these, or have other work performed by utility owners. If the fact that such other work is to be performed was not noted in the Contract Documents, then: (i) written notice thereof will be given to CONTRACTOR prior to starting any such other work, and (ii) CONTRACTOR may make a claim therefor as provided in Articles 11 and 12 if CONTRACTOR believes that such performance will involve additional expense to CONTRACTOR or requires additional time and the parties are unable to agree as to the amount or extent thereof.

7.2. CONTRACTOR shall afford each other contractor who is a party to such a direct contract and each utility owner (and OWNER, if OWNER is performing the additional work with OWNER's employees) proper and safe access to the site and a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work and shall properly connect and coordinate the Work with theirs. Unless otherwise provided in the Contract Documents, CONTRACTOR shall do all cutting, fitting and patching of the Work that may be required to make its several parts come together properly and integrate with such other work. CONTRACTOR shall not endanger any work of others by cutting, excavating or otherwise altering their work and will only cut or alter their work with the written consent of ENGINEER and the others whose work will be affected. The duties and responsibilities of CONTRACTOR under this paragraph are for the benefit of such utility owners and other contractors to the extent that there are comparable provisions for the benefit of CONTRACTOR in said direct contracts between OWNER and such utility owners and other contractors.

7.3. If the proper execution or results of any part of CONTRACTOR's Work depends upon work performed by others under this Article 7, CONTRACTOR shall inspect such other work and promptly report to ENGINEER in writing any delays, defects or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of CONTRACTOR's Work. CONTRACTOR's failure so to report will constitute an acceptance of such other work as fit and proper for integration with CONTRACTOR's Work except for latent or nonapparent defects and deficiencies in such other work.

Coordination:

7.4. If OWNER contracts with others for the performance of other work on the Project at the site, the following will be set forth in Supplementary Conditions:

7.4.1. the person, firm or corporation who will have authority and responsibility for coordination of the activities among the various prime contractors will be identified;

7.4.2. the specific matters to be covered by such authority and responsibility will be itemized; and

7.4.3. the extent of such authority and responsibilities will be provided.

Unless otherwise provided in the Supplementary Conditions, OWNER shall have sole authority and responsibility in respect of such coordination.

ARTICLE 8—OWNER'S RESPONSIBILITIES

8.1. Except as otherwise provided in these General Conditions, OWNER shall issue all communications to CONTRACTOR through ENGINEER.

8.2. In case of termination of the employment of ENGINEER, OWNER shall appoint an engineer against whom CONTRACTOR makes no reasonable objection, whose status under the Contract Documents shall be that of the former ENGINEER.

8.3. OWNER shall furnish the data required of OWNER under the Contract Documents promptly and shall make payments to CONTRACTOR promptly when they are due as provided in paragraphs 14.4 and 14.13.

8.4. OWNER's duties in respect of providing lands and easements and providing engineering surveys to establish reference points are set forth in paragraphs 4.1 and 4.4. Paragraph 4.2 refers to OWNER's identifying and making available to CONTRACTOR copies of reports of explorations and tests of subsurface conditions at the site and drawings of physical conditions in existing structures at or contiguous to the site that have been utilized by ENGINEER in preparing the Contract Documents.

8.5. OWNER's responsibilities in respect of purchasing and maintaining liability and property insurance are set forth in paragraphs 5.5 through 5.10.

8.6. OWNER is obligated to execute Change Orders as indicated in paragraph 10.4.

8.7. OWNER's responsibility in respect of certain inspections, tests and approvals is set forth in paragraph 13.4.

8.8. In connection with OWNER's right to stop Work or suspend Work, see paragraphs 13.10 and 15.1. Paragraph 15.2 deals with OWNER's right to terminate services of CONTRACTOR under certain circumstances.

8.9. The OWNER shall not supervise, direct or have control or authority over, nor be responsible for, CONTRACTOR's means, methods, techniques, sequences or procedures of construction or the safety precautions and programs incident thereto, or for any failure of CONTRACTOR to comply with Laws and Regulations applicable to the furnishing or performance of the Work. OWNER will not be responsible for CONTRACTOR's failure to perform or furnish the Work in accordance with the Contract Documents.

8.10. OWNER'S responsibility in respect of undisclosed Asbestos, PCBs, Petroleum, Hazardous Waste or Radioactive Materials uncovered or revealed at the site is set forth in paragraph 4.5.

8.11. If and to the extent OWNER has agreed to furnish CONTRACTOR reasonable evidence that financial arrangements have been made to satisfy OWNER's obligations under the Contract Documents, OWNER's responsibility in respect thereof will be as set forth in the Supplementary Conditions.

ARTICLE 9—ENGINEER'S STATUS DURING CONSTRUCTION

OWNER's Representative:

9.1. ENGINEER will be OWNER's representative during the construction period. The duties and responsibilities and the limitations of authority of ENGINEER as OWNER's representative during construction are set forth in the Contract Documents and shall not be extended without written consent of OWNER and ENGINEER.

Visits to Site:

9.2. ENGINEER will make visits to the site at intervals appropriate to the various stages of construction as ENGINEER deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of CONTRACTOR's executed Work. Based on information obtained during such visits and observations, ENGINEER will endeavor for the benefit of OWNER to determine, in general, if the Work is proceeding in accordance with the Contract Documents. ENGINEER will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. ENGINEER's efforts will be directed toward providing for OWNER a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and on-site observations, ENGINEER will keep OWNER informed of the progress of the Work and will endeavor to guard OWNER against defective Work. ENGINEER's visits and on-site observations are subject to all the limitations on ENGINEER's authority and responsibility set forth in paragraph 9.13, and particularly, but without limitation, during or as a result of ENGINEER's on-site visits or

observations of CONTRACTOR's Work ENGINEER will not supervise, direct, control or have authority over or be responsible for CONTRACTOR's means, methods, techniques, sequences or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of CONTRACTOR to comply with Laws and Regulations applicable to the furnishing or performance of the Work.

Project Representative:

9.3. If OWNER and ENGINEER agree, ENGINEER will furnish a Resident Project Representative to assist ENGINEER in providing more continuous observation of the Work. The responsibilities and authority and limitations thereon of any such Resident Project Representative and assistants will be as provided in paragraph 9.13 and in the Supplementary Conditions. If OWNER designates another representative or agent to represent OWNER at the site who is not ENGINEER's Consultant, agent or employee, the responsibilities and authority and limitations thereon of such other person will be as provided in the Supplementary Conditions.

Clarifications and Interpretations:

9.4. ENGINEER will issue with reasonable promptness such written clarifications or interpretations of the requirements of the Contract Documents (in the form of Drawings or otherwise) as ENGINEER may determine necessary, which shall be consistent with the intent of and reasonably inferable from Contract Documents. Such written clarifications and interpretations will be binding on OWNER and CONTRACTOR. If OWNER or CONTRACTOR believes that a written clarification or interpretation justifies an adjustment in the Contract Price or the Contract Times and the parties are unable to agree to the amount or extent thereof, if any, OWNER or CONTRACTOR may make a written claim therefor as provided in Article 11 or Article 12.

Authorized Variations in Work:

9.5. ENGINEER may authorize minor variations in the Work from the requirements of the Contract Documents which do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. These may be accomplished by a Field Order and will be binding on OWNER and also on CONTRACTOR who shall perform the Work involved promptly. If OWNER or CONTRACTOR believes that a Field Order justifies an adjustment in the Contract Price or the Contract Times and the parties are unable to agree as to the amount or extent thereof, OWNER or CONTRACTOR may make a written claim therefor as provided in Article 11 or 12.

Rejecting Defective Work:

9.6. ENGINEER will have authority to disapprove or reject Work which ENGINEER believes to be *defective*, or

that ENGINEER believes will not produce a completed Project that conforms to the Contract Documents or that will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. ENGINEER will also have authority to require special inspection or testing of the Work as provided in paragraph 13.9, whether or not the Work is fabricated, installed or completed.

Shop Drawings, Change Orders and Payments:

9.7. In connection with ENGINEER's authority as to Shop Drawings and Samples, see paragraphs 6.24 through 6.28 inclusive.

9.8. In connection with ENGINEER's authority as to Change Orders, see Articles 10, 11, and 12.

9.9. In connection with ENGINEER's authority as to Applications for Payment, see Article 14.

Determinations for Unit Prices:

9.10. ENGINEER will determine the actual quantities and classifications of Unit Price Work performed by CONTRACTOR. ENGINEER will review with CONTRACTOR the ENGINEER's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). ENGINEER's written decision thereon will be final and binding upon OWNER and CONTRACTOR, unless, within ten days after the date of any such decision, either OWNER or CONTRACTOR delivers to the other and to ENGINEER written notice of intention to appeal from ENGINEER's decision and: (i) an appeal from ENGINEER's decision is taken within the time limits and in accordance with the procedures set forth in Exhibit GC-A, "Dispute Resolution Agreement," entered into between OWNER and CONTRACTOR pursuant to Article 16, or (ii) if no such Dispute Resolution Agreement has been entered into, a formal proceeding is instituted by the appealing party in a forum of competent jurisdiction to exercise such rights or remedies as the appealing party may have with respect to ENGINEER's decision, unless otherwise agreed in writing by OWNER and CONTRACTOR. Such appeal will not be subject to the procedures of paragraph 9.11.

Decisions on Disputes:

9.11. ENGINEER will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work thereunder. Claims, disputes and other matters relating to the acceptability of the Work or the interpretation of the requirements of the Contract Documents pertaining to the performance and furnishing of the Work and Claims under Articles 11 and 12 in respect of changes in the Contract Price or Contract Times will be referred initially to ENGINEER in writing with a request for a formal decision in accordance with this paragraph. Written notice of each such claim, dispute or other matter will be delivered by the claimant

to ENGINEER and the other party to the Agreement promptly (but in no event later than thirty days) after the start of the occurrence or event giving rise thereto, and written supporting data will be submitted to ENGINEER and the other party within sixty days after the start of such occurrence or event unless ENGINEER allows an additional period of time for the submission of additional or more accurate data in support of such claim, dispute or other matter. The opposing party shall submit any response to ENGINEER and the claimant within thirty days after receipt of the claimant's last submittal (unless ENGINEER allows additional time). ENGINEER will render a formal decision in writing within thirty days after receipt of the opposing party's submittal, if any, in accordance with this paragraph. ENGINEER's written decision on such claim, dispute or other matter will be final and binding upon OWNER and CONTRACTOR unless: (i) an appeal from ENGINEER's decision is taken within the time limits and in accordance with the procedures set forth in EXHIBIT GC-A, "Dispute Resolution Agreement," entered into between OWNER and CONTRACTOR pursuant to Article 16, or (ii) if no such Dispute Resolution Agreement has been entered into, a written notice of intention to appeal from ENGINEER's written decision is delivered by OWNER or CONTRACTOR to the other and to ENGINEER within thirty days after the date of such decision and a formal proceeding is instituted by the appealing party in a forum of competent jurisdiction to exercise such rights or remedies as the appealing party may have with respect to such claim, dispute or other matter in accordance with applicable Laws and Regulations within sixty days of the date of such decision, unless otherwise agreed in writing by OWNER and CONTRACTOR.

9.12. When functioning as interpreter and judge under paragraphs 9.10 and 9.11, ENGINEER will not show partiality to OWNER or CONTRACTOR and will not be liable in connection with any interpretation or decision rendered in good faith in such capacity. The rendering of a decision by ENGINEER pursuant to paragraphs 9.10 or 9.11 with respect to any such claim, dispute or other matter (except any which have been waived by the making or acceptance of final payment as provided in paragraph 14.15) will be a condition precedent to any exercise by OWNER or CONTRACTOR of such rights or remedies as either may otherwise have under the Contract Documents or by Laws or Regulations in respect of any such claim, dispute or other matter pursuant to Article 16.

9.13. Limitations on ENGINEER's Authority and Responsibilities:

9.13.1. Neither ENGINEER's authority or responsibility under this Article 9 or under any other provision of the Contract Documents nor any decision made by ENGINEER in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise or performance of any authority or responsibility by ENGINEER shall create, impose or give rise to any duty owed by ENGINEER to CONTRACTOR, any Subcontractor, any Supplier, any other person or organization, or to any surety for or employee or agent of any of them.

9.13.2. ENGINEER will not supervise, direct, control or have authority over or be responsible for CONTRACTOR's means, methods, techniques, sequences or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of CONTRACTOR to comply with Laws and Regulations applicable to the furnishing or performance of the Work. ENGINEER will not be responsible for CONTRACTOR's failure to perform or furnish the Work in accordance with the Contract Documents.

9.13.3. ENGINEER will not be responsible for the acts or omissions of CONTRACTOR or of any Subcontractor, any Supplier, or of any other person or organization performing or furnishing any of the Work.

9.13.4. ENGINEER's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, bonds and certificates of inspection, tests and approvals and Other documentation required to be delivered by paragraph 14.12 will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests and approvals that the results certified indicate compliance with, the Contract Documents.

9.13.5. The limitations upon authority and responsibility set forth in this paragraph 9.13 shall also apply to ENGINEER's Consultants, Resident Project Representative and assistants.

ARTICLE 10—CHANGES IN THE WORK

10.1. Without invalidating the Agreement and without notice to any surety, OWNER may, at any time or from time to time, order additions, deletions or revisions in the Work. Such additions, deletions or revisions will be authorized by a Written Amendment, a Change Order, or a Work Change Directive. Upon receipt of any such document, CONTRACTOR shall promptly proceed with the Work involved which will be performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided).

10.2. If OWNER and CONTRACTOR are unable to agree as to the extent, if any, of an adjustment in the Contract Price or an adjustment of the Contract Times that should be allowed as a result of a Work Change Directive, a claim may be made therefor as provided in Article 11 or Article 12.

10.3. CONTRACTOR shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any Work performed that is not required by the Contract Documents as amended, modified and supplemented as provided in paragraphs 3.5 and 3.6 except in the case of an emergency as provided in paragraph 6.23 or in the case of uncovering Work as provided in paragraph 13.9.

10.4. OWNER and CONTRACTOR shall execute appropriate Change Orders recommended by ENGINEER (or Written Amendments) covering:

10.4.1. changes in the Work which are (i) ordered by OWNER pursuant to paragraph 10.1, (ii) required because of acceptance of *defective* Work under paragraph 13.13 or correcting *defective* Work under paragraph 13.14, or (iii) agreed to by the parties;

10.4.2. changes in the Contract Price or Contract Times which are agreed to by the parties; and

10.4.3. changes in the Contract Price or Contract Times which embody the substance of any written decision rendered by ENGINEER pursuant to paragraph 9.11;

provided that, in lieu of executing any such Change Order, an appeal may be taken from any such decision in accordance with the provisions of the Contract Documents and applicable Laws and Regulations, but during any such appeal, CONTRACTOR shall carry on the Work and adhere to the progress schedule as provided in paragraph 6.29.

10.5. If notice of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times) is required by the provisions of any Bond to be given to a surety, the giving of any such notice will be CONTRACTOR's responsibility, and the amount of each applicable Bond will be adjusted accordingly.

ARTICLE 11—CHANGE OF CONTRACT PRICE

11.1. The Contract Price constitutes the total compensation (subject to authorized adjustments) payable to CONTRACTOR for performing the Work. All duties, responsibilities and obligations assigned to or undertaken by CONTRACTOR shall be at CONTRACTOR's expense without change in the Contract Price.

11.2. The Contract Price may only be changed by a Change Order or by a Written Amendment. Any claim for an adjustment in the Contract Price shall be based on written notice delivered by the party making the claim to the other party and to ENGINEER promptly (but in no event later than thirty days) after the start of the occurrence or event giving rise to the claim and stating the general nature of the claim. Notice of the amount of the claim with supporting data shall be delivered within sixty days after the start of such occurrence or event (unless ENGINEER allows additional time for claimant to submit additional or more accurate data in support of the claim) and shall be accompanied by claimant's written statement that the adjustment claimed covers all known amounts to which the claimant is entitled as a result of said occurrence or event. All claims for adjustment in the Contract Price shall be determined by ENGINEER in accordance with paragraph 9.11 if OWNER and CONTRACTOR cannot otherwise agree on the amount involved. No claim for an adjustment in the Contract Price will

be valid if not submitted in accordance with this paragraph 11.2.

11.3. The value of any Work covered by a Change Order or of any claim for an adjustment in the Contract Price will be determined as follows:

11.3.1. where the Work involved is covered by unit prices contained in the Contract Documents, by application of such unit prices to the quantities of the items involved (subject to the provisions of paragraphs 11.9.1 through 11.9.3, inclusive);

11.3.2. where the Work involved is not covered by unit prices contained in the Contract Documents, by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with paragraph 11.6.2);

11.3.3. where the Work involved is not covered by unit prices contained in the Contract Documents and agreement to a lump sum is not reached under paragraph 11.3.2, on the basis of the Cost of the Work (determined as provided in paragraphs 11.4 and 11.5) plus a CONTRACTOR's fee for overhead and profit (determined as provided in paragraph 11.6).

Cost of the Work:

11.4. The term Cost of the Work means the sum of all costs necessarily incurred and paid by CONTRACTOR in the proper performance of the Work. Except as otherwise may be agreed to in writing by OWNER, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall include only the following items and shall not include any of the costs itemized in paragraph 11.5:

11.4.1. Payroll costs for employees in the direct employ of CONTRACTOR in the performance of the Work under schedules of job classifications agreed upon by OWNER and CONTRACTOR. Such employees shall include without limitation superintendents, foremen and other personnel employed full-time at the site. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits which shall include social security contributions, unemployment, excise and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. The expenses of performing Work after regular working hours, on Saturday, Sunday or legal holidays, shall be included in the above to the extent authorized by OWNER.

11.4.2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to CONTRACTOR unless OWNER deposits funds with CONTRACTOR with which to make payments, in which case the

cash discounts shall accrue to OWNER. All trade discounts, rebates and refunds and returns from sale of surplus materials and equipment shall accrue to OWNER, and CONTRACTOR shall make provisions so that they may be obtained.

11.4.3. Payments made by CONTRACTOR to the Subcontractors for Work performed or furnished by Subcontractors. If required by OWNER, CONTRACTOR shall obtain competitive bids from subcontractors acceptable to OWNER and CONTRACTOR and shall deliver such bids to OWNER who will then determine, with the advice of ENGINEER, which bids, if any, will be accepted. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work Plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as CONTRACTOR's Cost of the Work and fee as provided in paragraphs 11.4, 11.5, 11.6 and 11.7. All subcontracts shall be subject to the other provisions of the Contract Documents insofar as applicable.

11.4.4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys and accountants) employed for services specifically related to the Work.

11.4.5. Supplemental costs including the following:

11.4.5.1. The proportion of necessary transportation, travel and subsistence expenses of CONTRACTOR's employees incurred in discharge of duties connected with the Work.

11.4.5.2. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office and temporary facilities at the site and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost less market value of such items used but not consumed which remain the property of CONTRACTOR.

11.4.5.3. Rentals of all construction equipment and machinery and the parts thereof whether rented from CONTRACTOR or others in accordance with rental agreements approved by OWNER with the advice of ENGINEER, and the costs of transportation, loading, unloading, installation, dismantling and removal thereof—all in accordance with the terms of said rental agreements. The rental of any such equipment, machinery or parts shall cease when the use thereof is no longer necessary for the Work.

11.4.5.4. Sales, consumer, use or similar taxes related to the Work, and for which CONTRACTOR is liable, imposed by Laws and Regulations.

11.4.5.5. Deposits lost for causes other than negligence of CONTRACTOR, any Subcontractor or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.

11.4.5.6. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by CONTRACTOR in connection with the performance and furnishing of the Work (except losses and damages within the deductible amounts of property insurance established by OWNER in accordance with paragraph 5.9), provided they have resulted from causes other than the negligence of CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of OWNER. No such losses, damages and expenses shall be included in the Cost of the Work for the purpose of determining CONTRACTOR's fee. If, however, any such loss or damage requires reconstruction and CONTRACTOR is placed in charge thereof, CONTRACTOR shall be paid for services a fee proportionate to that stated in paragraph 11.6.2.

11.4.5.7. The cost of utilities, fuel and sanitary facilities at the site.

11.4.5.8. Minor expenses such as telegrams, long distance telephone calls, telephone service at the site, expressage and similar petty cash items in connection with the Work.

11.4.5.9. Cost of premiums for additional Bonds and insurance required because of changes in the Work.

11.5. The term Cost of the Work shall not include any of the following:

11.5.1. Payroll costs and other compensation of CONTRACTOR's officers, executives, principals (of partnership and sole proprietorships), general managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks and other personnel employed by CONTRACTOR whether at the site or in CONTRACTOR's principal or a branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in paragraph 11.4.1 or specifically covered by paragraph 11.4.4—all of which are to be considered administrative costs covered by the CONTRACTOR's fee.

11.5.2. Expenses of CONTRACTOR's principal and branch offices other than CONTRACTOR's office at the site.

11.5.3. Any part of CONTRACTOR's capital expenses, including interest on CONTRACTOR's capital employed for the Work and charges against CONTRACTOR for delinquent payments.

11.5.4. Cost of premiums for all Bonds and for all insurance whether or not CONTRACTOR is required by the Contract Documents to purchase and maintain the same (except for the cost of premiums covered by subparagraph 11.4.5.9 above).

11.5.5. Costs due to the negligence of CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of *defective* Work, disposal of materials or equipment wrongly supplied and making good any damage to property.

Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in paragraph 11.4.

11.6. The CONTRACTOR's fee allowed to CONTRACTOR for overhead and profit shall be determined as follows:

11.6.1. a mutually acceptable fixed fee; or

11.6.2. if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:

11.6.2.1. for costs incurred under paragraphs 11.4.1 and 11.4.2, the CONTRACTOR's fee shall be fifteen percent;

11.6.2.2. for costs incurred under paragraph 11.4.3, the CONTRACTOR's fee shall be five percent;

11.6.2.3. where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of paragraphs 11.4.1, 11.4.2, 11.4.3 and 11.6.2 is that the Subcontractor who actually performs or furnishes the Work, at whatever tier, will be paid a fee of fifteen percent of the costs incurred by such Subcontractor under paragraphs 11.4.1 and 11.4.2 and that any higher tier Subcontractor and CONTRACTOR will each be paid a fee of five percent of the amount paid to the next lower tier Subcontractor;

11.6.2.4. no fee shall be payable on the basis of costs itemized under paragraphs 11.4.4, 11.4.5 and 11.5;

11.6.2.5. the amount of credit to be allowed by CONTRACTOR to OWNER for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in CONTRACTOR's fee by an amount equal to five percent of such net decrease; and

11.6.2.6. when both additions and credits are involved in any one change, the adjustment in CONTRACTOR's fee shall be computed on the basis of the net change in accordance with paragraphs 11.6.2.1 through 11.6.2.5, inclusive.

11.7. Whenever the cost of any Work is to be determined pursuant to paragraphs 11.4 and 11.5, CONTRACTOR will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in form acceptable to ENGINEER an itemized cost breakdown together with supporting data.

Cash Allowances:

11.8. It is understood that CONTRACTOR has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be furnished and performed for such sums as may be acceptable to OWNER and ENGINEER. CONTRACTOR agrees that:

11.8.1. the allowances include the cost to CONTRACTOR (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the site, and all applicable taxes; and

11.8.2. CONTRACTOR's costs for unloading and handling on the site, labor, installation costs, overhead, profit and other expenses contemplated for the allowances have been included in the Contract Price and not in the allowances and no demand for additional payment on account of any of the foregoing will be valid.

Prior to final payment, an appropriate Change Order will be issued as recommended by ENGINEER to reflect actual amounts due CONTRACTOR on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

11.9. Unit Price Work:

11.9.1. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the established unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Determinations of the actual quantities and classifications of Unit Price Work performed by CONTRACTOR will be made by ENGINEER in accordance with paragraph 9.10.

11.9.2. Each unit price will be deemed to include an amount considered by CONTRACTOR to be adequate to cover CONTRACTOR's overhead and profit for each separately identified item.

11.9.3. OWNER or CONTRACTOR may make a claim for an adjustment in the Contract Price in accordance with Article 11 if:

11.9.3.1. the quantity of any item of Unit Price Work performed by CONTRACTOR differs materially and significantly from the estimated quantity of such item indicated in the Agreement; and

11.9.3.2. there is no corresponding adjustment with respect to any other item of Work; and

11.9.3.3. if CONTRACTOR believes that CONTRACTOR is entitled to an increase in Contract Price as a result

of having incurred additional expense or OWNER believes that OWNER is entitled to a decrease in Contract Price and the parties are unable to agree as to the amount of any such increase or decrease.

ARTICLE 12—CHANGE OF CONTRACT TIMES

12.1. The Contract Times (or Milestones) may only be changed by a Change Order or a Written Amendment. Any claim for an adjustment of the Contract Times (or Milestones) shall be based on written notice delivered by the party making the claim to the other party and to ENGINEER promptly (but in no event later than thirty days) after the occurrence of the event giving rise to the claim and stating the general nature of the claim. Notice of the extent of the claim with supporting data shall be delivered within sixty days after such occurrence (unless ENGINEER allows an additional period of time to ascertain more accurate data in support of the claim) and shall be accompanied by the claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant has reason to believe it is entitled as a result of the occurrence of said event. All claims for adjustment in the Contract Times (or Milestones) shall be determined by ENGINEER in accordance with paragraph 9.11 if OWNER and CONTRACTOR cannot otherwise agree. No claim for an adjustment in the Contract Times (or Milestones) will be valid if not submitted in accordance with the requirements of this paragraph 12.1.

12.2. All time limits stated in the Contract Documents are of the essence of the Agreement.

12.3. Where CONTRACTOR is prevented from completing any part of the Work within the Contract Times (or Milestones) due to delay beyond the control of CONTRACTOR, the Contract Times (or Milestones) will be extended in an amount equal to the time lost due to such delay if a claim is made therefor as provided in paragraph 12.1. Delays beyond the control of CONTRACTOR shall include, but not be limited to, acts or neglect by OWNER, acts or neglect of utility owners or other contractors performing other work as contemplated by Article 7, fires, floods, epidemics, abnormal weather conditions or acts of God. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of CONTRACTOR.

12.4. Where CONTRACTOR is prevented from completing any part of the Work within the Contract Times (or Milestones) due to delay beyond the control of both OWNER and CONTRACTOR, an extension of the Contract Times (or Milestones) in an amount equal to the time lost due to such delay shall be CONTRACTOR's sole and exclusive remedy for such delay. In no event shall OWNER be liable to CONTRACTOR, any Subcontractor, any Supplier, any other person or organization, or to any surety for or employee or agent of any of them, for damages arising out of or resulting from (i) delays caused by or within the control of CONTRACTOR, or (ii)

delays beyond the control of both parties including but not limited to fires, floods, epidemics, abnormal weather conditions, acts of God or acts or neglect by utility owners or other contractors performing other work as contemplated by Article 7.

ARTICLE 13—TESTS AND INSPECTIONS;
CORRECTION, REMOVAL OR
ACCEPTANCE OF DEFECTIVE WORK

13.1. *Notice of Defects:* Prompt notice of all defective Work of which OWNER or ENGINEER have actual knowledge will be given to CONTRACTOR. All defective Work may be rejected, corrected or accepted as provided in this Article 13.

Access to Work:

13.2. OWNER, ENGINEER, ENGINEER's Consultants, other representatives and personnel of OWNER, independent testing laboratories and governmental agencies with jurisdictional interests will have access to the Work at reasonable times for their observation, inspecting and testing. CONTRACTOR shall provide them proper and safe conditions for such access and advise them of CONTRACTOR's site safety procedures and programs so that they may comply therewith as applicable.

