NYSEG

NEW YORK STATE ELECTRIC & GAS CORPORATION
James A. Carrigg Center, 18 Link Drive, P.O. Box 5224
Binghamton, New York 13902-5224

INTERIM REMEDIAL MEASURES

WORK PLAN

FOR REMOVAL OF COAL TAR
ASSOCIATED WITH

GENEVA/BORDER CITY
FORMER MANUFACTURED GAS PLANT SITE
Town of Waterloo, Seneca County, New York

March 2004

Prepared By:
NYSEG Site Investigation and Remediation

Reviewed and Approved By:
New York State Department of Environmental Conservation
and New York State Department of Health

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List of Acronyms Referred to in the Document

ACGIH	American Congress of Government Industrial Hygienists
ALJ	Administrative Law Judge
ANSI	American National Standards Institute
AQMP	Air-Quality Monitoring Program ASP - analytical service protocol
ASTM	American Society for Testing and Materials
AWQC	Ambient Water Quality Criteria
BTEX	benzene, toluene, ethylbenzene and xylenes
BTU	British thermal unit
cPAH	Carcinogenic Polycyclic Aromatic Hydrocarbons
C	Centigrade
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CLP	Contract Laboratory Protocol
COC	Chain-of-Custody
CPP	Citizen Participation Plan
CPR	cardiopulmonary resuscitation
CQAP	Construction Quality Assurance Plan
CRZ	Contamination Reduction Zone
CTS	coal tar soils
DEC	Department of Environmental Conservation
DI	deionized
ECL	Environmental Conservation Law
ECRP	Equipment Contamination Reduction Pad
EEI	Edison Electric Institute
ELAP	Environmental Laboratory Approval Program
EMS	Emergency Medical Services
EPA	Environmental Protection Agency
EPRI	Electric Power Research Institute
EZ	Exclusion Zone
F	Fahrenheit
FS	feasibility study
GC	gas chromatograph
GCS-DN	gas chromatograph station downwind
GCS-UP	gas chromatograph station upwind
GPS	ground positioning satellite
HASP	Health and Safety Plan
HEPA	high efficiency particulate air
HSM	Health & Safety Manager
IARC	International Agency for Research on Cancer
ID	identification
IDLH	immediately dangerous to life
IRMs	Work Plan
Kg	kilogram
L	liter
LGAC	liquid-phase granular activated carbon
mg	milligram
MGP	manufactured gas plant

MMBTU	million British thermal units
MSDS	material safety data sheet
NAPL	non-aqueous phase liquid
NCP	National Contingency Plan
NIOSH	National Institute for Occupational Safety and Health
NYCRR	New York Codes, Rules and Regulations
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
NYSDOT	New York State Department of Transportation
NYSEG	New York State Electric & Gas Corporation
OSHA	Occupational Safety and Health Act or Administration
PAHs	polycyclic aromatic hydrocarbons
PC	personal computer
PCBs	polychlorinated biphenyls
PCRA	Personnel Contamination Reduction Area
PEC	Project Emergency Officer
PEL	permissible exposure limits
PHSC	Project Health and Safety Coordinator
PID	photo ionization detector
POTW	Public Owned Treatment Works
PM	Project Manager
ppb	part per billion
PPE	personal protective equipment
ppm	parts per million
PRPs	Potentially Responsible Parties
PSA	preliminary site assessment
QA	quality assurance
QAPP	Quality Assurance Project Plan
QA/QC	quality assurance/quality control
QC	quality control
O&M	operation and maintenance
RCRA	Resource Conservation and Recovery Act
RI	Remedial Investigation
RI/FS	remedial investigation/feasibility study
ROD	record of decision
ROW	right-of-way
SAP	Sampling and Analysis Plan
SCDOH	Seneca County Department of Health
SCGs	Standards, Criteria, and Guidance
SGC	short-term guideline concentrations
SHSO	Site Health & Safety Officer
SPL	sound pressure level
SSO	Site Safety Officer
STEL	short-term exposure limits
SVOCs	semivolatile organic compounds
SW	solid waste
SZ	Support Zone
T & A	time and activity
TAGM	technical and administrative guidance memorandum

TCLP	toxicity characteristic leachate procedure
TLVs	threshold limit values
TPAH	total polycyclic aromatic hydrocarbons
UFPO	Underground Facility Protection Organization
USEPA	United States Environmental Protection Agency
VOCs	volatile organic compounds
VOA	volatile organic analysis
WBGT	wet bulb globe temperature

1.0 INTRODUCTION

This *Work Plan* describes the excavation and off-site disposal of coal tar that has migrated from a tar pit to the surface at the western most portion of the Geneva/Border City former manufactured gas plant site located in the Town of Waterloo, Seneca County, New York, as shown on Figure 1. Subsurface structures encountered will also be removed. This project is being proposed in accordance with Section VII of the Order on Consent (Index No. D0-0002-9309, see Appendix J) between NYSEG (New York State Electric & Gas Corporation) and the New York State Department of Environmental Conservation (NYSDEC).

This *Work Plan* describes the techniques to be utilized for the sampling, community air monitoring, excavation, material handling, waste characterization, transportation and disposal of manufactured gas plant residues. This *Work Plan* will be performed by NYSEG under the approval and oversight of the NYSDEC and the New York State Department of Health (NYSDOH).

1.1 Site Location and Description

NYSEG owns the entire site and uses it as its Geneva Area Service Center. The Service Center facilities include a vehicle repair shop, equipment storage, and business offices. An electric substation is also present on the property. The site is located in the midst of both commercial and undeveloped land, with a major highway to the south, and agricultural/residential areas to the east, north and west. Seneca Lake State Park is situated about 500 feet south of the site.

The majority of the site is either paved, graveled or covered with buildings. Included among these structures are the original purifier house, the compressor room and the old office building. The site terrain is generally flat, with grass, scrubs and trees occupying undeveloped areas. Those portions of the site containing the tar well area are fenced, with public access restricted.

1.2 Site History

A review of the site history, the property ownership and plant operations can be found in the *Task 1 (Historical Research) Report*, prepared by TRC Environmental Consultants, Inc. A condensed summary is present here.

From approximately 1901 through 1934, NYSEG (or its predecessor companies) used the former manufactured gas plant site in Border City to produce coal gas by coal carbonization and water gas processes. NYSEG has owned the property since 1932. On August 29, 1934, the gas plant was officially closed. After the gas plant closed, some of the former structures were razed and the remaining ones were converted for the use as NYSEG's operations center for the Geneva area. Currently, the site is a NYSEG Service Center and a gas and utility substation.

1.3 Nature of Potential Industrial Residues Located at the Site

The nature to the waste encountered during this project will include two classifications. The first would include coal tar soils a mixture of soil contaminated by coal tar which contain various concentrations of polycyclic aromatic hydrocarbons (PAHs), volatile organic compounds (VOCs) and some heavy metals. These soils are typical a non-hazardous waste as defined by Resource Conservation Recovery Act (RCRA). The second would include Conditionally Exempt Manufactured Gas Plant Remediation Waste (per NYSDEC - Technical and Administrated Guidance Memorandum TAGM 4061, Management of Coal Tar Wastes and Coal Tar Contaminated Soils and Sediment from Former Manufactured Gas Plants). These materials contain 10% or more polycyclic aromatic hydrocarbons (PAHs) and volatile organic compounds (VOCs).

1.4 Previous Investigations, Interim Remedial Measures Work Plans and Interim Remedial Measures Final Engineering Reports

NYSEG's consultants and NYSEG completed the following Investigations, Interim Remedial Measures Work Plans and Interim Remedial Measures Final Engineering Reports for the Geneva/Border City Site Former Manufactured Gas Plant Site:

- May 1984 — Soil Exploration Report #1, prepared by Woodward Clyde Consultants
- August 1984 — Soil Exploration Report #2, prepared by Woodward Clyde Consultants
- November 1984 — Soil Exploration Report #3, prepared by Woodward Clyde Consultants
- August 1985 — Site Investigation Work Plan, prepared by TRC Environmental Consultants
- May 1986 — Task 1 Historical Research Report, prepared by TRC Environmental Consultants

- May 1986 — Soil Exploration Report #4, prepared by TRC Environmental Consultants
- December 1986 — Soil Exploration Report #5, prepared by TRC Environmental Consultants
- October 1987 — Task 2 Preliminary Site Investigation, prepared by TRC Environmental Consultants
- September 1987 — Task 3 Expanded Site Investigation Report, prepared by TRC Environmental Consultants
- April 1989 — Task 4 Risk Assessment Report, prepared by TRC Environmental Consultants
- May 1990 — Bench Scale Biodegradation Study, prepared by Treatek
- March 1991 — Results of Field Scale Biodegradation Study, prepared by Treatek
- April 1993 — Report Focused Environmental Investigation, prepared by Blasland and Bouck
- June 1997 — Crushing and Screening Demonstration Final Report, prepared by Fluor Daniel GTI

A Draft Remedial Investigation Report, prepared by URS Corporation was submitted to NYSDEC for review in January 2004 and is expected to be finalized by the start of this *IRM*.

Documents associated with the previous investigations and this *Work Plan* are available for public review at the following document repositories:

- Geneva Free Library
  244 Main Street
  Geneva, New York 14456
  Contact: Kim Iraci
  Phone: (315) 789-5303

- New York State Department of Environmental Conservation - Region 8
  6274 East Avon - Lima Road
  Avon, New York 14414
  Contact: Bart Putzig
  Phone: (716) 226-2466

- New York State Department of Environmental Conservation
  Division of Environmental Remediation
  625 Broadway
  Albany, New York 12233-7013
  Attn.: Mr. Douglas MacNeal
  Phone: (518) 402-9662
  Monday - Friday, 8 a.m. - 4:30 p.m.

2.0 PROJECT OBJECTIVES

The overall objective is the excavation and off-site disposal of coal tar that has migrated from a tar well to the surface at the western most portion of the former manufactured gas plant site and document the limit of excavation (sidewall and bottom) for coal tar related compounds. Any remaining contamination detected by these confirmation samples will be addressed in subsequent remedial actions.

This *Work Plan* is scheduled to be initiated during the second quarter of 2004 (see project schedule in Appendix H).

3.0 ORGANIZATIONAL STRUCTURE AND RESPONSIBILITY

NYSEG and New York State regulatory agencies will participate jointly in this remedial action associated with Geneva/Border City former manufactured gas plant site. NYSEG has the ultimate responsibility for implementing this *Work Plan* for the project, including the community air monitoring program during the project (see Organization Structure in Appendix G). Approval of this *Work Plan* by the NYSDEC and the NYSDOH will be secured prior to site excavation. NYSDEC and NYSDOH personnel are anticipated to be on-site periodically for purposes of general program oversight. NYSEG will be responsible for all on-site construction operations during the project, unless otherwise stated in Section 4.0, including: excavation safety; construction personnel health and safety; implementation of contingency plans for odor control; management of waste water and waste-handling operations; maintenance of Site controls (i.e., run-off, run-on); the construction, excavation, and material handling activities associated with the remedial action; soil sampling program associated with the remedial action; community air monitoring; and documentation of the extent of the removal action.

Communication with regulatory agencies and with members of the surrounding community will be managed by NYSEG. The plan for sharing project information with the community is described in the *Citizen Participation Plan For Geneva/Border City Former Manufactured Gas Plant Site* included in Appendix B.

Key personnel and their assigned responsibilities for implementation of the remedial action include:

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NYSDOH:

Maureen Schuck: Community Health & Safety Oversight
NYSDOH
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Troy, New York 12180-2216
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Seneca County Department of Health:

Charles Carroll
Seneca County Department of Health
Seneca County Health Building
Environmental Health
31 Thurber Drive
Waterloo, New York 13165
Phone: (315) 539-1945
E-mail: ccarroll@co.seneca.ny.us

4.0 Work Plan

This *Work Plan* includes a chronological description of anticipated project activities together with a schedule for performance of these activities. Documents include a health and safety plan, figures, citizen participation plan, construction quality assurance plan, quality assurance project plan, transportation of solid and/or liquid waste plan, project schedule, organization structure, site vapor emission response plan, contingency plan and NYSDEC *Work Plan* approval letter (pending approval).

Actual project data (i.e., community air monitoring, noise, dust control, etc.), obtained from NYSEG's previous remediation efforts at other manufactured gas plant sites, have been used as guidance to design the procedures for the Geneva/Border City site project and to minimize any potential impacts to the community.

All work will be conducted so that public impact (i.e., traffic, parking, noise, etc.) is minimized, to the extent practicable. Hours of construction operations will not begin prior to 7 a.m. or continue after 7 p.m., Monday through Friday. Work on the weekend will only be undertaken as necessary to meet the project completion schedule. The following sections describe the procedures to be used for remedial activities.

4.0.1 Definitions of Manufactured Gas Plant Site Materials

4.0.1.1 ***Manufactured Gas Plant Site Residue*** - All material which is contaminated with waste from the manufactured gas plant.

4.0.1.2 ***Coal Tar*** - Free phase tar.

4.0.1.3 ***Tarry Waste*** - Grossly contaminated soil, with visible free phase tar present. For purposes of this *Work Plan*, includes soil containing over 5,000 ppm total PAH's.

4.0.1.4 ***Coal Tar Soil*** - Soil that exhibits evidence of coal tar staining, but no free phase tar. For purposes of this *Work Plan*, includes soil containing 500 ppm - 5,000 ppm total PAHs. Any soil excavated which cannot be used as subsurface fill will also be disposed as coal tar soil.

4.0.2 Pre-remediation Sampling and Analysis

NYSEG will conduct an in situ sampling event at the Geneva/Border City manufactured gas plant site. This sampling event will be conducted in accordance with the *Pre-Remediation In Situ Sampling & Analysis Work Plan For Removal of Coal Tar Associated With Geneva/Border City Former Manufactured Gas Plant Site Contaminated soil*, approved by the NYSDEC, see Appendix A.

The results of the sampling and analysis will be used to designate sections of the soil into three categories.

- *Conditionally Exempt Manufactured Gas Plant Remediation Waste* - per NYSDEC - Technical and Administrated Guidance Memorandum TAGM 4061, Management of Coal Tar Wastes and Coal Tar Contaminated Soils and Sediment from Former Manufactured Gas Plants.
- *Nonhazardous Waste* - coal tar soil which is below the TCLP limits and reactivity limits. However, during excavation, tarry waste will be segregated out from nonhazardous waste, as described in Section 4.0.5.

- *Subsurface Fill* - Nonhazardous soil which either has no visible evidence of staining and stained soil which has been sampled ex situ and total PAHs shall not exceed 1000 ppm and benzene shall not exceed 0.1 ppm.

4.0.3 Cleanup Objectives

The overall objective is the excavation and off-site disposal of coal tar that has migrated from a tar pit to the surface at the western most portion of the former manufactured gas plant site. Numerical cleanup objectives will not be used during this project since the projects goal is to remove the source of surface contamination and document the limit of excavation (sidewall and bottom) for coal tar compounds. The Confirmation sampling analysis will be evaluated as part of the *Remedial Investigation at the Geneva/Border City Former Manufactured Gas Plant Site*.

4.0.4 Disposal Protocol

Pre-remediation in situ soil samples will be collected and analyzed in accordance with *Pre-Remediation In Situ Sampling & Analysis Work Plan For Removal of Coal Tar Associated With Geneva/Border City Former Manufactured Gas Plant Site* (Appendix A). During excavation ex situ soil samples may be collected and analyzed in accordance with Section

6.2.5 of this *Work Plan*. Based on the analytical results, soils will be handed according to the following criteria:

4.0.4.1 Subsurface Fill:

If the analytical results of the pre-remediation in situ soil samples or if during excavation ex situ soil samples indicate that the analytes listed in Table 4-1, Table 4-2, Table 4-3, Table 4-4 and Table 5 are within their specified limits and if during excavation this soil has no evidence of coal tar staining, then its respective soil will be used as subsurface fill within the excavation without the need for additional sampling and analysis. If, during excavation coal tar stained soil is encountered, then this soil will be stockpiled, sampled ex situ and analyzed in accordance with Section 6.2.5 of this *Work Plan*. If the analytical results of the ex situ samples are within the limits specified in table 4-5, NYSEG will provide information to the NYSDEC for acceptance prior to placing respective soil as subsurface fill within the excavation. If the analytical results of the ex situ samples are not favorable, then the respective soil will be sent to a permitted disposal facility.

4.0.4.2 RCRA Non-hazardous Waste:

If the analytical results of the pre-remediation in situ soil samples or if during excavation ex situ soil samples indicate that the analytes listed in Table 4-1, Table 4-2, Table 4-3 and Table 4-4 are within their specified limits if during excavation this soil has no evidence of coal tar staining, then its respective will be sent to a permitted disposal facility to accept it without the need for additional sampling and analysis. If, during excavation coal tar stained soil is encountered, then this soil will be sent to thermal treatment facility permitted to accept it.

4.0.4.3 Conditionally Exempt Manufactured Gas Plant Remediation Waste:

If the analytical results of the pre-remediation in situ soil samples or if during excavation ex situ soil samples indicate that the analytes listed in Table 4-2, Table 4-3, and Table 4-4 are within their specified limits but fail to meet the TCLP limit for benzene as specified in Table 4-1, then its respective soil may be managed as a conditionally exempt manufactured gas plant remediation waste (per NYSDEC - Technical and Administrated Guidance Memorandum TAGM 4061, Management of Coal Tar Wastes and Coal Tar Contaminated Soils and Sediment from Former Manufactured Gas Plants) and sent to a thermal treatment facility permitted to accept it.

4.0.4.4 RCRA Hazardous Waste:

If the analytical results of the pre-remediation in situ soil samples or if during excavation ex situ soil samples indicate that any analyte listed in Table 4-1, Table 4-2, Table 4-3, and Table 4-4 exceeds its specified limit, then its respective soil will be sent to RCRA permitted facility.

TABLE 4-1
SAMPLE TCLP BENZENE ANALYTE AND LIMIT

TCLP ANALYTE	REGULATORY LIMIT (mg/L) [6NYCRR Part 371]
Benzene	0.5

TABLE 4-2
SAMPLE ANALYTES AND ACTION LIMITS
REACTIVE CYANIDE AND REACTIVE SULFIDE (REACTIVITY)

ANALYTE	US EPA ACTION LIMIT (mg/Kg)
Reactive Cyanide	250
Reactive Sulfide	500

TABLE 4-3 SAMPLE ANALYTES AND ACTION LIMITS OTHER RCRA CHARACTERISTICS, LANDFILL REQUIREMENTS, and REQUIREMENTS FOR CONDITIONALLY EXEMPT MGP WASTE	
ANALYTE	**LIMIT**
PCBs (total)	50 mg/Kg
Corrosity (pH)	Non-Corrosive (pH must be >2 or <12.5)
Ignitability	Must be non-ignitable
Percent Sulfur	Must be <3.5%

TABLE 4-4 (Continued on next page) SAMPLE TCLP ANALYTES AND LIMITS	
TCLP ANALYTE	**REGULATORY LIMIT (mg/L) [6NYCRR Part 371]**
Arsenic	5.0
Barium	100.0
Cadmium	1.0
Carbon tetrachloride	0.5
Chlorobenzene	0.03
Chloroform	6.0
Chromium	5.0
Cresols (total of o,m,p)	200.0
2,4-D	10.0
1,4-Dichlorobenzene	7.5
1,2-Dichloroethane	0.5
1,1-Dichloroethylene	0.7
2,4-Dinitro toluene	0.13
Endrin	0.02
Heptachlor	0.008
Hexachlorobenzene	0.13
Hexachlorobutadiene	0.5
Lead	5.0

TABLE 4-4 (Continued from previous page) SAMPLE TCLP ANALYTES AND LIMITS	
TCLP ANALYTE	**REGULATORY LIMIT (mg/L) [6NYCRR Part 371]**
Lindane	0.4
Mercury	0.2
Methoxychlor	10.0
Methyl ethyl ketone	200.0
Nitrobenzene	2.0
Pentachlorophenol	100.0
Pyridine	5.0
Selenium	1.0
Silver	5.0
Silvex	1.0
Tetrachloroethylene	0.7
Toxaphene	0.5
Trichloroethylene	0.5
2,4,5-Trichlorophenol	400.0
2,4,6-Trichlorophenol	2.0
Vinyl chloride	0.2

TABLE 4-5 (Continued on next page) COMPOSITE SAMPLE ANALYTES FOR POLYCYCLIC AROMATIC HYDROCARBONS (PAHs) Total PAHs Shall Not Exceed 1,000 ppm
ANALYTE
Naphthalene
2-Methylnaphthalene
Acenaphthene
Acenaphthylene
Fluorene
Phenanthrene
Anthracene

TABLE 4-5 (Continued from previous page) COMPOSITE SAMPLE ANALYTES FOR POLYCYCLIC AROMATIC HYDROCARBONS (PAHs) Total PAHs Shall Not Exceed 1,000 ppm
ANALYTE
Florathrene
Dibenzofuran
Pyrene
Benzo (g,h,i) perylene
Benzo (a) anthracene
Chrysene
Benzo (b) fluoranthene
Benzo (k) Fluoranthene
Benzo (a) pyrene
Indeno (1,2,3 cd) pyrene
Dibenzo (a,h) anthracene

4.0.5 Confirmation Sampling Requirements

Confirmation sampling and analysis of soils will be collected at the limit of excavation. Procedures for confirmation soil sampling are presented in Section 6.2.1 of this Work Plan. Any coal tar soil that is not removed will be throughly documented for future investigation.

4.1 Site Set Up

4.1.1 Utility Notification

Prior to any construction activities, Dig Safely New York will be notified, and all on-site underground utilities will be marked in the field. Local police and fire departments will also be notified. The *Citizen Participation Plan For Geneva/Border City Former Manufactured Gas Plant Site* addresses notification of adjacent property owners and local officials.

4.1.2 Construction Office Trailer

Two trailer will be mobilized, blocked and leveled, and equipped with office supplies. One trailer will be utilized as offices by NYSEG and the NYSDEC. The NYSDEC onsite personnel will have an area with a desk, electrical outlet, private phone and a phone line for computer hookup The second, larger trailer, will serve as the project office and will be utilized by NYSEG's air monitoring contractor and the remediation contractor. Electric, telephone service, facsimile capabilities, potable water and portable toilets will be available for all project personnel.. Also available will be space for records storage, personal protective equipment, monitoring equipment, first aid location, and sample preparation and storage. In addition, operations personnel will utilize the space for safety meetings, project office tasks, and changing area.

4.1.3 Exclusion Zone

The work area Exclusion Zone, which is the active work area immediate to the excavation, will change daily as the excavation progresses. Yellow caution tape fastened to tee post will be used to delineate the perimeter of the Exclusion Zone (see Figure 4). The exclusion zone includes the area inside the transporter's trailer or roll off container.

4.1.4 Contamination Reduction Zone

The work area Contamination Reduction Zone, which is the area immediately outside the Exclusion Zone, will be used as a primary decontamination area for equipment and personnel. The Contamination Reduction Zone includes the truck loading area. Red caution tape fastened to tee post will be used to delineate the perimeter of the Contamination Reduction Zone. At a minimum the Contamination Reduction Zone will be an area three feet outside of the Exclusion Zone (see Figure 4).

4.1.4.1 Equipment Contamination Reduction Pad

An equipment contamination reduction pad, with a minimum size of 20 feet X 40 feet, will be constructed and maintained inside the Contamination Reduction Zone. The interior of the pad will be sloped to an internal sump so that the wash water and sediment can be collected and removed for disposal. A spay washer will be maintained to clean all vehicles and equipment of any contaminated soil that may be adhering to them. A submersible pump

will be placed in the sump to transfer the wastewater via hose to frac tank. At the completion of this IRM, the sand, stone and sediment will be sampled, analyzed and disposed of at a permitted facility.

The equipment contamination reduction pad may be constructed using one of the following practices:

- The pad will consist of a shallow (i.e., 12-18 inches) steel box filled with course stone. A sump will be constructed in the lowest area by using a slotted PVC pipe. A stone ramp will be constructed to allow equipment to drive onto the pad.

- The pad will consist of 10-inch X 10-inch timbers placed around the perimeter. Sand will be placed in the interior of the pad and bermed around the inside of the timbers in protect the liner. A 30-mil high density polyethylene liner will be placed over the sand and timbers. Two inches of medium sand will be placed above the liner. A sump will be constructed in the lowest area by using a slotted PVC pipe. Then the remaining area will be filled with course stone. Earthen or stone ramps will be constructed to allow equipment to drive onto the pad.

4.1.4.2 Personnel Contamination Reduction Area

A personnel contamination reduction area will be constructed and maintained inside the Contamination Reduction Zone. As a minimum, 6-mil polyethylene sheet will be placed on the ground. Stage 1 will contain a boot wash tub with solution of detergent, water and a long handle brush. Next will be an additional boot wash tub containing rinse water and a long handle brush. A 55-gallon barrel lined with a 6-mil polyethylene bag will also be available for disposing Tyvek® suits, gloves, paper hand towels, etc. Stage 2 may contain a hand wash tub with a solution of detergent and water. Next will be an additional hand wash tub containing rinse water. Waterless hand cleaners maybe used to replace the hand wash tubs. Paper hand towels will also be available in this area.

4.1.4.3 Preparation of Stockpile Management Area (If Required)

Stockpile management area will be prepared for stockpiling excavated soils (see Figure 4). The areas will be prepared as follows: The existing ground surface will be graded and compacted as required; a sump will be constructed in the lowest area; two inches of

medium sand will be placed over the proposed storage area; 8-inch X 8-inch timbers, held in place by #5 rebar, will be placed around the perimeter; sand will be bermed around the inside of the timbers to protect the sheeting; 10-mil reinforced polyethylene sheeting will be placed over sand and timbers; sheeting will be secured by nailing wooden battens on the outside of the timbers; and four inches of medium sand will be placed on the sheeting.