Tests and Inspections:

13.3. CONTRACTOR shall give ENGINEER timely notice of readiness of the Work for all required inspections, tests or approvals, and shall cooperate with inspection and testing personnel to facilitate required inspections or tests.

13.4. OWNER shall employ and pay for the services of an independent testing laboratory to perform all inspections, tests, or approvals required by the Contract Documents except:

13.4.1. for inspections, tests or approvals covered by paragraph 13.5 below;

13.4.2. that costs incurred in connection with tests or inspections conducted pursuant to paragraph 13.9 below shall be paid as provided in said paragraph 13.9; and

13.4.3. as otherwise specifically provided in the Contract Documents.

13.5. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested or approved by an employee or other representative of such public body, CONTRACTOR shall assume full responsibility for arranging and obtaining such inspections, tests or approvals, pay all costs in connection therewith, and furnish ENGINEER the required certificates of inspection, or

approval. CONTRACTOR shall also be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests or approvals required for OWNER's and ENGINEER's acceptance of materials or equipment to be incorporated in the Work, or of materials, mix designs, or equipment submitted for approval prior to CONTRACTOR's purchase thereof for incorporation in the Work.

13.6. If any Work (or the work of others) that is to be inspected, tested or approved is covered by CONTRACTOR without written concurrence of ENGINEER, it must, if requested by ENGINEER, be uncovered for observation.

13.7. Uncovering Work as provided in paragraph 13.6 shall be at CONTRACTOR's expense unless CONTRACTOR has given ENGINEER timely notice of CONTRACTOR's intention to cover the same and ENGINEER has not acted with reasonable promptness in response to such notice.

Uncovering Work:

13.8. If any Work is covered contrary to the written request of ENGINEER, it must, if requested by ENGINEER, be uncovered for ENGINEER's observation and replaced at CONTRACTOR's expense.

13.9. If ENGINEER considers it necessary or advisable that covered Work be observed by ENGINEER or inspected or tested by others, CONTRACTOR, at ENGINEER's request, shall uncover, expose or otherwise make available for observation, inspection or testing as ENGINEER may require, that portion of the Work in question, furnishing all necessary labor, material and equipment. If it is found that such Work is defective, CONTRACTOR shall pay all claims, costs, losses and damages caused by, arising out of or resulting from such uncovering, exposure, observation, inspection and testing and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and OWNER shall be entitled to an appropriate decrease in the Contract Price, and, if the parties are unable to agree as to the amount thereof, may make a claim therefor as provided in Article 11. If, however, such Work is not found to be defective, CONTRACTOR shall be allowed an increase in the Contract Price or an extension of the Contract Times (or Milestones), or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement and reconstruction; and, if the parties are unable to agree as to the amount or extent thereof, CONTRACTOR may make a claim therefor as provided in Articles 11 and 12.

OWNER May Stop the Work:

13.10. If the Work is defective, or CONTRACTOR fails to supply sufficient skilled workers or suitable materials or equipment, or fails to furnish or perform the Work in such a way that the completed Work will conform to the Contract Documents, OWNER may order CONTRACTOR to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of OWNER to stop the Work

shall not give rise to any duty on the part of OWNER to exercise this right for the benefit of CONTRACTOR or any surety or other party.

Correction or Removal of Defective Work:

13.11. If required by ENGINEER, CONTRACTOR shall promptly, as directed, either correct all *defective* Work, whether or not fabricated, installed or completed, or, if the Work has been rejected by ENGINEER, remove it from the site and replace it with Work that is not *defective*. CONTRACTOR shall pay all claims, costs, losses and damages caused by or resulting from such correction or removal (including but not limited to all costs of repair or replacement of work of others).

13.12. Correction Period:

13.12.1. If within one year after the date of Substantial Completion or such longer period of time as may be prescribed by Laws or Regulations or by the terms of any applicable special guarantee required by the Contract Documents or by any specific provision of the Contract Documents, any Work is found to be *defective*, CONTRACTOR shall promptly, without cost to OWNER and in accordance with OWNER's written instructions: (i) correct such *defective* Work, or, if it has been rejected by OWNER, remove it from the site and replace it with Work that is not *defective*, and (ii) satisfactorily correct or remove and replace any damage to other Work or the work of others resulting therefrom. If CONTRACTOR does not promptly comply with the terms of such instructions, or in an emergency where delay would cause serious risk of loss or damage, OWNER may have the *defective* Work corrected or the rejected Work removed and replaced, and all claims, costs, losses and damages caused by or resulting from such removal and replacement (including but not limited to all costs of repair or replacement of work of others) will be paid by CONTRACTOR.

13.12.2. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications or by Written Amendment.

13.12.3. Where *defective* Work (and damage to other Work resulting therefrom) has been corrected, removed or replaced under this paragraph 13.12, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

Acceptance of Defective Work:

13.13. If, instead of requiring correction or removal and replacement of *defective* Work, OWNER (and, prior to ENGINEER's recommendation of final payment, also ENGINEER) prefers to accept it, OWNER may do so. CONTRACTOR shall

pay all claims, costs, losses and damages attributable to OWNER's evaluation of and determination to accept such *defective* Work (such costs to be approved by ENGINEER as to reasonableness). If any such acceptance occurs prior to ENGINEER's recommendation of final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and OWNER shall be entitled to an appropriate decrease in the Contract Price, and, if the parties are unable to agree as to the amount thereof, OWNER may make a claim therefor as provided in Article 11. If the acceptance occurs after such recommendation, an appropriate amount will be paid by CONTRACTOR to OWNER.

OWNER May Correct Defective Work:

13.14. If CONTRACTOR fails within a reasonable time after written notice from ENGINEER to correct *defective* Work or to remove and replace rejected Work as required by ENGINEER in accordance with paragraph 13.11, or if CONTRACTOR fails to perform the Work in accordance with the Contract Documents, or if CONTRACTOR fails to comply with any other provision of the Contract Documents, OWNER may, after seven days' written notice to CONTRACTOR, correct and remedy any such deficiency. In exercising the rights and remedies under this paragraph OWNER shall proceed expeditiously. In connection with such corrective and remedial action, OWNER may exclude CONTRACTOR from all or part of the site, take possession of all or part of the Work, and suspend CONTRACTOR's services related thereto, take possession of CONTRACTOR's tools, appliances, construction equipment and machinery at the site and incorporate in the Work all materials and equipment stored at the site or for which OWNER has paid CONTRACTOR but which are stored elsewhere. CONTRACTOR shall allow OWNER, OWNER's representatives, agents and employees, OWNER's other contractors and ENGINEER and ENGINEER's Consultants access to the site to enable OWNER to exercise the rights and remedies under this paragraph. All claims, costs, losses and damages incurred or sustained by OWNER in exercising such rights and remedies will be charged against CONTRACTOR and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and OWNER shall be entitled to an appropriate decrease in the Contract Price, and, if the parties are unable to agree as to the amount thereof, OWNER may make a claim therefor as provided in Article 11. Such claims, costs, losses and damages will include but not be limited to all costs of repair or replacement of work of others destroyed or damaged by correction, removal or replacement of CONTRACTOR's *defective* Work. CONTRACTOR shall not be allowed an extension of the Contract Times (or Milestones) because of any delay in the performance of the Work attributable to the exercise by OWNER of OWNER's rights and remedies hereunder.

ARTICLE 14—PAYMENTS TO CONTRACTOR AND COMPLETION

Schedule of Values:

14.1. The schedule of values established as provided in paragraph 2.9 will serve as the basis for progress payments and

will be incorporated into a form of Application for Payment acceptable to ENGINEER. Progress payments on account of Unit Price Work will be based on the number of units completed.

Application for Progress Payment:

14.2. At least twenty days before the date established for each progress payment (but not more often than once a month), CONTRACTOR shall submit to ENGINEER for review an Application for Payment filled out and signed by CONTRACTOR covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice or other documentation warranting that OWNER has received the materials and equipment free and clear of all Liens and evidence that the materials and equipment are covered by appropriate property insurance and other arrangements to protect OWNER's interest therein, all of which will be satisfactory to OWNER. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

CONTRACTOR's Warranty of Title:

14.3. CONTRACTOR warrants and guarantees that title to all Work, materials and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to OWNER no later than the time of payment free and clear of all Liens.

Review of Applications for Progress Payment:

14.4. ENGINEER will, within ten days after receipt of each Application for Payment, either indicate in writing a recommendation of payment and present the Application to OWNER, or return the Application to CONTRACTOR indicating in writing ENGINEER's reasons for refusing to recommend payment. In the latter case, CONTRACTOR may make the necessary corrections and resubmit the Application. Ten days after presentation of the Application for Payment to OWNER with ENGINEER's recommendation, the amount recommended will (subject to the provisions of the last sentence of paragraph 14.7) become due and when due will be paid by OWNER to CONTRACTOR.

14.5. ENGINEER's recommendation of any payment requested in an Application for Payment will constitute a representation by ENGINEER to OWNER, based on ENGINEER's on-site observations of the executed Work as an experienced and qualified design professional and on ENGINEER's review of the Application for Payment and the accompanying data and schedules, that to the best of ENGINEER's knowledge, information and belief:

14.5.1. the Work has progressed to the point indicated,

14.5.2. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, to the results of any subsequent tests called for in the Contract Documents, to a final determination of quantities and classifications for Unit Price Work under paragraph 9.10, and to any other qualifications stated in the recommendation), and

14.5.3. the conditions precedent to CONTRACTOR's being entitled to such payment appear to have been fulfilled in so far as it is ENGINEER's responsibility to observe the Work.

However, by recommending any such payment ENGINEER will not thereby be deemed to have represented that: (i) exhaustive or continuous on-site inspections have been made to check the quality or the quantity of the Work beyond the responsibilities specifically assigned to ENGINEER in the Contract Documents or (ii) that there may not be other matters or issues between the parties that might entitle CONTRACTOR to be paid additionally by OWNER or entitle OWNER to withhold payment to CONTRACTOR.

14.6. ENGINEER's recommendation of any payment, including final payment, shall not mean that ENGINEER is responsible for CONTRACTOR's means, methods, techniques, sequences or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of CONTRACTOR to comply with Laws and Regulations applicable to the furnishing or performance of Work, or for any failure of CONTRACTOR to perform or furnish Work in accordance with the Contract Documents.

14.7. ENGINEER may refuse to recommend the whole or any part of any payment if, in ENGINEER's opinion, it would be incorrect to make the representations to OWNER referred to in paragraph 14.5. ENGINEER may also refuse to recommend any such payment, or, because of subsequently discovered evidence or the results of subsequent inspections or tests, nullify any such payment previously recommended, to such extent as may be necessary in ENGINEER's opinion to protect OWNER from loss because:

14.7.1. the Work is *defective*, or completed Work has been damaged requiring correction or replacement,

14.7.2. the Contract Price has been reduced by Written Amendment or Change Order,

14.7.3. OWNER has been required to correct *defective* Work or complete Work in accordance with paragraph 13.14, or

14.7.4. ENGINEER has actual knowledge of the occurrence of any of the events enumerated in paragraphs 15.2.1 through 15.2.4 inclusive.

OWNER may refuse to make payment of the full amount recommended by ENGINEER because:

14.7.5. claims have been made against OWNER on account of CONTRACTORs performance or furnishing of the Work,

14.7.6. Liens have been filed in connection with the Work, except where CONTRACTOR has delivered a specific Bond satisfactory to OWNER to secure the satisfaction and discharge of such Liens,

14.7.7. there are other items entitling OWNER to a set-off against the amount recommended, or

14.7.8. OWNER has actual knowledge of the occurrence of any of the events enumerated in paragraphs 14.7.1 through 14.7.3 or paragraphs 15.2.1 through 15.2.4 inclusive;

but OWNER must give CONTRACTOR immediate written notice (with a copy to ENGINEER) stating the reasons for such action and promptly pay CONTRACTOR the amount so withheld, or any adjustment thereto agreed to by OWNER and CONTRACTOR, when CONTRACTOR corrects to OWNER's satisfaction the reasons for such action.

Substantial Completion:

14.8. When CONTRACTOR considers the entire Work ready for its intended use CONTRACTOR shall notify OWNER and ENGINEER in writing that the entire Work is substantially complete (except for items specifically listed by CONTRACTOR as incomplete) and request that ENGINEER issue a certificate of Substantial Completion. Within a reasonable time thereafter, OWNER, CONTRACTOR and ENGINEER shall make an inspection of the Work to determine the status of completion. If ENGINEER does not consider the Work substantially complete, ENGINEER will notify CONTRACTOR in writing giving the reasons therefor. If ENGINEER considers the Work substantially complete, ENGINEER will prepare and deliver to OWNER a tentative certificate of Substantial Completion which shall fix the date of Substantial Completion. There shall be attached to the certificate a tentative list of items to be completed or corrected before final payment. OWNER shall have seven days after receipt of the tentative certificate during which to make written objection to ENGINEER as to any provisions of the certificate or attached list. If, after considering such objections, ENGINEER concludes that the Work is not substantially complete, ENGINEER will within fourteen days after submission of the tentative certificate to OWNER notify CONTRACTOR in writing, stating the reasons therefor. If, after consideration of OWNER's objections, ENGINEER considers the Work substantially complete, ENGINEER will within said fourteen days execute and deliver to OWNER and CONTRACTOR a definitive certificate of Substantial Completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative certificate as ENGINEER believes justified after consideration of any objections from OWNER. At the time of delivery of the tentative certificate of Substantial Completion ENGINEER will deliver to OWNER and CONTRACTOR a written recommendation as to division of responsibilities pending final payment between OWNER and CONTRACTOR with respect to security, operation, safety, maintenance, heat, utilities, insurance and warranties and guarantees. Unless OWNER and CONTRACTOR agree otherwise in writing and so inform

ENGINEER in writing prior to ENGINEER's issuing the definitive certificate of Substantial Completion, ENGINEER's aforesaid recommendation will be binding on OWNER and CONTRACTOR until final payment.

14.9. OWNER shall have the right to exclude CONTRACTOR from the Work after the date of Substantial Completion, but OWNER shall allow CONTRACTOR reasonable access to complete or correct items on the tentative list.

Partial Utilization:

14.10. Use by OWNER at OWNER's option of any substantially completed part of the Work which: (i) has specifically been identified in the Contract Documents, or (ii) OWNER, ENGINEER and CONTRACTOR agree constitutes a separately functioning and usable part of the Work that can be used by OWNER for its intended purpose without significant interference with CONTRACTOR's performance of the remainder of the Work; may be accomplished prior to Substantial Completion of all the Work subject to the following:

14.10.1. OWNER at any time may request CONTRACTOR in writing to permit OWNER to use any such part of the Work which OWNER believes to be ready for its intended use and substantially complete. If CONTRACTOR agrees that such part of the Work is substantially complete, CONTRACTOR will certify to OWNER and ENGINEER that such part of the Work is substantially complete and request ENGINEER to issue a certificate of Substantial Completion for that part of the Work. CONTRACTOR at any time may notify OWNER and ENGINEER in writing that CONTRACTOR considers any such part of the Work ready for its intended use and substantially complete and request ENGINEER to issue a certificate of Substantial Completion for that part of the Work. Within a reasonable time after either such request, OWNER, CONTRACTOR and ENGINEER shall make an inspection of that part of the Work to determine its status of completion. If ENGINEER does not consider that part of the Work to be substantially complete, ENGINEER will notify OWNER and CONTRACTOR in writing giving the reasons therefor. If ENGINEER considers that part of the Work to be substantially complete, the provisions of paragraphs 14.8 and 14.9 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.

14.10.2. No occupancy or separate operation of part of the Work will be accomplished prior to compliance with the requirements of paragraph 5.15 in respect of property insurance.

Final Inspection:

14.11. Upon written notice from CONTRACTOR that the entire Work or an agreed portion thereof is complete, ENGINEER will make a final inspection with OWNER and CONTRACTOR and will notify CONTRACTOR in writing of all

particulars in which this inspection reveals that the Work is incomplete or *defective*. CONTRACTOR shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

Final Application for Payment:

14.12. After CONTRACTOR has completed all such corrections to the satisfaction of ENGINEER and delivered in accordance with the Contract Documents all maintenance and operating instructions, schedules, guarantees, Bonds, certificates or other evidence of insurance required by paragraph 5.4, certificates of inspection, marked-up record documents (as provided in paragraph 6.19) and other documents, CONTRACTOR may make application for final payment following the procedure for progress payments. The final Application for Payment shall be accompanied (except as previously delivered) by: (i) all documentation called for in the Contract Documents, including but not limited to the evidence of insurance required by subparagraph 5.4.13, (ii) consent of the surety, if any, to final payment, and (iii) complete and legally effective releases or waivers (satisfactory to OWNER) of all Liens arising out of or filed in connection with the Work. In lieu of such releases or waivers of Liens and as approved by OWNER, CONTRACTOR may furnish receipts or releases in full and an affidavit of CONTRACTOR that: (i) the releases and receipts include all labor, services, material and equipment for which a Lien could be filed, and (ii) all payrolls, material and equipment bills and other indebtedness connected with the Work for which OWNER or OWNER's property might in any way be responsible have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, CONTRACTOR may furnish a Bond or other collateral satisfactory to OWNER to indemnify OWNER against any Lien.

Final Payment and Acceptance:

14.13. If, on the basis of ENGINEER's observation of the Work during construction and final inspection, and ENGINEER's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, ENGINEER is satisfied that the Work has been completed and CONTRACTOR's other obligations under the Contract Documents have been fulfilled, ENGINEER will, within ten days after receipt of the final Application for Payment, indicate in writing ENGINEER's recommendation of payment and present the Application to OWNER for payment. At the same time ENGINEER will also give written notice to OWNER and CONTRACTOR that the Work is acceptable subject to the provisions of paragraph 14.15. Otherwise, ENGINEER will return the Application to CONTRACTOR, indicating in writing the reasons for refusing to recommend final payment, in which case CONTRACTOR shall make the necessary corrections and resubmit the Application. Thirty days after the presentation to OWNER of the Application and accompanying documentation, in appropriate form and substance and with ENGINEER's recommendation and notice of acceptability, the amount recommended by ENGINEER will become due and will be paid by OWNER to

CONTRACTOR.

14.14. If, through no fault of CONTRACTOR, final completion of the Work is significantly delayed and if ENGINEER so confirms, OWNER shall, upon receipt of CONTRACTOR's final Application for Payment and recommendation of ENGINEER, and without terminating the Agreement, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by OWNER for Work not fully completed or corrected is less than the retainage stipulated in the Agreement, and if Bonds have been furnished as required in paragraph 5.1, the written consent of the surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by CONTRACTOR to ENGINEER with the Application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

Waiver of Claims:

14.15. The making and acceptance of final payment will constitute:

14.15.1. a waiver of all claims by OWNER against CONTRACTOR, except claims arising from unsettled Liens, from *defective* Work appearing after final inspection pursuant to paragraph 14.11, from failure to comply with the Contract Documents or the terms of any special guarantees specified therein, or from CONTRACTOR's continuing obligations under the Contract Documents; and

14.15.2. a waiver of all claims by CONTRACTOR against OWNER other than those previously made in writing and still unsettled.

ARTICLE 15—SUSPENSION OF WORK AND TERMINATION

OWNER May Suspend Work:

15.1. At any time and without cause, OWNER may suspend the Work or any portion thereof for a period of not more than ninety days by notice in writing to CONTRACTOR and ENGINEER which will fix the date on which Work will be resumed. CONTRACTOR shall resume the Work on the date so fixed. CONTRACTOR shall be allowed an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension if CONTRACTOR makes an approved claim therefor as provided in Articles 11 and 12.

OWNER May Terminate:

15.2. Upon the occurrence of any one or more of the following events:

15.2.1. if CONTRACTOR persistently fails to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the progress schedule established under paragraph 2.9 as adjusted from time to time pursuant to paragraph 6.6);

15.2.2. if CONTRACTOR disregards Laws or Regulations of any public body having jurisdiction;

15.2.3. if CONTRACTOR disregards the authority of ENGINEER; or

15.2.4. if CONTRACTOR otherwise violates in any substantial way any provisions of the Contract Documents;

OWNER may, after giving CONTRACTOR (and the surety, if any,) seven days' written notice and to the extent permitted by Laws and Regulations, terminate the services of CONTRACTOR, exclude CONTRACTOR from the site and take possession of the Work and of all CONTRACTOR's tools, appliances, construction equipment and machinery at the site and use the same to the full extent they could be used by CONTRACTOR (without liability to CONTRACTOR for trespass or conversion), incorporate in the Work all materials and equipment stored at the site or for which OWNER has paid CONTRACTOR but which are stored elsewhere, and finish the Work as OWNER may deem expedient. In such case CONTRACTOR shall not be entitled to receive any further payment until the Work is finished. If the unpaid balance of the Contract Price exceeds all claims, costs, losses and damages sustained by OWNER arising out of or resulting from completing the Work such excess will be paid to CONTRACTOR. If such claims, costs, losses and damages exceed such unpaid balance, CONTRACTOR shall pay the difference to OWNER. Such claims, costs, losses and damages incurred by OWNER will be reviewed by ENGINEER as to their reasonableness and when so approved by ENGINEER incorporated in a Change Order, provided that when exercising any rights or remedies under this paragraph OWNER shall not be required to obtain the lowest price for the Work performed.

15.3. Where CONTRACTOR's services have been so terminated by OWNER, the termination will not affect any rights or remedies of OWNER against CONTRACTOR then existing or which may thereafter accrue. Any retention or payment of moneys due CONTRACTOR by OWNER will not release CONTRACTOR from liability.

15.4. Upon seven days' written notice to CONTRACTOR and ENGINEER, OWNER may, without cause and without prejudice to any other right or remedy of OWNER, elect to terminate the Agreement. In such case, CONTRACTOR shall be paid (without duplication of any items):

15.4.1. for completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;

15.4.2. for expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses;

15.4.3. for all claims, costs, losses and damages incurred in settlement of terminated contracts with Subcontractors, Suppliers and others; and

15.4.4. for reasonable expenses directly attributable to termination.

CONTRACTOR shall not be paid on account of loss of anticipated profits or revenue or other economic loss arising out of or resulting from such termination.

CONTRACTOR May Stop Work or Terminate:

15.5. If, through no act or fault of CONTRACTOR, the Work is suspended for a period of more than ninety days by OWNER or under an order of court or other public authority, or ENGINEER fails to act on any Application for Payment within thirty days after it is submitted or OWNER fails for thirty days to pay CONTRACTOR any sum finally determined to be due, then CONTRACTOR may, upon seven days' written notice to OWNER and ENGINEER, and provided OWNER or ENGINEER do not remedy such suspension or failure within that time, terminate the Agreement and recover from OWNER payment on the same terms as provided in paragraph 15.4. In lieu of terminating the Agreement and without prejudice to any other right or remedy, if ENGINEER has failed to act on an Application for Payment within thirty days after it is submitted, or OWNER has failed for thirty days to pay CONTRACTOR any sum finally determined to be due, CONTRACTOR may upon seven day's written notice to OWNER and ENGINEER stop the Work until payment of all such amounts due CONTRACTOR, including interest thereon. The provisions of this paragraph 15.5 are not intended to preclude CONTRACTOR from making claim under Articles 11 and 12 for an increase in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to CONTRACTOR's stopping Work as permitted by this paragraph.

ARTICLE 16—DISPUTE RESOLUTION

If and to the extent that OWNER and CONTRACTOR have agreed on the method and procedure for resolving disputes between them that may arise under this Agreement, such dispute resolution method and procedure, if any, shall be as set forth in Exhibit GC-A, "Dispute Resolution Agreement," to be attached hereto and made a part hereof. If no such agreement on the method and procedure for resolving such disputes has been reached, and subject to the provisions of paragraphs 9.10, 9.11, and 9.12, OWNER and CONTRACTOR may exercise

such rights or remedies as either may otherwise have under the Contract Documents or by Laws or Regulations in respect of any dispute.

ARTICLE 17—MISCELLANEOUS

Giving Notice:

17.1. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or if delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

Computation of Times:

17.2.1. When any period of time is referred to in the Contract Documents by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

17.2.2. A calendar day of twenty-four hours measured from midnight to the next midnight will constitute a day.

Notice of Claim:

17.3. Should OWNER or CONTRACTOR suffer injury or damage to person or property because of any error, omission or

act of the other party or of any of the other party's employees or agents or others for whose acts the other party is legally liable, claim will be made in writing to the other party within a reasonable time of the first observance of such injury or damage. The provisions of this paragraph 17.3 shall not be construed as a substitute for or a waiver of the provisions of any applicable statute of limitations or repose.

Cumulative Remedies:

17.4. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto, and, in particular but without limitation, the warranties, guarantees and obligations imposed upon CONTRACTOR by paragraphs 6.12, 6.16, 6.30, 6.31, 6.32, 13.1, 13.12, 13.14, 14.3 and 15.2 and all of the rights and remedies available to OWNER and ENGINEER thereunder, are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee or by other provisions of the Contract Documents, and the provisions of this paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right and remedy to which they apply.

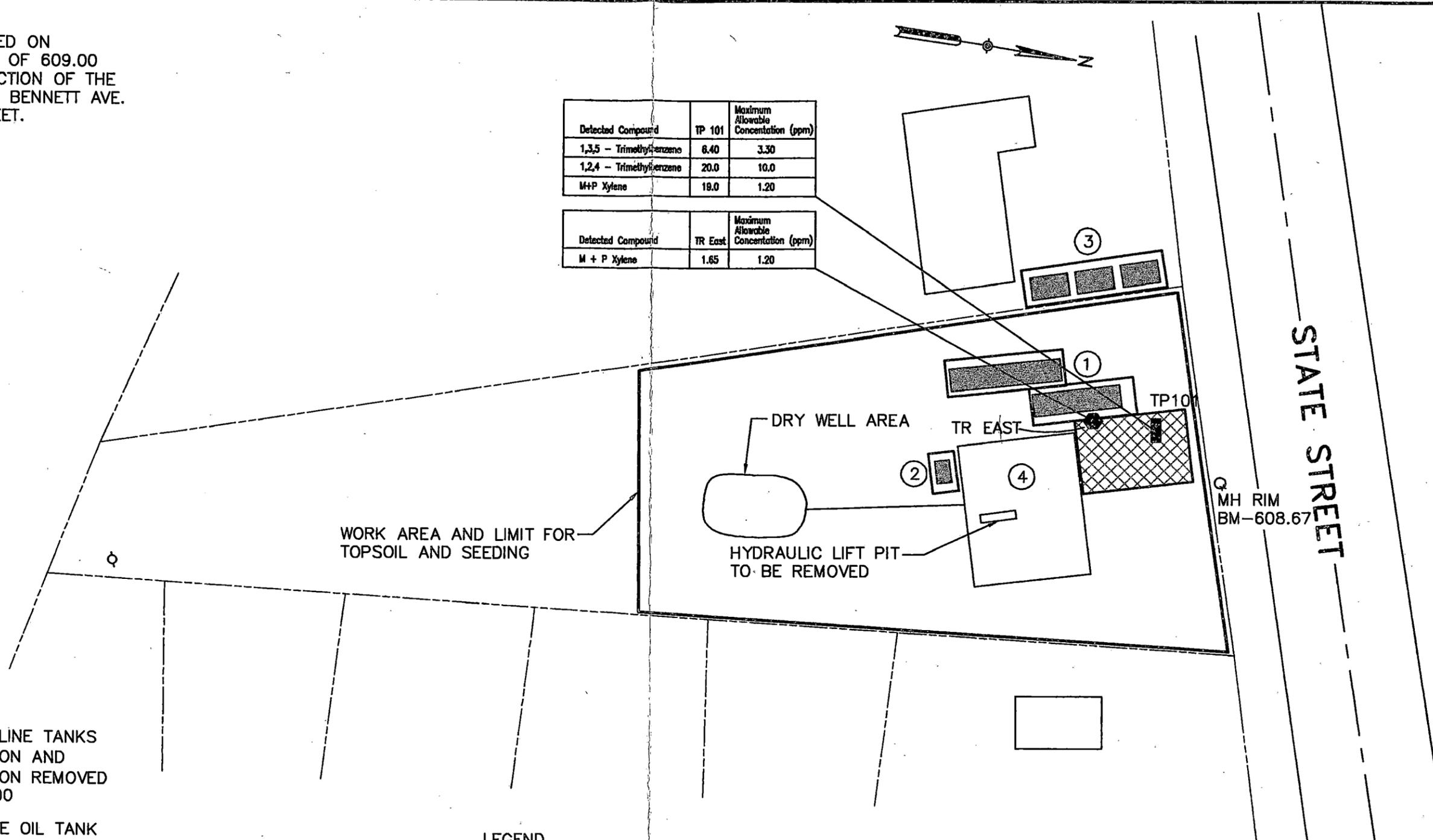
Professional Fees and Court Costs Included:

17.5. Whenever reference is made to "claims, costs, losses and damages," it shall include in each case, but not be limited to, all fees and charges of engineers, architects, attorneys and other professionals and all court or arbitration or other dispute resolution costs.

ELEVATIONS BASED ON
USGS ELEVATION OF 609.00
AT THE INTERSECTION OF THE
CENTERLINES OF BENNETT AVE.
AND STATE STREET.

Detected Compound	TP 101	Maximum Allowable Concentration (ppm)
1,3,5 - Trimethylbenzene	6.40	3.30
1,2,4 - Trimethylbenzene	20.0	10.0
M+P Xylene	18.0	1.20

Detected Compound	TR East	Maximum Allowable Concentration (ppm)
M + P Xylene	1.65	1.20



WORK AREA AND LIMIT FOR
TOPSOIL AND SEEDING

DRY WELL AREA

HYDRAULIC LIFT PIT
TO BE REMOVED

TR EAST

TP101

MH RIM
BM-608.67

STATE STREET

NOTES:

- ① ON-SITE GASOLINE TANKS
(1) 4000 GALLON AND
(1) 3000 GALLON REMOVED
NOVEMBER 2000
- ② ON-SITE WASTE OIL TANK
(1) 500 GALLON REMOVED
NOVEMBER 2000
- ③ OFF-SITE GASOLINE TANKS
(3) 500 GALLON REMOVED
SEPTEMBER 2001
- ④ BUILDING DEMOLISHED TO GROUND LEVEL
AUGUST 2005

LEGEND

- * BM BENCH MARK
- CONTAMINATE CONCENTRATION ABOVE SCG VALUES
- ◆ TANK EXCAVATION SOIL SAMPLE ABOVE SCG VALUES
- ⊠ SOIL REMOVAL AREA



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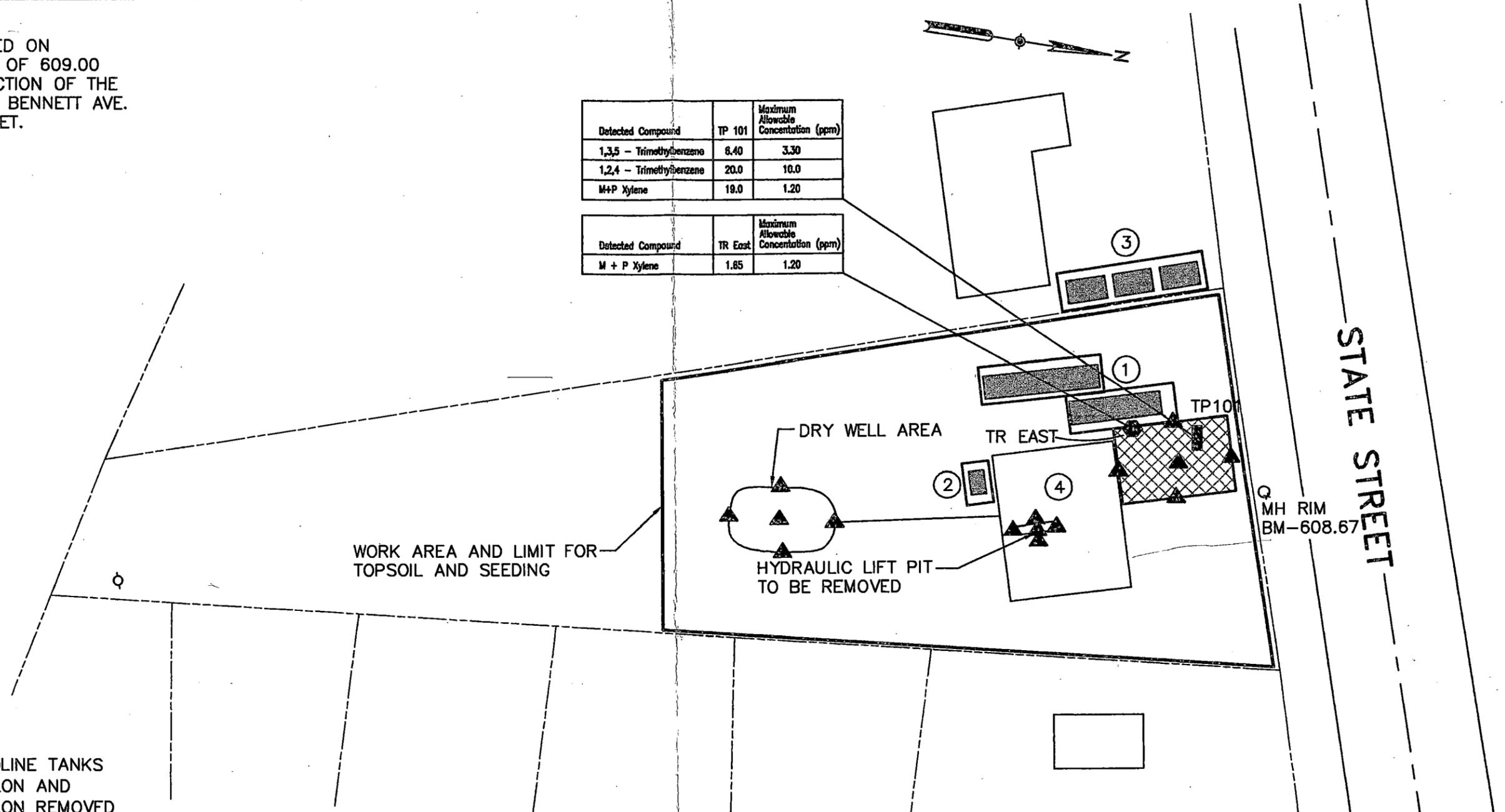
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VILLAGE OF MANCHESTER, NEW YORK		
FREDERICK PROPERTY ENVIRONMENTAL RESTORATION PROJECT NYSDEC PROJECT NO. (B00131-8) REMEDATION PLAN		
SNIEDZE ASSOCIATES, CONSULTING ENGINEERS CANANDAIGUA, NEW YORK		
SCALE: 1"=30'	HLH RCR	JANUARY 2005
		4360-9

ELEVATIONS BASED ON
USGS ELEVATION OF 609.00
AT THE INTERSECTION OF THE
CENTERLINES OF BENNETT AVE.
AND STATE STREET.

Detected Compound	TP 101	Maximum Allowable Concentration (ppm)
1,3,5 - Trimethylbenzene	6.40	3.30
1,2,4 - Trimethylbenzene	20.0	10.0
M+P Xylene	19.0	1.20

Detected Compound	TR East	Maximum Allowable Concentration (ppm)
M + P Xylene	1.85	1.20



- NOTES:**
- ① ON-SITE GASOLINE TANKS
(1) 4000 GALLON AND
(1) 3000 GALLON REMOVED
NOVEMBER 2000
 - ② ON-SITE WASTE OIL TANK
(1) 500 GALLON REMOVED
NOVEMBER 2000
 - ③ OFF-SITE GASOLINE TANKS
(3) 500 GALLON REMOVED
SEPTEMBER 2001
 - ④ BUILDING DEMOLISHED TO GROUND LEVEL
AUGUST 2005

- LEGEND**
- * BM BENCH MARK
 - CONTAMINATE CONCENTRATION ABOVE SCG VALUES
 - ◆ TANK EXCAVATION SOIL SAMPLE ABOVE SCG VALUES
 - ▨ SOIL REMOVAL AREA
 - ▲ CONFIRMATORY SOIL SAMPLE LOCATION



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VILLAGE OF MANCHESTER, NEW YORK			
FREDERICK PROPERTY ENVIRONMENTAL RESTORATION PROJECT NYSDEC PROJECT NO. (B00131-8) SAMPLE LOCATION PLAN			
SNIEDZE ASSOCIATES, CONSULTING ENGINEERS CANANDAIGUA, NEW YORK			
SCALE: 1"=30'	HLH RCR	JULY 2005	4380-10

APPENDIX C
SOIL HANDLING PLAN

SOIL HANDLING PLAN

Appendix C, Soil Handling Plan - The procedures included in this Appendix apply to the planned removal of contaminated soils as part of the site remedy.

1. SCREENING.

All excavated soils will be screened in the field for the presence of volatile organic compounds (VOCs) with a calibrated photoionization detector (PID). All PID screening results to be used to segregate soil as contaminated need to be headspace readings taken from a sealed sampling container after warming to at least 70 degrees Fahrenheit. Soils not exhibiting evidence of petroleum contamination will be staged for later use as backfill. All soils exhibiting odors or visual staining, or having a PID reading greater than 5 parts per million (ppm) will be deemed as potentially contaminated. Potentially contaminated soils will be staged on polyethylene sheeting pending waste characterization. Soils excavated from the hydraulic pits, dry well and former tank and island area will be staged separately.

2. SOIL CHARACTERIZATION SAMPLING.

Post-excavation confirmatory soil sampling will be conducted as indicated in the Remedial Work Plan. Waste characterization samples will be collected from staged soil piles. One (1) composite soil sample will be collected from each staged soil pile. The soil sample collected from the former tank and island area will be submitted to a laboratory for analysis of TCLP VOCs, TCLP lead and ignitability. Soil samples collected from the hydraulic pits and dry well area will be analyzed for TCLP VOCs, TCLP SVOCs, TCLP metals, PCBs, reactivity and ignitability. Soils presumed to be clean and reused for backfill will be analyzed for TCLP VOCs and SVOCs. Results of analysis will be utilized to characterize waste soils as hazardous or non-hazardous.

Non-hazardous soils containing contaminant concentrations below NYSDEC STARS Memo #1 guidance values will be reused on-site as backfill. Soils containing contaminant concentrations above STARS guidance values will require off-site disposal.

3. SOIL EXCAVATION.

Soils deemed contaminated based on PID results or odors or staining shall be staged on plastic sheeting and covered with tarpaulin covers. The contaminated soil shall be disposed of based on results of lab analysis. Based on the analysis, the soil will be treated as either hazardous waste or commercial/industrial waste and transported to an appropriate facility following all applicable regulations.

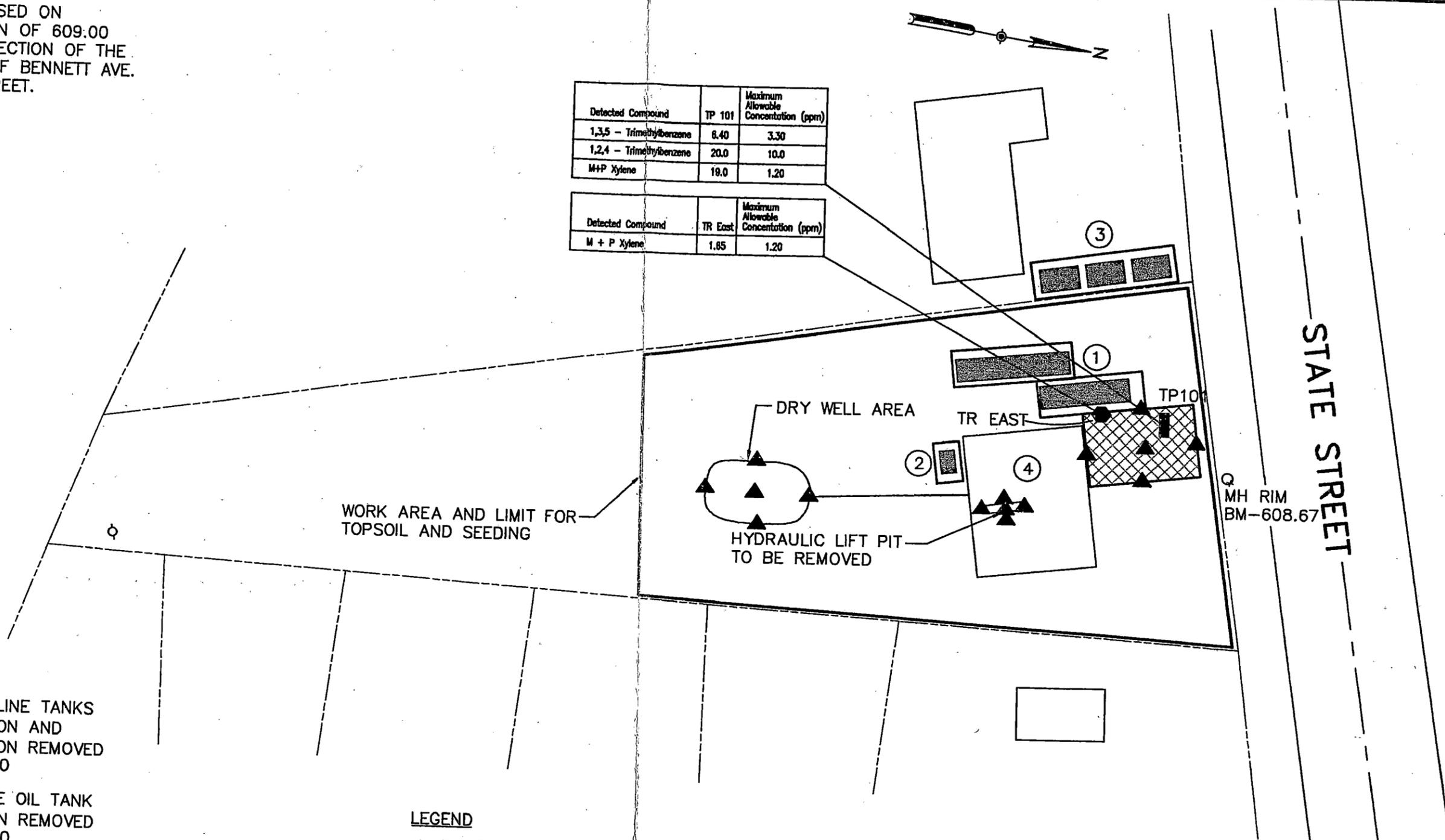
4. SOIL DISPOSAL.

All soils requiring disposal will be transported to an approved disposal facility in lined, covered transport vehicles by a permitted hauler. Wastes characterized as non-hazardous or exhibiting nuisance characteristics will be transported to a permitted landfill facility. Soils exhibiting hazardous waste characteristics (e.g. toxicity, reactivity, ignitability) will be transported to a permitted hazardous waste facility.

ELEVATIONS BASED ON
USGS ELEVATION OF 609.00
AT THE INTERSECTION OF THE
CENTERLINES OF BENNETT AVE.
AND STATE STREET.

Detected Compound	TP 101	Maximum Allowable Concentration (ppm)
1,3,5 - Trimethylbenzene	8.40	3.30
1,2,4 - Trimethylbenzene	20.0	10.0
M+P Xylene	19.0	1.20

Detected Compound	TR East	Maximum Allowable Concentration (ppm)
M + P Xylene	1.85	1.20



NOTES:

- ① ON-SITE GASOLINE TANKS
(1) 4000 GALLON AND
(1) 3000 GALLON REMOVED
NOVEMBER 2000
- ② ON-SITE WASTE OIL TANK
(1) 500 GALLON REMOVED
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SEPTEMBER 2001
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AUGUST 2005

LEGEND

- * BM BENCH MARK
- CONTAMINATE CONCENTRATION ABOVE SCG VALUES
- ⬠ TANK EXCAVATION SOIL SAMPLE ABOVE SCG VALUES
- ⊠ SOIL REMOVAL AREA
- ▲ CONFIRMATORY SOIL SAMPLE LOCATION



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VILLAGE OF MANCHESTER, NEW YORK			
FREDERICK PROPERTY ENVIRONMENTAL RESTORATION PROJECT NYSDEC PROJECT NO. (B00131-8) SAMPLE LOCATION PLAN			
SNIEDZE ASSOCIATES, CONSULTING ENGINEERS CANANDAIGUA, NEW YORK			
SCALE: 1"=30'	HLH RCR	JULY 2005	4380-10

APPENDIX D

**OUTLINE OF
OPERATION, MONITORING
& MAINTENANCE PLAN**

OPERATION, MONITORING AND MAINTENANCE MANUAL

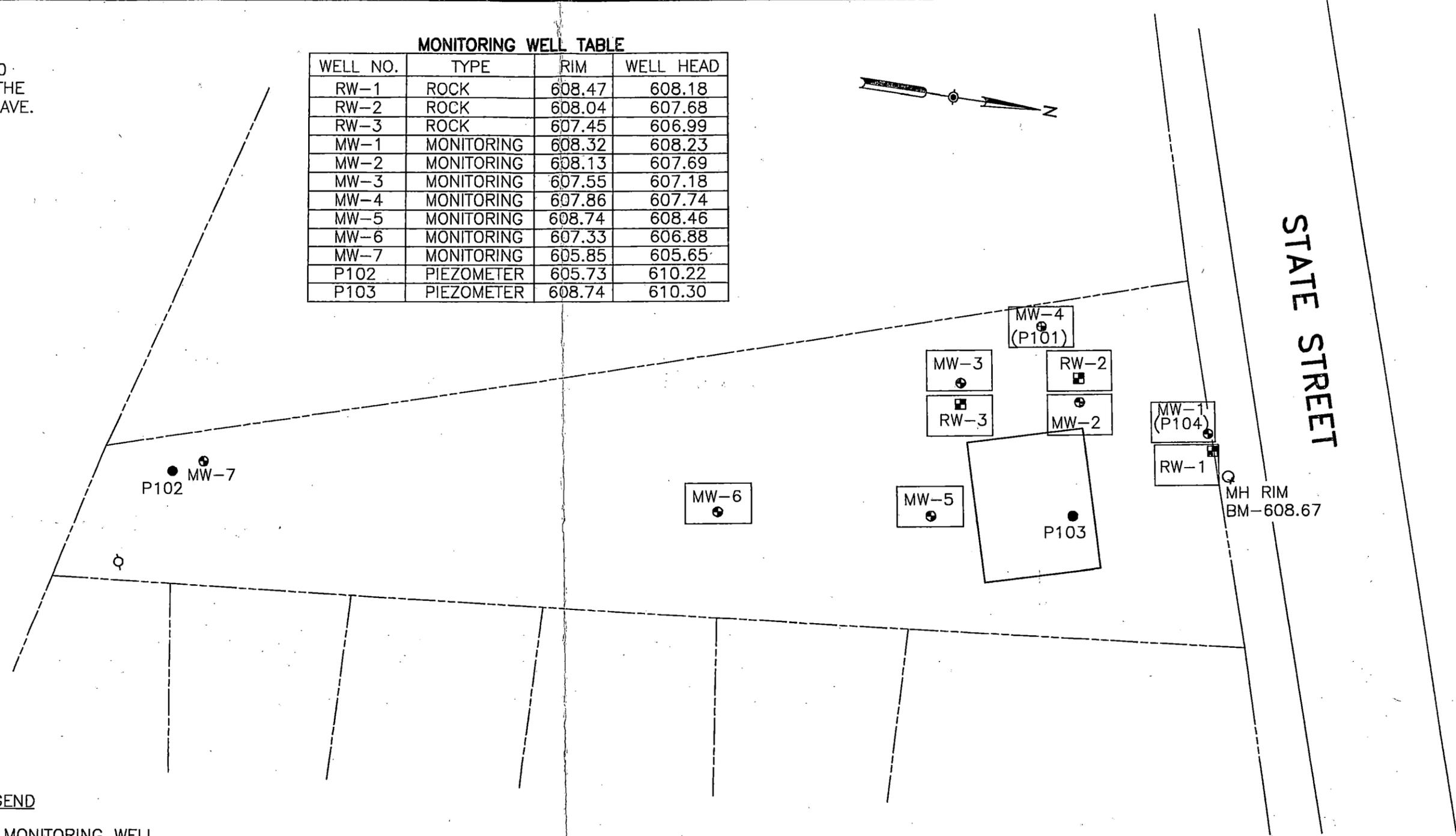
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 - 1.2. Purpose of Manual.
 - 1.3. Record Management.
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 - 2.2. Hydrogeology.
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10. RECORDS AND FORMS
11. EMERGENCY CONTINGENCY PLAN
12. RECORD DRAWINGS
13. ROD'S CONSENT ORDERS AND EXPLANATION OF SIGNIFICANT DIFFERENCES
14. ELECTRONIC COPIES

ELEVATIONS BASED ON
USGS ELEVATION OF 609.00
AT THE INTERSECTION OF THE
CENTERLINES OF BENNETT AVE.
AND STATE STREET.

MONITORING WELL TABLE

WELL NO.	TYPE	RIM	WELL HEAD
RW-1	ROCK	608.47	608.18
RW-2	ROCK	608.04	607.68
RW-3	ROCK	607.45	606.99
MW-1	MONITORING	608.32	608.23
MW-2	MONITORING	608.13	607.69
MW-3	MONITORING	607.55	607.18
MW-4	MONITORING	607.86	607.74
MW-5	MONITORING	608.74	608.46
MW-6	MONITORING	607.33	606.88
MW-7	MONITORING	605.85	605.65
P102	PIEZOMETER	605.73	610.22
P103	PIEZOMETER	608.74	610.30



LEGEND

- ⊕ MONITORING WELL
- ▣ ROCK WELL
- PIEZOMETER
- * BM BENCH MARK

⊕ MW-1 WELL TO BE MONITORED
YEAR 2005 TO 2010



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IT IS A VIOLATION OF THE NEW YORK STATE
EDUCATION LAW FOR ANY PERSON UNLESS
HE IS ACTING UNDER THE DIRECTION OF A
LICENSED PROFESSIONAL ENGINEER, TO ALTER
THIS DOCUMENT IN ANY WAY.

VILLAGE OF MANCHESTER, NEW YORK

**FREDERICK PROPERTY
ENVIRONMENTAL RESTORATION PROJECT
NYSDEC PROJECT NO. (B00131-8)
GROUNDWATER MONITORING**

SNIEDZE ASSOCIATES, CONSULTING ENGINEERS
CANANDAIGUA, NEW YORK

SCALE: 1"=30'

HLH RCR

JANUARY 2005

4360-8

APPENDIX E

HEALTH AND SAFETY PLAN

**Health and Safety Plan
for the**

**FREDERICK PROPERTY
ENVIRONMENTAL RESTORATION
PROJECT**

NYSDEC SITE B00131-8

MANCHESTER, NY

Prepared by:

Village Of Manchester, New York

January 2005

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1. INTRODUCTION

1.1. General.

This Health and Safety Plan (HASP) has been prepared to identify the health and safety procedures, methods, and requirements for activities performed during the Remedial Work Plan at the Frederick Property project site (the site) in Manchester, New York. This plan applies to the activities to be performed by employees of the Village of Manchester and/or Sniedze Associates, (Sniedze) during implementation of Remedial Work Plan activities as outlined in the Record of Decision.

This HASP sets forth the minimum safety requirements pursuant to OSHA regulations. It should be acknowledged that the employees of other consulting and/or contracted companies must review this HASP. The protection of the health and safety of employees is a responsibility of their employers. Contractors and/or consultants may use this HASP as a guide to develop their own independent Health and Safety Plans for use by their employees, provided that the minimum requirements of this HASP are fulfilled. Each contractor performing work on this project performs different aspects of the tasks and there may be unique or special hazards to their work that require precautions above and beyond those outlined in this HASP.

This HASP addresses health and safety issues related to the presence of specific physical and/or chemical hazards potentially present during the performance of Remedial Work Plan activities. An Emergency Response/Contingency Plan (Section 9) has been prepared to outline the procedures to be followed in an emergency or unusual situation. During development of this HASP, consideration was given to current health and safety standards as defined by the Occupational Safety and Health Administration and/or National Institute for Occupational Safety and Health (OSHA/NIOSH).

This document will be periodically reviewed to ensure that it is current and technically correct. Any changes in site conditions and/or the scope of work will require a review and modification of this HASP. Such changes will be completed in the form of an addendum.

1.2. Project Background.

A detailed description of the site is presented in the Remedial Work Plan. The overall objectives of this remediation are to demolish the existing building, including removal of floor drainage system and subsurface hydraulic lift units, closure of the dry well area behind the building, remove contaminated soils from the area of the former pump islands and around the hydraulic lift and dry well to prevent further groundwater contamination.

Prepare an operation, monitoring and maintenance program to track natural attenuation of contaminants in groundwater following source soil removal; and provide institutional controls to restrict groundwater usage and prevent vapor intrusion into any future buildings at the site.

1. INTRODUCTION (continued)

1.3. Definitions.

The following definitions will apply to this HASP:

- a. Site - The area where the work shall be performed.
- b. Project - All work performed on the site under the scope of work presented in the Remedial Work Plan.
- c. Subcontractor - Includes on-site subcontractor personnel hired by Sniedze Associates or Village of Manchester.
- d. On-Site Personnel – All Village of Manchester, Sniedze Associates, State of New York, and subcontractor personnel performing/observing work tasks for this project.
- e. Visitor - All other personnel, except the on-site personnel, entering the site during project work. Visitors will need to receive approval from the on-site health and safety supervisor to enter the Work Zone.
- f. Community – Members of the public potentially affected by project work, such as neighbors and passers-by.
- g. Health and Safety Supervisor (HSS) - is a Sniedze Associates or Village of Manchester employee so designated, and will be primarily responsible for the implementation and enforcement of the HASP. The HSS will be familiar with applicable state and federal occupational safety and health regulations and have formal training in occupational safety and health (OSHA Supervisory Training).
- h. Work Zone - Any portion of the project where hazardous substances are, or may reasonably be suspected, to be present in the air, water, or soil/sediment.
- i. Decontamination Zone - Area between the Work Zone and Support Zone that provides a transition between contaminated and clean areas. Decontamination stations are located in this Zone.
- j. Support Zone - The rest of the site. Support equipment is located in this Zone.
- k. Monitoring - The use of field instrumentation to provide information regarding the levels of contaminants in air. Monitoring will be conducted to evaluate on-site personnel, visitors, and community exposures to chemical and physical hazards.
- l. HASP - Health and Safety Plan approved for this Project.
- m. Buddy System - A system of grouping workers in hazardous areas developed to ensure that workers are able to provide assistance when needed, observe partner for signs of chemical or heat exposure, and contact HSS or others if emergency assistance is needed.