4.1.5 Support Zone

The Support Zone which is the area where project support can be rendered without contact with contamination. This area is located outside the Contaminated Reduction Zone (see Figure 4A).

4.1.6 Erosion and Sedimentation Control

Siltation fence and earth berm will be placed along the perimeter of the work area. NYSEG may direct contractor to install additional erosion and sedimentation controls (i.e., haybales) during construction.

4.2 Mobilization

As part of the mobilization activities, labor, construction equipment, materials, and sanitary facilities will initially be mobilized to the Site to prepare for remedial action activities. Several general site preparation activities will be performed before intrusive soil excavation activities are initiated. The various components associated with mobilization and site preparation activities are illustrated on Figure 4. Equipment and mode of operation will be described in further detail in the following sections.

4.3 Work Activities

All workers will comply with the Occupational Safety and Health Administration's (OSHA's), "Hazardous Waste Operations and Emergency Response" (29 CFR 1910.120) and Excavations (29 CFR 1926 Subpart P). Remedial activities undertaken during the IRM will be completed in accordance with the Construction Quality Assurance Plan for Activities at Geneva/Border City Former Manufactured Gas Plant Site (Appendix C).

The stability of the excavated sidewalls may be poor, which will require adequate slope protection (i.e., sloping or benching) while implementing the remedial action. In the event that a particular area becomes impractical or unsafe to continue to excavate, NYSEG will document the visible presence of NAPL and the concentrations of MGP residuals contained in the subsurface at that particular location by utilizing the documentation sampling criteria described in Section 6.2.1.

Dewatering activities will be primarily due to groundwater intrusion into the excavation, with a limited volume of water due to surface runoff. Groundwater removed during excavation will be transferred to wastewater storage tanks (per Section 4.4 Groundwater, Storm Water and wastewater Management).

Odors, dust or fugitive vapors which could potentially emanate from remedial activities will be actively controlled by misting the working area with BIO SOLVE® and or water. The BIO SOLVE®, see Appendix K for product information, will be applied using a pressure washer. If required, a worker will be available for dedicated operation of this equipment. In addition, inactive portions of the stockpile and areas being excavated will be covered with polyethylene sheeting to help minimize emissions.

Polyethylene sheeting will be placed on the ground in the truck loading area. The Polyethylene sheeting will be held in place by sandbags. Polyethylene sheeting will also be draped over the loading side of all dump trailers to protect against spillage during loading. Care will be exercised when loading trucks not to spill material on the outside of the dump trailers. Prior to leaving the loading area, each truck will be visually inspected (i.e., box sidewall, box tailgate, and tires, etc.) and cleaned with brushes as required. If required, dump trailers will be cleaned on the equipment Contamination Reduction Pad (see Section 4.5). NYSEG remedial workers will reposition the tarp bars over the loads. Then driver will cover trailer with a tarp inside the loading area. **Drivers will not be allowed to walk over loads.**

4.4 Groundwater, Storm water and Wastewater Management

The degree of groundwater infiltration (if any) into the excavation will depend on the elevation of groundwater at the time of remediation. As part of the Pre-Remediation In Situ Sampling activities, NYSEG will excavate a test pit to determine the elevation of groundwater. If groundwater is present within the top four feet of soil, then the project may be postponed until the groundwater recedes. Dewatering activities will primarily address the volume of water present within the excavation.

NYSEG will employ various techniques to reduce amount of surface water entering into open excavations. NYSEG will have sandbags, haybales and siltation fencing readily available to construct berms around the excavations when the need arises. NYSEG will make a good faith effort to control rain water entering the excavation in order to accomplish the goals of the Work Plan.

Water pumped from the excavations and wastewater generated during equipment decontamination will be transferred to the wastewater storage tanks (i.e., 1,500 gallon containers or frac tanks). NYSEG will not pre-treat this wastewater. The container's contents will be sampled and characterized in accordance with the acceptance requirements of the facility permitted to accept the wastewater. NYSEG may choose to treat the water in the frac tank with peroxide to avoid paying the recent imposed excessive surcharge on generation of hazardous waste. Once treated to remove any hazardous waste characteristic, the water will be sent off site to an approved disposal facility. When the sample results are received and the final disposal options are determined, NYSEG will provide the information to NYSDEC prior to start of off-site transport and disposal. The wastewater will be transferred into a tank truck and transported off-site for disposal at a properly permitted facility.

NYSEG will not allow groundwater to spill out of the excavation during backfilling activities. If necessary, this water will be transferred to the wastewater storage tanks.

4.5 Construction Equipment, Vehicles and Tools Decontamination

The tires, tracks, undercarriages, and excavation buckets of all construction equipment (excavator, wheel loaders, dozer, etc.) and tools which enter the Exclusion Zone will be decontaminated at the Equipment Contamination Reduction Pad prior to entering the Support Zone. Decontamination procedures include the physical/mechanical removal of soil, etc., including high-pressure washing. If tarry waste is encountered during excavation the equipment will be decontaminated before excavating non hazardous soil. At a minimum, this would include decontaminating the excavation bucket.

4.6 Waste Transportation and Disposal

The transportation of soil will be accomplished by a transportation contractor in accordance with the NYSEG specification for the Transportation of Solid/or Liquid Materials (see

Appendix E). All truck drivers leaving the site must have either a Hazardous Waste Manifest or a Nonhazardous Solid Waste Manifest signed by NYSEG and the driver.

Trucks transporting coal tar contaminated hazardous waste or conditionally exempt MGP remediation waste will have the entire box (to top of side boards) lined with polyethylene sheets per NYSEG's discretion. All trucks will have water tight tailgates which have a gasket between the box and tailgate.

NYSEG remedial workers will reposition the tarp bars over the waste material. Drivers will not be allowed to walk over waste material.

4.7 Contingency Plan

A Contingency Plan for Activities Associated with Geneva/Border City Former Manufactured Gas Plant Site (Appendix J) has been developed to address spills and temporary stop work.

4.8 Site Restoration

Upon completion of the remedial action, restoration of the site will be undertaken as follows:

- Excavated soils suitable for reuse and bank-run gravel from a NYSDOT source will be used to backfill the excavation. The backfill will be placed in lifts and compacted as necessary.
- Remove and dispose of materials used to prepare the equipment contamination reduction pad, personnel contamination reduction area, siltation fencing and earth berm.
- All waste material generated during site restoration will be characterized and disposed of in accordance with applicable regulations. All liners, polyethylene sheeting used to cover materials and personal protective equipment will also be characterized and disposed of appropriately.
- Site will be graded towards existing drainage catch basins to allow surface water to runoff.
- four inches of crusher-run material from a quarry will be place over the excavated areas and other areas disturbed during the IRM.

4.9 Documentation Of Site Activities

4.9.1 Daily Logbook

A designated logbook will be used to document daily on-site activities. The daily logbook will be kept in the field office until completion of the excavation portion of the project.

4.9.2 Master Sample Log

A laboratory notebook will remain in the field office to record every sample collected. The field technician will log in all samples collected and those sent to the off-site analytical laboratory. Waybill numbers will be logged at the end of each day.

4.9.3 Chain-of-Custody Record

A Chain-of-Custody form will document custody of all samples from the field to the laboratory.

4.9.4 Waybills

A waybill receipt will be obtained at the time of accepted sample shipment by Federal Express or courier and will be attached to the Master Sample Log.

4.9.5 NYSEG's Public Liability Accident Report, NYSEG's Report of Employee Injury, and NYSEG's Incident Report

The above-mentioned report forms will be used to document any accident occurring on-site during the remedial project. The sheets are attached to the Health and Safety Plan and will be located in the field office.

4.10 Demobilization

All equipment, materials, construction debris, and personnel will be demobilized from the site at the conclusion of the excavation portion of the project.

4.11 Project Schedule

A Project Schedule is provided in Appendix H.

4.12 Permits

NYSDEC Waste Transporter permits (6NYCRR Part 364) will be obtained by the Transportation Contractor for the vehicles used for transportation of waste as described in Section 4.6.

5.0 AIR-QUALITY MONITORING PLAN

5.1 Overview

The objective of this Air-Quality Monitoring Program is to provide direct measurement of volatile organic compounds and total suspended particulates (0.1 to 10 microns) which could potentially be released during excavation, handling, and transportation of manufactured gas plant site residues at the site. The air-quality monitoring program consists of (1) work zone air-monitoring for evaluating construction worker health and safety; and (2) community air-monitoring to determine the levels of volatile organic compounds and total suspended particulates at the perimeter of the Work Area.

This Air-Quality Monitoring Program meets or exceeds all criteria and guidance provided in the New York State Department Of Health Generic Community Air Monitoring Plan. The provisions include real-time air monitoring for volatile organic compounds (VOCs) and particulates (i.e., dust) at the downwind perimeter of work area. Real-time air monitoring and speciated real-time data will be used to guide appropriate action to reduce/minimize air emissions to acceptable levels. NYSEG has developed a Vapor Emission Response Plan for Geneva/Border City Former Manufactured Gas Plant Site (see Appendix I) to address any exceedances of acceptable levels.

5.2 Work Zone Air-Monitoring Program

The air quality within the work zone, including inside transporter's trailer or roll off container, will be monitored to ensure worker health and safety in accordance with requirements

specified in 29 CFR 1910.120 as described in the NYSEG *Health And Safety Plan For Geneva/Border City Former Manufactured Gas Plant Site.*

5.3 Community Air-Monitoring Program

5.3.1 Overview

NYSEG will undertake a community air monitoring program during the project to provide direct measurement of volatile organic compounds and total suspended particulate which may be released during excavation and handling of manufactured gas plant site residues.

This air monitoring program was established to address the following objectives:

- To insure concentrations of volatile organic compounds (VOCs) and total suspended particulate are minimized to protect human health and the environment.
- To provide an early warning system so engineering controls can be enacted to prevent unnecessary exposures of emissions resulting from project activities.
- To measure and document the concentrations of volatile organic compounds, speciated BTEX (benzene, toluene, ethylbenzene and xylene) and total suspended particulate for determining compliance with the established air monitoring limits.

The community air monitoring is intended to be a discrete program which will be operated in conjunction with the work zone air monitoring program. The work zone monitoring is established to protect worker health and safety during construction and materials handling. The community air monitoring will include real time air quality data which will be collected throughout the duration of all excavation activities and will include upwind, down wind and nearest receptor measurements. Wind direction will be determined using a weather vane or equivalent device.

5.3.2 Real-Time Air Monitoring - Volatile Organic Compounds

The total volatile organic compounds (VOCs) monitoring will be accomplished using a total volatile organic analyzer equipped with a photo ionization detector (PID) using a 10.2 eV

lamp. Each day the analyzer will be calibrated to benzene with a 10 ppm isobutylene air standard. The volatile organic analyzer will be capable of calculating a 15 minute running average of the measured volatile organic compounds (VOCs) concentrations. The 15 minute averages will be used to monitor air quality and will be recorded through out the day.

Real-Time volatile organic compounds (VOCs) monitoring will be initiated one day prior to any excavation or soil handling activities. In addition a daily up wind measurement will be taken at the start of each work day and immediately following any changes in wind direction. These measurements will be used for establishing base line emissions due to natural and anthropogenic sources. The baseline value will be added to the air monitoring limits to compensate for the existing ambient conditions (i.e. VOC limit of 5 ppm + 1.2 ppm upwind = 6.2 ppm limit).

The downwind total volatile organic compounds (VOCs) monitoring will operate continuously and include the downwind locations for the work area and site perimeter. The nearest receptor (irregardless of its relationship to wind) will be an additional monitoring location if it is closer than the down wind site perimeter location. Readings at each location will be accomplished by pointing the intake tube of the toward the likely emission source, generally at the height of 3 feet above grade. The instrument will measure concentrations continuously and calculate four 15 minute averages per hour through out the day. Each 15 minute average will be recorded on log sheets along with the date, time, sampling location, wind direction and weather conditions. A hard copy of the data will be maintained on site. The daily data will also be submitted at the end of each day in an electronic format to Maureen Schuck, NYSDOH at mer10@health.state.ny.us; Douglas MacNeal, NYSDEC at dkmacnea@gw.dec.state.ny.us; Charles Carroll, Seneca County Dept. of Health (SCDOH) at ccarroll@co.seneca.ny.us; and Walt Savichky, NYSEG at wjsavichky@nyseg.com.

Based on data published by OSHA (Occupational Safety and Health Administration), ACGIH (American Congress of Government Industrial Hygienists) and NIOSH (National Institute for Occupational Safety and Health)a short term air quality action level of 5 ppm for total volatile organic compounds (VOCs) has been established for air emissions action level at site perimeter. NYSEG will use an action level of 2.5 ppm above the existing ambient conditions (background) at the work area. Engineering control measures will be initiated for VOC levels greater than 2.5 ppm at the work zone. If actions to control total VOC emissions are not effective and concentrations continue to increase to 5 ppm (above background), then excavation and waste handling activities will be halted and actions will be initiated as specified under the Vapor Emission Response Plan (Section 5.3.7). Concurrently a portable gas chromatography (GC) will be used to determine speciated BTEX (benzene, toluene,

ethylbenzene and xylenes) levels at the location of the exceedance (to insure benzene levels do not exceed 0.5 ppm).

The 5 ppm action level (above background) at the site perimeter is based on an estimated concentration for benzene which is one of the volatile organic compounds (VOCs) compounds included in the volatile organic analyzer reading. Since the volatile organic analyzer detects volatile compounds other than benzene, the 5 ppm action level is considered to be conservative.

In addition an action level of 2.5 ppm above background will be used at the work area where workers have the potential for continuous exposure. The 2.5 ppm limit is OSHA's short term exposure limits (STEL) for benzene which was established to insure worker health and safety (29 CFR 1910.1028). If the total volatile organic compounds (VOCs) concentration exceeds 2.5 ppm, the worker personal protective equipment will be upgraded from modified Level D to Level C which requires the use of respirators as specified in the Health and Safety Plan.

5.3.3 Speciated Real-Time Air Monitoring - BTEX

To supplement the real-time volatile organic compounds (VOCs) air monitoring for the community air monitoring program, a portable gas chromatograph (GC) unit will be used to determine the concentration of the individual BTEX (benzene, toluene, ethylbenzene and xylenes) compounds. The gas chromatograph (GC) will be a Perkin-Elmer Photovac Voyager™. The Voyager™ equipped with a photo ionization detector can accurately determine the BTEX (benzene, toluene, ethylbenzene and xylenes) compounds with detection limits in the low ppb (parts per billion) range. The purpose in generating this data will be twofold: (1) to supplement the real time volatile organic compounds (VOCs) readings, aiding in critical path decisions to be made for the Vapor Emission Response Plan (Section 5.3.7) and the major vapor emission response plan (Section 5.3.8); and (2) to monitor emissions of BTEX (benzene, toluene, ethylbenzene and xylenes) to the surrounding community during construction activities.

The Voyager™ will be calibrated daily using gas standards containing BTEX (benzene, toluene, ethylbenzene and xylenes) compounds. Calibration checks will be conducted twice daily (a.m./p.m.) with a verification gas standard containing the BTEX (benzene, toluene, ethylbenzene and xylenes) target analytes. Calibration drift of greater than +/-15% will require recalibration of the instrument. Samples will be collected in a tedlar bag over a 30 minute period and analyzed by the gas chromatograph (GC).

Two site perimeter monitoring stations, one upwind and one downwind, will be established based on meteorological information and will be designated as GCS-UP (Gas Chromatograph Station Upwind) and GCS-DN (Gas Chromatograph Station Downwind) respectively. One sample will be collected and analyzed at each station according to the following schedule:

- once every two hours during excavation of manufactured gas plant site contaminated soil and debris, commencing at the start of the work day continuing until excavation activities have ceased
- as warranted by the Vapor Emission Response Plan (Section 5.3.7)

The results of this sampling and analysis will be data logged into the Voyager™ memory and downloaded on a daily basis into a laptop PC (personal computer). The raw data will be reviewed weekly by personnel knowledgeable in gas chromatography. The results will be provided to the NYSDOH and Seneca County Department Of Health as soon as possible during instances when the total volatile organic compounds (VOCs) action level is exceeded (See section 5.3.7) or an odor complaint is lodged by a community member. In absence of such instances, these data will be provided to NYSDOH, Seneca County Department Of Health and NYSDEC on a weekly basis or upon request. Sample results will be compared to the short term guidance (SGC) values as published in Air-Guide-1 (See Table 5-1).

TABLE 5-1

AIR GUIDE-1 SHORT TERM GUIDANCE (SGC) CONCENTRATIONS

Contaminant	SGC (ug/m3)	SGC (ppm)
Benzene	30	0.009
Toluene	89,000	24
Ethylbenzene	100,000	23
Xylenes	100,000	23

5.3.4 Odor Monitoring Plan

The nature of the manufactured gas plant site residues pose a concern regarding the generation of nuisance odors during excavation and material handling. As such, an odor control and monitoring plan has been developed for the project. For an odor complaint residents may speak with the NYSEG's on-site construction supervisor or the NYSDEC's on-site representative. To register an odor complaint to NYSEG residents may call 1-800-572-1111 during normal business hours and 1-800-572-1121 after normal business hours.

In either case, project team members will be contacted. Project team members will record the callers concern and contact the site construction supervisor or project manager, who will assess the reason for concern and apply the appropriate engineering controls.

A project fact sheet will be distributed to adjacent property owners explaining the remediation work to occur at the site, the potential for odors and how the phone system works. This will be distributed prior to beginning any excavation work. Additionally, door to door contacts of persons living and working immediately adjacent to the active site will be made regarding planned work activities.

If significant odor is detected by the site personnel or a complaint is received, engineering controls will be implemented as outlined in the Vapor Emission Response Plan (Section 5.3.7) to reduce odor causing emissions. Once odors become non-discernable, normal operations may resume. This determination will be subject to the approval of the on-site NYSDEC representative.

5.3.5 Real-Time Air Monitoring - Total Suspended Particulates

In conjunction with the real-time volatile emission monitoring, direct-reading monitoring equipment for particulate matter will be used to collect real-time airborne particulate data on a 15 minute basis. The instrument to be used for this sampling is a personal DataRam™(field modified for active sampling) or the Thermo Andersen ADR-1200S Ambient Particulate Monitoring System both of which operate on the principle of light scattering. Both units respond to particles in the size range of 0.1 to 10 micrometers and in the concentration range of 0.01 to 400 mg/m^3. Particulate measurements will be based on a 30-second, time-weighted average. The personal DataRam™ which is a passive sampling device was modified for active sampling by adding a battery operated pump and omni directional inlet. These modifications are in accordance with manufacturers specifications and will allow the unit to be used during windy conditions. In addition the ADR-1200S will be used which is factory designed and constructed for outdoor operation. Its weatherproof enclosure ensures safe and effective operation under a wide range of ambient environmental conditions. These units will be calibrated daily with a filtered air sample. Recorded measurements at the upwind and downwind monitoring locations will be logged by the technician every 15 minutes. Equivalent backup real-time air monitoring equipment will be available on-site in the event of an equipment malfunction.

The NYSDOH CAMP recommended action level of 0.15 mg/m^3 for particulate matter PM_{10} (above background) will be used to determine whether modifications to MGP related

activities are required. If the action level is exceeded, monitoring of the upwind background level will commence immediately using the same portable monitor. If the site particulate measurement PM_{10} is greater than 0.15 mg/m^3 above the upwind background level, or if dust is observed leaving the work site, dust suppression techniques (i.e., misting surfaces with water or covering open piles) will be implemented to reduce the generation of fugitive dust. If the action level of 0.15 mg/m^3 (above background) is exceeded, the NYSEG project manager and NYSDEC on-site representative will be notified. The NYSEG project manager will notify the Division of Air Resources in writing within five working days per NYSDEC TAGM: Fugitive Dust Suppression and Particulate Monitoring Program at Inactive Hazardous Waste Sites, October 1989.

5.3.6 Documentation for Air Quality Monitoring

An essential part of any sampling/analytical scheme is ensuring the integrity of the sample from collection to data reporting. Sample integrity includes the possession and handling of a sample, that is traceable from the time of collection, through analysis and final disposition.

Sample Labels: Unique sample identification codes will be assigned at the time of collection to prevent misidentification of samples. The identification codes will include the following information:

- project/name/number;
- sample location;
- date of collection;
- time of collection;
- initials of sampler;
- analytical method.

Field Log Book: All information pertinent to sampling will be recorded in a log book. It is imperative that sufficient information be recorded so that the sampling event can be reconstructed without reliance on the collector's memory. Information will be entered into a bound notebook and as a minimum entries will include the following:

- location of sampling point;
- sample identification code;
- sample collection date and time;
- sample methodology;

- sample analysis;
- collector's initials;
- field observations, if any; and
- field measurements, if any.

Dedicated field log books will be maintained on site to document the daily calibration of the real-time and speciated real-time air monitoring equipment.

5.3.7 Vapor Emission Response Plan

The *Geneva/Border City Former Manufactured Gas Plant Site Vapor Emission Response Plan* (see Appendix I) will be triggered by either an exceedance of the 15 minute average volatile organic compounds (VOCs) concentration of 5 ppm (above background) at the work area or site perimeter or a benzene concentration of 0.5 ppm as measured at the site perimeter with the portable gas chromatograph (GC). If the Vapor Emission Response Plan is triggered all excavation activities will be stopped and the following actions will be taken:

- Continue total volatile organic compounds (VOCs) monitoring at the work area and site perimeter. If the total volatile organic compounds (VOCs) level drops below 5 ppm (above background) then excavation activities can resume with the addition of engineering controls or modifications to the excavation process to minimize volatile organic compounds (VOCs) emissions. However if the volatile organic compounds (VOCs) levels persist above 5 ppm, based on continual observance of the meter, then the construction supervisor will immediately implement engineering controls such as misting area with a vapor suppression solution of BioSolve®, covering, back filling etc. required to reduce emissions and at the same time notify the site project manager and the Project Health & Safety Coordinator.
- If the total volatile organic compounds (VOCs) levels drop below 5 ppm (above background) after the implementation of additional engineering controls at the work area and site perimeter, then the excavation activity can resume provided process and work activities were adjusted to reduce emission levels. If work stoppage was due to a high benzene level (greater than 0.5 ppm) at the site perimeter, then work will not resume until the benzene level is documented to be less than 0.5 ppm at the site perimeter.
- If the total volatile organic compounds (VOCs) levels continue to be greater than 5 ppm (above background) at the site perimeter than all site activities

must be discontinued. When the work is shut down, downwind air monitoring as directed by the Project Health & Safety Coordinator will be implemented to ensure that the emission does not impact the nearest residential or commercial structure at levels exceeding those specified in the Major Vapor Emission Response Plan (Section 5.3.8).

Primary engineering controls which may be implemented to reduce emission levels include:

- adding a vapor suppression solution of BioSolve® to impacted media (application in excavated areas will be a light mist as to avoid increasing solubility of wastes leading to increased groundwater contamination)
- limiting excavation size and the surface area of exposed contaminated soil
- cover contaminated soils with polyethylene sheeting.

5.3.8 Major Vapor Emission Response Plan

If after the cessation of the work activities and implementation of engineering controls, benzene levels exceed 0.5 ppm or total volatile organic compounds (VOCs) levels exceed 5 ppm (above background) at the nearest receptor or at the site perimeter, then the following action will be immediately taken:

- Cover the excavated area with polyethylene sheeting or clean soil
- Notify Charles Carroll with the Seneca County Health Department at (518) 539-1945, Leo T. Connolly with the Seneca County Sheriff Department at (315) 539-9241, Douglas MacNeal with the NYSDEC at (518) 402-9662 and Maureen Schuck of NYSDOH at (518) 402-7890.
- Total volatile organic compounds (VOCs) levels will be monitored at the nearest downwind residential or commercial structure.
- Continuously monitor air quality until volatile organic compounds (VOCs) levels drop below 5 ppm.
- If total volatile organic compounds (VOCs) levels persist above the 5 ppm (above background), the construction supervisor, Project Health & Safety Coordinator, NYSEG project manager will consult with each other and the Emergency Response agencies to determine the appropriate actions to be implemented. NYSEG project management personnel have ultimate authority during major vapor emission emergencies. The NYSDEC must approve any action to continue work following such a shut down.

6.0 SAMPLING AND ANALYSIS PLAN

This Sampling and Analysis Plan has been developed to describe the objectives and procedures for the sampling and analyses of manufactured gas plant site residues, soil, and waste water that will be produced during this project. In addition, the NYSEG Geneva/Border City Former Manufactured Gas Plant Site Quality Assurance Project Plan (QAPP, Appendix D) and NYSEG's Pre-Remediation Sampling and Analysis Work Plan, Geneva/Border City Former Manufactured Gas Plant Site (Appendix A) should be consulted where specific sampling and analysis procedures and methods are referenced.

The environmental media to be sampled during the project, and the purpose for collecting and analyzing environmental samples, includes the following:

TABLE 6-1
ENVIRONMENTAL SAMPLING MEDIA AND OBJECTIVES

SAMPLING MEDIA	SAMPLING OBJECTIVE
Soil:	
- Waste Characterization Samples	To characterize soil for proper waste disposal
- Confirmation Samples	To document residual soil quality after completion of remedial excavation
Waste water:	To characterize waste water to be transported and disposed of at a permitted facility

Because of the importance of air monitoring to worker and community health and safety, it has been described in detail as a separate section of this Work Plan (Air Quality Monitoring Plan, Section 5.0).