2. IDENTIFICATION OF KEY HEALTH AND SAFETY PERSONNEL

2.1. Key Personnel.

Implementation of this HASP will be accomplished through an integrated team effort. The names of key personnel involved with this project are provided below:

Village of Manchester

Bruce E. Miles, Mayor
Village of Manchester
8 Clifton Street
Manchester, NY 14504
(585) 289-4340

Angela M. D'Arduini, Clerk/Treasurer
Nancy Johnsen, Trustee
Norman Folts, Trustee
Jeff Liberati, Public Works

Sniedze Associates (Consultant for Village of Manchester)

Robert H. Raeman, Project Manager
Sniedze Associates
482 North Main Street
Canandaigua, NY 14424
(585) 394-2630 - office
(585) 314-4378 - cell phone

Dave Engert, (Sub-Consultant), Health and Safety Supervisor
S.A.W. Environmental Services, Inc.
672 Frey Road
Macedon, NY 14502
(315) 986-4751 & (315) 986-8233 - office
(585) 377-3861 - cell phone (during field activities)

New York State Department of Environmental Conservation

Gregory B. MacLean, P.E., Supervising Project Manager
6274 East Avon-Lima Road
Avon, NY 14414-9519
(585) 226-5353

New York State Department of Health

Dave Napier, Regional Toxics Coordinator
42 South Washington Street
Rochester, NY 14608
(585) 423-8071

2. IDENTIFICATION OF KEY HEALTH AND SAFETY PERSONNEL (continued)

2.2. Assignment of HASP Responsibilities.

2.2.1. Project Manager - Roles and Responsibilities.

The Project Manager (PM) will direct work outlined in the Remedial Work Plan in a manner consistent with generally accepted professional principles and practices. PM will provide for the health and safety of all Sniedze personnel on-site during any job function covered by this HASP. It is the responsibility of PM to:

- Name a HSS who has the health and safety responsibility for tasks listed in this HASP;
- Assure medical examinations and training requirements for all Sniedze on-site personnel are current and comply with 29 CFR 1919.120 and 134;
- Be responsible for scheduling the pre-job indoctrination of all Sniedze personnel with regard to this HASP and other safety requirements, including but not limited to: (a) potential hazards; (b) personal hygiene principles; (c) personal protective equipment (PPE); (d) respiratory protection equipment usage; and (e) emergency procedures dealing with fire and medical situations;
- Be responsible for the implementation of the HASP, special safety considerations, and the emergency response/contingency plan;
- Ensure that all Sniedze on-site personnel are properly protected and equipped; and
- Comply with OSHA health and safety regulations.

2.2.2. HSS Roles and Responsibilities.

It is the responsibility of the HSS and/or designated alternate to:

- Maintain a daily logbook for recording all significant health and safety activities and incidents, including an on-site personnel and visitor log;
- Have authority to suspend work due to health and/or safety related concerns;
- Provide on-site technical assistance;

2. IDENTIFICATION OF KEY HEALTH AND SAFETY PERSONNEL (continued)

2.2. Assignment of HASP Responsibilities. (continued)

2.2.2. HSS Roles and Responsibilities. (continued)

- Conduct routine air monitoring (including community monitoring, if required), including equipment maintenance and calibration, assure that a basic first aid kit is on-site during the completion of the project;
- Conduct periodic health and safety audits;
- Ensure that appropriate personnel have received the necessary training, including safety equipment and personal protective equipment;
- Provide regular pre-task health and safety briefings;
- Ensure that appropriate personnel have received the necessary physical examinations;
- Review the adequacy of the HASP;
- Draft necessary amendments to the HASP for review;
- Assure that all site, oversight, project and authorized personnel are made aware of the provisions of the HASP and have been informed of the nature of any physical and/or chemical hazards associated with the site activities; and
- Maintain control of required documents for record keeping purposes.

3. TASK HEALTH AND SAFETY RISK ANALYSIS

3.1. Scope.

The purpose of this section is to identify the physical, chemical, and biological hazards associated with the job tasks/operations being performed during this project. A brief description of the project activities is contained in Section 1.2. Project Background. The following subsections discuss each task and/or operation in terms of the associated potential hazards. Also identified are the protective measures to be implemented during completion of the specific activity.

3.2. Task-by-Task Analysis.

Activities conducted under this HASP are discussed by tasks, which have been grouped together according to similar potential hazards. The tasks covered are as follows:

Task No.	Task Description
1	Building Demolition & Hydraulic Lift Removal
2	Dry Well Closure
3	Soil Removal & Disposal
4	Groundwater Monitoring

Physical hazards and associated protection mechanisms for each task are listed in Table 1. Section 3.7 (Physical Hazards) of this HASP also provides supplemental information regarding general physical hazards that require additional consideration during site activities. As mentioned in Section 1.2, the site may contain petroleum compounds and potentially other parameters such as metals, volatiles, and semi-volatile compounds. Biological hazards that may be encountered, identification of those tasks associated with potential for contact with biological hazards, and a description of suggested preventive measures are listed in Table 2. All tasks will be performed in the level of protection outlined in each of the following task-specific subsections. Section 4 (Personal Protective Equipment [PPE] and Equipment Reassessment) provides information describing the protective equipment ensembles.

The potential routes of exposure for chemical constituents include inhalation, skin absorption, ingestion, and skin/eye contact. The potential for exposure through any of these routes will depend on the specific activity conducted by the worker. Because of general operating procedures (Section 7.5) (i.e., no eating or smoking), ingestion is not considered a likely exposure route. Other potential routes of exposure for activities to be conducted during remediation are discussed in the following task specific subsections.

3. TASK HEALTH AND SAFETY RISK ANALYSIS (continued)

3.3. Task 1 – Building Demolition and Hydraulic Lift Removal.

3.3.1. Description of Activity.

This task will consist of demolition of the existing building, including removal of floor drainage system and subsurface hydraulic lift units. Excavated soil will be screened for volatile organic compounds (VOCs) using an instrument with a photoionization detector (PID). If based on field observations and/or VOC screening results it appears that the soil around the hydraulic lifts is contaminated, then the removed soil will be staged on plastic sheeting and will not be placed back in the excavation. In addition, a total of five (5) composite soil samples will be collected from the excavation to assess residual petroleum contamination. One sample will be collected from each sidewall (total of four) and one from the bottom.

This task includes backfilling the excavation. Excavated soil (if not contaminated) and granular backfill will be used to backfill the hydraulic lift excavation.

3.3.2. Hazard Assessment.

Potential chemical hazards associated with excavating and removing hydraulic lifts include skin or eye contact with soil containing chemical constituents and inhalation of organic vapors. Potential physical hazards include injury from equipment error or operator error, or soil failure at the sides of the excavated pit. Other physical hazards include falling into the pit and tripping over obstacles.

3.3.3. Health and Safety Mitigation Actions.

Workers will be required to wear modified Level D protection during this task. The worker breathing-zone will be monitored using a photoionization detector (PID). If total volatile organic levels and particulate levels are higher than the criteria specified in Section 4.0, field personnel may be required to upgrade to Level C protection, and community monitoring as outlined in Section 4.4 will be implemented.

Field personnel will be required to wear hard hats and steel toed boots during sampling, excavation and backfilling activities to reduce the risk of physical injury. No field personnel will be allowed to enter excavations over four (4) feet deep. Workers will utilize caution when working adjacent to the excavation and the area around the excavation will be kept free of equipment and obstacles to avoid tripping. The excavation shall be terminated if conditions are encountered which make the excavation sidewalls unstable, and the excavation must be shored.

3. TASK HEALTH AND SAFETY RISK ANALYSIS (continued)

3.4. Task 2 – Dry Well Closure.

3.4.1. Description of Activity.

This task will consist of closure of the dry well area behind the building including removal of any sludge or “liquid” waste and removal of piping and the stone used for the dry well. Any liquid present in the dry well will be pumped out and disposed of in accordance with regulations. Excavated soil will be screened for volatile organic compounds (VOCs) using an instrument with a photoionization detector (PID). If based on field observations and/or VOC screening results it appears that the soil around the hydraulic lifts is contaminated, then the removed soil will be staged on plastic sheeting and will not be placed back in the excavation. In addition, a total of five (5) composite soil samples will be collected from the excavation to assess residual petroleum contamination. One sample will be collected from each sidewall (total of four) and one from the bottom.

This task includes backfilling the excavation. Excavated soil (if not contaminated) and granular backfill will be used to backfill the dry well excavation.

3.4.2. Hazard Assessment.

Potential chemical hazards associated with excavating the dry well include skin or eye contact with soil containing chemical constituents and inhalation of organic vapors. Potential physical hazards include injury from equipment error or operator error, or soil failure at the sides of the excavated pit. Other physical hazards include falling into the pit and tripping over obstacles.

3.4.3. Health and Safety Mitigation Actions.

Workers will be required to wear modified Level D protection during this task. The worker breathing-zone will be monitored using a photoionization detector (PID). If total volatile organic levels and particulate levels are higher than the criteria specified in Section 4, field personnel may be required to upgrade to Level C protection, and community monitoring as outlined in Section 4.4. will be implemented.

Field personnel will be required to wear hard hats and steel toed boots during sampling, excavation and backfilling activities to reduce the risk of physical injury. No field personnel will be allowed to enter excavations over four (4) feet deep. Workers will utilize caution when working adjacent to the excavation and the area around the excavation will be kept free of equipment and obstacles to avoid tripping. The excavation shall be terminated if conditions are encountered which make the excavation sidewalls unstable, and the excavation must be shored.

3. TASK HEALTH AND SAFETY RISK ANALYSIS (continued)

3.5. Task 3 – Soil Removal and Disposal.

3.5.1. Description of Activity.

This task will consist of removal of contaminated soils from the area of the former pump islands and if detected above SCG around the hydraulic lift and the dry well area. Excavated soil will be screened for volatile organic compounds (VOCs) using an instrument with a photoionization detector (PID). If based on field observations and/or VOC screening results it appears that the soil around the hydraulic lifts is contaminated, then the removed soil will be staged on plastic sheeting and will not be placed back in the excavation. In addition, a total of five (5) composite soil samples will be collected from the excavation to assess residual petroleum contamination. One sample will be collected from each sidewall (total of four) and one from the bottom.

This task includes backfilling the excavation. Excavated soil (if not contaminated) and granular backfill will be used to backfill the dry well excavation.

3.5.2. Hazard Assessment.

Potential chemical hazards associated with excavating and removing soil include skin or eye contact with soil containing chemical constituents and inhalation of organic vapors. Potential physical hazards include injury from equipment error or operator error, or soil failure at the sides of the excavated pit. Other physical hazards include falling into the pit and tripping over obstacles.

3.5.3. Health and Safety Mitigation Actions.

Workers will be required to wear modified Level D protection during this task. The worker breathing-zone will be monitored using a photoionization detector (PID). If total volatile organic levels and particulate levels are higher than the criteria specified in Section 4, field personnel may be required to upgrade to Level C protection, and community monitoring as outlined in Section 4.4. will be implemented.

Field personnel will be required to wear hard hats and steel toed boots during sampling, excavation and backfilling activities to reduce the risk of physical injury. No field personnel will be allowed to enter excavations over four (4) feet deep. Workers will utilize caution when working adjacent to the excavation and the area around the excavation will be kept free of equipment and obstacles to avoid tripping. The excavation shall be terminated if conditions are encountered which make the excavation sidewalls unstable, and the excavation must be shored.

3. TASK HEALTH AND SAFETY RISK ANALYSIS (continued)

3.6. Task 4 – Groundwater Monitoring.

3.6.1. Description of Activity.

The groundwater monitoring program will involve uncapping, purging (pumping water out of the well), and sampling monitoring wells. A mechanical pump may be utilized to purge the wells and can be hand, gas or electric operated. Water samples taken from the wells are then placed in containers and shipped to a laboratory for analysis.

3.6.2. Hazard Assessment.

Potential chemical hazards associated with ground-water sampling include inhalation of volatile organic vapors emanating from the well head after initial opening, and contact of groundwater containing chemical constituents with skin or eyes. Potential physical hazards include electric shock from improper grounding of electrical equipment, slipping on wet surfaces, and tripping over obstructions.

3.6.3. Health and Safety Mitigation Actions.

Workers will be required to wear modified Level D protection. Because there is a potential for the inhalation of organic vapors venting from the well cap upon opening, breathing zone monitoring will be conducted using a PID. The level of personal protection may be adjusted (upgraded to Level C, or downgraded back to modified Level D) during ground-water sample collection in accordance with the reassessment program described in Section 4. If necessary, community monitoring will be implemented as outlined in Section 4.4. Splash goggles and rubber gloves will be used to minimize the potential for dermal contact with ground water containing chemical constituents during sampling. The work area will be kept dry and clean (to the extent possible) to avoid slipping and unnecessary exposure to ground water potentially containing chemical constituents.

Whenever possible, pumps will be used to purge wells, thereby avoiding the potential for muscle strain and heat stress. Electrical equipment will have the following safeguards: ground fault interrupters or properly grounded circuitry, and protection of extension cords from damage. Workers must ensure that all power cords, etc., for sampling devices are in good working condition to minimize the hazard of electrocution. All personnel will operate in a manner to reduce exposure to these hazards.

3. TASK HEALTH AND SAFETY RISK ANALYSIS (continued)

3.7. Physical Hazards.

Physical hazards and associated protective mechanisms are listed in Table 1. The purpose of this section is to provide information regarding health and safety approaches to general physical hazards associated with site-activities.

3.7.1. Heat Stress.

One of the most frequently encountered problems during field investigations is heat stress. Heat stress manifests itself in two forms: heat stroke and heat exhaustion. Depending on ambient conditions, the worker, and the work being performed, heat stress can adversely affect a worker in as little as 15 minutes. This is especially important as ambient temperatures exceed approximately 70°F at high humidity. For this reason, all workers will be observed for heat stress using the following indicators: worker appearance and responses. The field staff will take care to monitor ambient conditions, the type of protective equipment, and personnel fitness. Work loads will be adjusted to account for potentially unsafe conditions.

Early symptoms of heat stress can include rashes, cramps, discomfort, irritability, and drowsiness. These symptoms can cause impaired functional ability, which may threaten the safety of operations. Advanced symptoms of heat exhaustion include pale, clammy skin, profuse perspiration, and extreme tiredness or weakness.

Heat stroke is a much more dangerous form of heat stress. Symptoms of heat stroke include high body temperatures and red or flushed, hot, dry skin. Other symptoms may include dizziness, nausea, headache, rapid pulse, and unconsciousness. First aid for all forms of heat stress includes cooling the body by removing PPE, moving to a safe zone, and allowing the worker to rest in a cooler environment.

3. TASK HEALTH AND SAFETY RISK ANALYSIS (continued)

3.7. Physical Hazards. (continued)

3.7.2. Cold Stress.

Persons working outdoors in temperatures at or below freezing may be frostbitten. Frostbite may be categorized into three types:

- Frostbite or incipient frostbite characterized by sudden blanching or whitening of the skin.
- Superficial frostbite - skin has a waxy or white appearance, is firm to the touch, but tissue beneath is resilient.
- Deep frostbite - tissues are cold and hard, indicating an extremely serious injury.

Signs and symptoms of frostbite include:

- The skin changes to white or grayish-yellow in appearance.
- Pain is sometimes felt early but subsides later (often there is no pain.)
- Blisters may appear later.
- The affected part feels intensely cold and numb.
- The person frequently is not aware of frostbite until someone tells him or he observes the pale, glossy skin.

As time passes, the affected worker may become confused, stagger, experience eyesight impairment, lose consciousness, and/or stop breathing. First aid for frostbite includes protecting the frozen area from further injury, bringing the victim indoors, warming the affected areas quickly with warm water and maintaining respiration according to first aid procedures. Medical help should be called immediately.

Frostbite may be prevented by the use of insulated gloves, socks and other protective clothing capable of keeping moisture away from the skin. All clothing should be chosen so that it is compatible with the PPE required for certain activities.

3. TASK HEALTH AND SAFETY RISK ANALYSIS (continued)

3.8. Potential Compounds of Concern.

As previously mentioned in Section 1.2, constituents likely present in the ground water and soil at the site are petroleum compounds and potentially metals, volatiles, and semi-volatile compounds.

The site was used as a service station for 30± years. This was used to determine the compounds of concern for environmental media as referenced in the SI/RAR Work Plan. The levels of PPE associated with each work task were selected based on petroleum compounds, the most likely to be present in the different environmental media.

Of the petroleum compounds present in gasoline, benzene is the most toxic. The OSHA limit (TWA) for benzene in air is 1 ppm. However, the field instrument specified in Section 4.3 detects the sum of all volatile organics. Since benzene is typically 2% of total volatile hydrocarbons at a petroleum spill (NYSDEC Air Guide-29: estimation of benzene emissions from SVE systems), the action level was set at 3 ppm. This provides a safety factor of greater than 10 times. PPE is discussed in Section 4.

4. PERSONNEL PROTECTIVE EQUIPMENT (PPE) AND REASSESSMENT

4.1. Personal Protective Equipment (PPE) Selection Criteria.

PPE ensembles chosen for each individual task were specified in Section 3. Task Health and Safety Risk Analysis. Equipment selection was based upon the mechanics of the task and the nature of the hazards anticipated. The following criteria were used in the selection of equipment ensembles:

- Chemical hazards known or suspected to be present.
- Routes of entry through which the chemicals could enter the body, e.g., inhalation, ingestion and skin contact.
- Potential for contaminant/worker contact while performing the specific task or activity.

It is anticipated that work activities will be performed using Level D protection. However, Level C protection will be available for potential upgrade.

4.2. Selected PPE Ensembles.

The following components of modified Level D PPE will be available and used as appropriate in accordance with the following paragraph, Levels of Protection:

- Coveralls.
- Steel toed boots.
- Gloves (Rubber outer, rubber inner).
- Safety glasses or face shields.

Level C protection will be utilized, if necessary, as determined by the levels indicated by the PID. Level C protection will consist of the following:

- Polyethylene coated Tyvek disposable coveralls.
- Rubber overboots.
- Outer protective gloves.
- Full face respirator with combination organic vapor, acid gases and particulates cartridges (NIOSH/MSHA approved).

4. PERSONNEL PROTECTIVE EQUIPMENT (PPE) AND REASSESSMENT (continued)

4.2. Selected PPE Ensembles. (continued)

Levels of Protection

In general, the following levels of protection will be used for specific work activities. Adjustments to these levels may be required given the site conditions encountered:

a. Building Demolition, Hydraulic Lift Removal and Dry Well Closure

This work will be conducted in modified Level D protective gear including:

- Coveralls.
- Steel toed boots.
- Rubber overboots.
- Gloves (rubber outer, rubber inner).
- Safety glasses or face shields.
- Hard hat.

Based on air monitoring results, PPE may be upgraded to Level C protective gear by the addition of a full-face purifying respirator with combination organic vapor, acid gases, and particulate cartridges (NIOSH/MSHA approved).

b. Soil Removal and Disposal

This work will be conducted in modified Level D protective gear including:

- Coveralls.
- Steel toed boots.
- Rubber overboots.
- Gloves (rubber outer, rubber inner).
- Safety glasses or face shields.
- Hard hat.

Based on air monitoring results, PPE may be upgraded to Level C protective gear by the addition of a full-face purifying respirator with combination organic vapor, acid gases and particulate cartridges (NIOSH/MSHA approved).

4. PERSONNEL PROTECTIVE EQUIPMENT (PPE) AND REASSESSMENT (continued)

4.2. Selected PPE Ensembles. (continued)

Levels of Protection (continued)

c. Groundwater Monitoring

This work will be conducted in modified Level D protective gear including:

- PE-coated Tyvek coveralls.
- Steel toed boots.
- Rubber overboots.
- Gloves (rubber outer, rubber inner).
- Safety glasses or face shields.

Based on air monitoring results, PPE may be upgraded to Level C protective gear by the addition of a full-face purifying respirator with combination organic vapor, acid gases, and particulate cartridges (NIOSH/MSHA approved).

4. PERSONNEL PROTECTIVE EQUIPMENT (PPE) AND REASSESSMENT (continued)

4.3. PPE Reassessment.

Air monitoring will be conducted during work tasks described in Sections 3.3. through 3.6. of this HASP. Such monitoring will be conducted within the work zone, and the downwind perimeter of the work zone, utilizing a HNU Systems PID with a 10.2 eV lamp, or equivalent. The air monitoring equipment utilized will be calibrated, as per the manufacturer's instructions. The calibrations and checks will be recorded in the daily logbook. This will be performed by HSS or designated alternate at the beginning of each day and more frequently, as the conditions warrant. Following the daily calibration checks, background measurements will be obtained in the support zone using the PID and recorded in the logbook.

Prior to sampling any groundwater wells, background readings will be obtained in the Support Zone. Following the establishment of background conditions, monitoring will be conducted in the Work Zone. Data will be utilized for upgrading to Level C, if necessary, by comparing data to pre-established action levels. The frequency of air monitoring with monitoring devices will depend on the potential hazards associated with each location and work activity.

The action levels for the PID monitoring device are provided below.

Upgrade from Level D to Level C and Initiate Community Monitoring:

Total Organic Vapor (TOV) - greater than or equal to 5 ppm and less than 50 ppm, with compensation made for background readings, sustained for at least 5-minutes. See Section 4.4. for community monitoring.

Downgrade from Level C to Level D and Discontinue Community Monitoring:

TOV - less than 5 ppm, sustained for a period of at least 5 minutes, with subsequent approval to downgrade provided by HSS.

Evacuate Area and Initiate Community Monitoring:

TOV - greater or equal to 50 ppm sustained for at least 30 seconds. See Section 4.4. for community monitoring and Section 9.6.5. for emergency evacuation.

4. PERSONNEL PROTECTIVE EQUIPMENT (PPE) AND REASSESSMENT (continued)

4.4. Community Air Monitoring Plan.

The Community Air Monitoring Plan shall comply with the current New York State Department of Health Generic Community Air Monitoring Plan (Appendix 1A to Draft DER-10, Technical Guidance for Site Investigation and Remediation) which has been added to this Section 4.4. as pages 19-1 and 19-2.

Real-time air monitoring for volatile compounds to protect the community will be performed as outlined in this section. Volatile organic compounds will be monitored at the downwind perimeter of the work area on a continuous basis. If TOV levels exceed 5 ppm above background, work activities will be halted and monitoring continued under the provisions of the Vapor Emission Response Plan.

Vapor Emission Response Plan

If the TOV concentrations exceed 5 ppm above background at the perimeter of the work area, activities will be halted and monitoring continued. If the TOV level decreases below 5 ppm above background, work activities can resume. If the TOV levels are greater than 5 ppm over background but less than 25 ppm over background at the perimeter of the work area, activities can resume provided:

- The TOV level 200 feet downwind of the work area or half the distance to the nearest residential or commercial structure, whichever is less, is below 5 ppm above background.

If the TOV level is above 25 ppm at the perimeter of the work area, activities must be shut down. When work shutdown occurs, downwind air monitoring, as directed by the HSS, will be implemented to ensure that vapor emissions do not impact the nearest residential or commercial structure at levels exceeding those specified in the Major Vapor Emission section.

Major Vapor Emission

If any TOV levels greater than 5 ppm above background are identified 200 feet downwind from the work area or half the distance to the nearest residential or commercial property, whichever is less, all work activities must be halted.

If, following the cessation of the work activities, or as the result of an emergency, TOV levels persist above 5 ppm above background 200 feet downwind or half the distance to the nearest residential or commercial property from the work area, then the air quality must be monitored within 20 feet of the perimeter of the nearest residential or commercial structure (20 Foot Zone).

If efforts to abate the emission source are unsuccessful and if TOV levels are approaching 5 ppm above background for more than 30 minutes in the 20 Foot Zone, then the Major Vapor Emission Response Plan shall automatically be placed into effect.

However, the Major Vapor Emission Response Plan shall be immediately placed into effect if TOV levels are greater than 10 ppm above background in the 20 Foot Zone.

4. PERSONNEL PROTECTIVE EQUIPMENT (PPE) AND REASSESSMENT (continued)

4.4. Community Air Monitoring Plan. (continued)

Major Vapor Emission Response Plan

Upon taking effect, the following activities will be undertaken:

- Appropriate Emergency Response Contacts as listed in Table 3 will be notified.
- The local police authorities will immediately be contacted by the HSS and advised of the situation and emergency response will be initiated (see Section 9.6.5.).
- The HSS will assess actions to immediately reduce high TOV levels, such as covering excavations or contaminated soil. In addition, the HSS will assess changing of work practices to minimize releasing vapors or implementing engineering controls to better disburse vapors. The objective of any assessment will be to reduce TOV concentrations to below action levels.
- Frequent air monitoring will be conducted at 30 minutes intervals within the 20 Foot Zone. If two (2) successive readings below action levels are measured, air monitoring may be halted or modified by the HSS.

4.5. Daily Logbook.

The findings of all direct reading measurements will be documented in the daily logbook maintained by the HSS and/or the designated alternate. The daily logbook entry will document the task, time, meter reading and level of protection being worn by workers involved with the activity. Actions taken in response to releases or recordings above pre-established action levels will also be recorded in the daily logbook. The daily logbook will also document personnel conducting work activities, visitors, activities completed and will be available for state (NYSDEC and NYSDOH) personnel to review.

APPENDIX 1A

New York State Department of Health Generic Community Air Monitoring Plan

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

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

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

Community Air Monitoring Plan

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

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

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

VOC Monitoring, Response Levels, and Actions

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

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

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

Particulate Monitoring, Response Levels, and Actions

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

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

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

5. PERSONNEL TRAINING REQUIREMENTS

5.1. Training Requirements.

All on-site personnel and visitors must be trained commensurate with their job responsibilities. Such training will be provided by their employer prior to being allowed to engage in project work that could expose personnel to health and safety hazards. The Project Manager (PM) has the responsibility to check that appropriate training was provided by obtaining documentation for all on-site personnel. Every worker is required to read and understand the HASP prior to commencement of work activities in which the worker is involved. On-site personnel are also required to sign a training acknowledgment form. Signing this form documents that they have completed all required training, that they understand the activity to be carried out and the hazards involved, and that they will abide by all the safety rules.

5.1.1. Site Orientation.

Following is a listing of general site information/training provided to all on-site personnel during the initial site orientation:

- Names of all site health and safety personnel and alternates.
- Work rules and safe work practices.
- Use of personal protective equipment.
- Site chemical and physical hazards.
- Safe use of engineering controls and site equipment.
- Medical surveillance requirements.
- Symptoms associated with exposure to site hazards.
- Site control measures.
- Decontamination procedures.
- Provisions of the emergency response plan.
- Standard operating procedures, e.g., confined space entry, spill containment, etc.

This listing of health and safety topics essentially incorporates a thorough review of this HASP.

5. PERSONNEL TRAINING REQUIREMENTS (continued)

5.1. Training Requirements. (continued)

5.1.2. Pre-Assigned Training.

On-site personnel and visitors entering the Work and/or Decontamination Zones will have pre-assigned training in accordance with the provisions outlined in 29 CFR 1910.120(e) Training, prior to engaging in their work activities.

The project manager (PM) is responsible for checking and documenting that personnel assigned to this project are trained in accordance with 29 CFR 1910.120(e) Training. For this purpose, all on-site personnel must supply copies of company issued wallet training cards and/or training certificates.

5.1.3. First Aid/Cardiopulmonary Resuscitation (CPR).

The HSS and designated alternate must possess current certification in first aid and CPR. At least one of these individuals must be present during each work-shift while on-site personnel are performing work tasks. Documentation of current certification will be filed with this HASP.