The following sections of this Sampling and Analysis Plan provide specific information regarding the rationale and methods for sampling and analyzing manufactured gas plant site residues, soil, and waste water.

6.1 Quality Assurance/Quality Control Requirements/Data Quality Objectives

Quality Assurance/Quality Control requirements are specified throughout the, (Appendix D) Data quality objectives are also delineated in the Quality Assurance Project Plan (Appendix D, Section 2).

6.2 Soil Sampling and Analyses Plan

6.2.1 Soil Sampling Field Protocols

6.2.1.1 Soil Sampling Field Procedures

Samples will be placed into the appropriate containers specified in the Quality Assurance Project Plan (Appendix D) using decontaminated stainless steel trowels or spoons. Organic debris (i.e., leaves, twigs, bark) along with large pieces of gravel will be avoided. Sampling containers will be filled completely to avoid creating a head space where volatiles may escape. After each jar is filled, the threads will be wiped clean so the cap can be threaded on without creating an air gap.

All filled jars will be labeled with the following information as a minimum:

- Project Number;
- Sampling Time and Date;
- Sample Number;
- Sample Location;
- Analysis; and
- Collector's Initials.

The location, depth of sample, sample type, time of sample, and other associated data (i.e., color of the soil, odors, texture, etc.) will be documented in the field notebook when the sample is taken. Once all the soil samples are collected, the samples will be maintained at 4°C until the samples are delivered off site for analyses.

All used sampling devices will be kept together, separate from clean tools, so that they can be cleaned according to appropriate decontamination and cleaning procedure as specified

in the Quality Assurance Project Plan. In no event will a sampling device be used without full cleaning between samples.

6.2.1.2 Soil Sampling Field Equipment List

The following items constitute a minimum listing of required field equipment for collecting soil samples.

- chemical resistant boots, latex gloves, chemical resistant gloves and the appropriate level of personal protection for working conditions as described in Section 4.2 of the Health and Safety Plan for Activities at the Geneva/Border City Former Manufactured Gas Plant Site;
- sample containers: glass jars with Teflon-lined caps;
- Teflon-coated or stainless steel sample spoons and bowls;
- wooden stakes and spray paint (highly visible);
- field notebook;
- sample bottle labels; water resistant tape; and
- ice cooler for sample storage.

6.2.2 Confirmation Soil Sampling and Analysis Plan

6.2.2.1 Sampling Plan Rationale

A confirmation soil sampling and analyses plan will be implemented to determine the concentration of compounds remaining on the site following excavation. These data will be used to determine if future remedial investigation or remedial action is necessary.

6.2.2.2 Laboratory Analytical Protocols.

Confirmation soil samples will be analyzed for total BTEX (benzene, toluene, ethylbenzene, and xylenes) and total polycyclic aromatic hydrocarbons (PAHs) using Environmental Protection Agency (EPA) Laboratory methods 8260 and 8270, respectively. Samples collected to verify conformance with the cleanup objectives will be subject to NYSDEC ASP (Analytical Services Protocol) Category B deliverables. Target compound list (TCL) volatile and semi-volatile compounds for post remediation confirmatory samples will be determined at a minimum rate of 1 per every group of 10 confirmatory samples or portion thereof.

The laboratory chosen for the project will be certified, and maintain certification, under the NYSDOH Environmental Laboratory Approval Program (ELAP) and NYSDOH Environmental Laboratory Approval Program (ELAP) Contract Laboratory Protocol (CLP) for analyses of solid and hazardous waste. Only analytical laboratories that have experience in manufactured gas plant site projects or similar projects will be used. NYSEG will provide a list of laboratories for NYSDEC review and acceptance.

6.2.2.3 Soil Sampling Protocol

In the excavated areas, confirmatory samples will be obtained at a maximum sidewall horizontal interval of 50 feet. Confirmation samples will also be collected at the bottom of the excavation at interval of 50 feet (one sample for every 250 square feet). In addition, samples will be obtained to characterize and delineate any coal tar soils which remain in the sidewalls and/or bottom of the excavation. All confirmation samples will be documented by ground positioning satellite (GPS) receiver.

A sample representing the first 3 to 6 inches of soil encountered will be taken from each sampling point. This means that in the case of a sidewall sample, the first 3 inches of a sample point in the sidewall will be discarded and the remaining soil at that point, to a lateral depth of approximately 6 inches, will be collected. In the case of a bottom sample, the first 3 inches of a sample point in the excavation floor will be discarded and the remaining soil at that point, to a vertical depth of approximately 6 inches, will be collected. The first 3 inches are discarded to avoid collecting soil sample at the surface of the excavation because volatile compounds at the excavation surface may have been released. Discarding the first 3 inches of soil will help to ensure that a sample representing the volatile compounds present in the excavation are more accurately profiled. The sample will be representative of the area soil based upon visual and olfactory observations and Volatile Organic Analyzer readings.

Confirmation samples obtained from excavations extending beyond 4 feet below grade may be collected via a stainless steel remote sampler or a hydraulically-activated sampling device. A drawing depicting confirmation sample locations along with information concerning sample identifications, depth below original ground surface, and dates of collection will maintained by the field sampling technician throughout the project.

6.2.3 Pre-remediation In Situ Sampling and Analysis for Waste Characterization/Site Characterization

6.2.3.1 ***Pre-remediation In Situ Sampling Rationale*** (See Pre-Remediation In Situ Sampling and Analysis Work Plan for the Geneva/Border City Former Manufactured Gas Plant Site, Contaminated soil , Appendix A, "Introduction".)

6.2.3.2 ***Laboratory Analytical Protocols*** (See Pre-Remediation In Situ Sampling and Analysis Work Plan for the Geneva/Border City Former Manufactured Gas Plant Site, Contaminated soil , Appendix A, "Analytical Protocol".)

6.2.3.3 ***Soil Sampling Protocol*** (See Pre-Remediation In Situ Sampling and Analysis Work Plan for the Geneva/Border City Former Manufactured Gas Plant Site, Contaminated soil , Appendix A, "Sampling Protocol".)

6.3 Wastewater Sampling and Analyses Plan

6.3.1 Sampling Plan Rationale

Wastewater resulting from dewatering of the excavation and decontamination of equipment will be generated during the project. A sampling and analysis plan will be implemented to properly characterize the wastewater for disposal at a facility permitted to accept it.

6.3.2 Laboratory Analytical Protocols

Analytical requirements will be determined by a facility permitted to accept wastewater.

6.3.3 Wastewater Sampling Protocol

As the tank nears its capacity, a sample will be collected and analyzed for parameters specified by a disposal facility permitted to accept the wastewater.

6.3.4 Wastewater Field Sampling Procedures

Wastewater will be sampled directly from each filled tank prior to shipment off-site. Nitrile gloves will be worn to protect the sampling person and to avoid cross contamination through handling. Wastewater will be sampled by lowering a stainless steel or disposable polyethylene bailer into the tank using a polyethylene cord. The sample contents will be immediately transferred into the appropriate sized container for each analysis as specified in the Quality Assurance Project Plan (Appendix D). Vials for volatile analyses will be filled completely so as to avoid creating a head space where volatiles may escape, and must be checked to ensure that no air gap or bubbles are present.

All filled jars must be labeled with the following information as a minimum:

- Project Number;
- Sampling Time and Date;
- Sample Number;
- Analysis; and
- Collector's Initials.

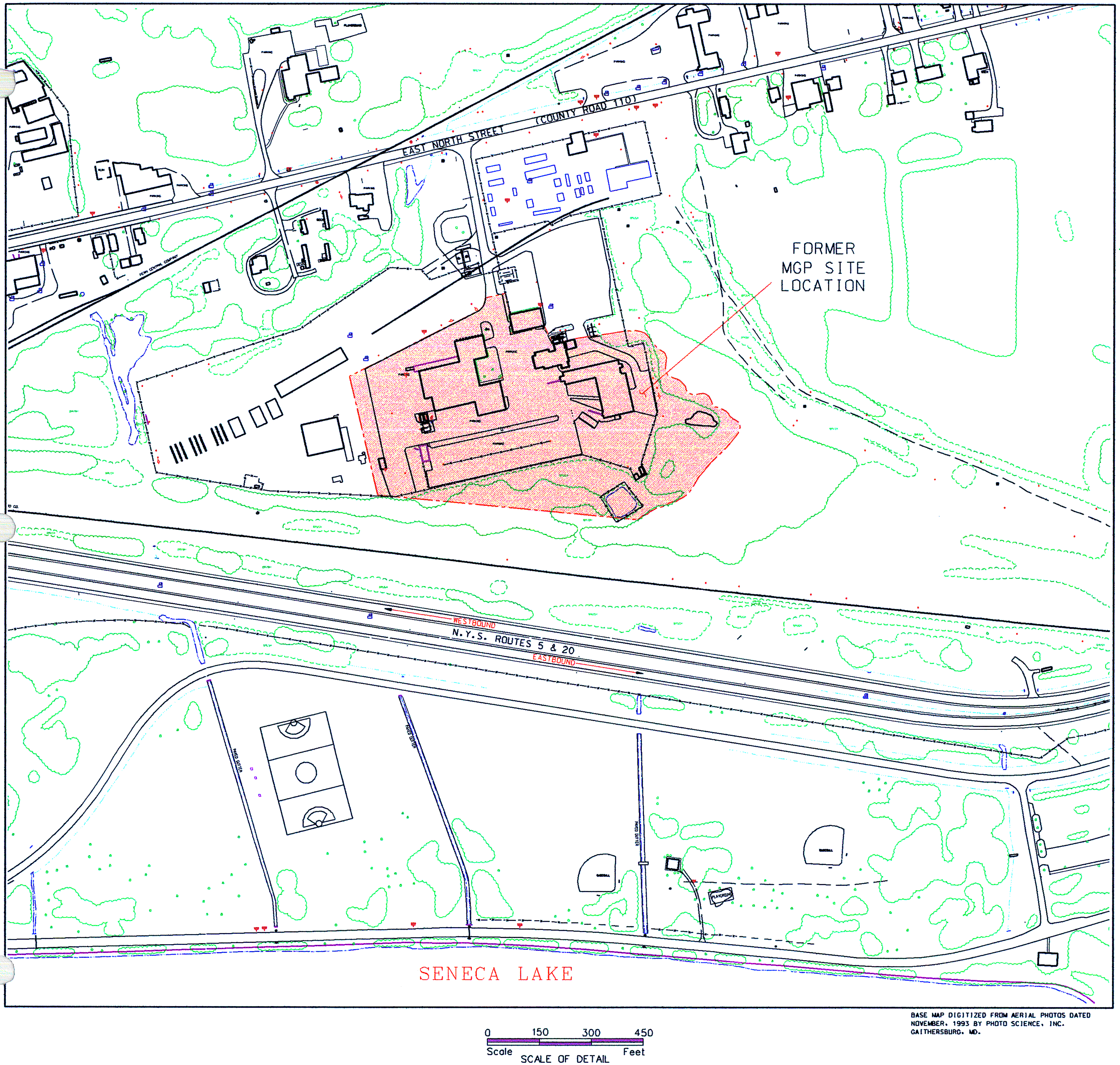
The sample chain-of-custody form will then be immediately filled out and kept with the sample. The sample will be maintained at 4°C until delivered to the off-site analytical laboratory.

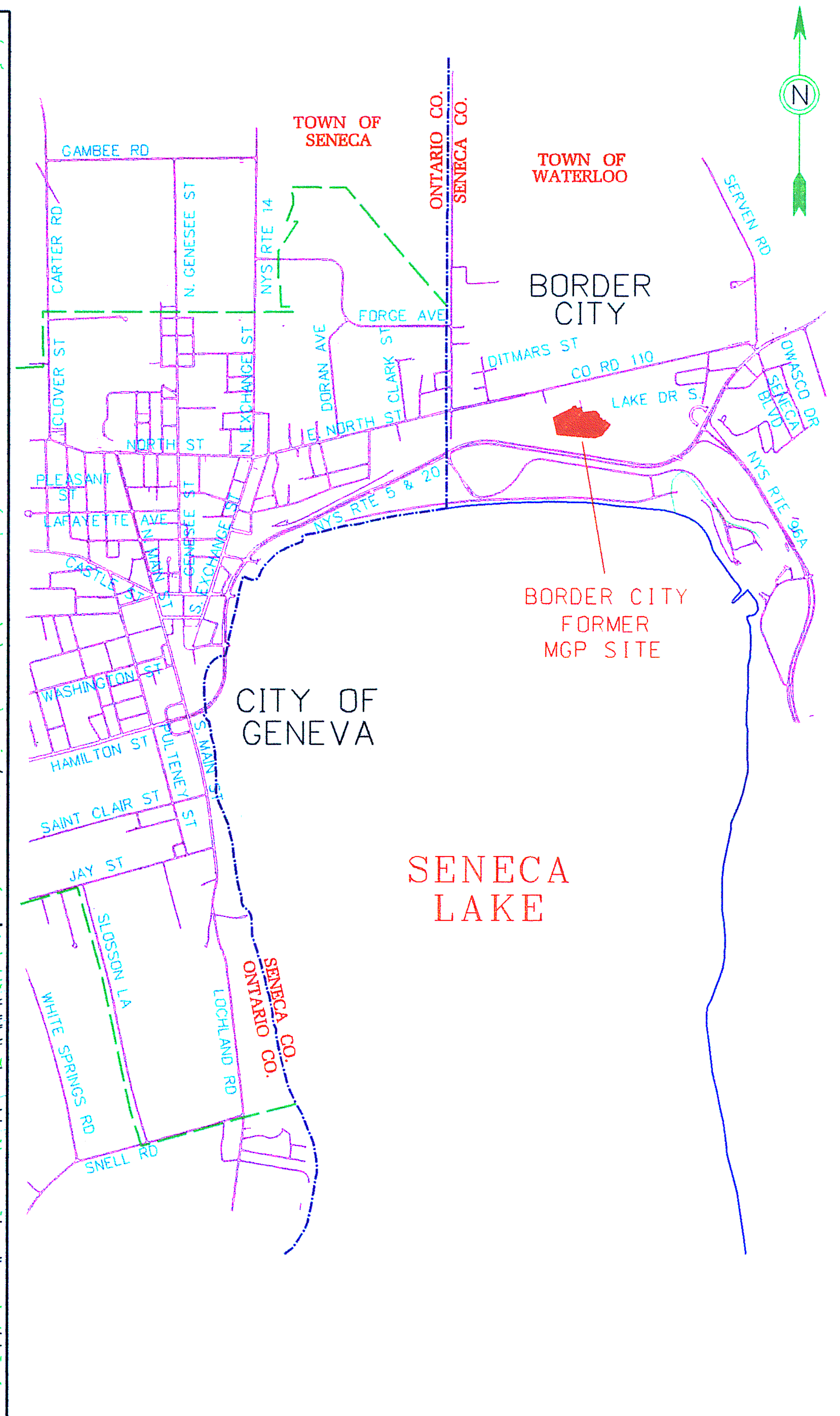
6.3.5 Wastewater Sampling Field Equipment List:

The following items constitute a minimum listing of required field equipment for collecting wastewater samples.

- chemical resistant gloves and appropriate level of personal protection for working conditions as described in Section 4.2 of the Health and Safety Plan for Activities at the Geneva/Border City Former Manufactured Gas Plant Site (Appendix A);
- sample containers - two 40-ml VOA vials; two one-liter amber containers; two plastic 500-ml acid-washed containers;
- stainless steel or disposable polyethylene bailer;
- field notebook;
- sample bottle labels; and
- chain-of-custody forms.

FIGURES





BASE MAP DIGITIZED FROM AERIAL PHOTOS DATED NOVEMBER, 1993 BY PHOTO SCIENCE, INC. GAITHERSBURG, MD.

NYSEG	ENGINEERING SERVICES BINGHAMTON, N. Y.
TITLE	LOCATION MAP GENEVA BORDER CITY MGP SITE TOWN OF WATERLOO SENECA COUNTY, NEW YORK
SCALE: AS SHOWN	DWG NO FIGURE 1
DATE	REV

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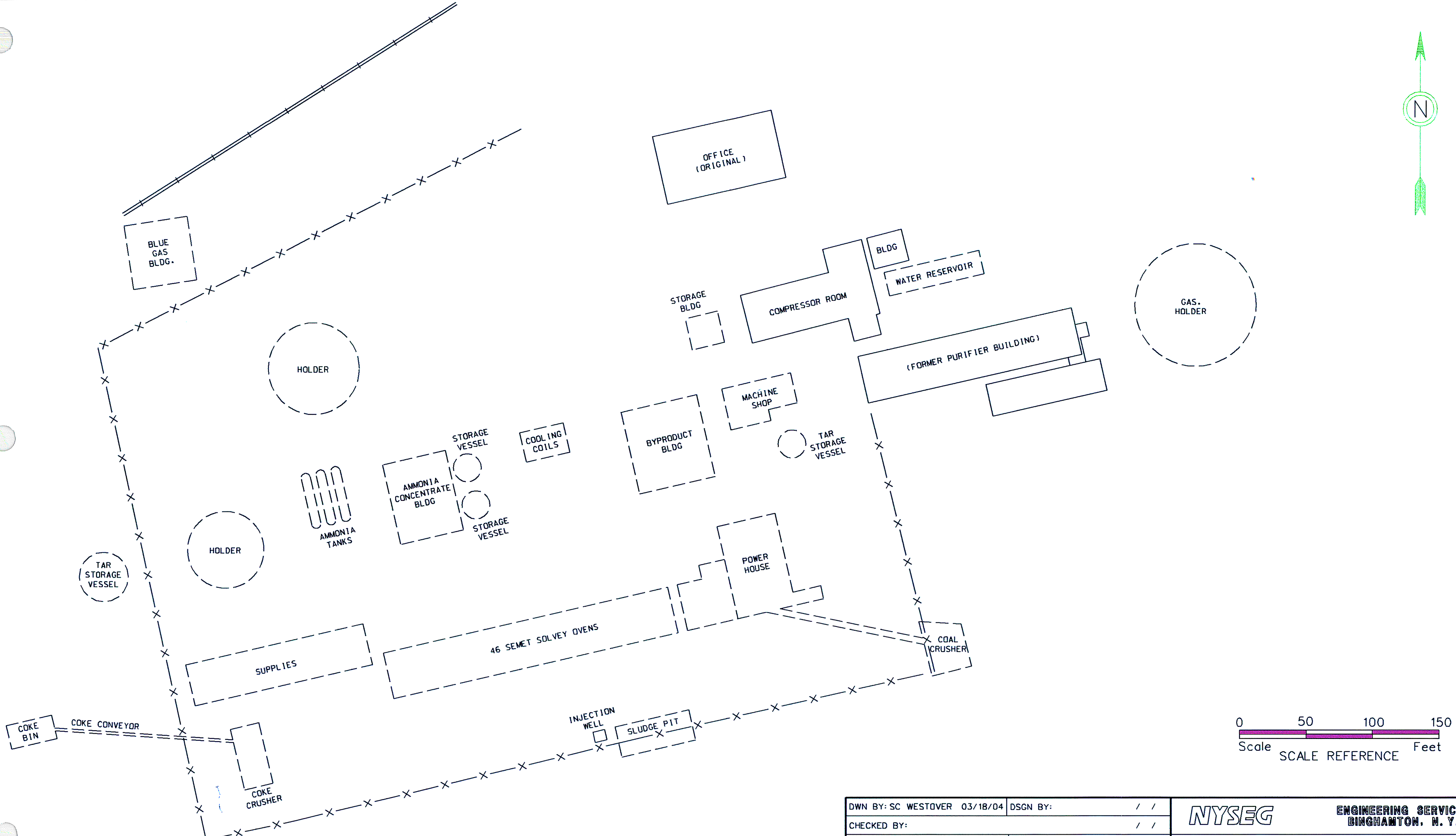

DWN BY: SC WESTOVER 03/18/04	DSGN BY: / /
CHECKED BY: / /	
DRAFTING: / /	DESIGN: / /
ENGRG: / /	
RELEASE APPROVAL: / /	
AUTHORIZED BY: / /	
MATERIAL OR SPEC:	

NYSEG ENGINEERING SERVICES BINGHAMTON, N. Y.

TITLE

GENEVA BORDER CITY FORMER MGP SITE
TOWN OF WATERLOO
SENECA COUNTY, NEW YORK

SCALE AS SHOWN	DWG NO FIGURE 2	REV

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SYM	ZONE	REVISION	DATE	BY	CHK	APP
			/			

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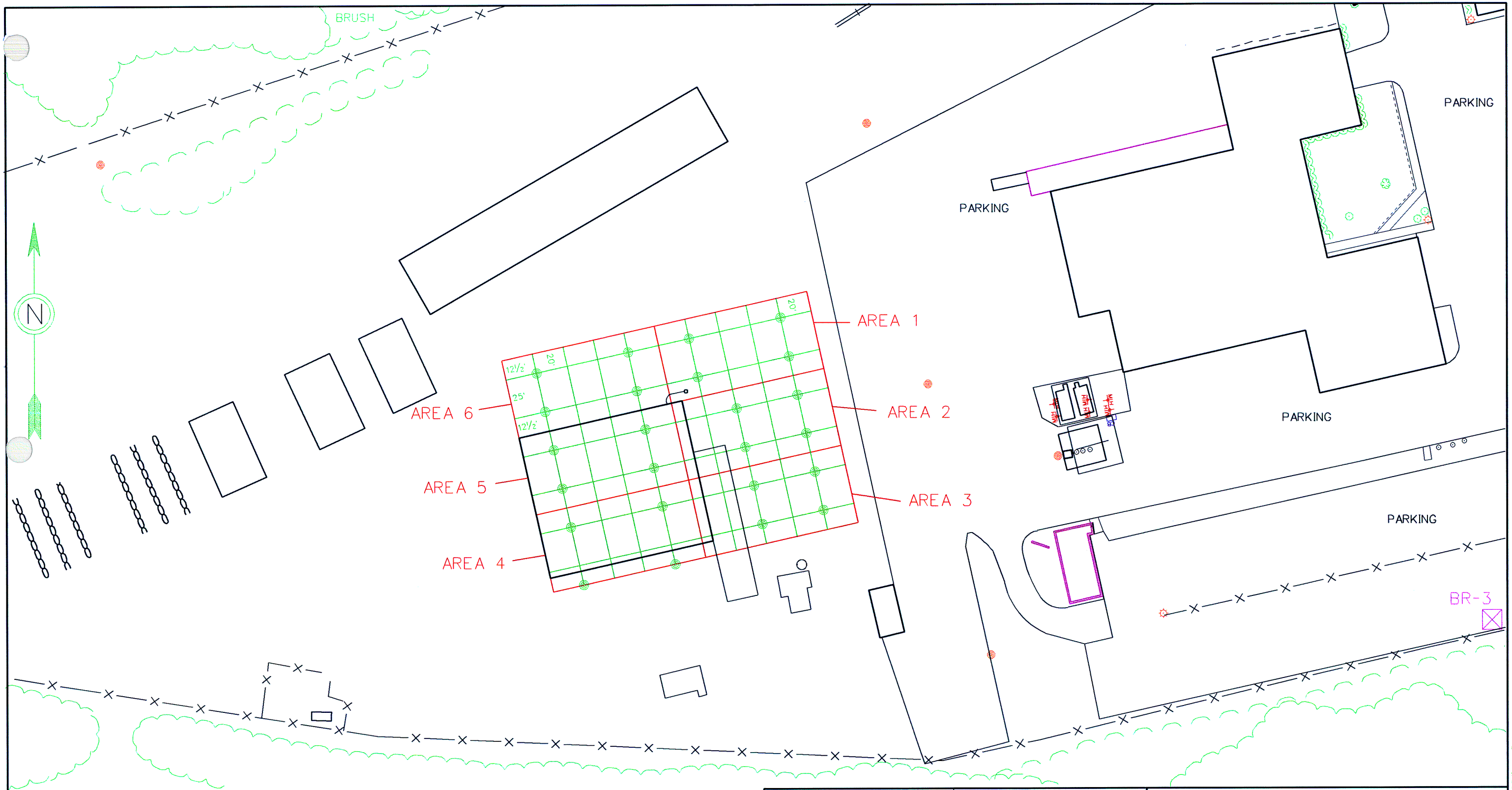
Date/Time Plotted: 18 MAR 2004



LEGEND

CORE SAMPLE

1" = 60'

0 60 120 180

Scale Feet

SCALE REFERENCE

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DWN BY: SC WESTOVER 03/17/04	DSGN BY: / /
CHECKED BY:	/ /
DRAFTING: / /	DESIGN: / /
ENGRG:	/ /
RELEASE APPROVAL:	/ /
AUTHORIZED BY:	/ /
MATERIAL OR SPEC:	

NYSEG ENGINEERING SERVICES BINGHAMTON, N. Y.

TITLE PRE-IRM IN SITU SAMPLING PLAN

GENEVA BORDER CITY

FORMER MGP SITE

GENEVA, NY

SCALE	DWG NO	REV
AS SHOWN	FIGURE 3	

Date/Time Plotted: 17 MAR 2004

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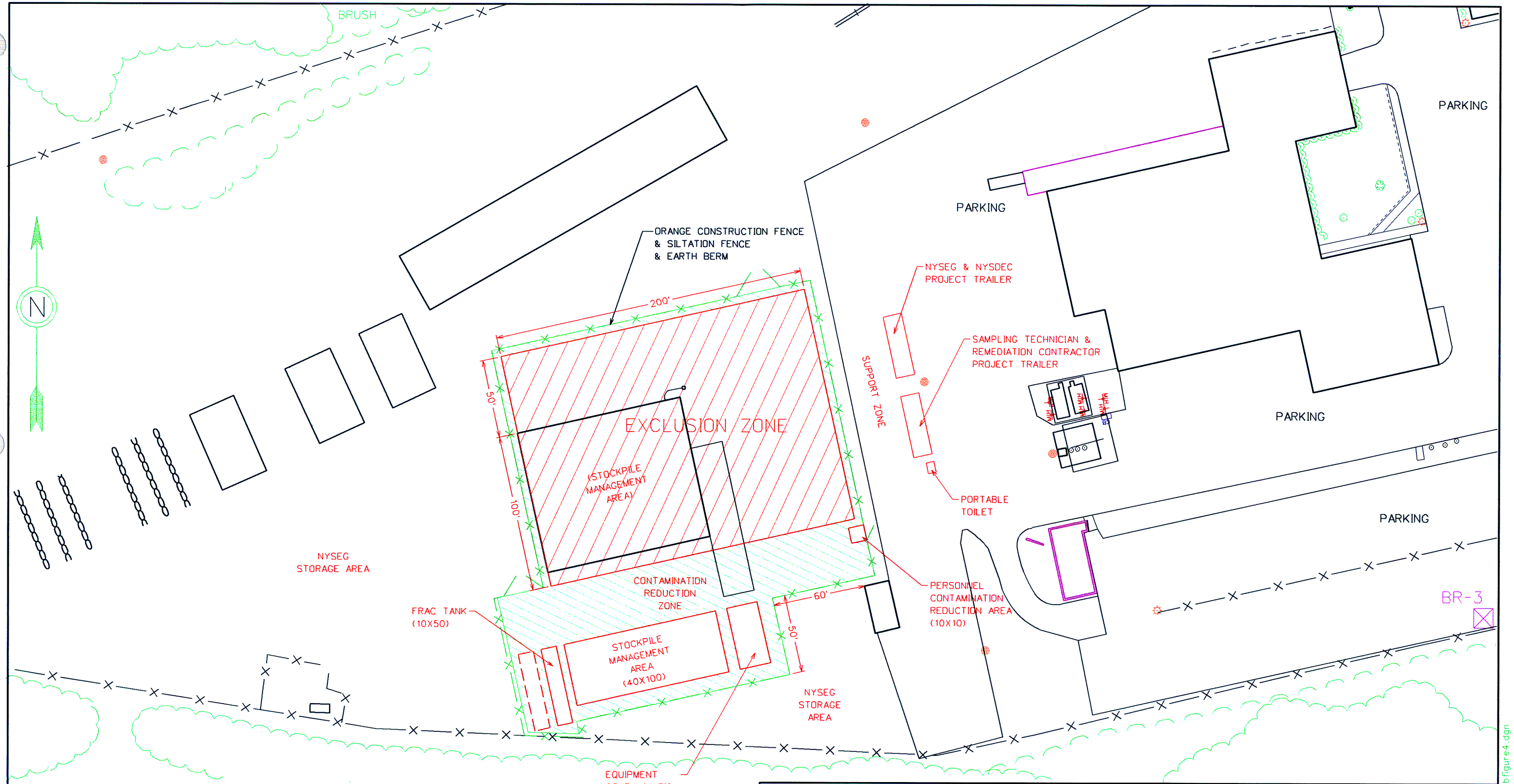

1" = 60'

0 60 120 180

Scale Feet

SCALE REFERENCE

CADD DRAWING DO NOT REVISE MANUALLY							
	SYM	ZONE	REVISION	/ DATE	BY	CHK	APP

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RELEASE APPROVAL:		/ /	
AUTHORIZED BY:		/ /	
MATERIAL OR SPEC:			

NYSEG ENGINEERING SERVICES BINGHAMTON, N. Y.

TITLE PROJECT LAYOUT

GENEVA BORDER CITY

FORMER MGP SITE

GENEVA, NY

SCALE	DWG ND	REV
AS SHOWN	FIGURE 4	

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Date/Time Plotted: 19 MAR 2004

APPENDIX A

PRE-REMEDIATION IN SITU
SAMPLING & ANALYSIS WORK PLAN

1.0 INTRODUCTION

New York State Electric & Gas Corporation (NYSEG) is preparing to implement an Interim Remedial Measures Work Plan involving the excavation, removal and disposal of coal tar that has migrated from a tar pit to the surface at the western most portion of the NYSEG Geneva/Border City former manufactured gas plant site, Town of Waterloo, Seneca County, New York. This *Pre-Remediation In Situ Sampling & Analysis Work Plan* describes the sampling and analysis protocol that will be utilized to provide waste characterization data for materials generated during site remediation.

The in situ sampling program will utilize a Geoprobe® and backhoe to characterize approximately 10,000 cubic yards of material. Analytical tests will be performed on the samples to characterize the material and insure proper treatment or disposal.

NYSEG will conduct the sampling of the in-place soils. A drilling contractor will be hired to provide Geoprobe® sampling of the material to be excavated during the *IRM* remediation. All composited soil samples will be analyzed by a New York State Department of Health (NYSDOH) Environmental Laboratory Approval Program (ELAP) certified analytical laboratory utilizing the methods and procedures specified to determine if the material contains contaminants above established levels. All sampling and analyses will be performed in accordance with the Quality Assurance Project Plan (QAPP) (Attachment D). Data will be submitted to the New York State Department of Environmental Conservation (NYSDEC) and disposal facilities for review and approval prior to final disposition of the material.

The approved Geneva/Border City former manufactured gas plant site Health and Safety Plan (HASP) will be used during the pre-remediation sampling event. Care will be taken to ensure that no subsurface soil will be spread over the surface of the site. Any excess soil cuttings will be containerized for proper off-site disposal.

2.0 SAMPLING PROTOCOL

The area of the site targeted for remedial excavation is an area where coal tar has migrated from a tar pit to the surface at the western most portion of the site. This area which is approximately 30,000 square feet was divided into six areas. Each area is approximately 50 feet by 100 feet. Twenty-four Geoprobe® sample points were systematically located across the proposed *IRM* site. In addition, two test pits will be excavated using a backhoe to characterize the physical aspects of the soil. The physical characteristics to be evaluated will be debris, odors, moisture content and groundwater level. The sample locations as described are depicted on Figure 3.

The material samples will be two-inch macrocore cores obtained using a Geoprobe® sampling system. Five samples will be collected from each boring: a material sample from 0 to 2 foot interval, a material sample from 2 to 4 foot interval, a sample from 4 to 6 foot interval, a sample from 6 to 8 foot interval, and a sample 8 to 10 foot interval. Each macrocore will be cut open and screened for volatile organic vapors with a total vapor analyzer equipped with a photo ionization detector (PID). A discrete sample for volatile organic compounds (VOC) analysis will be collected from the section of the sampling interval with the highest volatile organic vapor concentration, as measured with the total vapor analyzer, and/or distinct coal tar odor or discoloration. Samples with visible coal tar will be noted, but not analyzed. The remaining material from each interval will be placed in a large stainless steel collection vessel and thoroughly mixed. A representative sample of homogeneous material samples will be collected. Since the designated sampling locations will undergo remedial excavation, sand or bentonite pellets will be used to seal Geoprobe® holes. Any excess materials will be containerized.

3.0 WASTE CHARACTERIZATION

Waste characterization utilizing the geoprobe will be accomplished in 2 foot depth intervals to a maximum depth 10 feet or indications of no further contamination. The sample interval will be adjusted to different depth horizons if field observations indicate that contaminated soil would be more homogeneously grouped using a different depth interval scheme (1 to 4 ft). In no case will a composite sample interval represent a volume of material larger than 500 cubic yards or 750 tons. Each composite sample will represent a respective volume of soil as presented in Tables 5 & 6. All composite samples will be submitted to the laboratory for determination of List A Analytes as specified in the Analytical Protocol section (below). A test pit will be excavated using a backhoe to evaluate physical characteristics of the material such as debris, odors, moisture content and groundwater level.

Each composite sample will comprise a minimum of three core samples collected at the designated sampling points (Figure 3) for each depth interval.

4.0 AIR QUALITY MONITORING

The air monitoring program will provide direct measurement of volatile organic compounds (VOCs) that are released during the in situ sampling process. The site area or exclusion zone is confined to the area within NYSEG's Geneva Area Service Center. Real time air monitoring for volatile organic vapors will commence at the start of each workday and will continue until daily activities have ceased. The real time data generated will allow an assessment of the impact of the sampling activities on air quality.

Real time monitoring will be accomplished using a total vapor analyzer equipped with a photo ionization detector (PID), which will be calibrated daily to benzene with a 10 ppm isobutylene standard. The PID will be capable of calculating 15 minute running average concentrations. Monitoring will be undertaken at the downwind location of the work area while macrocore samples are being collected. Upwind concentrations will be measured at the start of each work day and following a change in wind direction.

Sampling will be accomplished by pointing the intake tube of the PID toward the emission source, generally two feet above the Geoprobe® borehole. After 15 minutes has elapsed, the calculated running average concentration of the volatiles organic vapors in the air will be measured and recorded on data sheets along with time, Geoprobe® location, wind direction and weather conditions.

Based on data published by the Occupational Safety and Health Administration (OSHA), the American Congress of Government Industrial Hygienists (ACGIH), and National Institute for Occupational Safety and Health (NIOSH), short term air quality action levels have been established for air emissions control at the site perimeter. An action level for total volatiles at the site perimeter has been established at 5.0 ppm above background. If this action level is exceeded, all Geoprobe® activities will cease with all potential sources of emissions to be contained. If odors are detected in the nearby community, despite the fact that the total volatiles are below 5 ppm action level, actions will be taken to minimize or eliminate the odors.

5.0 ANALYTICAL PROTOCOL

(Refer to the attached QAPP for specific methods where not given)

List A Analytes: TCLP Volatiles, TCLP Semivolatile, TCLP Metals, TCLP, Pesticides/Herbicides, Reactive Cyanide, Reactive Sulfide, Reactivity - Corrosivity (pH) - Ignitability, PCBs, Percent Solids, Total Petroleum Hydrocarbons (Diesel Range Organics), Total VOCs, SVOCs, Total Metals, Total Cyanide, Percent Sulfur (Tables 1,2,3 & 4)

TABLE 1 (Continued on next page)
COMPOSITE SAMPLE TCLP ANALYTES AND LIMITS

TCLP Analyte	Regulatory Limit (mg/L) 6NYCRR Part 371
Arsenic	5.0
Barium	100.0
Benzene	0.5
Cadmium	1.0
Carbon tetrachloride	0.5
Chlordane	0.03
Chlorobenzene	100.0
Chloroform	6.0
Chromium	5.0
Cresols (total of o, m, p)	200.0
2,4-D	10.0
1,4-Dichlorobenzene	7.5
1,2-Dichloroethane	0.5
1,1-Dichloroethylene	0.7
2,4-Dinitrotoluene	0.13
Endrin	0.02
Heptachlor	0.008
Hexachlorobenzene	0.13
Hexachlorobutadiene	0.5
Lead	5.0
Lindane	0.4
Mercury	0.2
Methoxychlor	10.0
Methyl ethyl ketone	200.0
Nitrobenzene	2.0
Pentachlorophenol	100.0
Pyridine	5.0
Selenium	1.0
Silver	5.0
Silvex	1.0

TABLE 1 (Continued from previous page) COMPOSITE SAMPLE TCLP ANALYTES AND LIMITS	
TCLP Analyte	**Regulatory Limit (mg/L) 6NYCRR Part 371**
Tetrachloroethylene	0.7
Toxaphene	0.5
Trichloroethylene	0.5
2,4,5-Trichlorophenol	400.0
2,4,6-Trichlorophenol	2.0
Vinyl chloride	0.2

TABLE 2: COMPOSITE SAMPLE ANALYTES AND ACTION LIMITS OTHER RCRA CHARACTERISTICS AND LANDFILL ANALYTICAL REQUIREMENTS	
Analyte	**Limit**
Corrosivity (pH)	Non- Corrosive (pH must be >2 or <12.5)
Ignitability	Must be > 60 deg. C
PCBs (Total)	<50 mg/Kg
% Solids	Must be > 20%

TABLE 3: COMPOSITE SAMPLE ANALYTES FOR ESMI
Analyte
TPH Diesel Range Organics (8015 B)
Total VOCs (8260)
Total SVOCs (8270)
Total Metals 14* (6010B)
Total Cyanide (9012)
Percent Sulfur (ASTM D129-64)
* Total Metals List: Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium (total), Lead, Mercury, Nickel, Selenium, Silver, Thallium, Vanadium, Zinc

TABLE 4: COMPOSITE SAMPLE ANALYTES FOR POLYCYCLIC AROMATIC HYDROCARBONS (PAHs) Total PAHs Shall Not Exceed 1,000 ppm
Analyte
Naphthalene
2-Methylnaphthalene
Acenaphthene
Acenaphthylene
Fluorene
Phenanthrene
Anthracene
Fluoranthene
Dibenzofuran
Pyrene
Benzo (A) Anthracene
Chrysene
Benzo (B) Fluoranthene
Benzo (K) Fluoranthene
Benzo (A) Pyrene
Indeno (1,2,3 CD) Pyrene
Dibenzo (A,H) Anthracene
Benzo (G,H,I) Perylene

TABLE 5: APPROXIMATE SOIL VOLUMES	
Location	**Soil Volume Per 2 Foot Depth Interval (y^3)**
Area 1	370
Area 2	370
Area 3	370
Area 4	370
Area 5	370
Area 6	370

* Sample size will be adjusted in field to ensure total volume less than 500 cubic yards

TABLE 6: SAMPLING AREA BREAKDOWN

Area #	Dimensions	Area (Sq. Ft.)	Depth (Ft.)	Volume (Cu. Yds.)	# Sample Locations	# Sample Grabs	# Samples Composed
1	50 X 100	5,000	10	1,852	4	20	5
2	50 X 100	5,000	10	1,852	4	20	5
3	50 X 100	5,000	10	1,852	4	20	5
4	50 X 100	5,000	10	1,852	4	20	5
5	50 X 100	5,000	10	1,852	4	20	5
6	50 X 100	5,000	10	1,852	4	20	5
	Total	30,000	10	11,112	24	120	30

APPENDIX B

CITIZEN PARTICIPATION PLAN

NYSEG

NEW YORK STATE ELECTRIC & GAS CORPORATION
James A. Carrigg Center, 18 Link Drive, P.O. Box 5224
Binghamton, New York 13902-5224

INTERIM REMEDIAL MEASURES

CITIZEN PARTICIPATION PLAN

Geneva/Border City
FORMER MANUFACTURE GAS PLANT SITE
Town of Waterloo, Seneca County, New York

March 2004

Prepared By:
NYSEG Site Investigation and Remediation

Reviewed and Approved By:
New York State Department of Environmental Conservation

1.0 INTRODUCTION

This Citizen Participation Plan will detail the citizen participation activities that will be implemented for the planned removal of coal contaminated surface soil associated with the Geneva/Border City former manufactured gas plant site.

An *Interim Remedial Measures Work Plan For Removal Of Coal Tar Associated With Geneva/Border City Former Manufactured Gas Plant Site* has been developed. The proposed *Interim Remedial Measures (IRM) Work Plan* will involve excavation, removal and disposal of coal tar contaminated surface soil that has migrated from a source area to the surface at the western most portion of the Geneva/Border City former manufactured gas plant site located on Border City Road in the Town of Waterloo, Seneca County, New York, as shown on Figure 1. The *IRM Work Plan* will be conducted according to the requirements of an Order on Consent between NYSEG and the New York State Department of Environmental Conservation (NYSDEC). The Order on Consent is a legal document which defines the obligations of each party for conducting site investigations and remediations. The Order on Consent requires that all work by NYSEG at the Site be performed under the oversight of the NYSDEC and the New York State Department of Health (NYSDOH).

2.0 BASIC SITE INFORMATION

NYSEG owns the entire site and uses it as its Geneva Area Service Center. The Service Center facilities include a vehicle repair shop, equipment storage, and business offices. An electric substation is also present on the property. The site is located in the midst of both commercial and undeveloped land, with a major highway to the south, and agricultural/residential areas to the east, north and west. Seneca Lake State Park is situated about 500 feet south of the site.

The majority of the site is either paved, graveled or covered with buildings. Included among these structures are the original purifier house, the compressor room and the old office building. The site terrain is generally flat, with grass, scrubs and trees occupying undeveloped areas. Those portions of the site containing service center facilities are fenced, with public access restricted.

A review of the site history, the property ownership and plant operations can be found in the *Task 1 (Historical Research) Report*, prepared by TRC Environmental Consultants, Inc. A condensed summary is present here.

The coal gas gasification plant at Border City operated from 1901 until 1914 by the Empire Coke Company, from 1914 until 1925 by Empire Gas & Electric Company, from 1925 until 1929 by New York State Central Electric and from 1929 -1934 by NYSEG.

Byproducts of gas manufacturing include coal tars, light oils and spent purifying materials. These products were often left behind when the plants closed. Coal tar may exceed the Federal Resource Conservation and Recovery Act (RCRA) regulatory limits due to the leachable concentrations of benzene and therefore be classified as a "hazardous waste". Coal tars generally contain high levels of volatile organic compounds (VOCs) and polycyclic aromatic hydrocarbons (PAHs).

Purifier wastes are the spent materials (i.e. wood chips or other organic material with iron filings) used to remove impurities like hydrogen sulfide and cyanide from the gas produced by the manufactured gas plant. These materials can contain varying concentrations of sulfides and cyanides complexed with iron.

Petroleum products were used on-site as a fuel source for the manufactured gas plant and to increase the heat content of the manufactured gas. Although unconfirmed, these products may have been spilled on-site as a result of material handling practices. The petroleum products were a heavier fraction of the crude distillate (i.e. diesel, No. 6, bunker C, etc.) and primarily contain polycyclic aromatic hydrocarbons (PAHs).

3.0 Previous Investigations, Interim Remedial Measures Work Plans and Interim Remedial Measures Final Engineering Reports

NYSEG's consultants and NYSEG completed the following Investigations, Interim Remedial Measures Work Plans and Interim Remedial Measures Final Engineering Reports for the Geneva/Border City Site Former Manufactured Gas Plant Site:

- May 1984 — Soil Exploration Report #1, prepared by Woodward Clyde Consultants
- August 1984 — Soil Exploration Report #2, prepared by Woodward Clyde Consultants
- November 1984 — Soil Exploration Report #3, prepared by Woodward Clyde Consultants
- August 1985 — Site Investigation Work Plan, prepared by TRC Environmental Consultants
- May 1986 — Task 1 Historical Research Report, prepared by TRC Environmental Consultants

- May 1986 — Soil Exploration Report #4, prepared by TRC Environmental Consultants
- December 1986 — Soil Exploration Report #5, prepared by TRC Environmental Consultants
- October 1987 — Task 2 Preliminary Site Investigation, prepared by TRC Environmental Consultants
- September 1987 — Task 3 Expanded Site Investigation Report, prepared by TRC Environmental Consultants
- April 1989 — Task 4 Risk Assessment Report, prepared by TRC Environmental Consultants
- May 1990 — Bench Scale Biodegradation Study, prepared by Treatek
- March 1991 — Results of Field Scale Biodegradation Study, prepared by Treatek
- April 1993 — Report Focused Environmental Investigation, prepared by Blasland and Bouck
- June 1997 — Crushing and Screening Demonstration Final Report, prepared by Fluor Daniel GTI

4.0 PROJECT DESCRIPTION

The overall objective is the excavation and off-site disposal of coal tar contaminated surface soil that has migrated from a source area to the surface at the western most portion of the former manufactured gas plant site and document the limit of excavation (sidewall and bottom) for volatile compounds. These confirmation samples will be addressed in subsequent remedial actions.

This *IRM Work Plan* is scheduled to be initiated during the second quarter of 2004.

5.0 INTERESTED/AFFECTED PUBLIC

A mailing list has been developed which includes adjacent property owners and businesses, local and State elected officials, local media, and other identified interested parties. Names can be added to the mailing list by contacting any of the individuals listed below in Section 8.0 - Additional Information, or by completing an "interested party mailer" which is included with all NYSEG mailings.

6.0 DOCUMENT REPOSITORY

Documents associated with the previous investigations and this *IRM Work Plan* are available for public review at the following document repositories:

- Geneva Free Library
  244 Main Street
  Geneva, New York 14456
  Contact: Kim Iraci
  Phone: (315) 789-5303

- New York State Department of Environmental Conservation - Region 8
  6274 East Avon - Lima Road
  Avon, New York 14414
  Contact: Bart Putzig
  Phone: (716) 226-2466

- New York State Department of Environmental Conservation
  Division of Environmental Remediation
  625 Broadway
  Albany, New York 12233-7013
  Attn.: Mr. Douglas MacNeal
  Phone: (518) 402-9662
  Monday - Friday, 8 a.m. - 4:30 p.m.

7.0 DESCRIPTION OF CITIZEN PARTICIPATION ACTIVITIES FOR EACH MAJOR ELEMENT OF THE Interim Remedial Measures (IRM) Interim Remedial Measures (IRM)

To facilitate the *Interim Remedial Measures (IRM)* process, NYSEG in cooperation with NYSDEC and NYSDOH, will inform the public and local officials of planned remedial activities. Public participation will include at least the following:

- Distribution to those identified in Section 5.0 of this document of a fact sheet prepared by NYSEG describing the planned remedial activities.

- The *Interim Remedial Measures (IRM)* will be available for public review a minimum of 30 days prior to the public meeting.

- Posting by NYSEG of a telephone number for the public to call with any questions or concerns which may arise during the Project[1].

[1] A call to the posted number 1-800-572-1111 during business hours or 1-800-572-1121 after normal business hours will be answered by individuals who can provide information from the fact sheet. If required in either case, project team members will be contacted.

8.0 Additional Information

For additional information about this project you may contact any of the following individuals:

Mr. Bert W Finch
Remediation Project Manager
NYSEG
James A. Carrigg Center, 18 Link Drive
P.O. Box 5224
Binghamton, New York 13902-5224
Phone: (607) 762-8683
E-mail: bwfinch@nyseg.com

Mr. Robert L. Pass
Community Projects Manager
NYSEG
Ithaca - Dryden Road
P.O. Box 3287
Ithaca, New York 14852-3287
Phone: (607) 347-2148
E-mail: rlpass@nyseg.com

Mr. Douglas MacNeal
Site Project Manager
NYSDEC
625 Broadway
Albany, New York 12233-7013
Phone: 1-800-342-9296
or (518) 402-9662
E-mail: dkmacnea@gw.dec.state.ny.us

Ms. Maureen Schuck
Community H&S Oversight
NYSDOH
547 River Street
Troy, New York 12180-2216
Phone: (518) 402-7890
E-mail: mer10@health.state.ny.us

APPENDIX C

CONSTRUCTION QUALITY ASSURANCE PLAN

NYSEG

NEW YORK STATE ELECTRIC & GAS CORPORATION
James A. Carrigg Center, 18 Link Drive, P.O. Box 5224
Binghamton, New York 13902-5224

INTERIM REMEDIAL MEASURES

CONSTRUCTION QUALITY ASSURANCE PLAN

Geneva/Border City
FORMER MANUFACTURE GAS PLANT SITE
Town of Waterloo, Seneca County, New York

March 2004

Prepared By:
NYSEG Site Investigation and Remediation

Reviewed and Approved By:
New York State Department of Environmental Conservation

TABLE OF CONTENTS

1.0 INTRODUCTION

This *Construction Quality Assurance Plan* (CQAP) is designed to assure the quality of the project by monitoring, inspecting, and testing the processes and materials associated with the Interim Remedial Measures *Work Plan* to be completed at the Geneva/Border City former manufactured gas plant site, Town of Waterloo, Seneca County, New York. This Construction Quality Assurance Plan supplements the *Work Plan.*

1.1 Construction Quality Assurance Plan Objectives

The objective of this *Construction Quality Assurance Plan* is to identify and standardize measures to provide confidence that activities in all phases of the project will be completed in accordance with the *Work Plan*, applicable local, state and federal regulations and appropriate industry standards. The *Construction Quality Assurance Plan* will be implemented through inspection, sampling, testing, review of services, workmanship, and materials. Specific objectives of this plan establish protocols and procedures for the following components:

1. **Responsibility and Authority** - The responsibility and authority of the key personnel involved in the completion of the project.

2. **Inspection and Testing Activities** - Establish the observations and implement inspections and tests that will be used to ensure that the construction activities for the project meet or exceed all design criteria, (i.e., *Work Plan*, and local, state and federal regulations).

3. **Sampling Strategies** - Establish responsibility for sampling activities and methods including frequency and acceptance criteria for ensuring that sampling meets criteria in the *Work Plan*, local, state and federal regulations.

4. **Documentation and Reporting** - Establish appropriate field documents (i.e.,daily field construction reports, photographic log, sampling log, and variances to the *Work Plan*).

2.0 RESPONSIBILITY AND AUTHORITY

Responsibilities of each member of the construction project team are described below.

2.1 Contractor

The contractor is responsible for coordinating field operations of the project, including coordination of subcontractors, to comply with the requirements of the *Work Plan* and permitting agencies. The Contractor is responsible for completing and submitting documentation required by the *Construction Quality Assurance Plan* and also has the authority to accept or reject the materials and workmanship of any subcontractors at the site.

The contractor is also responsible to ensure a functional construction quality control organization is active during the project and provide support for the construction quality control system to perform inspections, tests and retesting in the event of failure of any item of work, including that of the subcontractors, and to assure compliance with the contract provisions. The construction quality control system includes, but is not limited to, the inspections and tests required in the technical provisions of the *Work Plan*, and will cover all project operations.