5.2. Periodic Health & Safety Meetings.

The HSS or designated alternate will conduct periodic health and safety meetings. These meetings will review existing protocols as well as be a means to update personnel on new site requirements or conditions. The meetings will also provide an opportunity for site personnel to express any health and safety concerns. Topics for discussion would include, but not be limited to, the following:

- Review of available analytical or relevant process data, which may relate to a potential for worker exposure during task execution.
- Review of the type and frequency of environmental and personal monitoring (if any) to be performed.
- Task-specific levels of protection and anticipated potential for upgrading.
- Review of emergency procedures.
- Review of existing and/or new health and safety issues.

5. PERSONNEL TRAINING REQUIREMENTS (continued)

5.3. Documentation/Record Keeping.

Documenting compliance with the training requirements specified in this section requires all on-site personnel to sign a training acknowledgment form. Signed forms will be filed with this HASP.

6. MEDICAL SURVEILLANCE

6.1. General Medical Program.

Medical surveillance for this project will reflect the provisions established under Title 29 CFR 1910.120(f), OSHA's medical surveillance requirements for hazardous waste operations (medical clearance is not required for individuals who will visit the Support Zone).

Before working on tasks covered by this HASP, verification of current health status and medical restrictions for personnel performing the tasks must be provided to the HSS. Such verification must be in the form of company issued wallet cards or other equivalent documentation.

6.2. Respirator Certification.

Prior to authorizing use of any air purifying or air supplied respirator, OSHA--under 29 CFR 1910.134, 29 CFR 1926.58--requires that a determination be made regarding the prospective wearer's physical ability to safely use such equipment. Consequently, individuals scheduled to work in areas that may require the use of a respirator must provide the HSS with current documentation (not older than 24 months) regarding the individual's physical abilities to wear a respirator. The inability to provide current or complete documentation will be sufficient grounds to preclude any individual from areas or tasks requiring such protection. Any worker performing sampling activities who may have to wear a respirator, must have been trained in the proper use of the respirator, must have 40 hours of OSHA training, and must have passed a respirator fit test.

6. MEDICAL SURVEILLANCE (continued)

6.3. Exposure/Injury Medical Emergency.

As a follow-up to an injury/illness or possible excessive exposure to a chemical or physical hazard, all on-site personnel are entitled to and encouraged to seek appropriate medical attention. The HSS or designated alternate must be appraised of the need for seeking such medical attention and assist in determining the immediacy of the situation.

During and immediately following the emergency medical situation, the HSS (or designated alternate) have the following responsibilities:

- Ensure that the examining medical facility is fully appraised of the site condition and/or hazard that caused the medical emergency.
- Conduct an investigation of the site condition that caused the medical situation prior to reassigning the task.
- Complete an accident report.
- Ensure the injured/ill worker receives written medical clearance prior to return to the site.
- Provide a copy of the medical clearance and accident report for the employee's medical records.

Injuries/illnesses and/or possible excessive exposure to a chemical or physical hazard requiring emergency medical treatment must be reported within 24 hours to the Health and Safety Manager. Fatalities must be reported immediately.

7. SITE CONTROL MEASURES

7.1. Site Control.

Site control will minimize potential contamination of workers and observers, protect the public from potential on-site hazards, and prevent vandalism of equipment and materials. Site control measures also enhance response during an emergency.

Most, if not all, work under this program will be done under Level D conditions. If an upgrade is necessary, the site of field operations will be divided into three distinct areas. The actual dimensions of the areas are considered task and location specific and will be determined on a task-specific basis. When utilized, the work areas at each location will be divided into the three following zones: Work Zone, Decontamination Zone, and Support Zone. Work activities that will require the establishment of Work Zones are tank excavation, soil sampling, monitoring well installation, and ground-water sampling.

7.1.1. Work Zone.

The Work Zone is the area in which building demolition, hydraulic lift removal, dry well closure, excavation and groundwater monitoring will occur. Workers entering this Zone must be protected as previously defined in Section 4.2. During work activities, only OSHA-trained workers will be allowed into this Zone. Within this Zone, the levels of protection may be changed by the HSS or designated alternate based on the degree of hazard present.

7.1.2. Decontamination Zone.

The Decontamination Zone is the area that is set up adjacent to the Work Zone where equipment and personnel are decontaminated. One centralized Decontamination Zone will be set up to service all the sampling locations to facilitate decontaminating equipment that is reused throughout the sampling procedure (e.g., spatulas, scoops, beakers) and worker cleanup. The location of the Decontamination Zone will depend on the prevailing wind direction and physical site features.

7.1.3. Support Zone.

A Support Zone may be set up outside the Decontamination Zone. The Support Zone will be used to store equipment and first aid supplies. Administrative and other support functions will occur within the Support Zone, including communications and documentation. Protective clothing worn in the Work Zone may not be worn in a Support Zone except in emergencies.

7. SITE CONTROL MEASURES (continued)

7.2. Site Security.

It is the responsibility of the HSS (or designated alternate) to control access to active work Zones and assure proper security. Any evidence of unauthorized entry should be noted in the daily field report.

Open excavations will be secured with fencing and/or barriers if left unattended (overnight). The monitoring wells will all be equipped with locking protective casings.

7.3. The Buddy System.

Most activities in contaminated or otherwise hazardous areas should be conducted with a "buddy" who is able to:

- Provide partner with assistance.
- Observe partner for signs of chemical or heat exposure.
- Periodically check the integrity of partner's protective clothing.
- Notify the HSS or others if emergency help is needed.

7.4. Site Communications.

Communications will be conducted through verbal communications. When out of audible range, verbal communications will be assisted (if necessary) using portable telephones or a two-way radio.

Communications between workers in the various Zones shall consist of either: mutually agreed upon hand signals, voice or radio transmissions. A portable telephone will be used to contact appropriate agencies in an emergency.

7. SITE CONTROL MEASURES (continued)

7.5. Safe Work Practices.

Operating procedures consist of general safety rules for all workers. All workers will be conscientious of others working around them and check that they are safe and working in a safe manner.

General safety rules which will be enforced at the site including the following:

- Smoking will be prohibited in any area within the fenced portion of the site, in any Work Zone and Decontamination Zone, and during any sampling activities.
- Eating and chewing gum will be prohibited in any area within the fenced portion of the site, in any Work Zone and Decontamination Zone, and during sampling activities.
- Field work will be conducted only during daylight hours.
- Anyone authorized to enter the fenced portion of the site or any Work Zone or Decontamination Zone, who does not participate in routine activities, will be entered in the daily log book and will be required to follow all procedures in this HASP.
- Workers must thoroughly wash their hands prior to leaving the Work Zone and Decontamination Zone, or after any other sampling activities, before eating, drinking or any other activities.

7.6. Visitors.

Visitors will be permitted in the immediate area of active operations only with approval from the HSS. Approval for entry into Work Zones and Decontamination Zones will require physical examination and compliance with training requirements (OSHA 29 CFR 1910.120). All site visitors must be briefed on appropriate sections of the Emergency Response/Contingency Plan (Section 9) and the Task Health and Safety Risk Analysis (Section 3). Visitors will be documented on the daily log of all site activities prepared by the HSS (or designated alternate). Visitor vehicles are restricted to Support Zones.

7. SITE CONTROL MEASURES (continued)

7.7. Nearest Medical Facility.

First aid supplies will be located near the area of work activity and/or in the appropriate field vehicle. Additional medical assistance can be summoned by dialing 911.

The nearest medical facility is the Clifton Springs Hospital & Clinic located at 2 Coulter Street in Clifton Springs, New York. Figure 1 shows the emergency route with directions to the hospital from the site. Additional information regarding medical assistance, evacuation routes, emergency procedures, etc. are contained in Section 9.

7.8. Safety Equipment.

In addition to the PPE necessary to conduct work activities, the following inventory of safety equipment will be available:

- Industrial first aid kit.
- Scissors/knife for emergency equipment removal.
- Emergency eye-wash.
- Rope for securing objects and use as a lifeline.
- Electrolyte replacement drink - stored in clean area and used to prevent heat stress.
- Fire extinguisher for Class A, B, and C fires.
- Hand-held air horn.

8. DECONTAMINATION

8.1. Decontamination Plan.

The various tasks and specific levels of protection required for each task are put forth in Section 3 of this HASP. Consistent with the levels of protection required, Figure 2 provides a step-by-step representation of the personnel decontamination process for Levels C and D.

All reusable personnel gear will be cleaned with a detergent and water. Personnel gear may include overboots, hard hats, respirators, and air monitors. Personnel with equipment working within the site or any work area shall proceed directly to the Decontamination Zone upon completion of work.

Prior to removal of protective gear, personnel will remove soil from boots and gloves using designated wash basins. If other protective gear or clothing is thoroughly soiled, the HSS or designated alternate may decide to dispose of this equipment, rather than try to clean it.

8.2. Equipment Decontamination.

Sampling equipment will be decontaminated in accordance with procedures defined in the Remedial Work Plan (Sampling Procedures) for this site. Decontamination of equipment will be completed either in the Work Zone or in the Decontamination Zone.

Cleaning of small reusable equipment will be performed by hand washing. All sampling equipment will be cleaned prior to use and between samples using the procedure identified in the Remedial Work Plan.

The disposal requirements for wastes generated during the decontamination procedures are presented in the Remedial Work Plan.

8.3. Emergency Decontamination Procedures.

In the event of an emergency, the first priority is for all workers to move to a safe location before removing PPE. All workers will quickly and calmly remove disposable equipment and place all reusable equipment at a secured location within the Decontamination Zone for later cleaning. In the event of an injury, the person closest to the injured person will perform the appropriate emergency first aid procedures, and then will remove the injured person's PPE in the Decontamination Zone prior to transporting to an appropriate safe location.

9. EMERGENCY RESPONSE/CONTINGENCY PLAN

9.1. General.

The following Emergency Response/Contingency Plan includes instruction and procedures for emergency vehicle access, evacuation procedures for personnel, methods of containing fires and procedures for medical emergencies. All emergency conditions require concise and timely actions that are conducted in a manner that minimizes the health and safety risks.

9.2. Emergency Response/Contingency Plan.

All workers shall be familiar with the Emergency Response/Contingency Plan described in this section. The following procedures shall be implemented in an emergency:

- First aid or other appropriate initial action will be administered by those closest to the accident/event. This assistance will be coordinated by the HSS or designated alternative and conducted in a manner to minimize health and safety risks to those rendering assistance to other workers.
- Workers shall report all accidents and unusual events to HSS and Project Manager.
- The HSS or designated alternate is responsible for conducting the emergency response in an efficient, rapid, and safe manner. The HSS or designated alternate will decide if outside assistance and/or medical treatment is required and shall be responsible for alerting local authorities and arranging for their assistance.

9.3. Incident Reporting Procedures.

The HSS will provide to the Project Manager an accident report which will include the following:

- Description of the emergency (including date, time, and duration).
- Date, time and name of all persons/agencies notified and their response.
- Description of corrective actions implemented or other resolution of the incident.

9. EMERGENCY RESPONSE/CONTINGENCY PLAN (continued)

9.4. Responsibilities.

The HSS (or designated alternate) shall have the responsibility for directing response activities in the event of an emergency, specifically:

- Assess the situation.
- Determine required response measures.
- Notify appropriate response teams.
- Determine and direct workers during the emergency.

The HSS or designated alternate shall coordinate any response activities with those of public agencies and is responsible for implementing the emergency response procedures for all workers. All workers are responsible for conducting themselves in a mature, calm manner during an accident or unusual event.

9.5. Public Response Agencies.

A list of public response agencies that may be contacted in an emergency, depending on the nature of the situation, is included in Table 3. This table presents the local emergency numbers including the local hospital (Clifton Springs Hospital), Health Department, ambulance service, fire and police departments and utility numbers. In addition, nationwide hotline numbers provided by the United States Environmental Protection Agency (USEPA) for emergency assistance are included. This contact list should be retained by all workers.

The route to the closest hospital is provided in this HASP on Figure 1. Directions to the hospital are listed below. The HSS will provide direction and/or maps to the hospital to all on-site personnel prior to commencement of on-site activities.

9.5.1 Emergency Route from the Site to the Clifton Springs Hospital.

Directions	Distance	Time
Start: Depart 147 State Street (Frederick Property), Manchester, NY 14504 on State Street (East)	0.7	0:02
1. Turn LEFT (North) onto NYS Route 21	0.4	0:01
2. Turn RIGHT (East) onto NYS Route 96	4.5	0:08
3. Turn RIGHT (South) onto Kendall Street	0.6	0:01
4. Turn LEFT (East) onto East Main Street	<0.1	<1 min.
5. Turn RIGHT (South) onto Local Road	<0.1	<1 min.
End: Arrive 2 Coulter Street, Clifton Springs, NY 14432		
Total Route	6.3 mi	14 min.

9. EMERGENCY RESPONSE/CONTINGENCY PLAN (continued)

9.6. Accidents and Non-Routine Events.

Several types of emergencies are outlined in the following subsections. These are not intended to cover all potential situations, and the corresponding response procedures should be followed using common sense. Every accident is a unique event that must be dealt with by trained personnel working in a calm, controlled manner. In an accident/unusual event, the prime consideration is to provide the appropriate initial response to assist those in the accident while minimizing risks to other workers and the community.

9.6.1 On-Site Personal Injury.

If a worker is physically injured, appropriate first aid procedures shall be followed. Depending on the severity of the injury, emergency medical response may be sought. If the worker can be moved, he/she will be taken to the edge of the work area where protective clothing (if any) will be removed, emergency first aid administered, and transportation to a local emergency medical facility provided.

If the injury to the worker is exposure to chemicals, the following first aid procedures are generally initiated as soon as possible:

- a. Eye Exposure - If solid or liquid gets into the eyes, wash eyes immediately with water lifting the lower and upper lids occasionally. Obtain medical attention immediately.
- b. Skin Exposure - If solid or liquid gets on the skin, wash skin immediately at the emergency wash station using water. Obtain medical attention if skin is damaged.
- c. Inhalation - If a person inhales large amounts of organic vapor, move him/her to fresh air at once. If breathing has stopped, appropriately trained personnel should perform cardiopulmonary resuscitation. Keep the affected person warm and at rest. Obtain medical attention immediately.
- d. Ingestion - If solid or liquid is swallowed, medical attention shall be obtained immediately.

The HSS (or designated alternate) shall inform the Project Manager of the injury/accident, and provide a written report detailing the accident, its causes and consequences within one day of the accident.

9. EMERGENCY RESPONSE/CONTINGENCY PLAN (continued)

9.6. Accidents and Non-Routine Events. (continued)

9.6.2. Temperature-Related Problems.

Excessive heat or cold may affect workers' health and the ability to function. These are discussed in Section 3.7, including first aid procedures.

9.6.3. Fires.

Workers will be knowledgeable in fire-suppression techniques. They shall be instructed in proper use of the fire extinguisher(s) supplied. Fire extinguishers should be used only for small fires in the early stages of development. When the fire cannot be controlled through extinguisher use, the area should be evacuated immediately. The local fire department should be called to fight the fire.

9.6.4. Precipitation.

In general, field and sampling activities can be conducted during rain, snowfall, or light fog. If rain (or snow) becomes heavy it may be necessary to cease work activities. All on-site activities will be halted during a thunder and lightning storm.

9.6.5. Emergency Evacuation Procedures.

The HSS (or designated alternate) will initiate emergency evacuation procedures, should an incident be determined to be sufficiently serious to require evacuation of an area. Air monitoring action levels that would require evacuation are discussed in Section 4.3 and 4.4. In addition, fire or other uncontrolled situations would require evacuation. In the event of an evacuation:

- a. The HSS or designated alternate will contact all workers by voice or the two-way radio. All workers are to stop work immediately and report to a designated area.
- b. A worker count will be conducted.
- c. The area in question will be evacuated through the Decontamination Zone, if feasible (provided that Zone is not affected). All workers will reassemble at a safe distance.

9. EMERGENCY RESPONSE/CONTINGENCY PLAN (continued)

9.6. Accidents and Non-Routine Events. (continued)

9.6.5. Emergency Evacuation Procedures. (continued)

- d. The HSS (or designated alternate) will assess potential adverse impact on the community (see Section 4.4 for community monitoring) and contact emergency-response agencies--as warranted--for potential community evacuation.
- e. If evacuation is due to high TOV readings in the Work Zone, the HSS (or designated alternate) will assess actions to reduce TOV levels in air. Such actions may include back-filling open excavations, capping of borings, or implementing engineering controls.
- f. Engines and motorized equipment will be shut off before the site is evacuated.

TABLE 1

PHYSICAL HAZARDS

Physical Hazard	Task Number	Protection Mechanism
Noise	1, 2, 3	Hearing protection when elevated noise levels exist.
Heavy Manual Lifting	1, 2, 3, 4	Lift with legs; get assistance.
Housekeeping	1, 2, 3, 4	Store equipment properly. Remove rubbish/scrap material from work area.
Compressed Gases (calibration gas)	3	Store properly.
Vehicle Traffic	1, 2, 3, 4	Warning signs; away from work area.
Heavy Equipment	1, 2, 3	Trained/licensed operators; warning signs. Backup alarms.
Materials Handling	1, 2, 3	Materials stacked/stored to prevent collapsing. Machinery properly braced.
Hazardous Material Storage	1, 2, 3	Segregate flammable/combustible liquid from ignition sources, store in approved containers, solvent waste, oily rags and liquids kept in fire resistant containers.
Fire Prevention	1, 2, 3, 4	Training in fire extinguisher use and classes.
Electrical	1, 2, 3	Approved grounding and bonding procedures. Electrical lines/cords/cables guarded and maintained. Damaged equipment tagged/removed from service.
Hand/Power Tool	1, 2, 3, 4	Guards and safety devices in place.
Tools	1, 2, 3, 4	Defective tools tagged/removed from service. Tools maintained and inspected; intrinsically safe. Proper eye protection used.

TABLE 2
BIOLOGICAL HAZARDS

Hazard	Task Number	Location/Source	Route of Exposure*	Immunization Required	Prevention
Poisonous Plants	1, 2, 3, 4	Fields, brush covered and wooded areas	I, C, G	No	Avoid contact with plants. Wear long sleeves and pants.
Insects	1, 2, 3, 4	All areas	D	No	Insect repellent. Wear long sleeves and pants.
Deer Tick (potential vector of Lyme's Disease)	1, 2, 3, 4	Fields, brush covered and wooded areas	D	No	Insect repellent. Wear long sleeves and pants. Avoid contact with plants. Check yourself for bites and rashes.

* I - Inhalation, G - Ingestion, C - Contact, D - Direct Penetration (Bite, Injection, Open Wound or Sore)

TABLE 3

EMERGENCY RESPONSE CONTACT LIST

Local Contact List

Agency	Contact/Function	Phone Number
Manchester Fire Department	Report Fire	911
Local Ambulance	Ambulance	911
Clifton Springs Hospital & Clinic	Hospital	(315) 462-9561

Contingency Plan Contact List

Agency	Contact/Function	Phone Number
Ontario County Sheriffs Department	Report Incidents	911
New York State Police	Report Incidents	911

National Emergency Contact List

Agency	Phone Number
USEPA Emergency Response Team, Region 2	(212) 340-6656
Chemtrec - Chemical Emergencies (Washington, DC)	(800) 424-9300
National Foam Center - Emergency Response (Pennsylvania)	(215) 363-1400

Utility Contact List

Agency	Contact/Function	Phone Number
New York State Electric & Gas (NYSEG)	Electrical interruption	(800) 572-1131
New York State Electric & Gas (NYSEG)	Natural gas odor	(800) 572-1121
Rochester Gas & Electric (RGE)		(888) 253-8888
Telephone Company (Alltel Communication)		(800) 542-6204
Underground Utility (UFPO)		(800) 962-7962

New York State Department of Environmental Conservation Contact List

Agency	Contact/Function	Phone Number
NYS Department of Environmental Conservation (NYSDEC)	Oil spill or hazardous material spill	(800) 457-7362

**MINIMUM DECONTAMINATION LAYOUT
LEVEL C & LEVEL D PROTECTION**

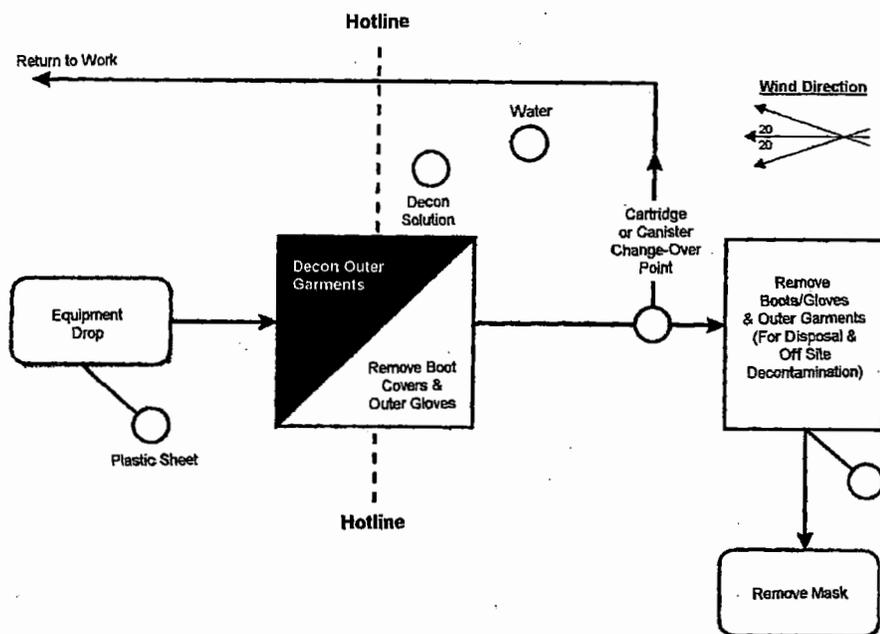


FIGURE 2

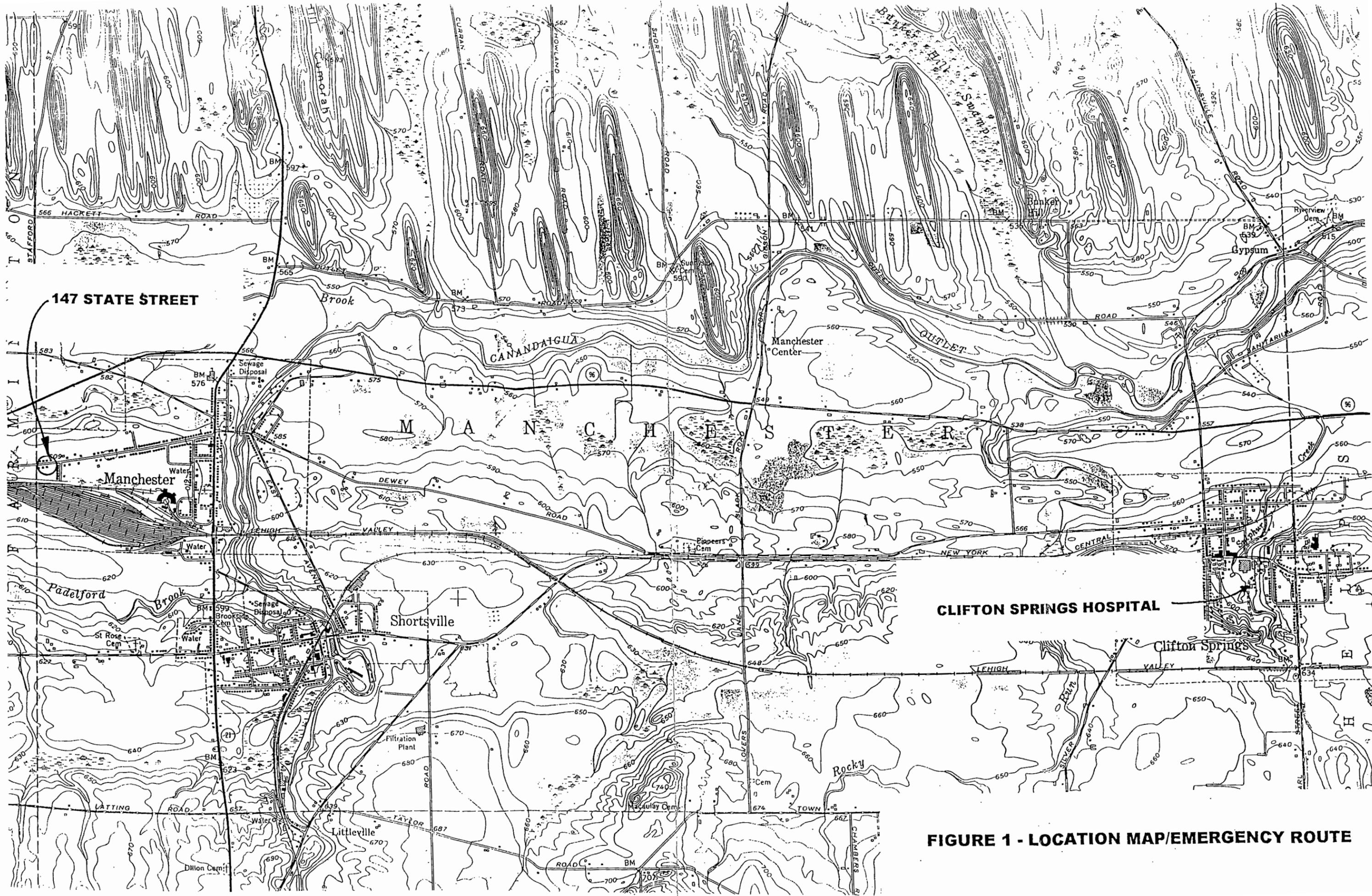
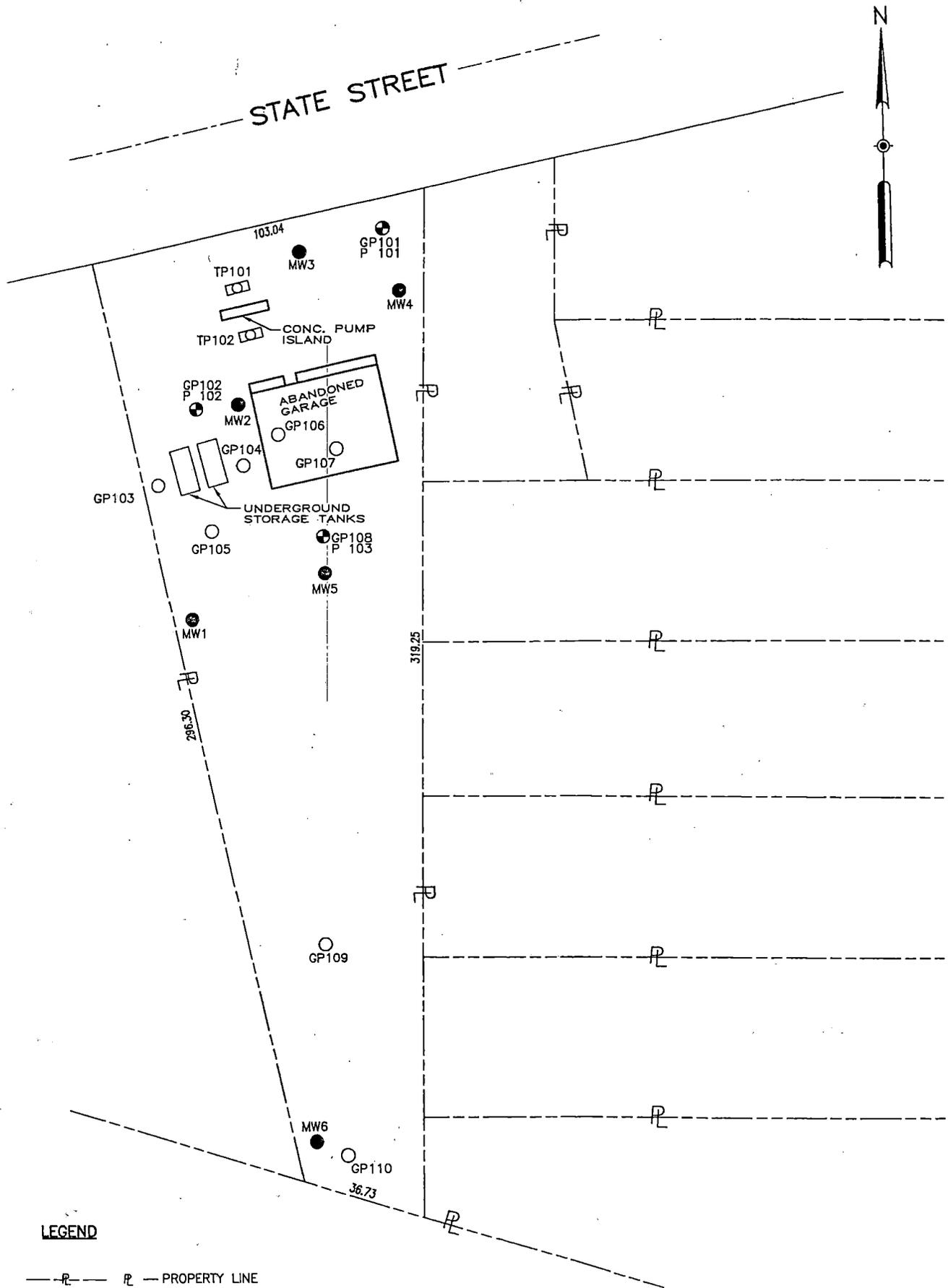


FIGURE 1 - LOCATION MAP/EMERGENCY ROUTE



LEGEND

- P — PROPERTY LINE
- GP — GEOPROBE LOCATION
- ⊕ GP — TEMPORARY MICROWELL LOCATION
P — PIEZOMETRIC WELL
- MW — MONITORING WELL LOCATION
- ▭ TP — TEST PIT

SCALE APPROXIMATE
1" = 40'

**FIGURE 2
SITE PLAN**

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VILLAGE OF MANCHESTER, NEW YORK
FREDERICK PROPERTY ENVIRONMENTAL RESTORATION PROJECT
SITE REMEDIATION

SUPPLEMENTARY CONDITIONS

These Supplementary Conditions amend or supplement the Standard General Conditions of the Construction Contract (No. 1910-8, 1990 Edition) and other provisions of the Contract Documents as indicated below. All provisions which are not so amended or supplemented remain in full force and effect.