2.2 Construction Quality Assurance Officer:

Bert W Finch
Remediation Project Manager

The responsibility of the construction quality assurance officer is to perform those activities in this *Construction Quality Assurance Plan* deemed necessary to assure the quality of construction and support quality control efforts. The construction quality assurance officer will be on-site as required during construction activities. The responsibility of the construction quality assurance officer is to ensure the quality of construction meets or exceeds that defined by the *Work Plan* and identified in the *Quality Assurance Project Plan*. Specific responsibilities of the construction quality assurance officer include:

- Directing and supporting the construction quality control representative inspection personnel in performing observations and tests by verifying that the data are properly recorded, validated, reduced, summarized, and inspected.
- Evaluating the construction activities and the construction quality control representative's efforts

- Evaluating sampling activities and efforts of the sampling quality assurance officer
- Educating construction quality control inspection personnel on construction quality control requirements and procedures
- Scheduling and coordinating construction quality assurance inspection activities

2.3 Sampling Quality Assurance Officer: Walter J. Savichky
Soil Sampling and Air-Quality Manager

The responsibility of the sampling quality assurance officer is to perform those activities in this *Construction Quality Assurance Plan, Work Plan* and *Quality Assurance Project Plan* deemed necessary to assure the quality of sampling and testing and support quality control efforts.

To avoid conflicts of interest, the sampling quality assurance is performed by an entity other than the construction quality control, and provides the permitting agency an assurance that all sampling efforts, for both field and laboratory analysis, meet or exceed that defined by the *Work Plan* and identified in the *Construction Quality Assurance Plan.* The sampling quality assurance officer will be on-site as required during the project. The sampling quality assurance officer will report directly to the construction quality assurance officer.

Specific responsibilities of the sampling quality assurance officer include:

- confine that the test data are properly recorded and maintained (this may involve selecting reported results and backtracking them to the original observation and test data sheets);
- confine that the testing equipment, personnel, and procedures do not change over time or making sure that any changes do not adversely impact the inspection process; and
- confine that regular calibration of testing equipment occurs and is properly recorded.
- Providing the construction quality control officer with up to date sampling results.

2.4 Construction Quality Control Representative: (to be determined)
Project Coordinator

A construction quality control representative, supplemented as necessary by additional personnel, is to be on the work site during the construction process, with complete authority to take any action necessary to ensure compliance with the *Work Plan* as necessary to achieve quality in the constructed facility. The construction quality control representative will be the field engineer. Specific responsibilities of the construction quality control representative include:

- *Work Plan* for clarity and completeness so that the construction activities can be effectively implemented.
- Verifying that contractor's construction quality is in accordance with this *Construction Quality Assurance Plan.*
- Performing on-site inspection of the work in progress to assess compliance with the *Work Plan.*
- Prepare and log material shipping manifest for transportation of non-hazardous and Hazardous materials.
- Reporting the results of all observations and tests as the work progresses, modify materials and work to comply with the *Work Plan.* This includes:
  1. Providing reports on daily field construction, material shipments, and inspection results.
  2. Review and interpretation of all data sheets and reports.
  3. Identification of work that should be accepted, rejected, or uncovered for observation, or that may require special testing, inspection, or approval.
  4. Rejection of defective work and verification that corrective measures are implemented.
  5. Make observations and records that will aid in finalization of the Remedial Investigation Report.
- Reporting to the construction quality assurance officer results of all inspections including work that is not of acceptable quality or that fails to meet the *Work Plan.*
- Verifying that the equipment used in testing meets the test requirements and that the test are conducted according to the proper standardized procedures.
- Verifying that materials are installed as specified, except where necessary field modifications were required.

The construction quality control representative will report directly to the quality assurance officer.

2.5 Sampling Representative: (to be determined) Sampling Technician

A sampling representative, supplemented as necessary by additional personnel, is to be on the work site at all times during the construction process. The sampling representative reports directly to the sampling quality assurance officer. Specific responsibility of the sampling representative include:

- Set up and operation of the weather station. Daily recording of meteorological data.
- Daily calibration and operation of real time total volatile organic compound and suspended particulate air monitoring equipment. Daily recording of real time air quality data. Informs construction supervisor and on-site New York State Department of Environmental Conservation (NYSDEC) and New York State Department of Health (NYSDOH) representatives when concentration of air contaminants approaches or exceeds action levels specified in the *Work Plan*. Faxing or e-mailing real-time air quality data to the (NYSDOH) representative and Sampling Quality Assurance Officer daily.
- Daily calibration and operation of the portable GC (Perkin-Elmer Voyager) per guidelines specified in the *Quality Assurance Project Plan* and *Work Plan*. Compiling calibration and results data into spreadsheets. E-mailing compiled data along with chromatograms to Sampling Quality Assurance Officer daily.
- Collection, packaging and shipment soil and water samples per guidelines specified in the *Quality Assurance Project Plan* and *Work Plan*. Maintaining master log of all air, water and soil samples collected. Faxing copies of the chain of custody sheets to the Sampling Quality Assurance Officer daily. Tracking confirmation sample points and construct a map depicting confirmation sample point locations.
- Consultation with Sampling Quality Assurance Officer for all technical questions, problems, considerations, or requests for supplies or equipment.
- Maintaining and organizing on-site field specialist equipment and supplies storage area.
- Performing the duties of Assistant Health & Safety Officer.

3.0 FIELD QUALITY CONTROL INSPECTIONS, TESTING, AND SAMPLING REQUIREMENTS

The definable features of work identified below are described in Section 4 of the *Work Plan* . This section of the *Construction Quality Assurance Plan* describes the anticipated inspection, testing, and sampling requirements of these definable feature works.

3.1 Site Preparation

Elements of the site preparation, including clearing and grubbing will be inspected as they occur to assure compliance with the *Work Plan*.

3.2 Equipment Set-up

All materials and equipment are designed to meet specific project needs. Each delivery of materials and/or equipment will be inspected upon arrival by the construction quality control representative and stored at a designated area of the site. Equipment will be set-up per the work plan design and drawings.

3.3 Excavation Activities

Excavation activities will comply with Occupational Safety and Health Administration's (OSHA's), "Hazardous Waste Operations and Emergency Response" (29 CFR 1910.120) and Excavations (29 CFR 1926 Subpart P). Excavation activities undertaken during the interim remedial measures will be in accordance with the *Work Plan*. Limits of the excavation will be measured by the construction quality control representative upon completion of the excavation for documentation drawings. Confirmation Sampling is covered in a separate sampling assurance plan.

3.4 Loading of Materials Transportation

Materials will be loaded with a rubber tired excavator into dump trailers for transportation to permitted disposal facility. Polyethylene sheeting will be placed between the stockpile or excavation and the truck to retain any material spilled. The spilled material will be added back to the excavation following completion of loading of each truck. The loading area will be visually inspected to conf that material remains within the bermed stockpile area.

3.5 Stockpiles of Materials

Stockpiles will be inspected a minimum of once per day to assure that covers are in place and intact, and standing water is removed from the liner as needed. Covers will be replaced as needed to prevent precipitation from contacting the material and dust from being generated by the material.

3.6 Site Restoration

Site restoration will be observed by the construction quality control representative. The excavation noted above will be backfilled as specified in the *Work Plan*, and the surface will match the existing surfacing material. Clean imported topsoil will be inspected upon arrival. Backfilling and compacting of the excavation will be observed and documented by the construction quality control representative. No stockpiles will remain on-site at the end of the project. All affected areas will be graded to match existing grades.

4.0 DOCUMENTATION AND REPORTING REQUIREMENTS FOR CONSTRUCTION QUALITY ASSURANCE PLAN ACTIVITIES

The value of the *Construction Quality Assurance Plan* will be assured by proper documentation techniques. The *Construction Quality Assurance Plan* inspection team will be guided by data sheets, schedules and checklists. The documentation of the inspection activities will facilitate the adherence to the design documents and maintain the level of reporting required by the parties involved in the project.

4.1 Inspection Reports

In general, documentation may involve daily summary and photographic reports including sketches of a particular section or activity, inspection log, corrective measure summary, or schedule summary. Specific documentation procedures are listed in the following subsections. The construction quality control representative will ensure that one set of full sized contract drawings are marked on a daily basis to record deviations from the contract drawings, including buried or concealed structures and utilities which are revealed during the course of site work. The construction quality control representative shall initial each variation or revision. The construction quality control representative shall, upon completion of site work, certify the accuracy of the record drawings, and submit them to the project manager.

4.2 Daily Field Construction Report

The construction quality control representative shall prepare a Daily Field Construction Report (DFCR) identifying work force and their labor hours, location and description of work performed, lost time accidents, equipment left on job site, equipment/materials received and if applicable, submittal status, non-compliance notices received, errors and/or omission in plans and specifications, visitors to the job site, weather conditions and temperatures, and any other pertinent information.

4.3 Photo Log

The photo log is designed to document construction activities by still photos. Photo log may also be used to photographically record activities recorded in a daily construction log or an as-built sketch log. Photos will be collected by the construction quality control representative.

4.4 Daily Sampling Log

The daily sampling log is designed to document all sampling activities and how they correspond to the *Work Plan*. All observations, field and/or laboratory tests will be recorded on a daily sampling log. It is important to note recorded field observations may take the form of notes, charts, sketches, or photographs. The daily sampling log will be completed by the sampling technician.

4.5 Variances to *Work Plan*

Required changes to the *Work Plan* will be processed through the use of a variance log. Approval from the NYSEG project manager is required to recommend a change to the *Work Plan*. An amendment to the *Work Plan* will be developed for acceptance and approval by NYSDEC and NYSDOH.

4.6 Final Engineering Report

At the completion of the project the Project Manager/construction quality assurance officer will prepare and submit a Final Engineering Report to the NYSDEC. This report will include a summary of all of the Daily Field Construction Reports, Photographic Log, Sampling Log, Material Disposition Log, and Variances to *Work Plan*. The Final Engineering Report will be signed and certified by a professional engineer that all

activities that comprised the were performed in full accordance with NYSDEC approved *Work Plan* and the NYSDEC Order on Consent Index #D0-0002-9309.

APPENDIX D

QUALITY ASSURANCE PROJECT PLAN

NYSEG

NEW YORK STATE ELECTRIC & GAS CORPORATION
James A. Carrigg Center, 18 Link Drive, P.O. Box 5224
Binghamton, New York 13902-5224

INTERIM REMEDIAL MEASURES

QUALITY ASSURANCE PROJECT PLAN

Geneva/Border City
FORMER MANUFACTURE GAS PLANT SITE
Town of Waterloo, Seneca County, New York

March 2004

Prepared By:
NYSEG Site Investigation and Remediation

Reviewed and Approved By:
New York State Department of Environmental Conservation

Section **Page**

Attachments

1.0 INTRODUCTION

This *Quality Assurance Project Plan* (*QAPP*) provides a description of the sampling and laboratory procedures/protocols to be used in support of the Interim Remedial Measures *Work Plan* associated with the Geneva/Border City former manufactured gas plant Site, Town of Waterloo, Seneca County, New York. The fundamental purpose of the *Quality Assurance Project Plan* is to ensure that quality analytical data will be generated to support the project in a manner consistent with the Data Quality Objectives as specified herein. This *Quality Assurance Project Plan* is designed to be used in conjunction with a New York State Department of Environmental Conservation (NYSDEC) approved *Work Plan* with regards to specific project objectives and field sampling activities. To the extent that discrepancies exist between this *Quality Assurance Project Plan* and the *Work Plan*, the *Work Plan* shall control.

2.0 DATA QUALITY OBJECTIVES

Data quality objectives are statements, expressed in either qualitative or quantitative terms, which address the appropriate level of data quality for a project. The quality of data generated must be suitable to support the decisions used to achieve the overall goals as delineated in the *Work Plan*. The general project data quality objectives are summarized in this section, with detailed information given throughout this and associated sections of the specific project *Work Plan*. The overall data quality objectives of the project are:

- To ensure that samples collected are representative of the sample population.
- To provide detection limits for the selected analytical methods which are below the established cleanup objectives or regulatory limits.
- To measure and document precision and accuracy using procedures established by the laboratories, the New York State Department of Health (NYSDOH) Environmental Laboratory Approval Program (ELAP) and U.S. Environmental Protection Agency (EPA) approved analytical methods.
- To ensure that all soil/residues and wastewater analyses will be conducted by a NYSDOH ELAP and NYSDOH ELAP CLP certified laboratory.
- To ensure that all final site verification samples (confirmatory samples) are reported with ASP Category B deliverables.

3.0 SAMPLE COLLECTION

3.1 Soils

Soil samples will be collected as described in the appropriate sections of the *Work Plan* or the *Pre-remediation In Situ Sampling and Analysis Work Plan*. These sections describe the collection procedures, sampling equipment, locations and frequencies for the soil samples. These schedules are based on the requirements for soil disposal or confirmation of excavation endpoint.

All sampling equipment will be properly disposed or decontaminated before being reused (see Section 9.1.1). Samples will be collected and placed in pre-cleaned sample containers provided by the laboratory performing the analysis. All necessary preservatives will be added to the sample containers at the laboratory prior to being shipped to the site (see Section 3.3). Samples will be stored at 4 degrees Centigrade until delivered to, and analyzed by the laboratory. This will be accomplished by utilization of an on-site refrigerator and/or coolers with ice. (When collecting composite samples for toxicity characteristic leachate procedure (TCLP) volatile analysis, volatilization will be minimized by covering the sample compositing container and placing it within a cooler filled with ice between grab sample additions.)

3.2 Wastewater Sampling

Wastewater samples will be collected as described in the appropriate sections of the *Work Plan*. These sections describe the collection procedures, sampling equipment, locations and frequencies for the wastewater samples. Samples of wastewater will be analyzed before being transported to a permitted facility for proper treatment and disposal.

Samples will be transferred directly into pre-cleaned sample collection containers which are supplied by the laboratory performing the analyses. All necessary preservatives will be added to the sample containers at the laboratory prior to being shipped to the site (see Section 3.3). Samples will be stored at 4 degrees Centigrade until delivered to, and analyzed by the laboratory. This will be accomplished by utilization of an on-site refrigerator and/or coolers with ice.

3.3 Sample Containers and Preservatives

Sample containers and preservatives will be provided by the contracted laboratories and stored on-site in a clean and dry location. Sample containers and preservatives by matrix and analysis are listed in the table below.

TABLE A: SAMPLE CONTAINERS & PRESERVATIVES			
Analysis	**Matrix**	**Container**	**Preservative**
TCLP Semivolatiles	Soil	500 ml glass*	4 degrees C
TCLP Metals	Soil	500 ml glass*	4 degrees C
TCLP Pesticides/Herbicides	Soil	500 ml glass*	4 degrees C
Reactive Cyanide	Soil	500 ml glass*	4 degrees C
Reactive Sulfide	Soil	500 ml glass*	4 degrees C
TCLP Volatiles	Soil	20 ml glass	4 degrees C
Total PAHs	Soil	250 ml glass	4 degrees C
Total BTEX (benzene, toluene, ethylbenzene, xylenes)	Soil	125 ml glass	4 degrees C
Total Metals	Soil	250 ml glass**	4 degrees C
Total Metals	Water	500 ml plastic	HNO_3 to pH < 2
Semivolatiles	Water	1000 ml amber glass	4 degrees C
Pesticides/Herbicides	Water	1000 ml amber glass	4 degrees C
Volatiles	Water	40 ml glass	4 degrees C or HCl to pH <2
Paint Filter	Water	500 ml glass	4 degrees C
Total Cyanide	Water	500 ml plastic	4 degrees C NaOH to pH >12
Percent Sulfur	Soil	250 ml glass**	4 degrees C
PCBs	Soil	500 ml glass***	4 degrees C
Ignitability	Soil	500 ml glass***	4 degrees C
BTU/lb	Soil	500 ml glass***	4 degrees C
Flashpoint	Soil	500 ml glass***	4 degrees C
Reactivity	Soil/Water	500 ml glass***	4 degrees C
Corrosivity	Soil/Water	500 ml glass***	4 degrees C
Percent Solids	Soil	500 ml glass***	4 degrees C
pH	Soil	500 ml glass***	4 degrees C

* May be analyzed from same sample container and/or extract.
** May be analyzed from same sample container.
*** May be analyzed from same sample container.
Note: All glass containers will be sealed with Teflon lined caps. All water samples for organic fractions will be collected in duplicate.

3.4 Sampling Holding Times

The following identifies samples by type and matrix and their related holding times.

TABLE B: WASTE CHARACTERIZATION SAMPLES

Sample Type	Matrix	Holding Time*
TCLP Pest./Herb.	Soil	5 days (extraction) 40 days (after extraction)
TCLP Semivolatiles	Soil	5 days (extraction) 40 days (after extraction)
TCLP Mercury	Soil	5 days (extraction) 28 days (after extraction)
TCLP Metals	Soil	180 days
TCLP Volatiles	Soil	14 days
Reactive Sulfide	Soil	7 days
Reactive Cyanide	Soil	14 days
PCBs	Soil	5 days (extraction) 40 days (after extraction)
Ignitability	Soil	N/A
Reactivity	Soil	Cyanide 14 days Sulfide 7 days
Corrosivity	Soil	2 days
Percent Solids	Soil	N/A

* Samples will be analyzed on a priority basis and reported within 10 days of collection or the maximum holding time, whichever is less.

TABLE C: WASTEWATER SAMPLES

Sample Type	Matrix	Holding Time*
Semivolatiles	Water	5 days (extraction) 40 days (after extraction)
Metals	Water	180 days
Total Cyanide	Water	14 days
Paint Filter	Water	N/A
Reactivity	Water	Cyanide 14 days Sulfide 7 days
Corrosivity	Water	Analyze immediately
Volatiles	Water	14 days

* Samples will be analyzed on a priority basis and reported within 5 days or the maximum holding time, whichever is less.

TABLE D: POST REMEDIATION CONFIRMATORY SAMPLES		
Sample Type	**Matrix**	**Holding Time**
Total Benzene	Soil	7 days
PAHs	Soil	5 days to extraction 40 days after extraction
TCL Volatiles	Soil	7 days
TCL Semivolatiles	Soil	5 days to extraction 40 days after extraction
Total Mercury	Soil	26 days
Total Lead	Soil	26 days

1 ASP Category B deliverables required. Duplicates, matrix spike, and matrix spike duplicate samples will be collected at a rate of ten percent.
2. Samples will be analyzed on a priority basis and reported within 48 hours or the maximum holding time, whichever is less.
3. TCL volatiles and semi-volatiles will be determined at a minimum rate of 1 per every group of 10 confirmation samples or portion thereof.

4.0 SAMPLE CUSTODY, IDENTIFICATION & TRACKING

4.1 Holding Times and Sample Transport

Since the samples will be analyzed at priority turn around, no exceedances of holding time are expected. Holding times will be calculated from the time the sample is collected to the subsequent extraction, if necessary, or analysis. All samples will be delivered to the laboratory by same day courier or overnight delivery in sealed coolers with ice.

4.2 Chain of Custody

All samples will be accompanied by a chain of custody from the point of sampling to delivery of the samples to the laboratory. The chain of custody will be a record of the location where the sample was collected, the date and time collected, number of containers collected, type(s) of analyses requested, special remarks or requests, and the signature of each custodian of the samples. The completed chain of custody will be included in all hard copies of reports. See Attachment 1 for a sample chain of custody form.

Upon sample receipt, laboratory personnel will be responsible for sample custody. The laboratory sample custodian will verify sample integrity and compare the cooler contents against the field chain of custody. If a sample container is broken or leaking it will be noted on the chain of custody form and NYSEG project personnel will be immediately notified. If any labeling or descriptive errors are observed by the sample custodian, NYSEG project

personnel will be contacted immediately to resolve any discrepancies. After all discrepancies (if any) are resolved, the laboratory will acknowledge receipt of the samples (i.e., by signing and dating the chain of custody) and the completed chain of custody will be included in all hard copies of reports and become a permanent part of the project records.

4.2.1 Sample Identification

Each sample collected during the project will have a unique identification number. This number, date of collection and type of analysis will be placed on each sample container after the sample is collected. See Attachment 2 for sample identification naming convention for air, water and confirmatory samples. A Site map will be used throughout the project to denote the area or point that a confirmatory sample represents. Each confirmatory sample will be assigned a sample point number which will appear as characters 9 & 10.

4.3 Laboratory Sample Tracking

Each laboratory has an internal tracking mechanism to ensure that each sample received has a unique identification number and that results generated and reported for each sample correspond to the identification number assigned at the laboratory.

5.0 CALIBRATION PROCEDURES

Each analysis will be performed in accordance with NYSDOH ELAP (Environmental Laboratory Approval Program) sanctioned methods or equivalent U.S. EPA analytical procedures. Each procedure specifies the method and frequency of calibration necessary to perform accurate and precise analyses. Each analytical instrument verifies the Minimum Detection Limit at least every six months as prescribed by the NYSDOH ELAP. The calibration of the instruments are verified at the beginning and end of each auto sampler run. Gas Chromatograph/Mass Spectrometers are tuned and calibrated every 12 hours, at a minimum.

All field equipment, for real time and speciated real time air analyses will be calibrated daily, in accordance with manufacturer's recommendations. All equipment will be calibrated more frequently if conditions warrant. The total Organic analyzer equipped with a photo ionization detector (PID) will be used to measure volatile organic vapors will be calibrated to benzene with a 10 ppm isobutylene air standard. The DataRam™and a Thermo Andersen ADR-1200s used to measure particulates will be calibrated to zero with filtered air sample. The portable GC unit will be used to measure the BTEX (benzene, toluene, ethylbenzene and xylenes) compounds and will be calibrated to a BTEX standard.

6.0 ANALYTICAL PROCEDURES

6.1 Laboratory Analyses

The following charts shows the analytical method to be used for each analyte or group of analytes for the Project:

TABLE E: ANALYTICAL METHODS

Analyte	Analytical Method
TCLP Extractions	SW 846 Method 1311
TCLP Volatiles	SW 846 Method 8260
TCLP Semivolatiles	SW 846 Method 8270
TCLP Metals	SW 846 Method 6000/7000 Series
TCLP Pesticides/Herbicides	SW 846 Method 8080/8151
Polycyclic Aromatic Hydrocarbons (Table F)	SW 846 Method 8270
Total Volatiles	SW 846 Method 8260
Total Semivolatiles	SW 846 Method 8270
Total Metals	SW 486 Method 6000/7000 Series
PCBs	SW 846 Method 8082
Reactive Sulfide	SW 846 Chapter 7.3.4.2
Reactive Cyanide	SW 846 Section 7.3.3.2
Percent Sulfur	ASTM D-129
BTU/lb	ASTM D-215
Flashpoint	ASTM D-93
Ignitability	SW 846 Method 1030
Reactivity	SW 846 Section 7
Corrosivity	SW 846 Section 7
Percent Solids	ASP Method D-V-Section IX
pH	SW 846 Method 9045
Total Cyanide	SW 846 9012
Paint Filter Test	SW 846 9095

TABLE F: Polycyclic Aromatic Hydrocarbon (PAH) Analyte List
PARAMETER
Naphthalene
2-Methylnaphthalene
Acenaphthene
Acenaphthylene
Fluorene
Phenanthrene
Anthracene
Fluoranthene
Dibenzofuran
Pyrene
Benzo (g,h,i) perylene
Benzo (a) anthracene*
Chrysene*
Benzo (b) fluoranthene*
Benzo (k) fluoranthene*
Benzo (a) pyrene*
Indeno (1,2,3 cd) pyrene*
Dibenzo (a, h) anthracene*
***Carcinogenic PAHs (cPAH)**

6.2 Laboratory Selection

The laboratory chosen for the project must be certified, and maintain certification, under the NYSDOH ELAP and NYSDOH ELAP CLP for analyses of solid and hazardous waste. Only analytical laboratories that have experience in MGP projects or similar projects will be considered for use. NYSEG has contracted with (To Be Determined) to perform laboratory services for this *Work Plan*.

7.0 DATA REDUCTION VALIDATION AND REPORTING

7.1 Data Reduction

7.1.1 Field Data Collection

Real time field data collected during sampling events will include qualitative information regarding the texture, appearance, odors, and any other observations made while soil and water samples are being collected. Meteorological data and current site activity will be noted while collecting data for real time air monitoring. These observations will be recorded in the field log book.

7.1.2 Laboratory Data Collection and Reduction

A significant portion of the analyses performed require the use of automated laboratory instrumentation. Raw data collected from the instruments detectors will be converted to standard units of mg/Kg for solid matrices and mg/L for water. All raw data will be stored in electronic form and in laboratory notebooks, in case the analysis needs to be recreated. Raw data for all analyses will be archived for a minimum of four years.

7.2 Data Review

All analytical data will be verified for precision and accuracy utilizing the laboratory's in-house Quality Assurance/Quality Control programs. In addition, all data packages will be reviewed by NYSEG project personnel to ensure that all data deliverables have been properly provided.

7.3 Full Data Validation

The full third party data validation process consists of a formal systematic review of analytical results and quality control documentation with regards to the parameters cited in section 8.3. On the basis of this review, a third party data validator will make judgements and express concerns on the quality and limitations of the specific data and the validity of the data package as a whole. The data validator prepares documentation of his or her review using the standard USEPA Inorganics Regional assessment and Organics Regional assessment forms to summarize deficiencies and general laboratory performance. These forms are accompanied by appropriate supplementary documentation which identifies specific problems.

Since a full data validation would typically be used for the purposes of litigation, this level of review may surpass the scope of work necessary for the project. Therefore, any full data validation for analytical results of confirmatory samples will be performed at NYSEG's discretion. Confirmatory sampling data will be archived in the event that it becomes necessary to perform a full data validation at a future date.

7.4 Data Usability Summary Report

A Data Usability Summary Report (DUSR) provides a thorough review and evaluation of analytical data without the formality of a full third party data validation. A Data Usability Summary Report for the analytical results of confirmatory samples will be generated in lieu of a full data validation to verify that the proper data deliverables and procedures have been rendered in accordance with the data quality objectives of the *Work Plan.*

7.5 Reporting

Final reports for analytical data will be reviewed and accepted by NYSEG prior to submission to the NYSDEC. Reports for analyses performed under the ELAP protocol will contain results sheet for the sample analyzed. These reports must include at a minimum:

- NYSEG Sample ID number;
- Laboratory sample ID number;
- Sample collection date;
- Extraction or digestion date (if applicable);
- Date Analyzed;
- Analytical method;
- Analytical results (with units clearly identified);
- Results of laboratory blank and field blanks;
- Results of spikes, matrix spikes and duplicates;
- Surrogate recoveries (if applicable);
- Completed Chain of Custody forms; and
- Field log sheets (if available)

8.0 QUALITY CONTROL CHECKS

8.1 Field Quality Control

8.1.1 Decontamination Procedures for Confirmation Sampling

The following decontamination procedure will be followed for all non-disposable sampling equipment before being reused.

- Equipment will be washed thoroughly with a non-phosphate detergent.
- The equipment will then be rinsed with analyte-free water.
- The equipment will be rinsed with a reagent grade methanol solution diluted with analyte-free water.
- If the equipment is being used for the collection of samples for metals analyses it will then be rinsed with a 10% reagent grade nitric acid solution.
- The equipment will be rinsed with analyte-free water.

After decontamination, equipment will be carefully stored to avoid contamination between sampling events.

8.2 Laboratory Quality Control

Each laboratory is NYSDOH Certified for the analyses they will perform. Each analyst must complete a start-up proficiency procedure to demonstrate their capability to perform accurate and precise analyses on each type of instrument they operate. In addition, each laboratory must accurately analyze samples provided by NYSDOH on a semi annual basis to maintain certification. The laboratories have internal quality control officers that review all methodologies and implement corrective action, including re-analyzing samples which do not pass established laboratory quality control criteria.

Laboratory quality control procedures are specified in the analytical methods. These specifications include the type of quality control check required, compounds and concentrations to be used, and quality control acceptance criteria. Quality control checks will include (where specified by method):

- Calibration Standards
- Methods Blanks
- Matrix Spike/Matrix Spike Duplicates
- Surrogate Spikes
- Internal Standards
- Laboratory Duplicates

- Calibration Check Standards
- Laboratory Control Samples

9.0 PREVENTATIVE MAINTENANCE

9.1 Field Instruments and Equipment

Equipment, instruments, tools, gauges, and other items requiring preventive maintenance will be serviced in accordance with the manufacturer's specified recommendations or written procedures developed by the operators. All field equipment service will be conducted by qualified personnel. Prior to any field sampling, each piece of field equipment will be inspected to ensure that it is operational. If the equipment is not operational, it must be repaired prior to use. All equipment which require charging or batteries will be fully charged or have fresh batteries at the start of the project. An equipment repair/maintenance log will be kept for each field instrument. Any non-operational/non-repairable field equipment will be replaced.

9.2 Laboratory Instruments and Equipment

Each laboratory has an instrument/equipment maintenance program which includes procedures for daily, weekly, monthly, or annual routine maintenance. In addition, maintenance is performed if the accuracy and/or precision of the instrument is in question.

9.2.1 Instrument Maintenance

Preventive maintenance of laboratory instruments will be conducted in accordance with the manufacturer's guidelines or written procedures developed by the operators. All instrument service will be performed by qualified personnel. To minimize potential downtime, the laboratory will maintain a sufficient supply of critical spare parts for its instruments and, where practical, maintain a service contract for rapid instrument repair. Wherever possible, the laboratory will retain backup instrumentation. An instrument repair/maintenance log will be maintained for each instrument.

9.2.2 Equipment Monitoring

On a daily basis, the operation of the laboratory equipment (i.e., balances, ovens, refrigerators, water purification systems, etc.) Will be checked and documented. Any discrepancies will be immediately reported to the appropriate laboratory personnel for resolution.

ATTACHMENT 1

NYSEG CHAIN OF CUSTODY RECORD

Laboratory_____

Project Location: _____
Samplers: _____
Affiliation: _____

Sample ID Code	Type	Matrix	Collection Date/Time	No. of Con-tainers											Remarks

Matrix Code: L=Liquid; S=Solid; A=Air

Relinquished by:	Loc:	Date:	Time:	Seals Intact
Received by:	Loc:	Date:	Time:	Y N NA
Relinquished by:	Loc:	Date:	Time:	Seals Intact
Received by:	Loc:	Date:	Time:	Y N NA

Special Instructions / Remarks: Return Cooler (s) _____ and Foam (s) _____ or Service Charge will be applied.

Delivery Method: In Person Common Carrier(specify) Lab Courier Other(specify)

SAMPLE IDENTIFICATION NAMING CONVENTION FOR AIR, WATER AND CONFIRMATORY SAMPLES

SYSTEM CODING

SYSTEM CODING IS DERIVED FROM A 10 CHARACTER CODE WITH THE 11 CODE DECLARING SAMPLE TYPE.

HOW THE 10 CHARACTER CODING SYSTEM WORKS:

1 2 3 4 5 6 7 8 9 10

EX. OWEGO WELLPOINT 81-01 SH

O W G U S H 8 1 0 1 G
1 2 3 4 5 6 7 8 9 10

FIRST TWO CHARACTERS = SITE
THIRD CHARACTER = SOURCE
FOURTH CHARACTER = RELATIVE LOCATION
FIFTH AND SIXTH CHARACTER = LOCATION
SEVENTH & EIGHTH CHARACTER = YEAR OF LOCATION/WELL
(XX, IF NOT APPLICABLE)
NINTH & TENTH CHARACTER = NUMBER OF SAMPLING POINT/CONSECUTIVE #
IF MORE THAN ONE SAMPLE FROM SAME LOCATION
(XX, IF NOT APPLICABLE)

ENVIRONMENTAL QUALITY ANALYSIS SYSTEM

PAGE 1	SITE
PAGE 2	SOURCE
PAGE 2	RELATIVE LOCATION
PAGE 3&4	LOCATION
PAGE 4	TYPE

ENVIRONMENTAL QUALITY ANALYSIS SYSTEM

CLASS: *SITE*

CODE	DESCRIPTION
AC	AUBURN CLARK STREET MGP
AF	AFTON ASH DISPOSAL SITE
AG	AUBURN GREEN STREET MGP HOLDER
AL	ALBION MGP
AM	AUBURN MCMASTER STREET MGP
BC	BORDER CITY MGP
CA	CANANDAIGUA MGP
CH	CORTLAND/HOMER MGP
CL	CLYDE MGP
CO	COOPERSTOWN MGP
CR	CORNING MGP
CS	CLIFTON SPRINGS MGP
DR	DAVIS ROAD ASH DISPOSAL SITE
DV	DANSVILLE MGP
EL	ELMIRA MGP
EW	ELMIRA WATER STREET MGP
GS	GOSHEN MGP
GV	GRANVILLE MGP
HN	HORNELL MGP
IC	ITHACA COURT ST MGP
IF	ITHACA FIRST STREET MGP
II	ITHACA CAYUGA INLET MGP STORAGE AREA
LP	LOCKPORT MGP
LS	LOCKPORT STATE STREET MGP HOLDER
LY	LYONS MGP
MC	MECHANICVILLE COONS CROSSING MGP DISPOSAL AREA
MD	MEDINA MGP
ME	MECHANICVILLE CENTRAL AVE MGP
MW	MECHANICVILLE WILLOW GLEN MGP DISPOSAL AREA
NO	NORWICH MGP
NW	NEWARK MGP
ON	ONEONTA MGP
OW	OWEGO MGP
PA	PALMYRA MGP
PB	PLATTSBURGH BRIDGE STREET MGP
PJ	PENN YAN JACKSON STREET MGP
PL	PLATTSBURGH SARANAC STREET MGP
PP	POZZOLANA PARK ASH DISPOSAL SITE
PY	PENN YAN MGP
RE	(FOR "REASON9999" LIMITS)
SF	SENECA FALLS MGP
WA	WARSAW MGP
WR	WATERLOO MGP HOLDER
WT	WATERVILLE MGP
WW	GENEVA WADSWORTH STREET MGP

ENVIRONMENTAL QUALITY ANALYSIS SYSTEM

CLASS: *SOURCE*

CODE	DESCRIPTION
A	AIR SAMPLE
D	DRINKING WATER
E	LEAK DETECTION SYSTEM
F	FLY ASH
G	GROUND WATER
H	LEACHATE COLLECTION SYSTEM
I	BIOLOGICAL
L	LABORATORY
M	STORMWATER DISCHARGE
O	(FOR "GROUND9999" LIMITS)
P	PROCESS STREAM
Q	LIQUID WASTE
S	SURFACE WATER
T	SEDIMENT SAMPLE
U	SURFACE SOILS
V	SUBSURFACE SOILS
W	SOLID WASTE
X	SLUDGE SAMPLE
Z	PIEZOMETER

ENVIRONMENTAL QUALITY ANALYSIS SYSTEM

CLASS: ***RELATIVE LOCATION***

CODE	DESCRIPTION
A	AMBIENT
C	CROSSGRADIENT
D	DOWNGRADIENT
I	IN FILL (TAKEN OUT OF A PILE) OR IN SOURCE
L	LOWER
P	UPPER
S	(FOR "REASON9999" LIMITS)
U	UPGRADIENT
W	WASTEWATER
X	N/A

ENVIRONMENTAL QUALITY ANALYSIS SYSTEM

CLASS: *LOCATION*(Continued on next page)

CODE	DESCRIPTION
A-	DENOTES A WELL
AI	AIR INDOOR
AO	AIR OUTDOOR
AS	AIR SAMPLING LOCATION
B-	BORING
BD	BOTTOM ASH POND DISCHARGE - NOT TREATED
BI	SETTLING BASIN INFLUENT
CK	SINK
CN	CANAL
CR	COAL TAR TANK
D-	DEEP
DS	DISTRIBUTION SYSTEM
DU	REPLICATE
E-	EAST
FB	FIELD BLANK
FL	FLOOR DRAIN
FO	DRINKING WATER FOUNTAIN
GD	GROUND WATER DRAIN
GH	GAS HOLDER
I-	INSIDE LOCATION AREA
L-	LOWER
LA	LAGOON
LD	LEAK DETECTION DRAIN
LE	ASH LEACHATE
LS	LIFT STATION - PUMPING STATION
MD	MATRIX SPIKE DUPLICATE
MH	MANHOLE
MS	MATRIX SPIKE
N-	NORTH
ND	(FOR "GROUND9999" LIMITS)
ON	(FOR "REASON9999" LIMITS)
OS	OIL STORAGE AREA
PB	PURIFIER BOX
PD	PERIPHERAL DRAINAGE DITCH - AROUND LANDFILL, NO DIRECT DISCHARGE
PO	POND
PW	PROCESS WATER TREATMENT PLANT DISCHARGE - FINAL DISCHARGE FROM TREATMENT FACILITY
R-	DENOTES REPLACEMENT WELL
RF	ROLLOFF CONTAINER
RO	ROOF DRAIN
S-	SOUTH
SD	SEDIMENTATION POND DISCHARGE
SE	STORAGE PILE

ENVIRONMENTAL QUALITY ANALYSIS SYSTEM

CLASS: *LOCATION* (Continued from previous page)

CODE	DESCRIPTION
SF	SURFACE
SH	SHALLOW
SP	SPRING
SP	SEDIMENTATION POND
SR	WATER
SS	STREAM
ST	SANITARY TREATMENT PLANT DISCHARGE
SW	DRAINAGE SWALE AREA - LOW SPOT FOR WATER COLLECTION
TB	TRIP BLANK
TD	TOE DRAIN
TK	TRUCK
TP	TEST PIT
TR	TRANSFORMER
TT	TELLTALE
U-	UPPER
UD	UNDERDRAIN
W-	WEST
WK	WATER TANK
WO	WASTE OIL CONTAINMENT STRUCTURE
WS	WATER SUPPLY WELL
WT	WATER TREATMENT WASTES
XX	N/A
YR	YARD ROOF DRAINS

ENVIRONMENTAL QUALITY ANALYSIS SYSTEM

CLASS: *TYPE*

CODE	DESCRIPTION
A	GAS SAMPLER
B	BAILER
C	COMPOSITE OVER THE TIME AT ONE LOCATION
D	PROBE
G	GRAB-SINGLE SAMPLE
H	HNU SAMPLE
L	COMPOSITE OF GRAB SAMPLES COLLECTED AT MULT. LOCS
Q	QUALITY ASSURANCE SAMPLE
V	OVA SAMPLE

APPENDIX E

TRANSPORTATION OF SOLID AND/OR LIQUID WASTE

NYSEG

NEW YORK STATE ELECTRIC & GAS CORPORATION
James A. Carrigg Center, 18 Link Drive, P.O. Box 5224
Binghamton, New York 13902-5224

INTERIM REMEDIAL MEASURES

TRANSPORTATION OF SOLID AND/OR LIQUID MATERIALS

Geneva/Border City
FORMER MANUFACTURE GAS PLANT SITE
Town of Waterloo, Seneca County, New York

March 2004

Prepared By:
NYSEG Site Investigation and Remediation

Reviewed and Approved By:
New York State Department of Environmental Conservation

1.0 SCOPE OF WORK

This specification is for the transportation of solid and/or liquid nonhazardous and hazardous materials for Geneva/Border City former manufactured gas plant site, Town of Waterloo, Seneca County, New York as detailed herein and in the Order on Consent Index No. D0-0002-9309 with New York State Department of Environmental Conservation, and any other applicable Federal, State, and Local Laws.

2.0 WORK BY CONTRACTOR

The transporter shall provide all supervision, training, permits, manifest, labor, tools, equipment, consumable materials, and expendable materials, to transport solid and/or liquid materials as detailed herein.

3.0 GENERAL WORK CONDITIONS

3.1 The transporter shall comply with all applicable provisions of New York State Department of Environmental Conservation Regulation, 6 NYCRR Part 364 "Waste Transporters Permit", Title 6 of the Official Compilation of Codes, Rules and Regulations.

3.2 The transporter shall comply with all applicable provisions of New York State Department of Environmental Conservation Regulation 6 NYCRR Part 372 "Hazardous Waste Manifest System and Related standards for Generators, Transporters and Facilities", Title 6 of the Official Compilation of Codes, Rules and Regulations.

3.3 The transporter shall comply with all applicable provisions of New York State Department of Transportation (NYSDOT) , the New York State Department of Motor Vehicle, and/or any other applicable Federal, State, and Local Laws.

3.4 The transporter shall comply with applicable provisions of OSHA 29 CFR 1910.120 "40 hours Hazardous Waste Operations Health & Emergency Response".

3.5 The transporter shall develop and implement a written Health & Safety Plan for their drivers which addresses potential exposure to MGP residuals.

3.6 The transporter shall adhere to the following rules while working on an MGP Site and/or on an Owner's Property.

3.6.1 Any truck found unacceptable by the Owner's Field Representative and/or the MGP Site's Health & Safety Officer may be rejected. Any cost for rejected trucks shall be born by the transporter.

3.6.2 The truck drivers will report their arrival to the Owner's Field Representative and/or the MGP Site's Health & Safety Officer.

3.6.3 Truck drivers are generally restricted to their trucks and the designated waiting areas. Drivers are not permitted access to the MGP Sites without express permission from a representative of the Owner.

3.6.4 Truck drivers will don **hard hats, safety glasses, safety shoes/boots, and gloves**, as a minimum for personal protection, when on Owner's MGP Sites and/or Owner's Power Station Sites.

3.6.5 Per Owner's discretion, trucks transporting coal tar nonhazardous solid material or coal tar contaminated hazardous solid material may have the driver line the entire box (to top of side boards) with three mils thick polyethylene sheets (poly sheets). All trucks will also have a gasket between the box and tailgate.

3.6.6 All trucks require working audible and visual backup signals.

3.6.7 When loading or when directed by a representative of the Owner, the truck engine should be shut off. Each truck may be restarted and driven away only after receiving the **"all clear"** direction from the loader operator, or Owner's Field Representative.

3.6.8 Truck engines are not allowed to idle in residential or other areas where the exhaust and/or noise could be a nuisance.

3.6.9 No trucks will be loaded above the side boards and no material will be spilling out of the truck. The trucks' exteriors will be cleaned (by others) from material being loaded before they leave the loading area.

3.6.10 NYSEG remedial workers will reposition tarp bars over waste materials. Drivers will not be allowed to walk over waste material.

3.6.11 The drivers will cover trucks with tarps inside the loading area.

3.6.12 Obey traffic signs and notices (obey the posted speed limit).

3.6.13 Obey rules posted on the site and/or any site specific Health & Safety Plan for all employees.

3.6.14 Report any accidents to the Owner's Field Representative and/or the MGP Site's Health & Safety Officer and cooperate with any subsequent accident investigation.

3.6.15 No children under 16 years of age are allowed on MGP Sites.

3.6.16 Slow down and be extra cautious during times of poor weather (rain, fog, and snow).

3.6.17 Take extra care around blind corners (watch for construction equipment and pedestrians).

3.6.18 Smoking, eating, and/or drinking is **not permitted** within the securety fence (Contamination Reduction Zone and Exclusion Zone). Smoking, eating, and/or drinking is permitted only in designated areas.

3.6.19 After disposal of material, the transporter is responsible for properly decontaminating their truck and/or equipment.

APPENDIX F

CONTINGENCY PLAN

NYSEG

NEW YORK STATE ELECTRIC & GAS CORPORATION
James A. Carrigg Center, 18 Link Drive, P.O. Box 5224
Binghamton, New York 13902-5224

INTERIM REMEDIAL MEASURES

CONTINGENCY PLAN

Geneva/Border City
FORMER MANUFACTURE GAS PLANT SITE
Town of Waterloo, Seneca County, New York

March 2004

Prepared By:
NYSEG Site Investigation and Remediation

Reviewed and Approved By:
New York State Department of Environmental Conservation

TABLE OF CONTENTS

1.0 CONTINGENCY PLAN

This *Contingency Plan* is designed to address potential emergencies that may arise as a result of operations during the Interim Remedial Measure Work Plan to be completed at Geneva/Border City former manufactured gas plant site, Town of Waterloo, Seneca County, New York. This *Contingency Plan* supplements the *Work Plan* and the *Health and Safety Plan*.

The Site Safety Officer will be made aware of the emergencies and coordinate any response activities carried out at the site. The Site Safety Officer will serve as the overall Project Emergency Coordinator and have the ultimate authority in specifying and facilitating any contingency action.

If the Site Safety Officer is not able to perform these duties, he will specify another senior individual to serve in this capacity. The Project Emergency Coordinator will become familiar with contingency plans developed by each contractor and subcontractor.

1.1 Identifying the Hazards and Assessing the Risk

The objectives during any emergency shall be to protect human health and safety and then the environment. Possible hazards to human health or environment that may result from any emergency situation will be identified by the Project Emergency Coordinator. The Project Emergency Coordinator must take into consideration both direct and indirect effects of the incident.

The Project Emergency Coordinator will then access the possible risks to human health or the environment that may result from the emergency (e.g., release, fire, explosion, or severe weather conditions). He will make this assessment by:

- identifying the materials involved in the incident;
- consulting the appropriate Occupational Health Guideline or Material Safety Data Sheet to determine the potential effects of exposure/release, and appropriate safety precautions; and
- identifying the exposure and/or release pathways and the quantities of materials involved.

Based on this information the Project Emergency Coordinator will determine the best course of action for dealing with the emergency, and possible follow-up requirements that may result from implementing those actions (e.g., equipment repair, material disposal, etc.).

If the incident cannot be controlled by operating personnel without incurring undue risk, the Project Emergency Coordinator will implement the Site Evacuation Procedures (Section 2.1) If off-site neighboring population is at risk the Off-Site Evacuation Procedures (Section 2.2) will be implemented. The Project Emergency Coordinator will notify NYSEG project manager and the appropriate government agencies and departments that a situation resulting in evacuation has occurred. Should emergency assistance in treating injuries or carrying out the evacuation be required, the Project Emergency Coordinator will request assistance of the appropriate parties.

1.2 Conditions for Implementing a Contingency Plan

Some of the conditions under which the contingency plan would be implemented are:

- fire or explosion;
- occurrence of a spill or material release;
- severe weather conditions; and
- physical or chemical injury to a worker.

1.2.1 Fire and/or Explosion Conditions

Contingency procedures will immediately be implemented upon notification that any of the following scenarios involving fire and/or explosion is imminent or has occurred:

- a fire that causes, or could cause, the release of toxic fumes;
- a fire that could possible ignite nearby flammable or could cause heat-induced explosions;
- a fire that could possibly spread to off-site areas;
- a danger exists that an explosion could occur causing a safety or health hazard; and
- an explosion has occurred.

1.2.2 Spill or Material Release Conditions

Any of the following scenarios involving a spill or material release, whether imminent or having already occurred, will cause implementation of contingency procedures:

- a spill or material release that could result in the release of flammable liquids or vapors, thus causing a fire or gas explosion hazard;

- a spill or material release that could cause the release of toxic vapors or fumes into the atmosphere in concentrations higher than the OSHA Permissible Exposure Limits (PELs);
- a spill or material release that can be contained on-site where a potential exists for groundwater or surface water contamination; and
- a spill or material release that cannot be contained on-site, resulting in a potential for off-site soil contamination and/or groundwater or surface water pollution.

The Project Emergency Coordinator (or sub-contractor's emergency coordinator) will immediately identify the character, source, amount, and extent of any release. Spills or material releases shall be reported immediately to the Project Emergency Coordinator. Initial identification will be based on visual analysis of the material and location of the release. If the release material cannot be identified, samples will be taken for analysis.

1.2.3 Severe Weather Conditions

The following severe weather conditions, whether imminent or having occurred, may cause implementation of contingency procedures.

- a tornado has been sighted in the area;
- a tornado warning is in effect for the area;
- a lightning storm is underway in the area (storm center less than 5 miles away); and
- other severe weather or weather induced conditions (e.g., hurricane or flood).

1.2.4 Physical or Chemical Injury Conditions

The following worker injuries may cause implementation of the *Contingency Plan*:

- major physical injuries;
- chemical injuries; and
- severe symptoms of chemical overexposure.

1.3 Contingency Procedures

If any of the aforementioned conditions for implementing the *Contingency Plan* are met, the appropriate following contingency procedure(s) shall be performed.

1.3.1 Contingency Procedures for Fire/Explosion

When fire or explosion appear imminent or have occurred, all normal activity in affected areas will cease. The Project Emergency Coordinator will make an assessment of the potential risk and severity of the situation to decide whether the emergency event will or will not be readily controllable with existing portable fire extinguishers or site equipment and materials at hand. Fire fighting will not be done at the risk to site workers. Local fire departments will be contacted in all situations in which fires and/or explosions have occurred. The following steps will be taken for localized fire.

- contact local fire departments;
- move all personnel to an upwind location at an appropriately safe distance away;
- determine if fire is within on-site personnel capabilities to attempt initial fire fighting;
- if the fire is within on-site personnel capabilities, utilize most appropriate means of extinguishing fire (e.g., fire extinguishers, water, covering with soil, etc.); and
- once fire is extinguished, containerize and properly dispose of any spilled material, runoff, or soil.

If the situation appears uncontrollable and poses a direct threat to human life, fire departments will be contacted and the Evacuation Plan will be implemented. If the chances of an impending explosion are high, the entire area within a 1,000-foot radius of the fire source will be evacuated. The Project Emergency Coordinator will alert personnel when all danger has passed, as determined by the chief fire fighter from the responding fire department. All equipment used in the emergency will be cleaned and refurbished as soon as possible after the emergency has passed so that it will be ready for use in the event of any future emergency.

1.3.2 Contingency Procedures for Spills or Material Releases

If a hazardous waste spill or material release or process upset resulting in probable vapor release is identified, the Project Emergency Coordinator will immediately assess the magnitude and potential seriousness of the spill or release based upon;

- MSDS for the material spilled or released;
- source of the release or spillage of hazardous material;
- an estimate of the quantity released and the rate at which it is being released;

- the direction in which the spill or air release is moving;
- personnel who may be or may have been in contact with material, or air release, and possible injury or sickness as a result;
- potential for fire and/or explosion resulting from the situation; and
- estimates of area under influence of release.

If the spill or release is determined to be within the on-site emergency response capabilities, the Project Emergency Coordinator will ensure implementation of the necessary remedial action. If the accident is beyond the capabilities of the operating crew, all personnel not involved with emergency response activity will be evacuated from the immediate area and the appropriate emergency response group(s) will be contacted.

1.3.3 Contingency Procedures for Severe Weather

When a tornado is sighted in the area, when a tornado warning has been issued, or when a lightning storm occurs, the information will be immediately relayed to the Project Emergency Coordinator. In the case of a tornado sighting, the Project Emergency Coordinator will then institute emergency shutdown procedures, and all personnel will be directed to proceed indoors after completing appropriate shutdown procedures. In the case of a tornado warning, or lightning storm, the Project Emergency Coordinator will have operations stopped and direct all personnel to stand by for emergency procedures. Other types of weather or weather inducted conditions (e.g., hurricane or flooding) for which long range prediction is available may also require positive action as identified herein.

When the severe weather has passed, the Project Emergency Coordinator will direct all contractor's to inspect on-site equipment to ensure its readiness for operation prior to restarting operations.