ARTICLE 1 - DEFINITIONS

Supplement or amend Article 1 - Definitions in the General Conditions as follows:

- 1.3. Application for Payment: Amend the opening phrase "The form accepted by the ENGINEER" to read "The form provided by the ENGINEER."
- 1.4.6. Add the following definitions:
 - Furnish - To supply materials or equipment.
 - Install - To place or assemble furnished materials and equipment for the use specified.
 - Provide - To both furnish and install.

ARTICLE 2 - PRELIMINARY MATTERS

Delivery of Bonds

- 2.1. Add the following language at the end of paragraph 2.1. of General Conditions:

The CONTRACTOR shall also deliver to the OWNER such insurance certificate and policies as required in accordance with Article 5.

Copies of Documents

- 2.2. Amend the first sentence of paragraph 2.2. of the General Conditions to read as follows:

The OWNER will furnish to the CONTRACTOR five (5) copies of the Contract Documents. Additional complete sets or individual sheets of drawings and specifications will be furnished at the CONTRACTOR'S expense based on the ENGINEER'S standard charges.

ARTICLE 2 - PRELIMINARY MATTERS (continued)

Before Starting Construction

2.7. Delete paragraph 2.7. of the General Conditions in its entirety and insert the following in its place:

Before Effective Date of Agreement the CONTRACTOR shall deliver to OWNER, with a copy to ENGINEER, certificates of insurance which CONTRACTOR is required to purchase and maintain in accordance with Article 5.

ARTICLE 4 - AVAILABILITY OF LANDS; PHYSICAL CONDITIONS; REFERENCE POINTS

Subsurface and Physical Conditions

4.2.1. Amend the first sentence of paragraph 4.2.1. of the General Conditions by replacing the phrase "Supplementary Conditions" with the phrase "General Requirements."

ARTICLE 5 - BONDS AND INSURANCE

Contractor's Liability Insurance

5.4. The limits of liability for the insurance required by paragraph 5.4. of the General Conditions shall provide coverage for not less than the following amounts or greater where required by law.

5.4.1. and 5.4.2. Worker's Compensation and other employee benefits coverage under paragraphs 5.4.1. and 5.4.2. of the General Conditions: Statutory limits.

5.4.3., 5.4.4. and 5.4.5. Comprehensive General Liability under paragraphs 5.4.2. through 5.4.5. of the General Conditions having the limits of not less than:

<u>Personal Injury</u>	<u>Property Damage</u>
Each Occurrence: \$1,000,000	Each Occurrence: \$1,000,000
Aggregate: \$2,000,000	Aggregate: \$2,000,000

Coverage for all damages arising during the life of the Contract shall include at least the following hazards:

- Premises and Operations
- Independent Contractors Protective
- Products and Completed Operations
- Broad Form Property Damage
- Explosion, Collapse and Underground
- Personal Injury with Employment Exclusion Deleted

ARTICLE 5 - BONDS AND INSURANCE (continued)

Contractor's Liability Insurance (continued)

5.4.6. Comprehensive Automobile Liability under paragraph 5.4.6. of the General Conditions:

<u>Bodily Injury</u>	<u>Property Damage</u>
Each Person: \$1,000,000	Each Occurrence: \$1,000,000
Each Occurrence: \$1,000,000	

All insurance policies shall name the OWNER and the ENGINEER as additional named insureds.

ARTICLE 9 - ENGINEER'S STATUS DURING CONSTRUCTION

Project Representative

9.3. Add the following language at the end of paragraph 9.3. of the General Conditions:

The form entitled: Listing of the Duties, Responsibilities and Limitations of Authority of the Resident Project Representative, ACEC No. 1910-1-A is hereby included by reference in this paragraph and is attached as an Exhibit to the Supplementary Conditions.

ARTICLE 11 - CHANGE OF CONTRACT PRICE

Unit Price Work

11.9.1. Add the following language at the end of paragraph 11.9.1. of the General Conditions:

The quantities listed in the Unit Price Schedule, which is a part of the CONTRACTOR'S Bid and the Agreement, have been estimated by the ENGINEER based on information available during the preparation of the Contract Documents. The Final Contract Price is determined on the basis of the number of units for each item of work actually performed at the unit prices stated in the Unit Price Schedule. These actual quantities can vary widely from the estimated quantities because of field conditions. The CONTRACTOR is cautioned that no extra compensation will be made because of a variation in final quantities from estimated quantities, or for the complete elimination of an item unless an adjustment is allowed by paragraph 11.9.3. of the General Conditions.

ARTICLE 12 - CHANGE OF CONTRACT TIME

Engineering Charges for Delay in Construction

- 12.5. Add a new paragraph immediately after paragraph 12.4. of the General Conditions which is to read as follows:

If the Work is not substantially completed within the time stipulated in Article 3. of the Agreement for substantial completion, the CONTRACTOR shall pay OWNER for engineering charges incurred by the OWNER from the specified date of substantial completion until the Work is fully completed and final payment is recommended.

ARTICLE 14 - PAYMENTS TO CONTRACTOR AND COMPLETION

Application for Progress Payment

- 14.2. Amend paragraph 14.2. of the General Conditions by deleting the second sentence and replacing it with the following:

There shall be no payment made for materials and equipment not incorporated in the work.

ARTICLE 17 - MISCELLANEOUS

General

- 17.1. Add the following language at the end of paragraph 17.1. of the General Conditions:

Only original written notices will be deemed valid. Facsimile transmittals shall not be considered valid notices.

- 17.6. Add a new paragraph immediately after paragraph 17.5. of the General Conditions which is to read as follows:

The Invitation to Bid and the Instructions to Bidders are hereby included as part of the Contract Documents.

- 17.7. Add a new paragraph immediately after paragraph 17.6. of the General Conditions which is to read as follows:

Items 1 through 4 are hereby included by reference and are attached as Exhibits to the Supplementary Conditions.

ARTICLE 17 - MISCELLANEOUS (continued)

General (continued)

- 17.8. Add a new paragraph immediately after paragraph 17.7 of the General Conditions which is to read as follows:

The Contractor shall carefully review the Contract Documents to ascertain that they are free from ambiguity and sufficient for bid purposes. The Contractor shall base his bid solely on these Contract Documents, not relying on any explanation or interpretation from other sources. The Contractor hereby agrees to limit liability to the OWNER and the ENGINEER for damages to him because of the professional negligence, errors, or omissions of the Engineer to an aggregate total of the Engineer's design fee applicable to this Contract.

INSTRUCTIONS TO BIDDERS

ARTICLE 3. QUALIFICATIONS OF BIDDERS

- 3.1. Amend the first sentence of Article 3 of the Instructions to Bidders by replacing the phrase "must be prepared to submit within five days of Owner's request" with the phrase "must submit with their Bid."
- 3.2. Add the following language at the end of Article 3 of the Instructions to Bidders:
 - 3.2.1. The Contractor shall submit with his Bid evidence of Contractor's qualifications and ability to perform the work as follows:

Detailed project experience involving similar work, including project description, costs, and name and address of project owner and design engineer.

Detailed Bidder information, including corporate history, corporate structure and financial data.

ARTICLE 10. SUBCONTRACTORS, ETC.

- 10.1. Amend the first sentence of Article 10.1 of the Instructions to Bidders by replacing the phrase: "If the Supplementary Conditions require ... will within seven days of the Bid opening submit to the OWNER" with the phrase "The Bidders must submit with their Bid a list of all Subcontractors..."
- 10.4. Add a new paragraph immediately after paragraph 10.3. of the Instructions to Bidders which is to read:

The CONTRACTOR may utilize the services of specialty SUBCONTRACTS on those parts of the WORK which under normal contracting practices are performed by specialty SUBCONTRACTORS.

The CONTRACTOR shall not award WORK to SUBCONTRACTOR(s) in excess of twenty-five (25%) percent of the CONTRACT PRICE. The amount of each SUBCONTRACT shall be shown on the List of Subcontractors in the Bid Form.

EXHIBITS TO SUPPLEMENTARY CONDITIONS

1. Listing of the Duties, Responsibilities and Limitations of Authority of the Resident Project Representative, ACEC No. 1990-1-A (1983 Edition).
2. NYSDEC Standard Clauses for NYS Contracts, Appendix A and B, and Rider to Appendix B.
3. NYSDEC Summary of Insurance Requirements, Construction Contracts.
4. NYS Department of Labor Wage Determination.

A LISTING OF THE DUTIES, RESPONSIBILITIES AND
LIMITATIONS OF AUTHORITY OF THE RESIDENT PROJECT REPRESENTATIVE

ENGINEER shall furnish a Resident Project Representative (RPR), assistants and other field staff to assist ENGINEER in observing performance of the Work of the Contractor.

Through more extensive on-site observations of the Work in progress and field checks of materials and equipment by the RPR and assistants, ENGINEER shall endeavor to provide further protection for OWNER against defects and deficiencies in the Work; but, the furnishing of such services will not make ENGINEER responsible for or give ENGINEER control over construction means, methods, techniques, sequences or procedures or for safety precautions or programs, or responsibility for CONTRACTOR's failure to perform the Work in accordance with the Contract Documents.

The duties and responsibilities of the RPR are limited to those of ENGINEER in ENGINEER's agreement with the OWNER and in the construction Contract Documents, and are further limited and described as follows:

A. General.

RPR is ENGINEER's agent at the site, will act as directed by and under the supervision of ENGINEER, and will confer with ENGINEER regarding RPR's actions. RPR's dealings in matters pertaining to the on-site work shall in general be with ENGINEER and CONTRACTOR keeping OWNER advised as necessary. RPR's dealings with subcontractors shall only be through or with the full knowledge and approval of CONTRACTOR. RPR shall generally communicate with OWNER with the knowledge of and under the direction of ENGINEER.

B. Duties and Responsibilities of RPR.

1. *Schedules*: Review the progress schedule, schedule of Shop Drawing submittals and schedule of values prepared by CONTRACTOR and consult with ENGINEER concerning acceptability.
2. *Conferences and Meetings*: Attend meetings with CONTRACTOR, such as pre-construction conferences, progress meetings, job conferences and other project-related meetings, and prepare and circulate copies of minutes thereof.
3. *Liaison*:
 - a. Serve as ENGINEER's liaison with CONTRACTOR, working principally through CONTRACTOR's superintendent and assist in understanding the intent of the Contract Documents; and assist ENGINEER in serving as OWNER's liaison with CONTRACTOR when CONTRACTOR's operations affect OWNER's on-site operations.
 - b. Assist in obtaining from OWNER additional details or information, when required for proper execution of the Work.
4. *Shop Drawings and Samples*:
 - a. Record date of receipt of Shop Drawings and samples.
 - b. Receive samples which are furnished at the site by CONTRACTOR, and notify ENGINEER of availability of samples for examination.
 - c. Advise ENGINEER and CONTRACTOR of the commencement of any Work requiring a Shop Drawing or sample if the submittal has not been approved by ENGINEER.

5. *Review of Work, Rejection of Defective Work, Inspections and Tests:*
 - a. Conduct on-site observations of the Work in progress to assist ENGINEER in determining if the Work is in general proceeding in accordance with the Contract Documents.
 - b. Report to ENGINEER whenever RPR believes that any Work is unsatisfactory, faulty or defective or does not conform to the Contract Documents, or has been damaged, or does not meet the requirements of any inspection, test or approval required to be made; and advise ENGINEER of Work that RPR believes should be corrected or rejected or should be uncovered for observation, or requires special testing, inspection or approval.
 - c. Verify that tests, equipment and systems startups and operating and maintenance training are conducted in the presence of appropriate personnel, and that CONTRACTOR maintains adequate records thereof; and observe, record and report to ENGINEER appropriate details relative to the test procedures and startups.
 - d. Accompany visiting inspectors representing public or other agencies having jurisdiction over the Project, record the results of these inspections and report to ENGINEER.
6. *Interpretation of Contract Documents:* Report to ENGINEER when clarifications and interpretations of the Contract Documents are needed and transmit to CONTRACTOR clarifications and interpretations as issued by ENGINEER.
7. *Modifications:* Consider and evaluate CONTRACTOR's suggestions for modifications in Drawings or Specifications and report with RPR's recommendations to ENGINEER. Transmit to CONTRACTOR decisions as issued by ENGINEER.
8. *Records:*
 - a. Maintain at the job site orderly files for correspondence, reports of job conferences, Shop Drawings and samples, reproductions of original Contract Documents including all Work Directive Changes, Addenda, Change Orders, Field Orders, additional Drawings issued subsequent to the execution of the Contract, ENGINEER's clarifications and interpretations of the Contract Documents, progress reports, and other Project related documents.
 - b. Keep a diary or log book, recording CONTRACTOR hours on the job site, weather conditions, data relative to questions of Work Directive Changes, Change Orders or changed conditions, list of job site visitors, daily activities, decisions, observations in general, and specific observations in more detail as in the case of observing test procedures; and send copies to ENGINEER.
 - c. Record names, addresses and telephone numbers of all CONTRACTORS, subcontractors and major suppliers of materials and equipment.
9. *Reports:*
 - a. Furnish ENGINEER periodic reports as required of progress of the Work and of CONTRACTOR's compliance with the progress schedule and schedule of Shop Drawing and sample submittals.
 - b. Consult with ENGINEER in advance of scheduled major tests, inspections or start of important phases of the Work.
 - c. Draft proposed Change Orders and Work Directive Changes, obtaining backup material from CONTRACTOR and recommend to ENGINEER Change Orders, Work Directive Changes, and Field Orders.
 - d. Report immediately to ENGINEER and OWNER upon the occurrence of any accident.

10. *Payment Requests:* Review applications for payment with CONTRACTOR for compliance with the established procedure for their submission and forward with recommendations to ENGINEER, noting particularly the relationship of the payment requested to the schedule of values, Work completed and materials and equipment delivered at the site but not incorporated in the Work.
11. *Certificates, Maintenance and Operation Manuals:* During the course of the Work, verify that certificates, maintenance and operation manuals and other data required to be assembled and furnished by CONTRACTOR are applicable to the items actually installed and in accordance with the Contract Documents, and have this material delivered to ENGINEER for review and forwarding to OWNER prior to final payment for the Work.
12. *Completion:*
 - a. Before ENGINEER issues a Certificate of Substantial Completion, submit to CONTRACTOR a list of observed items requiring completion or correction.
 - b. Conduct final inspection in the company of ENGINEER, OWNER and CONTRACTOR and prepare a final list of items to be completed or corrected.
 - c. Observe that all items on final list have been completed or corrected and make recommendations to ENGINEER concerning acceptance.

C. Limitations of Authority.

Resident Project Representative:

1. Shall not authorize any deviation from the Contract Documents or substitution of materials or equipment, unless authorized by ENGINEER.
2. Shall not exceed limitations of ENGINEER's authority as set forth in the Contract Documents.
3. Shall not undertake any of the responsibilities of CONTRACTOR, subcontractors or CONTRACTOR's superintendent.
4. Shall not advise on, issue directions relative to or assume control over any aspect of the means, methods, techniques, sequences or procedures of construction unless such advice or directions are specifically required by the Contract Documents.
5. Shall not advise on, issue directions regarding or assume control over safety precautions and programs in connection with the Work.
6. Shall not accept Shop Drawing or sample submittals from anyone other than Contractor.
7. Shall not authorize OWNER to occupy the Project in whole or in part.
8. Shall not participate in specialized field or laboratory tests or inspections conducted by others except as specifically authorized by ENGINEER.

STANDARD CLAUSES FOR NYS CONTRACTS

The parties to the attached contract, license, lease, amendment or other agreement of any kind (hereinafter, "the contract" or "this contract") agree to be bound by the following clauses which are hereby made a part of the contract (the word "Contractor" herein refers to any party other than the State, whether a contractor, licenser, licensee, lessor, lessee or any other party):

1. **EXECUTORY CLAUSE.** In accordance with Section 41 of the State Finance Law, the State shall have no liability under this contract to the Contractor or to anyone else beyond funds appropriated and available for this contract.
2. **NON-ASSIGNMENT CLAUSE.** In accordance with Section 138 of the State Finance Law, this contract may not be assigned by the Contractor or its right, title or interest therein assigned, transferred, conveyed, sublet or otherwise disposed of without the previous consent; in writing, of the State and any attempts to assign the contract without the State's written consent are null and void. The Contractor may, however, assign its right to receive payment without the State's prior written consent unless this contract concerns Certificates of Participation pursuant to Article 5-A of the State Finance Law.
3. **COMPTROLLER'S APPROVAL.** In accordance with Section 112 of the State Finance Law (or, if this contract is with the State University or City University of New York, Section 355 or Section 6218 of the Education Law), if this contract exceeds \$15,000 (or the minimum thresholds agreed to by the Office of the State Comptroller for certain S.U.N.Y. and C.U.N.Y. contracts), or if this is an amendment for any amount to a contract which, as so amended, exceeds said statutory amount, or if, by this contract, the State agrees to give something other than money when the value or reasonably estimated value of such consideration exceeds \$10,000, it shall not be valid, effective or binding upon the State until it has been approved by the State Comptroller and filed in his office. Comptroller's approval of contracts let by the Office of General Services is required when such contracts exceed \$30,000 (State Finance Law Section 163.6.a).
4. **WORKERS' COMPENSATION BENEFITS.** In accordance with Section 142 of the State Finance Law, this contract shall be void and of no force and effect unless the Contractor shall provide and maintain coverage during the life of this contract for the benefit of such employees as are required to be covered by the provisions of the Workers' Compensation Law.
5. **NON-DISCRIMINATION REQUIREMENTS.** To the extent required by Article 15 of the Executive Law (also known as the Human Rights Law) and all other State and Federal statutory and constitutional non-discrimination provisions, the Contractor will not discriminate against any employee or applicant for employment because of race, creed, color, sex, national origin, sexual orientation, age, disability, genetic predisposition or carrier status, or marital status. Furthermore, in accordance with Section 220-e of the Labor Law, if this is a contract for the construction, alteration or repair of any public building or public work or for the manufacture, sale or distribution of materials, equipment or supplies, and to the extent that this contract shall be performed within the State of New York, Contractor agrees that neither it nor its subcontractors shall, by reason of race, creed, color, disability, sex, or national origin: (a) discriminate in hiring against any New York State citizen who is qualified and available to perform the work; or (b) discriminate against or intimidate any employee hired for the performance of work under this contract. If this is a building service contract as defined in Section 230 of the Labor Law, then, in accordance with Section 239 thereof, Contractor agrees that neither it nor its subcontractors shall by reason of race, creed, color, national origin, age, sex or disability: (a) discriminate in hiring against any New York State citizen who is qualified and available to perform the work; or (b) discriminate against or intimidate any employee hired for the

performance of work under this contract. Contractor is subject to fines of \$50.00 per person per day for any violation of Section 220-e or Section 239 as well as possible termination of this contract and forfeiture of all moneys due hereunder for a second or subsequent violation.

6. **WAGE AND HOURS PROVISIONS.** If this is a public work contract covered by Article 8 of the Labor Law or a building service contract covered by Article 9 thereof, neither Contractor's employees nor the employees of its subcontractors may be required or permitted to work more than the number of hours or days stated in said statutes, except as otherwise provided in the Labor Law and as set forth in prevailing wage and supplement schedules issued by the State Labor Department. Furthermore, Contractor and its subcontractors must pay at least the prevailing wage rate and pay or provide the prevailing supplements, including the premium rates for overtime pay, as determined by the State Labor Department in accordance with the Labor Law.
7. **NON-COLLUSIVE BIDDING CERTIFICATION.** In accordance with Section 139-d of the State Finance Law, if this contract was awarded based upon the submission of bids, Contractor warrants, under penalty of perjury, that its bid was arrived at independently and without collusion aimed at restricting competition. Contractor further warrants that, at the time Contractor submitted its bid, an authorized and responsible person executed and delivered to the State a non-collusive bidding certification on Contractor's behalf.
8. **INTERNATIONAL BOYCOTT PROHIBITION.** In accordance with Section 220-f of the Labor Law and Section 139-h of the State Finance Law, if this contract exceeds \$5,000, the Contractor agrees, as a material condition of the contract, that neither the Contractor nor any substantially owned or affiliated person, firm, partnership or corporation has participated, is participating, or shall participate in an international boycott in violation of the federal Export Administration Act of 1979 (50 USC App. Sections 2401 et seq.) or regulations thereunder. If such Contractor, or any of the aforesaid affiliates of Contractor, is convicted or is otherwise found to have violated said laws or regulations upon the final determination of the United States Commerce Department or any other appropriate agency of the United States subsequent to the contract's execution, such contract, amendment or modification thereto shall be rendered forfeit and void. The Contractor shall so notify the State Comptroller within five (5) business days of such conviction, determination or disposition of appeal (2NYCRR 105.4).
9. **SET-OFF RIGHTS.** The State shall have all of its common law, equitable and statutory rights of set-off. These rights shall include, but not be limited to, the State's option to withhold for the purposes of set-off any moneys due to the Contractor under this contract up to any amounts due and owing to the State with regard to this contract, any other contract with any State department or agency, including any contract for a term commencing prior to the term of this contract, plus any amounts due and owing to the State for any other reason including, without limitation, tax delinquencies, fee delinquencies or monetary penalties relative thereto. The State shall exercise its set-off rights in accordance with normal State practices including, in cases of set-off pursuant to an audit, the finalization of such audit by the State agency, its representatives, or the State Comptroller.
10. **RECORDS.** The Contractor shall establish and maintain complete and accurate books, records, documents, accounts and other evidence directly pertinent to performance under this contract (hereinafter, collectively, "the Records"). The Records must be kept for the balance of the calendar year in which they were made and for six (6) additional years thereafter. The State Comptroller, the Attorney General and any other person or entity authorized to conduct an examination, as well as the agency or agencies involved in this contract, shall have access to the Records during normal business hours at an office of the Contractor

within the State of New York or, if no such office is available, at a mutually agreeable and reasonable venue within the State, for the term specified above for the purposes of inspection, auditing and copying. The State shall take reasonable steps to protect from public disclosure any of the Records which are exempt from disclosure under Section 87 of the Public Officers Law (the "Statute") provided that: (i) the Contractor shall timely inform an appropriate State official, in writing, that said records should not be disclosed; and (ii) said records shall be sufficiently identified; and (iii) designation of said records as exempt under the Statute is reasonable. Nothing contained herein shall diminish, or in any way adversely affect, the State's right to discovery in any pending or future litigation.

11. IDENTIFYING INFORMATION AND PRIVACY NOTIFICATION. (a) **FEDERAL EMPLOYER IDENTIFICATION NUMBER and/or FEDERAL SOCIAL SECURITY NUMBER.** All invoices or New York State standard vouchers submitted for payment for the sale of goods or services or the lease of real or personal property to a New York State agency must include the payee's identification number, i.e., the seller's or lessor's identification number. The number is either the payee's Federal employer identification number or Federal social security number, or both such numbers when the payee has both such numbers. Failure to include this number or numbers may delay payment. Where the payee does not have such number or numbers, the payee, on its invoice or New York State standard voucher, must give the reason or reasons why the payee does not have such number or numbers.

(b) **PRIVACY NOTIFICATION.** (1) The authority to request the above personal information from a seller of goods or services or a lessor of real or personal property, and the authority to maintain such information, is found in Section 5 of the State Tax Law. Disclosure of this information by the seller or lessor to the State is mandatory. The principal purpose for which the information is collected is to enable the State to identify individuals, businesses and others who have been delinquent in filing tax returns or may have understated their tax liabilities and to generally identify persons affected by the taxes administered by the Commissioner of Taxation and Finance. The information will be used for tax administration purposes and for any other purpose authorized by law.

(2) The personal information is requested by the purchasing unit of the agency contracting to purchase the goods or services or lease the real or personal property covered by this contract or lease. The information is maintained in New York State's Central Accounting System by the Director of Accounting Operations, Office of the State Comptroller, AESOB, Albany, New York 12236.

12. EQUAL EMPLOYMENT OPPORTUNITIES FOR MINORITIES AND WOMEN. In accordance with Section 312 of the Executive Law, if this contract is: (i) a written agreement or purchase order instrument, providing for a total expenditure in excess of \$25,000.00, whereby a contracting agency is committed to expend or does expend funds in return for labor, services, supplies, equipment, materials or any combination of the foregoing, to be performed for, or rendered or furnished to the contracting agency; or (ii) a written agreement in excess of \$100,000.00 whereby a contracting agency is committed to expend or does expend funds for the acquisition, construction, demolition, replacement, major repair or renovation of real property and improvements thereon; or (iii) a written agreement in excess of \$100,000.00 whereby the owner of a State assisted housing project is committed to expend or does expend funds for the acquisition, construction, demolition, replacement, major repair or renovation of real property and improvements thereon for such project, then:

(a) The Contractor will not discriminate against employees or applicants for employment because of race, creed, color, national origin, sex, age, disability or marital status, and will undertake or continue existing programs of affirmative action to ensure that minority group members and women are afforded equal employment opportunities without discrimination. Affirmative action shall mean recruitment,

employment, job assignment, promotion, upgradings, demotion, transfer, layoff, or termination and rates of pay or other forms of compensation;

(b) at the request of the contracting agency, the Contractor shall request each employment agency, labor union, or authorized representative of workers with which it has a collective bargaining or other agreement or understanding, to furnish a written statement that such employment agency, labor union or representative will not discriminate on the basis of race, creed, color, national origin, sex, age, disability or marital status and that such union or representative will affirmatively cooperate in the implementation of the contractor's obligations herein; and

(c) the Contractor shall state, in all solicitations or advertisements for employees, that, in the performance of the State contract, all qualified applicants will be afforded equal employment opportunities without discrimination because of race, creed, color, national origin, sex, age, disability or marital status.