If an inspection indicates a fire, explosion, or release has occurred as the result of a severe weather condition, the procedures for those events will be followed.

1.3.4 Contingency Procedures for Physical Injury to Workers

Regardless of the nature and degree of the injury, the Project Emergency Coordinator will be apprised of **all** injuries requiring first aid of any kind. A report of the injury or incident will be completed as required by *IRM Health and Safety Plan*.

Upon notification that worker has been injured, the Project Emergency Coordinator will immediately determine the severity of the accident, and whether the victim can be safely

moved from the incident site. Appropriate medical assistance will be summoned immediately.

Minor injuries sustained by workers will be treated on-site using materials from the first aid kits. Whenever possible, such treatment will be administered by trained personnel in a "clean zone". Examples of minor injuries include small scrapes and blisters. Minor injuries would not be expected to trigger implementation of the contingency plan.

Major injuries sustained by workers will require professional medical attention at a hospital. The Project Emergency Coordinator will immediately summon an ambulance and contact the hospital to which the injured worker will be transported. The Project Emergency Coordinator will notify NYSEG project manager as soon as practical. The hospital and ambulance should be advised of:

- the nature of the injury;
- whether the injured worker will be decontaminated prior to transport;
- when and where the injury was sustained; and
- the present condition of the injured work (e.g., conscious, breathing).

1.3.5 Contingency Procedures for Chemical Injury to Workers

Injuries involving hazardous chemicals or symptoms of severe chemical overexposure will automatically trigger implementation of the contingency plan. Upon notification that a chemical injury has been sustained or severe symptoms of chemical exposure are being experienced, the Project Emergency Coordinator will notify the hospital and ambulance of the occurrence. The Project Emergency Coordinator will provide, to the extent possible, the following information:

- the nature of the injury (e.g., eyes contaminated);
- the chemical(s) involved;
- the present condition of the injured worker (e.g., conscious, breathing);
- whether the injured worker will be decontaminate prior to transport; and
- when and where the injury was sustained.

Steps will immediately be taken to remove the victim from the incident site using whatever personal protective equipment (PPE) and safety equipment is necessary. Rescuers will check for vital signs and, if possible, remove contaminated outer clothing. If the victim's eyes have been contaminated, personnel trained in administering first aid will flush the victim's eyes with eyewash solution until the emergency response team arrives.

Details on the nature of the contaminant and methods for treating exposure or injury can be obtained from the Material Safety Data Sheets or Occupational Health Guidelines as provided in the *IRM Health and Safety Plan*.

2.0 EMERGENCY EVACUATION PROCEDURES

2.1 Site Evacuation Procedures

If an emergency occurs that requires the evacuation of an area to ensure personnel safety, including (but not limited to) fire, explosion, severe weather or hazardous waste/material spills, or a significant release of vapors into the atmosphere, an air horn will be sounded on the site by the nearest person aware of the event. The horn will sound continuously for approximately 15 seconds, signaling that immediate evacuation of all personnel from the area is necessary as a result of some existing or impending danger. In areas where only two or three people are working side by side, and the need to evaluate can be communicated verbally, the air horn will not be necessary by the nearest person aware of the event.

All heavy equipment in the area will be shutdown. Under no circumstances will incoming visitors (other than emergency response personnel) be allowed to enter any area where an emergency is occurring. Visitors or observers and all non-essential personnel present in the area of an emergency will be instructed to evacuate the area immediately.

Contractor and subcontractor emergency coordinators and/or health and safety officers (as designated) will be responsible for ensuring that emergency response requirements specific to their own operations are carried out. These parties will report their activities to the Project Emergency Coordinator. The Project Emergency Coordinator, however, has final authority regarding all emergency response activities.

All non-essential personnel shall evacuate the emergency areas and notify personnel in adjacent areas to evacuate also. The evacuated workers will assemble at the primary assembly area at the site construction office trailer, where the Project Emergency Coordinator will give directions for implementing necessary actions. In the event that the primary assembly area is involved, unapproachable, or unsafe due to the event, evacuated workers shall assemble at the alternate assembly area at the intersection of state Road and High Street. The Project Emergency Coordinator will phone for backup assistance.

Personnel are to avoid encountering smoke/gas plumes as practicable during evacuation and assembling.

The Project Emergency Coordinator will take charge of all emergency response activities and dictate the procedures that will be followed until emergency personnel arrive. The Project Emergency Coordinator will assess the seriousness of the situation, and direct whatever efforts are necessary until the emergency response units arrive.

After initiating emergency response procedures, the Project Emergency Coordinator will assign appropriate personnel to check and attempt to ensure that access roads are not obstructed. If traffic control is necessary, as in the event of a fire or explosion, personnel who have been trained in these procedures and designated at the project safety meeting will take over these duties until emergency units arrive.

The Project Emergency Coordinator will remain at the site to provide any assistance requested by emergency-response squads as they arrive to deal with the situation. The Project Emergency Coordinator will have the authority to shut down any part or all of the project after an emergency until he deems it safe to continue operations. He will dictate any changes in project safety practices which are made necessary by the emergency that has occurred or are required for preventing further emergencies.

2.2 Off-Site Evacuation Procedures

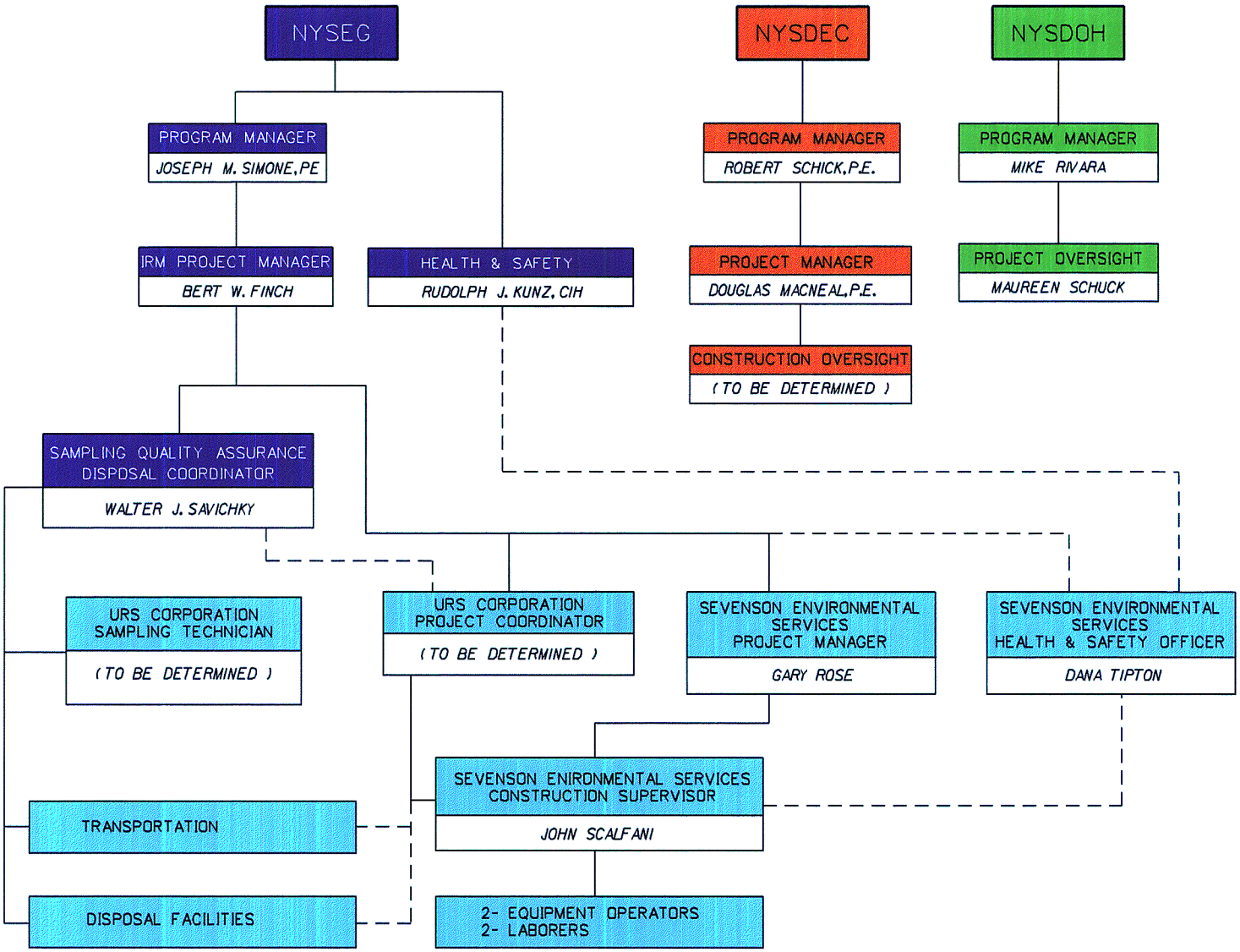
If the Project Emergency Coordinator deems that humans outside of the site are at risk, he will notify the appropriate agencies and departments (e.g., NYSEG project manager, Seneca County Department of Health, Charles Carroll (315) 539-1945, Seneca County Sheriff Department (315) 539-9241, New York State Department of Environmental Conservation and New York State Department of Health, Maureen Schuck (518) 402-7890, and New York State Department of Environmental Conservation, Douglas MacNeal (518) 402-9662 of the need or potential need to institute off-site evacuation procedures. The Project Emergency Coordinator will provide, at a minimum, the following information:

- his or her name and telephone number;
- name and address of facility;
- time and type of incident (e.g., release, fire, etc.)
- name and quantity of materials or materials involved, to the extent this information is known;
- the extent of injuries, if any; and
- the possible hazards to human health or environment, and cleanup procedures.

APPENDIX G

ORGANIZATION STRUCTURE

ORGANIZATION STRUCTURE FOR ACTIVITIES AT
GENEVA /BORDER CITY
FORMER MANUFACTURED GAS PLANT SITE
2004 REMEDIATION PROJECT



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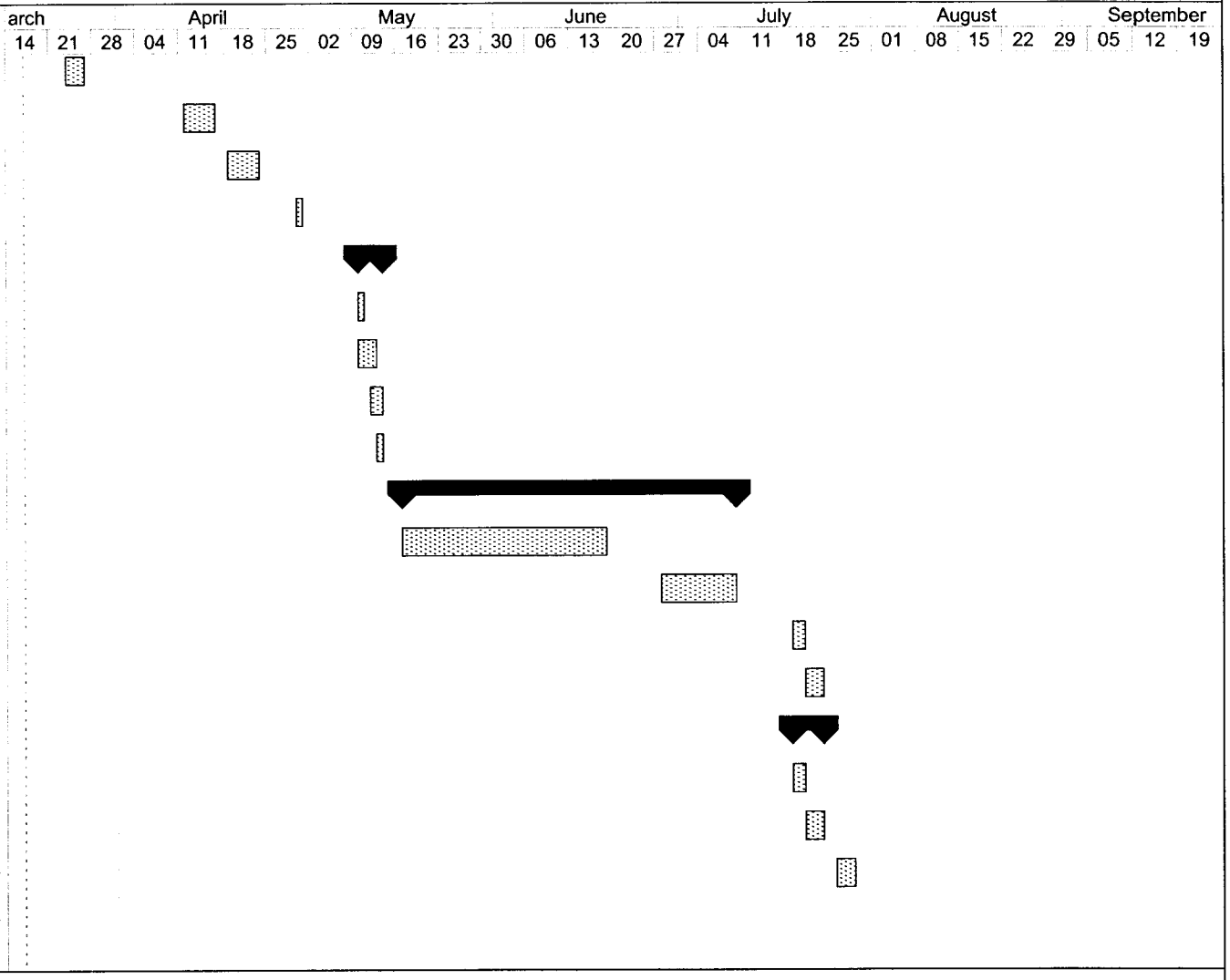
APPENDIX H

PROJECT SCHEDULE

GENEVA/BORDER CITY
FORMER MANUFACTURED GAS PLANT SITE
INTERIM REMEDIAL MEASURES
PROJECT SCHEDULE

Task Name	Start	Finish
Draft Work Plan to DEC	03/24/04	03/26/04
Pre-Remed. Sampling Event	04/12/04	04/16/04
Fact Sheet Mailing	04/19/04	04/23/04
Work Plan Approval DEC	04/30/04	04/30/04
Site Setup	**05/10/04**	**05/13/04**
Office Trailer	05/10/04	05/10/04
Mob Heavy Equipment	05/10/04	05/12/04
Equip. Decon Pad	05/12/04	05/13/04
Frac Tank	05/13/04	05/13/04
Excavate Areas 1-4	**05/17/04**	**07/09/04**
Excavate	05/17/04	06/18/04
Backfill	06/28/04	07/09/04
Disp. Decon. Pad	07/19/04	07/20/04
Demob. Frac Tank	07/21/04	07/23/04
Restoration	**07/19/04**	**07/23/04**
Fine Grade	07/19/04	07/20/04
Place Crusher-run	07/21/04	07/23/04
Demobilization	07/26/04	07/28/04
DRAFT Final Engineering Report to DEC	09/27/04	10/01/04



Project:Bert W Finch
Date: 03/17/04

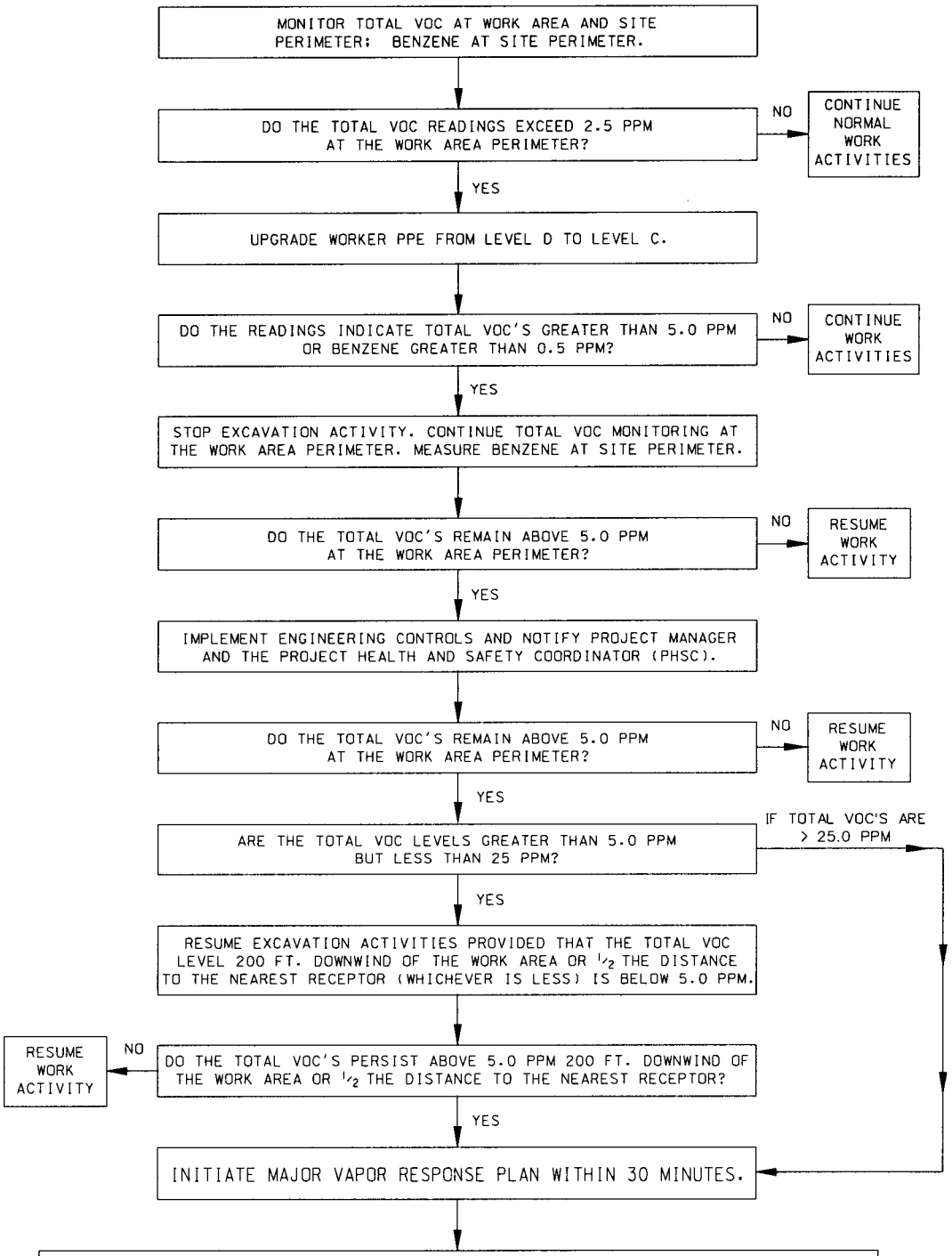
Task
Split
Progress
Milestone
Summary
Project Summary
External Tasks
External Milestone
Deadline

LICENSING & ENVIRONMENTAL OPERATIONS DEPARTMENT

APPENDIX I

VAPOR EMISSION RESPONSE PLAN

GENEVA /BORDER CITY
FORMER MANUFACTURED GAS PLANT SITE
VAPOR EMISSION RESPONSE PLAN



1. COVER THE EXCAVATED AREA WITH POLYETHYLENE SHEETING.
2. NOTIFY THE SENECA COUNTY HEALTH DEPARTMENT, CHARLES CARROLL (315) 539-1945; NYSDOH, MAUREEN SCHUCK (518) 402-7890; NYSDEC, DOUGLAS MACNEAL (518) 402-9662; AND THE SENECA COUNTY SHERIFF DEPARTMENT , (315) 539-9241.
3. TOTAL VOC LEVELS WILL BE MONITORED WITHIN 20 FEET OF THE NEAREST DOWNWIND RESIDENTIAL OR COMMERCIAL STRUCTURE. (20 FOOT ZONE).
4. CONTINUE AIR MONITORING 15-MINUTE INTERVALS IN THE 20 FOOT ZONE. IF TWO SUCCESSIVE READINGS BELOW ACTION LEVELS ARE MEASURED, AIR MONITORING INTERVALS MAY BE HALTED OR MODIFIED BY THE PHSC, WITH APPROVAL OF THE NYSDEC AND NYSDOH.
5. IF THE TOTAL VOC LEVELS PERSIST ABOVE THE 5.0 PPM WITHIN THE 20 FOOT ZONE, THE CONSTRUCTION SUPERVISOR, PHSC AND NYSEG MANAGER WILL CONSULT WITH EACH OTHER AND THE EMERGENCY REPONSE AGENCIES TO DETERMINE APPROPRIATE ACTIONS TO BE IMPLEMENTED. NYSEG HAS ULTIMATE AUTHORITY DURING MAJOR VAPOR EMISSION EMERGENCIES.

APPENDIX J

BIOSOLVE® PRODUCT INFORMATION

BioSolve® InfoSheet

Vapor Suppression

Spill Response

Always use BioSolve in accordance with State, Federal or Local Approvals.

BioSolve has an amazing ability to suppress or eliminate Volatile Organic Compounds (VOC's). Unlike a foam that suppresses vapor only as long as the blanket lasts, BioSolve's unique properties encapsulate and emulsify the hydrocarbon giving long term vapor suppression.

BioSolve, diluted to a 3% to 6% solution can be applied with any water applicator. Special equipment is not required. Since BioSolve is not a foam, it can be applied on high wind days as well as hillsides. For large sites, applicators can include foam eductors, water trucks, and sprinkler systems, for smaller jobs, a hand pump sprayer, water extinguisher, or garden hose with a fertilizer attachment on the nozzle works quite well.

Because BioSolve applies like water, it's applications are almost endless. In **Underground Storage Tanks** (UST's), BioSolve is used in the "Triple Rinse" washing procedure. BioSolve eliminates the recurrence of vapor release often associated with UST removals. Because BioSolve is a unique biosurfactant, it not only suppresses the vapor but cleans the tank right down to the metal. BioSolve can be used with any pressure washer with tremendous efficiency.

Water-Based
Biodegradable

Fast--Suppresses VOC's within seconds!

Cost Effective--Lasts a long time

Simple-- Applies like water

Versatile--Replaces a variety of other chemicals.

Drum washers/recyclers find that BioSolve is ideal to handle a wide range of contaminated drums. A 6% solution of BioSolve is high pressure sprayed into the drums to wash them out. BioSolve's double action of encapsulation and cleaning, effectively cleans the drums in a one step application. BioSolve is so effective it is even used to clean out **mercaptan** drums with little to no odor release. Because *BioSolve enhances the bioremediation of organic compounds, it makes it possible to dispose of wash water to a plant's activated sludge pond.*

In refinery and on oil production platforms, BioSolve is proving an effective agent for suppressing VOC vapor in open drain systems during Turnarounds and Workover Operations

BioSolve is commonly utilized by Haz Mat, Emergency Response, and Fire Departments nationwide to suppress VOC vapors and odors. Many departments report that BioSolve inducted into the sanitary sewers effectively eliminates the explosion hazard when gas leaks into the municipal sewer systems. NOTE: *Always follow State and Federal guidlines and approvals before using in sewers*. We have on file a variety of letters from Fire Depts. and Sanitation Districts regarding this procedure. These are available upon request.

Additional uses: BioSolve is also being utilized in bilge cleaning, vessel cleanups, cutting washers, soil & sludge washing and more.....

Distributed By:

The Westford Chemical Corp. 1-800-225-3909 or (508) 392-0689
FAX (508) 692-3487

BioSolve® InfoSheet

Dilution & Application Rates

BioSolve is a concentrate and MUST BE DILUTED prior to use

Always use BioSolve in accordance with State, Federal or Local Approvals.

The following dilution rates have been found to be effective in most BioSolve applications. However, since site specific conditions vary, adjusting dilution rates slightly *may be necessary for optimum efficency.*

Vapor Suppression Soil	3 % - 6 %
Tank Washout	
Fuels, Light Oils	3%
Heavy Oils	6%
Soil,Rock,Sludge Washing	1 % - 3 %
Emergency Response Spills	6%
Fire	6%
Bioremediation	
Fuels, Light Oils	3%
Heavy Oils, Crudes	6%
Food Grease Traps	5%

Protocols Available for Most Applications

BioSolve is water based and does not react like a solvent. BioSolve emulsifies, encapsulates, and disperses. Once it is understood that these are the only three actions of BioSolve, adjustments can be made in the dilution and / or the application method to attain the desired result. Protocols are available for many BioSolve applications.

These applications rates vary and may need to be adjusted to site specific conditions. BioSolve can eliminate working hazards and, in many cases, the waste discharge can be treated in the plant's activated sludge ponds.

Application	Rates
Vapor Suppression	Call regarding site specific conditions
Bioremediations	Call regarding site specific conditions
Tank Washouts	Use through standard pressure washer
Fire Emergency Response	1 gallon of BioSolve concentrate to 6 gallons of hydrocarbon
Soil/Sludge Washing	Site specific
Spills Small	Mix 3 part water to1 part BioSolve. Apply to spill, agitate with full pressure water stream
Large	Educt Through Foam Eductor at 6%

The Westford Chemical Corp. 1-800-225-3909 or (508) 392-0689
FAX (508) 692-3487

Distributed By:

APPENDIX K

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL
ORDER ON CONSENT

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

In the Matter of the Development and Implementation of a Former Manufactured Gas Plant (MGP) Sites Investigation and Remediation Program by New York State Electric & Gas Corporation

ORDER ON CONSENT
Index #D0-0002-9309

WHEREAS:

1. The New York State Department of Environmental Conservation (the "Department") is responsible for enforcement of the Environmental Conservation Law, which, inter alia, requires the Department to carry out the environmental policy of the State set forth of the ECL 1-0101. ECL 3-0301.1.