Contractor will include the provisions of "a", "b", and "c" above, in every subcontract over \$25,000.00 for the construction, demolition, replacement, major repair, renovation, planning or design of real property and improvements thereon (the "Work") except where the Work is for the beneficial use of the Contractor. Section 312 does not apply to: (i) work, goods or services unrelated to this contract; or (ii) employment outside New York State; or (iii) banking services, insurance policies or the sale of securities. The State shall consider compliance by a contractor or subcontractor with the requirements of any federal law concerning equal employment opportunity which effectuates the purpose of this section. The contracting agency shall determine whether the imposition of the requirements of the provisions hereof duplicate or conflict with any such federal law and if such duplication or conflict exists, the contracting agency shall waive the applicability of Section 312 to the extent of such duplication or conflict. Contractor will comply with all duly promulgated and lawful rules and regulations of the Governor's Office of Minority and Women's Business Development pertaining hereto.

13. CONFLICTING TERMS. In the event of a conflict between the terms of the contract (including any and all attachments thereto and amendments thereof) and the terms of this Appendix A, the terms of this Appendix A shall control.

14. GOVERNING LAW. This contract shall be governed by the laws of the State of New York except where the Federal supremacy clause requires otherwise.

15. LATE PAYMENT. Timeliness of payment and any interest to be paid to Contractor for late payment shall be governed by Article 11-A of the State Finance Law to the extent required by law.

16. NO ARBITRATION. Disputes involving this contract, including the breach or alleged breach thereof, may not be submitted to binding arbitration (except where statutorily authorized), but must, instead, be heard in a court of competent jurisdiction of the State of New York.

17. SERVICE OF PROCESS. In addition to the methods of service allowed by the State Civil Practice Law & Rules ("CPLR"), Contractor hereby consents to service of process upon it by registered or certified mail, return receipt requested. Service hereunder shall be complete upon Contractor's actual receipt of process or upon the State's receipt of the return thereof by the United States Postal Service as refused or undeliverable. Contractor must promptly notify the State, in writing, of each and every change of address to which service of process can be made. Service by the State to the last known address shall be sufficient. Contractor will have thirty (30) calendar days after service hereunder is complete in which to respond.

18. PROHIBITION ON PURCHASE OF TROPICAL HARDWOODS. The Contractor certifies and warrants that all wood products to be used under this contract award will be in accordance with, but not limited to, the specifications and provisions of State Finance Law §165. (Use of Tropical Hardwoods) which prohibits purchase and use of tropical hardwoods, unless specifically exempted, by the State or any governmental agency or political subdivision or public benefit corporation. Qualification for an exemption under this law will be the responsibility of the contractor to establish to meet with the approval of the State.

In addition, when any portion of this contract involving the use of woods, whether supply or installation, is to be performed by any subcontractor, the prime Contractor will indicate and certify in the submitted bid proposal that the subcontractor has been informed and is in compliance with specifications and provisions regarding use of tropical hardwoods as detailed in §165 State Finance Law. Any such use must meet with the approval of the State; otherwise, the bid may not be considered responsive. Under bidder certifications, proof of qualification for exemption will be the responsibility of the Contractor to meet with the approval of the State.

19. MACBRIDE FAIR EMPLOYMENT PRINCIPLES. In accordance with the MacBride Fair Employment Principles (Chapter 807 of the Laws of 1992), the Contractor hereby stipulates that the Contractor either (a) has no business operations in Northern Ireland, or (b) shall take lawful steps in good faith to conduct any business operations in Northern Ireland in accordance with the MacBride Fair Employment Principles (as described in Section 165 of the New York State Finance Law), and shall permit independent monitoring of compliance with such principles.

20. OMNIBUS PROCUREMENT ACT OF 1992. It is the policy of New York State to maximize opportunities for the participation of New York State business enterprises, including minority and women-owned business enterprises as bidders, subcontractors and suppliers on its procurement contracts.

Information on the availability of New York State subcontractors and suppliers is available from:

NYS Department of Economic Development
Division for Small Business
30 South Pearl St -- 7th Floor
Albany, New York 12245
Telephone: 518-292-5220

A directory of certified minority and women-owned business enterprises is available from:

NYS Department of Economic Development
Division of Minority and Women's Business Development
30 South Pearl St -- 2nd Floor
Albany, New York 12245
<http://www.empire.state.ny.us>

The Omnibus Procurement Act of 1992 requires that by signing this bid proposal or contract, as applicable, Contractors certify that whenever the total bid amount is greater than \$1 million:

(a) The Contractor has made reasonable efforts to encourage the participation of New York State Business Enterprises as suppliers and subcontractors, including certified minority and women-owned business enterprises, on this project, and has retained the documentation of these efforts to be provided upon request to the State;

(b) The Contractor has complied with the Federal Equal Opportunity Act of 1972 (P.L. 92-261), as amended;

(c) The Contractor agrees to make reasonable efforts to provide notification to New York State residents of employment opportunities on this project through listing any such positions with the Job Service Division of the New York State Department of Labor, or providing such notification in such manner as is consistent with existing collective bargaining contracts or agreements. The Contractor agrees to document these efforts and to provide said documentation to the State upon request; and

(d) The Contractor acknowledges notice that the State may seek to obtain offset credits from foreign countries as a result of this contract and agrees to cooperate with the State in these efforts.

21. RECIPROCITY AND SANCTIONS PROVISIONS. Bidders are hereby notified that if their principal place of business is located in a country, nation, province, state or political subdivision that penalizes New York State vendors, and if the goods or services they offer will be substantially produced or performed outside New York State, the Omnibus Procurement Act 1994 and 2000 amendments (Chapter 684 and Chapter 383, respectively) require that they be denied contracts which they would otherwise obtain. NOTE: As of May 15, 2002, the list of discriminatory jurisdictions subject to this provision includes the states of South Carolina, Alaska, West Virginia, Wyoming, Louisiana and Hawaii. Contact NYS Department of Economic Development for a current list of jurisdictions subject to this provision.

22. PURCHASES OF APPAREL. In accordance with State Finance Law 162 (4-a), the State shall not purchase any apparel from any vendor unable or unwilling to certify that: (i) such apparel was manufactured in compliance with all applicable labor and occupational safety laws, including, but not limited to, child labor laws, wage and hours laws and workplace safety laws, and (ii) vendor will supply, with its bid (or, if not a bid situation, prior to or at the time of signing a contract with the State), if known, the names and addresses of each subcontractor and a list of all manufacturing plants to be utilized by the bidder.

APPENDIX B

Standard Clauses for All New York State Department of Environmental Conservation Contracts

The parties to the attached contract, license, lease, grant, amendment or other agreement of any kind (hereinafter "the contract" or "this contract") agree to be bound by the following clauses which are hereby made a part of the contract. The word "Contractor" herein refers to any party to the contract, other than the New York State Department of Environmental Conservation (hereinafter "Department").

I. Postponement, suspension, abandonment or termination by the Department: The Department shall have the right to postpone, suspend, abandon or terminate this contract, and such actions shall in no event be deemed a breach of contract. In the event of any termination, postponement, delay, suspension or abandonment, the Contractor shall immediately stop work, take steps to incur no additional obligations, and to limit further expenditures. Within 15 days of receipt of notice, the Contractor shall deliver to the Department all data, reports, plans, or other documentation related to the performance of this contract, including but not limited to source codes and specifications, guarantees, warranties, as-built plans and shop drawings. In any of these events, the Department shall make settlement with the Contractor upon an equitable basis as determined by the Department which shall fix the value of the work which was performed by the Contractor prior to the postponement, suspension, abandonment or termination of this contract. This clause shall not apply to this contract if the contract contains other provisions applicable to postponement, suspension or termination of the contract.

II. Indemnification and Holdharmless The Contractor agrees that it will indemnify and save harmless the Department and the State of New York from and against all losses from claims, demands, payments, suits, actions, recoveries and judgments of every nature and description brought or recovered against it by reason of any omission or tortious act of the Contractor, its agents, employees, suppliers or subcontractors in the performance of this contract. The Department and the State of New York may retain such monies from the amount due Contractor as may be necessary to satisfy any claim for damages, costs and the like, which is asserted against the Department and/or the State of New York.

III. Conflict of Interest (a) Organizational Conflict of Interest. To the best of the Contractor's knowledge and belief, the Contractor warrants that there are no relevant facts or circumstances which could give rise to an organizational conflict of interest, as herein defined, or that the Contractor has disclosed all such relevant information to the Department.

(1) An organizational conflict of interest exists when the nature of the work to be performed under this contract may, without some restriction on future activities, impair or appear to impair the Contractor's objectivity in performing the work for the Department.

(2) The Contractor agrees that if an actual, or potential organizational conflict of interest is discovered at any time after award, whether before or during performance, the Contractor will immediately make a full disclosure in writing to the Department. This disclosure shall include a description of actions which the Contractor has taken or proposes to take, after consultation with the Department, to avoid, mitigate, or minimize the actual or potential conflict.

(3) To the extent that the work under this contract requires access to personal, proprietary or confidential business or financial data of persons or other companies, and as long as such data remains proprietary or confidential, the Contractor shall protect such data from unauthorized use and disclosure and agrees not to use it to compete with such companies.

(b) Personal Conflict of Interest: The following provisions with regard to management or professional level employee personnel performing under this contract shall apply until the earlier of the termination date of the affected employee(s) or the duration of the contract.

(1) A personal conflict of interest is defined as a relationship of an employee, subcontractor employee, or consultant with an entity that may impair or appear to impair the objectivity of the employee, subcontractor employee, or consultant in performing the contract work. The Contractor agrees to notify the Department immediately of any actual, or potential personal conflict of interest with regard to any such person working on or having access to information regarding this contract, as soon as Contractor becomes aware of such conflict.

The Department will notify the Contractor of the appropriate action to be taken.

(2) The Contractor agrees to advise all management or professional level employees involved in the work of this contract, that they must report any personal conflicts of interest to the Contractor. The Contractor must then advise the Department which will advise the Contractor of the appropriate action to be taken.

(3) Unless waived by the Department, the Contractor shall certify annually that, to the best of the Contractor's knowledge and belief, all actual, apparent or potential conflicts of interest, both personal and organizational, as defined herein, have been reported to the Department. Such certification must be signed by a senior executive of the Contractor and submitted in accordance with instructions provided by the Department. Along with the annual certification, the Contractor shall also submit an update of any changes in any conflict of interest plan submitted with its proposal for this contract. The initial certification shall cover the one-year period from the date of contract award, and all subsequent certifications shall cover successive annual periods thereafter. The certification is to be submitted no later than 45 days after the close of the previous certification period covered.

(4) In performing this contract, the Contractor recognizes that its employees may have access to data, either provided by the Department or first generated during contract performance, of a sensitive nature which should not be released without Department approval. If this situation occurs, the Contractor agrees to obtain confidentiality agreements from all affected employees working on requirements under this contract including subcontractors and consultants. Such agreements shall contain provisions which stipulate that each employee agrees not to disclose, either in whole or in part, to any entity external to the Department, Department of Health or the New York State Department of Law, any information or data provided by the Department or first generated by the Contractor under this contract, any site-specific cost information, or any enforcement strategy without first obtaining the written permission of the Department. If a Contractor, through an employee or otherwise, is subpoenaed to testify or produce documents, which could result in such disclosure, the Contractor must provide immediate advance notification to the Department so that the Department can authorize such disclosure or have the opportunity to take action to prevent such disclosure. Such agreements shall be effective for the life of the contract and for a period of five (5) years after completion of the contract.

(c) Remedies - The Department may terminate this contract in whole or in part, if it deems such termination necessary to avoid an organizational or personal conflict of interest, or an unauthorized disclosure of information. If the Contractor fails to make required disclosures or misrepresents relevant information to the Department, the Department may terminate the contract, or pursue such other remedies as may be permitted by the terms of Clause I of this Appendix or other applicable provisions of this contract regarding termination.

(d) The Contractor will be ineligible to make a proposal or bid on a contract for which the Contractor has developed the statement of work or the solicitation package

(e) The Contractor agrees to insert in each subcontract or consultant agreement placed hereunder (except for subcontracts or consultant agreements for well drilling, fence erecting, plumbing, utility hookups, security guard services, or electrical services) provisions which shall conform substantially to the language of this clause, including this paragraph (e), unless otherwise authorized by the Department.

If this is a contract for work related to action at an inactive hazardous waste site, the following paragraph shall apply to those Contractors whose work requires the application of professional judgment: It does not apply to construction contracts.

(f) Due to the scope and nature of this contract, the Contractor shall observe the following restrictions on future hazardous waste site contracting for the duration of the contract.

(1) The Contractor, during the life of the work assignment and for a period of three (3) years after the completion of the work assignment, agrees not to enter into a contract with or to represent any party with respect to any work relating to remedial activities or work pertaining to a site where the Contractor previously performed work for the Department under this contract without the prior written approval of the Department.

(2) The Contractor agrees in advance that if any bids/proposals are submitted for any work for a third party that would require written approval of the Department prior to entering into a contract because of the restrictions of this clause, then the bids/proposals are submitted at the Contractor's own risk, and no claim shall be made against the Department to recover

bid/proposal costs as a direct cost whether the request for authorization to enter into the contract is denied or approved.

IV. Requests for Payment All requests for payment by the Contractor must be submitted on forms supplied and approved by the Department. Each payment request must contain such items of information and supporting documentation as are required by the Department, and shall be all-inclusive for the period of time covered by the payment request.

E. Compliance with Federal requirements To the extent that federal funds are provided to the Contractor or used in paying the Contractor under this contract, the Contractor agrees that it will comply with all applicable federal laws and regulations, including but not limited to those laws and regulations under which the Federal funds were authorized. The Contractor further agrees to insert in any subcontract hereunder, provisions which shall conform substantially to the language of this clause.

VI. Independent Contractor The Contractor shall have the status of an independent contractor. Accordingly, the Contractor agrees that it will conduct itself in a manner consistent with such status, and that it will neither hold itself out as, nor claim to be, an officer or employee of the Department by reason of this contract. It further agrees that it will not make any claim, demand or application to the Department for any right or privilege applicable to an officer or employee of the Department, including but not limited to worker's compensation coverage, unemployment insurance benefits, social security coverage, or retirement membership or credit.

VII. Article 15-A Requirements The terms contained in this clause shall have the definitions as given in, and shall be construed according to the intent of Article 15-A of the Executive Law, 5 NYCRR Part 140, et. seq., Article 52 of the Environmental Conservation Law and 6 NYCRR Part 615, et. seq., as applicable, and any goals established by this clause are subject to the intent of such laws and regulations.

(a) If the maximum contract price herein equals or exceeds \$25,000, and this contract is for labor, services, supplies, equipment, or materials; or

(b) If the maximum contract price herein equals or exceeds \$100,000 and this contract is for the acquisition, construction, demolition, replacement, major repair or renovation of real property and improvements thereon; then

(c) The affirmative action provisions and equal employment opportunity provisions contained in this paragraph and paragraphs (d) and (e) of this clause shall be applicable within the limitations established by Executive Law §§312 and 313 and the applicable regulations.

(1) The Contractor is required to make good faith efforts to subcontract at least 6% of the dollar value of this contract to Minority Owned Business Enterprises (MBEs) and at least 6% of such value to Women Owned Business Enterprises (WBEs).

(2) The Contractor is required to make good faith efforts to employ or contractually require any Subcontractor with whom it contracts to make good faith efforts to employ minority group members for at least 10% of, and women for at least 10% of, the workforce hours required to perform the work under this contract.

(3) The Contractor is required to make good faith efforts to solicit the meaningful participation by enterprises identified in the NYS Directory of Certified Businesses provided by:

Empire State Development Corp.
Div. Minority & Women's Business Development
30 South Pearl Street
Albany, New York 12245

Phone: (518) 292-5250
Fax: (518) 292-5803

and

Empire State Development Corp.
633 Third Avenue
New York, NY 10017
Phone: (212) 803-2414
Fax: (212) 803-3223

internet: www.empire.state.ny.us/esd.htm

(d) The Contractor agrees to include the provisions set forth in paragraphs (a), (b) and (c) above and paragraphs (a), (b), and (c) of clause 12 of Appendix A in every subcontract in such a manner that the provisions will be binding upon each Subcontractor as to work under such subcontract. For the purpose of this paragraph, a "subcontract" shall mean an agreement providing for a total expenditure in excess of \$25,000 for the construction, demolition, replacement, major repair, renovation, planning or design of real property and improvements thereon in which a portion of the Contractor's obligation under a State contract is undertaken or assumed.

(e) The Contractor is required to make good faith efforts to utilize the MBE/WBEs identified in the utilization plan to the extent indicated in such plan, and otherwise to implement it according to its terms. The Contractor is requested to report on such implementation periodically as provided by the contract, or annually, whichever is more frequent.

VIII. Compliance with applicable laws

(a) Prior to the commencement of any work under this contract, the Contractor is required to meet all legal requirements necessary in the performance of the contract. This includes but is not limited to compliance with all applicable federal, state and local laws and regulations promulgated thereunder. It is the Contractor's responsibility to obtain any necessary permits, or other authorizations. By signing this contract, the Contractor affirmatively represents that it has complied with said laws, unless it advises the Department otherwise, in writing. The Department signs this contract in reliance upon this representation.

(b) During the term of this contract, and any extensions thereof, the Contractor must remain in compliance with said laws. A failure to notify the Department of noncompliance of which the Contractor was or should have been aware, may be considered a material breach of this contract.

IX. Dispute Resolution The parties agree to the following steps, or as many as are necessary to resolve disputes between the Department and the Contractor.

(a) The Contractor specifically agrees to submit, in the first instance, any dispute relating to this contract to the designated individual, who shall render a written decision and furnish a copy thereof to the Contractor.

(1) The Contractor must request such decision in writing no more than fifteen days after it knew or should have known of the facts which are the basis of the dispute.

(2) The decision of the designated individual shall be the final agency determination, unless the Contractor files a written appeal of that decision with the designated appeal individual ("DAI") within twenty days of receipt of that decision.

(b) Upon receipt of the written appeal, the DAI, will review the record and decision. Following divisional procedures in effect at that time, the DAI will take one

of the following actions, with written notice to the Contractor.

(1) Remand the matter to the program staff for further negotiation or information if it is determined that the matter is not ripe for review; or

(2) Determine that there is no need for further action, and that the determination of the designated individual is confirmed; or

(3) Make a determination on the record as it exists.

(c) The decision of the DAI shall be the final agency decision unless the Contractor files a written appeal of that decision with the Chair of the Contract Review Committee ("CRC") within twenty days of receipt of that decision.

The designated individual to hear disputes is:

Edward Belmore
Director, Remedial Bureau D
625 Broadway
Albany, NY 12233-7013
(518) 402-9818

The designated appeal individual to review decisions is:

Sal Ervolina, Assistant Director
Division of Environmental Remediation
625 Broadway
Albany, NY 12233-7011
(518) 402-9707

The Chair of the Contract Review Committee is:

Nancy W. Lussier, Chair
Contract Review Committee
625 Broadway, 10th Floor
Albany, NY 12233-5010
Telephone: (518) 402-9228

(d) Upon receipt of the written appeal, the Chair of the CRC, in consultation with the members of the CRC and the Office of General Counsel, will take one of the following actions, or a combination thereof, with written notice to the Contractor.

(1) Remand the matter to program staff for additional fact finding, negotiation, or other appropriate action; or

(2) Adopt the decision of the DAI; or

(3) Consider the matter for review by the CRC in accordance with its procedures.

(e) Following a decision to proceed pursuant to (d) 3, above, the Chair of the CRC shall convene a proceeding in accordance with the CRC's established contract dispute resolution guidelines. The proceeding will provide the Contractor with an opportunity to be heard.

(f) Following a decision pursuant to (d) 2 or (d) 3, the CRC shall make a written recommendation to the Assistant Commissioner for Administration who shall render the final agency determination.

(g) At any time during the dispute resolution process, and upon mutual agreement of the parties, the Office of Hearings and Mediation Services (OHMS) may be requested to provide mediation services or other appropriate means to assist in resolving the dispute. Any findings or recommendations made by the OHMS will not be binding on either party.

(h) Final agency determinations shall be subject to review only pursuant to Article 78 of the Civil Practice Law and Rules.

(i) Pending final determination of a dispute hereunder, the Contractor shall proceed diligently with the performance of the Contract in accordance with the decision of the designated individual. Nothing in this Contract shall be construed as making final the decision of any administrative officer upon a question of law.

(j) (1) Notwithstanding the foregoing, at the option of the Contractor, the following shall be subject to review by the CRC: Disputes arising under Article 15-A of the Executive Law (Minority and Women Owned Business participation), the Department's determination with respect to the adequacy of the Contractor's Utilization Plan, or the Contractor's showing of good faith efforts to comply therewith. A request for a review before the CRC should be made, in writing, within twenty days of receipt of the Department's determination.

(2) The CRC will promptly convene a review in accordance with Article 15-A of the Executive Law and the regulations promulgated thereunder.

X. Labor Law Provisions

(a) When applicable, the Contractor shall post, in a location designated by the Department, a copy of the New York State Department of Labor schedules of prevailing wages and supplements for this project, a copy of all re-determinations of such schedules for the project, the Workers' Compensation Law Section 51 notice, all other notices required by law to be posted at

the site, the Department of Labor notice that this project is a public work project on which each worker is entitled to receive the prevailing wages and supplements for their occupation, and all other notices which the Department directs the Contractor to post. The Contractor shall provide a surface for such notices which is satisfactory to the Department. The Contractor shall maintain such notices in a legible manner and shall replace any notice or schedule which is damaged, defaced, illegible or removed for any reason. Contractor shall post such notices before commencing any work on the site and shall maintain such notices until all work on the site is complete.

(b) When appropriate, contractor shall distribute to each worker for this Contract a notice, in a form provided by the Department, that this project is a public work project on which each worker is entitled to receive the prevailing wage and supplements for the occupation at which he or she is working. Worker includes employees of Contractor and all Subcontractors and all employees of suppliers entering the site. Such notice shall be distributed to each worker before they start performing any work of this contract. At the time of distribution, Contractor shall have each worker sign a statement, in a form provided by the Department, certifying that the worker has received the notice required by this section, which signed statement shall be maintained with the payroll records required by the following paragraph (c).

(c) Contractor shall maintain on the site the original certified payrolls or certified transcripts thereof which Contractor and all of its Subcontractors are required to maintain pursuant to the New York Labor Law Section 220. Contractor shall maintain with the payrolls or transcripts thereof, the statements signed by each worker pursuant to paragraph (b).

(d) Within thirty days of issuance of the first payroll, and every thirty days thereafter, the Contractor and every subcontractor must submit a transcript of the original payroll to the Department, which transcript must be subscribed and affirmed as true under penalty of perjury.

XI. Offset In accordance with State Law, the Department has the authority to administratively offset any monies due it from the Contractor, from payments due to the Contractor under this contract. The Department may also (a) assess interest or late payment charges, and collection fees, if applicable; (b) charge a fee for any dishonored check; (c) refuse to renew certain licenses and permits.

XII. Tax Exemption Pursuant to Tax Law Section 1116, the State is exempt from sales and use taxes. A standard state voucher is sufficient evidence thereof. For federal excise taxes, New York's registration Number 14740026K covers tax-free transactions under the Internal Revenue Code.

XIII. Litigation Support In the event that the Department becomes involved in litigation related to the subject matter of this contract, the Contractor agrees to provide background support and other litigation support, including but not limited to depositions, appearances, and testimony. Compensation will be negotiated and based on rates established in the contract, or as may otherwise be provided in the contract.

XIV. Equipment Any equipment purchased with funds provided under this contract, shall remain the property of the Department, unless otherwise provided in the contract. The Contractor shall be liable for all costs for maintaining the property in good, usable condition. It shall be returned to the Department upon completion of the contract, in such condition, unless the Department elects to sell the equipment to the Contractor, upon mutually agreeable terms.

XV. Inventions or Discoveries Any invention or discovery first made in performance of this Contract shall be the property of the Department, unless otherwise provided in the contract. The Contractor agrees to provide the Department with any and all materials related to this property. At the Department's option, the Contractor may be granted a non-exclusive license.

XVI. Patent and Copyright Protection If any patented or copyrighted material is involved in or results from the performance of this Contract, this Article shall apply.

(a) The Contractor shall, at its expense, defend any suit instituted against the Department and indemnify the Department against any award of damages and costs made against the Department by a final judgment of a court of last resort based on the claim that any of the products, services or consumable supplies furnished by the Contractor under this Contract infringes any patent, copyright or other proprietary right; provided the Department gives the Contractor:

(1) prompt written notice of any action, claim or threat of infringement suit, or other suit, and

(2) the opportunity to take over, settle or defend such action at the Contractor's sole expense, and

(3) all available information, assistance and authority necessary to the action, at the Contractor's sole expense.

The Contractor shall control the defense of any such suit, including appeals, and all negotiations to effect settlement, but shall keep the Department fully informed concerning the progress of the litigation.

(b) If the use of any item(s) or parts thereof is held to infringe a patent or copyright and its use is enjoined, or Contractor believes it will be enjoined, the Contractor shall have the right, at its election and expense to take action in the following order of precedence:

(1) procure for the Department the right to continue using the same item or parts thereof;

(2) modify the same so that it becomes non-infringing and of at least the same quality and performance;

(3) replace the item(s) or parts thereof with noninfringing items of at least the same quality and performance;

(4) if none of the above remedies are available, discontinue its use and eliminate any future charges or royalties pertaining thereto. The Contractor will buy back the infringing product(s) at the State's book value, or in the event of a lease, the parties shall terminate the lease. If discontinuation or elimination results in the Contractor not being able to perform the Contract, the Contract shall be terminated.

(c) In the event that an action at law or in equity is commenced against the Department arising out of a claim that the Department's use of any item or material pursuant to or resulting from this Contract infringes any patent, copyright or proprietary right, and such action is forwarded by the Department to the Contractor for defense and indemnification pursuant to this Article, the Department shall copy all pleadings and documents forwarded to the Contractor together with the forwarding correspondence and a copy of this Contract to the Office of the Attorney General of the State of New York. If upon receipt of such request for defense, or at any time thereafter, the Contractor is of the opinion that the allegations in such action, in whole or in part, are not covered by the indemnification set forth in this Article, the Contractor shall immediately notify the Department and the Office of the Attorney General of the State of New York in writing and shall specify to what extent the Contractor believes it is and is not obligated to defend and indemnify under the terms and conditions of this Contract. The Contractor shall in

such event protect the interests of the Department and State of New York and secure a continuance to permit the State of New York to appear and defend its interests in cooperation with Contractor as is appropriate, including any jurisdictional defenses which the Department and State shall have.

(d) The Contractor shall, however, have no liability to the Department under this Article if any infringement is based upon or arises out of: (1) compliance with designs, plans, or specifications furnished by or on behalf of the Department as to the items; (2) alterations of the items by the Department; (3) failure of the Department to use updated items provided by the Contractor for avoiding infringement; (4) use of items in combination with apparatus or devices not delivered by the Contractor; (5) use of items in a manner for which the same were neither designed nor contemplated; or (6) a patent or copyright in which the Department or any affiliate or subsidiary of the Department has any direct or indirect interest by license or otherwise.

(e) The foregoing states the Contractor's entire liability for, or resulting from, patent or copyright infringement or claim thereof.

XVII. Force Majeure The term Force Majeure shall include acts of God, work stoppages due to labor disputes or strikes, fires, explosions, epidemics, riots, war rebellion, sabotage or the like. If a failure of or delay in performance by either party results from the occurrence of a Force Majeure event, the delay shall be excused and the time for performance extended by a period equivalent to the time lost because of the Force majeure event, if and to the extent that:

(a) The delay or failure was beyond the control of the party affected and not due to its fault or negligence; and

(b) The delay or failure was not extended because of the affected party's failure to use all reasonable diligence to overcome the obstacle or to resume performance immediately after such obstacle was overcome; and

(c) The affected party provides notice within (5) days of the onset of the event, that it is invoking the protection of this provision.

XVIII. Freedom of Information Requests

The Contractor agrees to provide the Department with any records which must be released in order to comply with a request pursuant to the Freedom of Information Law. The Department will provide the contractor with

an opportunity to identify material which may be protected from release and to support its position.

XIX. Precedence In the event of a conflict between the terms of this Appendix B and the terms of the Contract (including any and all attachments thereto and amendments thereof, but not including Appendix A), the terms of this Appendix B shall control. In the event of a conflict between the terms of this Appendix B, and the terms of Appendix A, the terms of Appendix A shall control.

Rider to
Appendix B
Standard Clauses for All
New York State Department of
Environmental Conservation
Contracts

FOR ENVIRONMENTAL RESTORATION PROJECTS

The parties to this contract hereby agree that clause II of this appendix B is hereby revised to read as follows:

- II. The Contractor agrees that it will indemnify and save harmless the Department and the State of New York from and against all losses from claims, demands, payments, suits, actions, recoveries and judgments, of every nature and description brought or recovered against it by reason of any acts or omissions of the Contractor, its agents, employees, or subcontractors in the performance of this contract which are shown to have been the result of negligence, gross negligence or reckless, wanton or intentional misconduct; except that the Contractor shall not be obligated to so indemnify and save harmless with respect to those matters described in ECL 56-0509.1 during those periods in which the protection afforded under ECL 56-0509.1 is in effect.

Department of Environmental Conservation

Dated:

By: _____
Director of Fiscal Management

(Municipality's Name)

Dated:

By: _____
Municipal Representative

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

**Summary of Insurance Requirements
Construction Contracts**

<u>Contract Requirements</u>	<u>Documentation Required</u>
1. <u>Worker's Compensation</u> in accordance with the Law.	1. Certificate of Insurance
2. <u>Comprehensive General Liability</u> (Contractor, Subcontractor) Bodily Injury Property Damage Amount** 1. Contractor's Protective Liability Insurance 2. Completed Operation Insurance 3. Products Liability Insurance 4. Contractual Liability Insurance	2. Certificate of Insurance
3. <u>Owner's Protective Liability</u> NYS Bodily Injury Property Damage (On/Off Site) Amount**	3. Certificate of Insurance
4. <u>Contractual Liability</u> for owner, covers work on private land. (NYS)	4. Certificate of Insurance
5. <u>Comprehensive Automobile Liability</u> (Contractor, Subcontractor) Bodily Injury Property Damage Amount**	5. Certificate of Insurance
6. <u>Property Insurance</u> Fire/Vandalism/etc. Amount - Value of Property	6. Certificate of Insurance
7. Department* must be named as additional insured on all policies (except Worker's Compensation).	7. Certificate of Insurance
8. Contractor must provide to the Department* 30 days written notice of change or cancellation of policies.	8. Certificate of Insurance
9. Contractor must give prompt written notice of an accident or claim to the Department* as well as to its insurer. Such notice must be given within the period established by the policy for giving notice.	9. None

**Summary of Insurance Requirements
Construction Contracts**

<u>Contract Requirements</u>	<u>Documentation Required</u>
10. Insurance companies must be acceptable to the Department* and authorized to do business in NYS.	10. None
11. Contractor must furnish insurance policies upon request.	11. Policy upon request
12. Contractor must maintain required insurance until final acceptance by the Department* of the services covered by the Contract.	12. None

Since contractors have found it difficult to obtain the required insurance coverage, the DHWR, the Division of Legal Affairs (DLA) and the Office of the State Comptroller (OSC) require the following additional documentation:

Contractor obtained insurance without pollution exclusion clause - requires copy of policy

Contractor cannot obtain insurance - or obtained a lesser coverage than required

requires written confirmation by contractor of at least three attempts to obtain insurance and a copy of the rejection letters from at least three insurance carriers. DLA prepares letter to accompany contract to DOL and OSC explaining problem and recommending acceptance.

* For Title 3 projects, replace "Department" with "Municipality".

** The amount of liability insurance currently used is \$1,000,000 each occurrence and \$1,000,000 aggregate. The amounts for the proposed boilerplate construction contract are \$2,000,000 each occurrence and \$2,000,000 aggregate. The dollar amounts required are minima. Larger coverages are desirable, and will be required as liability insurance decreases in cost.

NEW YORK STATE DEPARTMENT OF LABOR WAGE DETERMINATION

To be included after it has been received from the NYSDOL.

VILLAGE OF MANCHESTER, NEW YORK

FREDERICK PROPERTY ENVIRONMENTAL RESTORATION PROJECT SITE REMEDIATION

SPECIFICATIONS

SECTION 1.1. GENERAL REQUIREMENTS

1.1.1. SCOPE OF WORK.

The work under this contract consists of site remediation of the Frederick Property located at 147 State Street. Site remediation shall include removal and disposal of concrete slab and foundation, hydraulic lift and lift pit removal, dry well closure, soil removal and disposal, soil sampling and testing, backfill, site restoration and all related work.

The work under this contract shall be performed in accordance with the requirements outlined in the NYSDEC approved "Remedial Design Report" dated January 2005, for Frederick Property Environmental Restoration Project; NYSDEC Site B00131-8; Manchester, New York and its associated Appendices.

1.1.2. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA).

The Contractor performing the work shall have on site during all work activities an employee who is currently registered by having completed OSHA's 40 hour training course and has maintained his registration by taking the required refresher courses. All Contractor personnel must follow the site Health and Safety Plan.

1.1.3. M/WBE CONTRACT GOALS.

The Village of Manchester is committed to carry out the intent of the New York State Executive Law, Article 15-A and has 6% goal for both MBE and WBE participation and EEO contract goal of 10% for both minority labor force and female labor force participation. Written documentation is required to be submitted to the minority business officer for each payment request.

More detailed information on M/WBE requirements is contained in Supplementary Conditions, Exhibit 2 - Standard Clauses for NYS Contracts, Appendix A - Item 12 and Appendix B - Section VII. Article 15-A Requirements.

1.1.4. FUNDING.

This project is partially funded with State money. However, the State is not a party to the awarded Contract.

SECTION 1.1. GENERAL REQUIREMENTS (continued)

1.1.5. WORK AREA.

The work area consists of the site located at 147 State Street, Manchester, New York, is approximately one half an acre in size and is the former site of an automobile service station. The work area shall be restricted to this site.

1.1.6. EXISTING UNDERGROUND FACILITIES.

Information on underground utilities and structures are shown according to available information. It is the Contractor's responsibility to locate and protect all existing utilities, underground structures, and piping not scheduled for removal before, during and after excavation. Notify all utilities and the Underground Facilities Protective Organization Inc. (Telephone 1-800-962-7962) a minimum of 48 hours prior to any excavation.

1.1.7. COORDINATION OF WORK.

The Contractor shall coordinate his work and cooperate with all agencies having an interest and jurisdiction over any part of work on this project.

1.1.8. PRECONSTRUCTION MEETING.

A preconstruction meeting shall be held prior to the start of any construction to review project requirements and to establish a progress schedule. The Contractor and any subcontractor shall attend this meeting to discuss the project with the Engineer and the Owner's representative.

1.1.9. INITIATING FIELD WORK.

NYSDEC has placed a time constraint on this project in that **field work must be initiated by December 22, 2005.**

1.1.10. UTILITIES FOR CONSTRUCTION.

The Contractor shall make arrangements and pay for temporary electric and telephone service, if required.

SECTION 1.1. GENERAL REQUIREMENTS (continued)

1.1.11. PROJECT AREA UTILITIES AND STRUCTURES.

The following utilities are known to exist in the project area:

Electric	New York State Electric & Gas Corporation
Gas	New York State Electric & Gas Corporation
Telephone	Frontier Communications
Water	Village of Manchester
Sewer	Village of Manchester

There may be other subsurface facilities that are not known. The Contractor shall contact the owners of these facilities and shall determine the location of such facilities before construction.

Notify all utilities and the Underground Facilities Protective Organization, Inc. (Telephone 1-800-962-7962) 48 hours prior to any excavation.

1.1.12. SANITARY FACILITIES.

The Contractor shall provide adequate toilet facilities for use by his workmen. The facilities shall be maintained in a sanitary condition until completion of the project after which they shall be removed.

1.1.13. NOISE CONTROL.

Construction equipment and vehicles shall be maintained in good working condition to control noise and exhaust emissions.

Construction activity shall be restricted to the hours of 7:00 a.m. to 7:00 p.m. This restriction applies also to starting up and moving of construction equipment.

1.1.14. OVERTIME REIMBURSEMENT.

If the Contractor works in excess of eight hours per day or five days per week, he shall reimburse the OWNER for all costs incurred by the OWNER, including overtime pay for inspection. This reimbursement shall be made monthly by deducting the costs from the Contractor's progress payments.

1.1.15. WEATHER CONDITIONS.

Work shall be suspended during unsuitable weather conditions. Take necessary precautions to protect all work, materials and equipment from damage or deterioration due to floods, rain, wind and snow storms. The OWNER reserves the right to order additional protective measures over and beyond those proposed by the Contractor to safeguard components of the project. No payment shall be made for such precautionary measures, nor for damage to the work due to weather elements.

SECTION 2.1. SITE PREPARATION

2.1.1. GENERAL.

The work in this Section consists of clearing the work area, protection of existing facilities, layout of work, siltation control, and related work.

2.1.2. LAYOUT OF WORK.

The Contractor shall verify the location of the dry well and related piping by using metal detectors.

2.1.3. CLEARING WORK AREA.

The Contractor shall establish an area to be dedicated to the storage of excavated materials. The area shall be adjacent to the location of the building, dry well and former buried tanks and related piping, and located such that the excavated material is at least 15 feet away from any property line.

Off-site disposal of any material shall be in accordance with the regulations of the New York State Department of Environmental Conservation and the Owner.

2.1.4. PROTECTION OF EXISTING FACILITIES.

The Contractor is responsible for the support and protection of existing surface and subsurface structures and utilities whether shown on the drawing or not. The Contractor is responsible for repair of such services and structures when damaged by his operations.

2.1.5. SILTATION CONTROL.

Construct and maintain temporary erosion and siltation control facilities as shown on the Drawings to prevent direct, uncontrolled surface runoff from the work area to storm sewers. Temporary facilities shall remain in place until final grading and landscaping has been completed.

SECTION 2.2. EXCAVATION AND FILLING

2.2.1. GENERAL.

The work in this Section consists of removal of all materials encountered for removal of the hydraulic lifts, dry well closure and soil excavation. The work shall be generally in accordance with applicable requirements of NYSDOT Section 203.

2.2.2. MATERIALS.

Materials used for filling excavations shall be in accordance with the applicable requirements of NYSDOT Section 203 - Excavation and Embankment; 203-2.02 Select Materials.

Select Granular Fill

<u>Sieve size</u>	<u>Percent Passing by Weight</u>
4 inch	100 %
No. 40	0 - 70%
No. 200	0 - 10%

2.2.3. FILLING.

Fill excavations with material previously excavated unless the soil samples test positive for petroleum materials. Make up remainder of excavation with fill using Select Granular Fill with the grain size distribution designated.

If the soil samples test positive, leave excavated material on plastic sheeting and cover with tarpaulin to prevent migration of the material. Use Select Granular Fill of the grain size distribution designated to fill entire excavation.

Compact fill material in accordance with NYSDOT Standards, maximum lifts between compaction efforts is 12 inches.

2.2.4. SITE MAINTENANCE AND CLEANUP.

The Contractor shall maintain the site in a neat and safe condition. Excavations shall be fenced and lighted to prevent accidental entry. Excavated materials that are stored on plastic sheeting shall be fenced and lighted when site work is not in progress.

The release of fugitive dust and the tracking of deposits of soils from the site shall be prevented. The Contractor is responsible for removing tracked material as often as required to keep streets and paved areas clean.

SECTION 2.2. EXCAVATION AND FILLING (continued)

2.2.5. SITE RESTORATION.

Site restoration shall include grading the area so that natural runoff of precipitation takes place and water does not collect in low areas. Lawn areas disturbed shall be topsoiled and seeded for a stand of grass.

SECTION 2.3. DEMOLITION

2.3.1. GENERAL.

The work in this Section consists of demolition of the existing concrete slab, removal of the foundation wall to a depth of 2 feet below grade, and removal of the hydraulic lift and lift pit.

Soil testing shall be performed as required to determine if any contamination exists. Soil removal and disposal if required shall be in accordance with Section 2.5. Soil Removal and Disposal.

The Village of Manchester shall demolish and dispose of the existing building to the concrete slab.

2.3.2. BUILDING DEMOLITION

The existing concrete block building shall be demolished by the Village of Manchester and debris removed to an approved landfill.

2.3.3. SLAB AND FOUNDATION DEMOLITION AND REMOVAL.

The existing concrete block building, concrete floor slab and foundation walls to a depth of 24 inches below grade shall be demolished and debris removed to an approved landfill. Remove any piping encountered. Soil testing shall be performed in accordance with Section 2.5. Soil Removal and Disposal.

2.3.4. HYDRAULIC LIFT AND LIFT PIT REMOVAL.

The existing hydraulic lift and existing concrete lift pit shall be demolished and removed to an approved landfill. Remove any piping encountered. Soil shall be removed to five (5) feet from the hydraulic pit. Soil testing shall be performed in accordance with Section 2.5. Soil Removal and Disposal. Testing may result in a change in the amount of removal.

2.3.4. BACKFILL.

Backfill excavation in accordance with Section 2.2. Excavation and Filling.

SECTION 2.4. DRY WELL CLOSURE

2.4.1. GENERAL.

The work in this Section consists of excavation of the dry well area, removal of large stone fill and associated piping used to construct the system and soil testing as required to determine if any contamination exists.

Soil removal and disposal if required shall be in accordance with Section 2.5. Soil Testing, Removal and Disposal.

2.4.2. DRY WELL CLOSURE.

Excavate and remove stone associated with the dry well. Excavate and remove piping from the building to the dry well area.

Soil shall be removed to five (5) feet from the dry well. Soil testing shall be performed in accordance with Section 2.5. Soil Testing, Removal and Disposal. Testing may result in a change in the amount of material required to be removed.

2.4.3. BACKFILL.

Backfill excavation in accordance with Section 2.2. Excavation and Filling.

SECTION 2.5. SOIL TESTING, REMOVAL AND DISPOSAL

2.5.1. GENERAL.

The work under this Section consists of testing the soil during excavation, removal and storage of contaminated soils and disposal of contaminated soils.

2.5.2. SOIL TESTING.

All excavations shall be screened for volatile organic compounds (VOC's) using an instrument with a photoionization detector (PID). If based on field observation and/or VOC screening results it appears that the soil from any excavation is contaminated, then the removed soil shall be staged on plastic sheeting and not placed back in the excavation. Soil shall be deemed contaminated if odors or visual staining is observed, or if PID screening results in a reading of 5 parts-per million (ppm) or greater.

2.5.3. SOIL CHARACTERIZATION TESTING.

To assess residual petroleum contamination of excavations for the hydraulic lift pits, dry well and former tank and island areas, soil characterization testing shall be performed. Tests shall also be performed on excavated soil piles to determine the required treatment of soil for disposal.

Grab samples shall be collected from each side wall (approximately one third up from the bottom) and from the bottom of the excavation at intervals of approximately one sample every 20 feet (minimum one sample per side wall and one for the bottom).

In addition, soil samples may be collected from the area where piping is removed, depending on the subsurface conditions encountered. Samples shall also be collected from spoil piles from excavations.

Samples shall be analyzed for VOCs (volatile organic compounds) using USEPA Method 8260 (including STARS Memo #1 VOCs) semi-VOCs, TAL metals and PCBs).

Laboratory analysis for SVOCs and PCBs shall be completed using USEPA Method 8270 (Base/Neutrals) and 8082, respectively.

2.5.4. SOIL REMOVAL AND DISPOSAL.

Soils deemed contaminated based on PID results or odors or staining shall be staged on plastic sheeting and covered with tarpaulin covers. The contaminated soil shall be disposed of based on results of lab analysis. Based on the analysis, soil shall be treated as either hazardous waste or commercial/industrial waste and transported to an appropriate facility following all applicable regulations.

SECTION 2.6. RESTORATION

2.6.1. GENERAL.

The Work in this Section consists of restoration of disturbed areas including topsoiling and seeding, and related work.

2.6.2. MATERIALS.

2.6.2.1. Topsoil.

NYSDOT 713-01 except that topsoil shall be relatively free of stones, lumps or other objects larger than one inch in greatest diameter.

2.6.2.2. Fertilizer.

NYSDOT 713-03, Type 3, 10-6-4 analysis.

2.6.2.3. Seed.

NYSDOT 713-04 lawn seed. The mixture of seeds shall be as follows:

<u>% By Weight</u>	<u>Species or Variety</u>	<u>% Purity</u>	<u>% Germination</u>
20	Kentucky Bluegrass	85	75
35	Creeping Red Fescue	95	85
30	Chewings Fescue	95	90
15	Domestic Perennial Ryegrass	95	85

2.6.2.4. Mulch.

NYSDOT 713-18 Hay or NYSDOT 713-19 Straw.

SECTION 2.6. RESTORATION (continued)

2.6.3. SEEDING.

Seed all areas within the work area limits as shown on the Drawings, including previously disturbed areas. Seeding shall be done after all work has been completed on the project.

Seeding shall consist of replacement of topsoil to a minimum depth of three (3) inches, fine grading, raking apply fertilizer, seed and mulch. All work shall be in accordance with NYSDOT 610, Turf Establishment.

Topsoil removed from the site and supplemented with additional topsoil shall be used to restore disturbed areas. Stones larger than 1 inch diameter, wood and other debris shall be excluded from topsoil. The surface shall be fine graded and raked to remove loose surface stones, lumps and sod clusters.

Apply mulch in accordance with NYSDOT 610-3.03.

Seeded areas shall be maintained, repaired and reseeded as required until a stand of grass two (2) inches in height is established free from weeds that is satisfactory to the OWNER.

2.6.4. MAINTENANCE AFTER COMPLETION OF RESTORATION.

After all areas have been restored, maintenance shall continue for the guarantee period and shall include repair of any defects including settlements and washouts. Repairs shall be made in accordance with the requirements of these Specifications. Mowing of seeded areas will not be required. Upon completion of the Contract and after authorization by the Engineer, remove mulch from seeded areas.

SECTION 18.1. MEASUREMENT AND PAYMENT

18.1.1. GENERAL.

Each of the payment items shall include all labor, materials, equipment, transportation and work related to the item even if not specifically mentioned. The word "including" is not intended to limit the work necessary to complete the item. The cost of insurance, bonds, permits and other general requirements of these Contract Documents shall be included under these payment items.

18.1.2. PAYMENT ITEMS.

Under items where a percentage of the unit price for partial completion is not shown, payment shall be made only when all work under the item is fully completed.

Item No. A - Site Preparation

Unit: Lump Sum

1. Work Included: General Requirements (Section 1.1.)
Site Preparation (Section 2.1.)
Excavation and Filling (Section 2.2.)
2. Method of Measurement: Site preparation is a lump sum payment made at completion of the work.

Item No. B - Demolition

Unit: Lump Sum

1. Work Included: General Requirements (Section 1.1.)
Excavation and Filling (Section 2.2.)
Demolition (Section 2.3.)
2. Method of Measurement: Demolition is a lump sum payment made at completion of the work.

Item No. C - Dry Well Closure

Unit: Lump Sum

1. Work Included: General Requirements (Section 1.1.)
Excavation and Filling (Section 2.2.)
Dry Well Closure (Section 2.4.)
2. Method of Measurement: Dry well closure is a lump sum payment made at completion of the work.

SECTION 18.1. MEASUREMENT AND PAYMENT (continued)

18.1.2. PAYMENT ITEMS. (continued)

Item No. D - Select Granular Fill

Unit: Cubic Yard

1. Work Included: General Requirements (Section 1.1.)
Site Preparation (Section 2.1.)
Excavation and Filling (Section 2.2.)
2. Method of Measurement: Field measurement of the excavated areas where select granular fill is placed to either fill the entire excavation within the payment limits or supplement the placement of previously excavated materials.
3. Payment Limits: The quantity for payment is based on the area occupied by the hydraulic lift, dry well, piping and contaminated areas adjacent to the former pump island, plus an area five (5) feet beyond these excavations.

Item No. E - Soil Sampling and Testing

Unit: Each

1. Work Included: General Requirements (Section 1.1.)
Excavation And Filling (Section 2.2.)
Soil Testing, Removal and Disposal (Section 2.5.)

Work under this item includes all labor, materials and equipment necessary to obtain, deliver, test and report the test results on an expeditious basis in accordance with the Quality Assurance/Quality Control standards adopted for this project. Soil samples shall be analyzed for VOCs using USEPA Method 8260 (with STARS VOCs included), TAL metals, SVOCs and PCBs shall be completed via EPA Method 8270 (Base/Neutrals) and 8082, respectively.

2. Method of Measurement: According to the actual number of soil samples taken, tested, and test results are reported for by a testing laboratory certified to perform the required tests.

SECTION 18.1. MEASUREMENT AND PAYMENT (continued)

18.1.2. PAYMENT ITEMS. (continued)

Item No. F - Onsite Soil Storage

Unit: Lump Sum

1. Work Included: General Requirements (Section 1.1.)
Excavation And Filling (Section 2.2.)
Soil Testing, Removal and Disposal (Section 2.5.)

Work under this item includes providing for the extended storage of soil that has been tested and found to be contaminated and not suitable for fill to be returned to the excavation. This work includes the additional work that is required when the soil is identified as not suitable and includes all protective measures such as additional siltation barriers, protective fencing and lighting, and tarpaulin covers. If the soils tests show that the material is suitable for fill material and is used in the excavation, no work under this item is considered to have been performed.

2. Method of Measurement: Onsite Soil Storage is a lump sum payment. This item includes all labor, materials and equipment necessary to secure on site soil storage.

Item No. G - Soil Removal

Unit: Cubic Yard

1. Work Included: General Requirements (Section 1.1.)
Soil Testing, Removal and Disposal (Section 2.5.)
2. Method of Measurement: Soil removal is a unit price payment made on the number of cubic yards of soil removed from the site and disposed of at an approved landfill.

Item No. H - Site Restoration

Unit: Lump Sum

1. Work Included: General Requirements (Section 1.1.)
Site Preparation (Section 2.1.)
Excavation And Filling (Section 2.2.)

The work under this item includes site grading the work area so that natural runoff or precipitation takes place and water does not collect. Disturbed lawn areas shall be dressed with topsoil and seeded for a stand of grass. The site shall be returned to its original condition as soon as possible.

2. Method of Measurement: Site Restoration is a lump sum payment. This item includes all labor, materials and equipment necessary to complete site restoration.

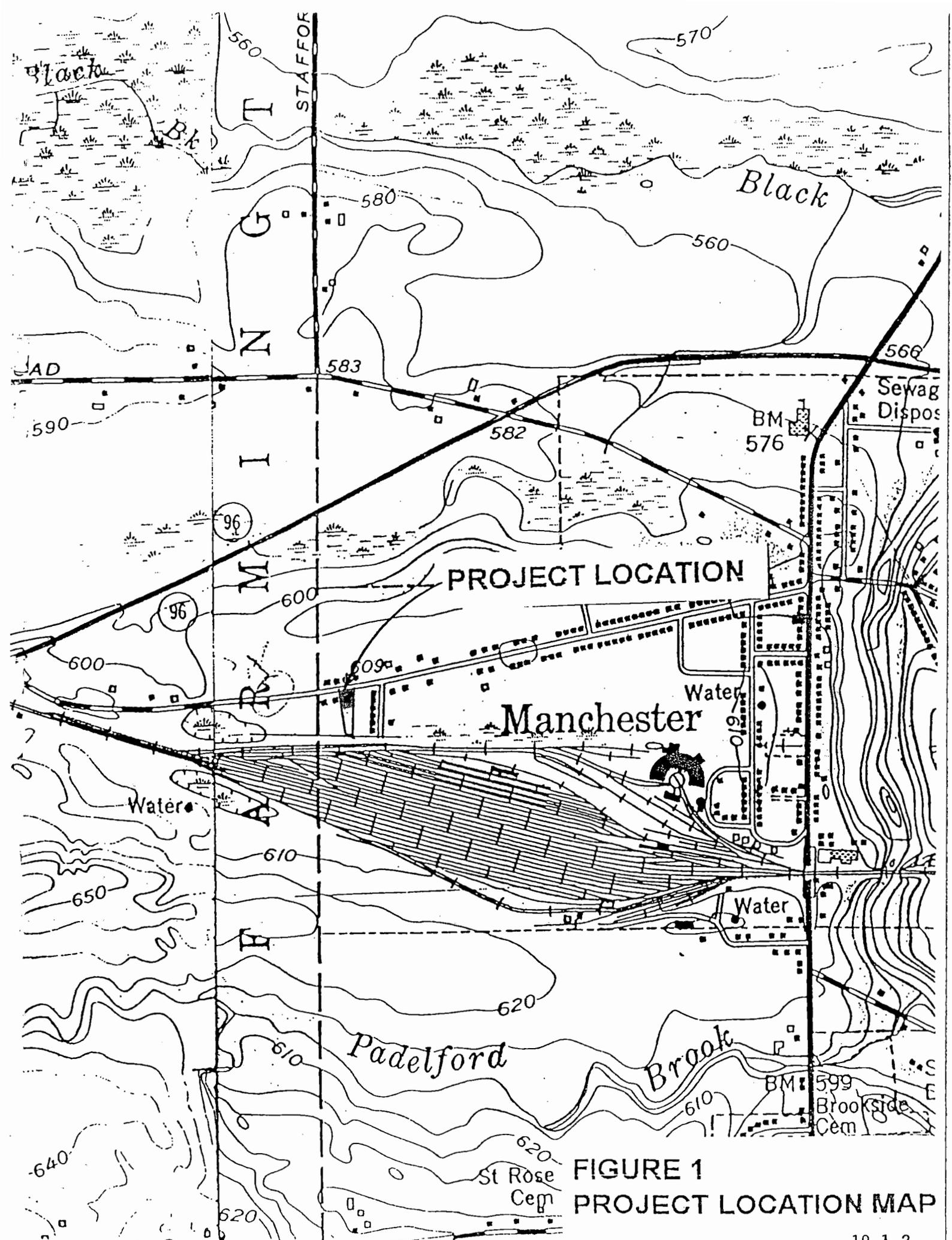


FIGURE 1
PROJECT LOCATION MAP