2. The New York State Electric & Gas Corporation ("Respondent") is a business corporation organized under the laws of the State of New York.

3. Respondent is aware of former manufactured gas plant ("MGP") sites at the locations listed in Table "A" of Paragraph I of this Order at which coal tar and associated hazardous substances ("MGP wastes") were, or which may have been, disposed at various times in the past by Respondent or its predecessors or affiliates (individually, "the Site;" collectively, "the Sites"). Respondent also is the owner of other former MGP sites.

4. The Department asserts that its authority to require abatement and remediation of releases of, inter alia, hazardous substances as that term is defined in 42 U.S.C. 9601(14), including MGP wastes, that are in violation of law or that exceed State environmental quality standards (as those set forth in 6 NYCRR Part 703) ("hazardous substances"), is varied, including, but not limited to, ECL 1-0101, 3-0301, 71-1929, 71-2703, and 71-2705. In addition, the Department asserts that it has the power, inter alia, to provide for the prevention and abatement of all water, land, and air pollution caused by, inter alia, the release of hazardous substances into the environment. ECL 3-0301.1.i. Furthermore, the Department asserts that it has authority to require abatement and remediation of significant threats to the public health or the environment caused by threatened releases of hazardous substances that are hazardous wastes as that term is defined in ECL 27-1301.

5. The Department and Respondent agree that the goals of this Order are for Respondent to (i) gather and provide data pertaining to each of the Sites (other than Mechanicville [Central Avenue] and Owego) sufficient to constitute a Preliminary Site Assessment ("PSA") that will enable the Department to characterize hazardous

substances, as that term is defined in 42 USC 9601(14) (including MGP wastes) which are or may be present at the Site and to enable the Department to determine whether such hazardous substances constitute a significant threat to public health or the environment necessitating remediation; (ii) develop and implement a Remedial Investigation ("RI") and prepare a Feasibility Study ("FS") for any Site the Department determines, based upon the results of the PSA, to require the more comprehensive evaluations and assessments that would be provided through the Remedial Investigation/Feasibility Study ("RI/FS") process; (iii) remediate each Site that the Department determines is in need of remediation on a schedule and to an extent acceptable to the Department, including authorizing Respondent to develop and implement Interim Remedial Measures ("IRMs") that the Department determines to be appropriate; (iv) develop and implement acceptable methods of treating and disposing of nonhazardous coal tar soils ("CTS") that minimize any future impacts on public health and the environment and minimize cost, including, as appropriate, the burning of CTS in Respondent's existing utility steam generating facilities including but not limited to Respondent's Hickling and Jennison Stations; and (v) pay for the State's reasonable administrative and oversight costs associated with implementation of this Order.

6. Respondent, without admitting or denying the Department's authority to require investigation and remediation of hazardous substances at the sites listed in Table "A" of Paragraph I of this Order and having waived its right to a hearing herein as provided by law, and having consented to the issuance and entry of this Order, agrees to be bound by its terms. Respondent consents to and agrees not to contest the authority or jurisdiction of the Department to issue or enforce this Order; and agrees not to contest the validity of this Order or its terms. However, should the Department request that this Order be revised, Respondent reserves all of its rights provided by law and the New York Environmental Conservation Law.

7. Respondent and the Department agree that Respondent shall not be responsible under this Order to investigate, gather data concerning, or remediate those hazardous substances that may exist at or originate from any Site listed in Table "A" of Paragraph I of this Order if, respecting that Site, all the following criteria are met:

a. Respondent no longer owns or controls the Site where the hazardous substances are found;

b. the original disposal and release of the hazardous substances occurred after Respondent or its predecessors or affiliates sold or returned control of the Site to its owner;

c. the hazardous substances were not generated, stored, treated, or disposed at the Site while Respondent or its predecessors or affiliates owned or controlled the Site; and

d. investigation and remediation of the hazardous substances would require Respondent to perform activities and incur costs not necessary to study, characterize, and remediate hazardous substances at the Site that were generated, treated, stored, or disposed at the Site during the ownership or control of Respondent or any of its predecessors or affiliates.

NOW, having considered this matter and being duly advised, IT IS ORDERED THAT:

I. Initial Submittals

Unless otherwise agreed with respect to specific Sites, no later than 45 days after the effective date of this Order, Respondent shall submit to the Department all data and information it has respecting each Site listed in Table "A" of this Paragraph. The data and other information shall include, at a minimum:

A. A brief history and description of the Site, including the types, quantities, physical state, location, and, if applicable, dates of disposal of MGP wastes, including methods of disposal and spillage of such wastes;

B. A comprehensive list and copies of all existing relevant reports with titles, authors, and subject matter, as well as a description of the results of all previous investigations of each Site and areas in the vicinity of each Site, including copies of all available topographic and property surveys, engineering studies and aerial photographs; and

C. An 8.5 inch by 11 inch portion of a United States Geological Survey topographic map of the Site which contains the name of the quadrangle and an arrow indicating the orientation of a northern compass point.

TABLE "A"

1. Auburn (Clark Street)
2. Auburn (Green Street)
3. Auburn (McMaster Street)
4. Clyde
5. Cortland/Homer
6. Dansville
7. Elmira (Madison Avenue)
8. Elmira (Water Street)
9. Geneva (Border City)
10. Geneva (Wadsworth Street)
11. Goshen
12. Granville
13. Ithaca (Cayuga Inlet)

14. Ithaca (Court Street)
15. Ithaca First Street)
16. Lockport (State Road)
17. Lockport (Transit Road)
18. Lyons
19. Mechanicville (Central Avenue)
20. Mechanicville (Coon's Crossing)
21. Newark
22. Norwich
23. Oneonta
24. Owego
25. Palmyra
26. Penn Yan (Jackson Street)
27. Penn Yan (Water Street)
28. Plattsburgh (Bridge Street)
29. Plattsburgh (Saranac Street)
30. Seneca Falls
31. Warsaw
32. Waterloo
33. Waterville

II. Preliminary Site Assessment

A. The Department shall review the data and information Respondent shall submit under Paragraph I of this Order for the purpose of determining whether additional data need to be obtained to enable it to characterize the nature and extent of distribution of any hazardous substances at the Site and to determine whether such substances constitute a significant threat to public health or the environment necessitating remediation. For those Sites pertaining to which the Department determines that there exist sufficient data to enable it to make such characterization and determination, the Department shall inform Respondent of its determination, and if the Department determines that the hazardous substances found at the Site constitute a significant threat to the environment, Respondent shall undertake an RI/FS for such Site as described in this Order. For those Sites pertaining to which the Department determines that more data must be acquired to enable it to make such characterization and determination, the Department shall inform Respondent in writing of its determination and identify the information which must be obtained, and Respondent shall undertake such additional investigation (referred to below as a "Preliminary Site Assessment," or "PSA") as the Department shall require in accordance with a schedule the Department shall determine in consultation with Respondent. Such schedule shall include the date by which Respondent shall submit to the Department a work plan to acquire the information the Department shall require and a date by which field work necessary to develop such information shall commence ("PSA Work Plan").

B. The Department may revise the PSA Work Plan submittal date and the field work start date, or either of them, for any Site identified in Table "A" of Paragraph I if information is developed, or otherwise becomes available, indicating the existence of a condition or circumstance justifying immediate or near-term evaluation or response at that Site which otherwise would not be addressed until a later time.

C. Each Site's PSA Work Plan shall describe the methods and procedures to be implemented in undertaking a study at the Site to which it pertains that will cause the generation of information sufficient to enable the Department to characterize the nature and extent of distribution of any hazardous substances at the Site and to determine whether such substances constitute a significant threat to public health or the environment necessitating remediation. Hence, each Site's PSA Work Plan shall include, but not be limited to, the following:

(1) A chronological description of the anticipated investigative activities together with a schedule for the performance of these activities. Such schedule shall take into account, at a minimum, the submission of draft documents, Department review of such documents, and submission of final approvable documents;

(2) A Sampling and Analysis Plan that shall include:

(a) A quality assurance project plan that describes the quality assurance and quality control protocols necessary to achieve the initial data quality objectives. This plan shall designate a data validation expert and must describe such individual's qualifications and experience, and

(b) A field sampling plan that defines sampling and data gathering methods in a manner consistent with appropriate provisions of the "Compendium of Superfund Field Operations Method" (EPA/540/P-87/001, OSWER Directive 9355.0-14, December 1987) as supplemented by the Department; and

(3) A health and safety plan to protect persons at and in the vicinity of the Site during the performance of the investigation, which shall be prepared in accordance with 29 CFR 1910 and all other applicable standards by a certified health and safety professional. Respondent shall add supplemental items to this plan if necessary to ensure the health and safety of all persons at or in the vicinity of the Site during the performance of any work pursuant to this Order.

D. If after review of the data generated during and after implementation of the Department-approved PSA Work Plan for a particular Site the Department determines that the hazardous substances found at the Site constitute a significant threat to the environment and that response actions are needed in addition to any IRMs the Department may approve or may have approved for the Site under Paragraph III of this Order to address adverse environmental conditions at the Site, the Department shall

notify Respondent of that determination and within 90 days after receipt of that notification, Respondent shall submit to the Department a work plan for that Site that shall incorporate all appropriate elements of an RI/FS as set forth in the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 ("CERCLA") [42 USC 9601 et seq.], as amended; the National Contingency Plan ("NCP") of March 8, 1990 [40 CFR Part 300]; the USEPA guidance document entitled "Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA," dated October 1988 and any subsequent revisions to that guidance document in effect at the time the RI/FS Work Plan is submitted; and appropriate USEPA and Department technical and administrative guidance documents (the "RI/FS Work Plan" for that particular Site). (However, Respondent shall undertake RI/FSs for Mechanicville [Central Avenue] [546033] and Owego [754008] under the terms of, respectively, Department Orders on Consent A5-0276-91-10 dated 23 February 1993 and A7-0150-88-09 dated 2 January 1991.)

III. IRMs

A. (1) Respondent may propose one or more IRMs for any Site. Respondent may propose a treatability study as an IRM.

(2) In proposing each IRM, Respondent shall submit to the Department a work plan that includes a chronological description of the anticipated IRM activities together with a schedule for performance of those activities (an "IRM Work Plan" for that Site).

(3) Upon the Department's determination that the proposal is an appropriate IRM and upon the Department's approval of such work plan, the IRM Work Plan shall be incorporated into and become an enforceable part of this Order; and Respondent shall submit to the Department for its review and (as appropriate) approval, in accordance with the schedule contained in the Department-approved IRM Work Plan, detailed documents and specifications prepared, signed, and sealed by a professional engineer to implement the Department-approved IRM. Such documents shall include a health and safety plan, contingency plan, and (if the Department requires such) a citizen participation plan that incorporates appropriate activities outlined in the Department's publication, "New York State Inactive Hazardous Waste Citizen Participation Plan," dated August 30, 1988, and any subsequent revisions thereto. Respondent shall then carry out such IRM in accordance with the requirements of the approved IRM Work Plan, detailed documents and specifications, and this Order. Respondent shall notify the Department of any significant difficulties that may be encountered in implementing the Department-approved work plan, detailed documents, or specifications and shall not modify any obligation unless first approved by the Department.

(4) During implementation of all construction activities identified in the Department-approved IRM Work Plan, Respondent shall have on-Site a full-time

representative who is qualified to supervise the work done.

(5) Within the schedule contained in the Department-approved IRM Work Plan, Respondent shall submit to the Department a final engineering report prepared by a professional engineer that includes a certification by that individual that all activities that comprised the IRM were performed in full accordance with the Department-approved IRM Work Plan, detailed documents and specifications, and this Order.

(i) If the performance of the Department-approved IRM encompassed construction activities, the final engineering report shall include a detailed post-remedial operation and maintenance plan ("O & M Plan"); "as-built" drawings and a final engineering report (each including all changes made to the Remedial Design during construction); and a certification by a professional engineer that the IRM was implemented and all construction activities were completed in accordance with the Department-approved detailed documents and specifications for the IRM. The O & M Plan, "as built" drawings, final engineering report, and certification must be prepared, signed, and sealed by a professional engineer.

(ii) Upon the Department's approval of the O & M Plan, Respondent shall implement the O & M Plan in accordance with the requirements of the Department-approved O & M Plan.

(6) After receipt of the final engineering report and certification, the Department shall notify Respondent in writing whether the Department is satisfied that the IRM was completed in compliance with the Department-approved IRM Work Plan and design.

B. (1) In implementing any IRM approved by the Department under this Order, Respondent shall be exempt from the requirement to obtain any permit issuable by the Department for an activity satisfying the criteria set out in Subparagraph III.B(2) of this Order.

(2) The following criteria must be met:

(i) The activity is conducted on the Site. For purposes of this Order, an activity is on the Site:

(a) if it is conducted on the same premises as the Site, or

(b) if it is conducted on different premises that are under common control or are contiguous to or physically connected with the Site and the activity manages exclusively hazardous substances for which Respondent is liable (except

in situations where the PSA discloses the existence of off-Site hazardous substance deposits derived from, or otherwise related to materials deposited on-Site, in which case such deposits shall be deemed "on-Site" and subject to this Order to the extent Respondent is able to obtain access for purposes of investigation and/or removal); and

(c) the activity is conducted in a manner which satisfies all substantive technical requirements applicable if the activity were conducted pursuant to a permit issued by the Department.

IV. Performance and Reporting of PSA and of Remedial Investigation

A. (1) In accordance with the schedule contained in a Site's Department-approved PSA Work Plan, Respondent shall commence that Site's PSA.

(2) Respondent shall perform the PSA in accordance with that Site's Department-approved PSA Work Plan.

(3) During the performance of that Site's Department-approved PSA, Respondent shall have at such Site a full-time representative who is qualified to supervise the work done. Respondent's designated representative may be a qualified employee of a consultant or contractor.

(4) In accordance with the schedule contained in a particular Site's Department-approved PSA Work Plan, Respondent shall prepare a PSA Report pertaining to that Site that shall:

(i) include all data generated and all other information obtained during the investigation of that Site;

(ii) provide all appropriate assessments and evaluations set forth in CERCLA, the NCP, and the guidance documents identified in Subparagraph II.D of this Order; and

(iii) include a certification by the individual or firm with primary responsibility for the day to day performance of the PSA for that Site that all activities that comprised the Investigation were performed in full accordance with the Department-approved PSA Work Plan for that Site.

B. This Subparagraph applies only to those Sites identified in Table "A" of Paragraph I of this Order concerning which the Department determines under this Order that an RI/FS must be prepared. (Respondent shall undertake RI/FSs for Mechanicville [Central Avenue] [546033] and Owego [754008] under the terms of, respectively, Department Orders on Consent A5-0276-91-10 dated 23 February 1993 and A7-0150-88-09 dated 2 January 1991.)

(1) In accordance with the schedule contained in a particular Site's Department-approved RI/FS Work Plan, Respondent shall commence that Site's Remedial Investigation.

(2) Respondent shall perform the Remedial Investigation in accordance with that Site's Department-approved RI/FS Work Plan.

(3) During the performance of that Site's Remedial Investigation, Respondent shall have at such Site a full-time representative who is qualified to supervise the work done. Respondent's designated representative may be a qualified employee of a consultant or contractor.

(4) In accordance with the schedule contained in a particular Site's Department-approved RI/FS Work Plan, Respondent shall prepare a Remedial Investigation Report pertaining to that Site that shall:

(i) include all data generated and all other information obtained during the remedial investigation of that Site;

(ii) identify any additional data that must be collected; and

(iii) provide all appropriate assessments and evaluations set forth in CERCLA, the NCP, and the guidance documents identified in Subparagraph II.D of this Order; and

(iv) include a certification by the individual or firm with primary responsibility for the day to day performance of the Remedial Investigation at that Site that all activities that comprised the Remedial Investigation were performed in full accordance with the Department-approved RI/FS Work Plan for that Site.

C. As an element of the Feasibility Study pertaining to a Site, Respondent may undertake a treatability study of remedial alternatives for potential use at such Site, including two EPRI-sponsored demonstration projects, one involving a clean soil process and another involving a contaminated groundwater biotreatment demonstration project (the "study"). The Department agrees with Respondent that the data generated during the course of the study will be beneficial to both Respondent and the Department. In implementing the study, Respondent shall be exempt from the requirement to obtain any permit issuable by the Department for an activity that is conducted on the Site. For purposes of this Order, an activity is on the Site:

1. if it is conducted on the same premises as the Site, or

2. if it is conducted on different premises that are under common control or are contiguous to or physically connected with the Site and the activity

manages exclusively hazardous substance for which Respondent is liable (except in situations where the PSA discloses the existence of off-Site hazardous substance deposits derived from, or otherwise related to materials deposited on-Site, in which case such deposits shall be deemed "on-Site" and subject to this Order and this Subparagraph to the extent Respondent is able to obtain access for purposes of investigation and/or removal); and

3. the activity satisfies all substantive technical requirements applicable to like activity conducted pursuant to a permit as determined by the Department.

Respondent, under the provisions of the Freedom of Information Law, may request that the Department treat as confidential any technology descriptions and data submitted to the Department as part of the study; and the Department, under the provisions of the Freedom of Information Law, shall maintain as confidential any of those descriptions or data that the Department determines is confidential.

V. Feasibility Study

This Paragraph applies only to those Sites identified in Table "A" of Paragraph I of this Order concerning which the Department determines under this Order that an RI/FS must be prepared. (Respondent shall undertake RI/FSs for Mechanicville [Central Avenue] [546033] and Owego [754008] under the terms of, respectively, Department Orders on Consent A5-0276-91-10 dated 23 February 1993 and A7-0150-88-09 dated 2 January 1991.)

A. Within 150 days after receipt of the Department's approval of the Remedial Investigation Report pertaining to a particular Site, Respondent shall submit a Feasibility Study evaluating on-Site and off-Site remedial actions to eliminate, to the maximum extent practicable, all health and environmental hazards and potential hazards attributable to hazardous substance disposal at that Site. Such evaluation may include remediation cleanup levels based upon a Site-specific risk assessment that shall consider a range of exposure scenarios and assumptions that take into account the form, nature, biodegradation, fate, and transport of the contaminant present, and available toxicological data that are based upon generally accepted and peer-reviewed scientific evidence or methodologies. Such Site-specific risk assessment shall be consistent with guidance and regulations for exposure assessment developed by the United States Environmental Protection Agency pursuant to CERCLA and other statutory authorities as applicable; and any proposed remediation cleanup level based upon a Site-specific risk assessment shall be protective of the public health and safety and of the environment. In the event that Respondent intends to undertake such evaluation using a Site-specific risk assessment, Respondent shall submit such risk assessment to the Department for its review no later than 90 days before Respondent shall be required to submit the Feasibility Study for the Site. Unless the Department determines that such risk

assessment is not consistent with peer-reviewed scientific evidence or methodologies, or appropriate guidance and regulations--in which case, the Department shall provide Respondent with a written explanation of the basis for such a determination--the Site-specific risk-based remediation cleanup level determined by application of the risk assessment shall be approved by the Department and shall be used for purposes of selecting the remedial alternative for the Site. Such evaluation also shall take into account any and all Department-approved IRMs that were implemented at the Site. The Feasibility Study shall be prepared by and have the signature and seal of an individual licensed and registered to practice professional engineering in the State of New York who shall certify that the Feasibility Study was prepared in accordance with this Order.

B. Unless the Department otherwise specifies for a particular Site, Respondent shall perform and prepare the Feasibility Study in accordance with the Department-approved RI/FS Work Plan in a manner consistent with appropriate sections of CERCLA, the NCP, and the guidance documents identified in Subparagraph II.D of this Order. If the Department specifies otherwise for a particular Site, Respondent shall perform and prepare the Feasibility Study in accordance with the Department's specifications.

C. (1) Within 30 days after the Department's approval of the Feasibility Study, Respondent shall cooperate and assist the Department in soliciting public comment on the RI/FS and the proposed remedial action plan identified therein, in accordance with appropriate provisions of CERCLA, the NCP, the guidance documents identified in Subparagraph II.D of this Order, and with any Department policy and guidance documents in effect at the time the public comment period is initiated.

(2) The Department shall afford Respondent an opportunity to review and comment upon the proposed remedial action plan for a Site before its release to the public using the following procedure: the Department shall prepare a proposed remedial action plan and shall mail a copy of same to Respondent at least fifteen business days before the scheduled date of the publication of the notice of availability of the document. Respondent shall have ten business days to meet with the Department to discuss it. In the event that Respondent disputes the proposed remedial action plan, within that ten day period, it may request in writing a resolution of its dispute using the procedures contained in Subparagraph XVII.A of this Order. Any resolution of the dispute through the use of those procedures shall concern only the contents of the proposed remedial action plan to be released to the public and shall not preclude the Department from selecting a final remedial alternative for the Site that may be inconsistent with the contents of the proposed remedial action plan that shall have been released to the public.

(3) After the close of the public comment period, the Department shall select a final remedial alternative for the Site in a Record of Decision ("ROD").

The ROD shall be incorporated into and become an enforceable part of this Order.

VI. Remedial Design

This Paragraph applies only to those Sites concerning which the Department determines under this Order that an RI/FS must be prepared, and to Mechanicville (Central Avenue) (546033) and Owego (754008).

A. Unless the ROD selects the "no action" alternative, within 180 days after the ROD is signed, or as otherwise specified in the ROD, Respondent shall submit to the Department a remedial design to implement the remedial alternative for the Site selected by the Department in the ROD (the "Remedial Design"). The Remedial Design shall be prepared by and have the signature and seal of a professional engineer who shall certify that the Remedial Design was prepared in accordance with this Order.

B. The Remedial Design shall include the following:

(1) A detailed description of the remedial objectives and the means by which each essential element of the selected remedial alternative will be implemented to achieve those objectives, including, but not limited to:

(i) the construction and operation of any structures;

(ii) the collection, destruction, treatment, and/or disposal of hazardous substances and their constituents and degradation products, and of any soil or other materials contaminated thereby;

(iii) the collection, destruction, treatment, and/or disposal of contaminated groundwater, leachate, and air;

(iv) physical security and posting of the Site;

(v) health and safety of persons living and/or working at or in the vicinity of the Site;

(vi) quality control and quality assurance procedures and protocols to be applied during implementation of the Remedial Design; and

(vii) monitoring which integrates needs which are present on-Site and off-Site during implementation of the Department-selected remedial alternative.

(2) "Biddable quality" documents for the Remedial Design including, but not limited to, documents and specifications prepared, signed, and sealed

by a professional engineer. These plans shall satisfy all applicable local, state and federal laws, rules and regulations;

(3) A time schedule to implement the Remedial Design;

(4) The parameters, conditions, procedures, and protocols to determine the effectiveness of the Remedial Design, including, if the Remedial Design encompasses groundwater monitoring, a schedule for periodic sampling of groundwater monitoring wells on-Site and off-Site;

(5) A description of operation, maintenance, and monitoring activities to be undertaken after the Department has approved construction of the Remedial Design, including the number of years during which such activities will be performed;

(6) A contingency plan to be implemented if any element of the Remedial Design fails to achieve any of its objectives or otherwise fails to protect human health or the environment;

(7) A health and safety plan for the protection of persons at and in the vicinity of the Site during construction and after completion of construction. This plan shall be prepared in accordance with 29 CFR 1910 by a certified health and safety professional; and

(8) A citizen participation plan which incorporates appropriate activities outlined in the Department's publication, "New York State Inactive Hazardous Waste Citizen Participation Plan," dated August 30, 1988, and any subsequent revisions thereto.

VII. Remedial Construction

This Paragraph applies only to those Sites concerning which the Department determines under this Order that an RI/FS must be prepared, and to Mechanicville (Central Avenue) (546033) and Owego (754008).

A. Within such time as identified in the Department's approval of the Remedial Design (such time being determined in consultation with Respondent), Respondent shall commence construction of the Remedial Design. The Department will extend this period if reasonably necessary to accommodate weather-related limitations or other restrictions upon the construction season.

B. Respondent shall implement the Remedial Design in accordance with the Department-approved Remedial Design.

C. During implementation of all construction activities identified in the Remedial Design, Respondent shall have on-Site a full-time representative who is qualified to supervise the work done.

D. Within 90 days after completion of the construction activities identified in the Remedial Design, Respondent shall submit to the Department a detailed post-remedial operation and maintenance plan ("O & M Plan"); "as-built" drawings and a final engineering report (each including all changes made to the Remedial Design during construction); and a certification by a professional engineer that the Remedial Design was implemented and all construction activities were completed in accordance with the Department-approved Remedial Design. The O & M Plan, "as built" drawings, final engineering report, and certification must be prepared, signed, and sealed by a professional engineer.

E. Upon the Department's approval of the O & M Plan, Respondent shall implement the O & M Plan in accordance with the requirements of the Department-approved O & M Plan.

F. After receipt of the "as-built" drawings, final engineering report, and certification, the Department shall notify Respondent in writing whether the Department is satisfied that all construction activities have been completed in compliance with the approved Remedial Design.

G. If the Department concludes that any element of the Remedial Program fails to achieve its objectives or otherwise fails to protect human health or the environment, Respondent shall take whatever action the Department determines necessary to achieve those objectives or to ensure that the Remedial Program otherwise protects human health and the environment.

VIII. Progress Reports and Meetings

A. Respondent shall submit to each of the parties set forth in Paragraph XVI of this Order two copies of written monthly progress reports that:

1. describe the actions which have been taken toward achieving compliance with this Order during the previous month;

2. identify all work plans, reports, and other deliverables required by this Order that were completed and submitted during the previous month;

3. describe all actions, including, but not limited to, data collection and implementation of work plans, that are scheduled for the next month and provide other information relating to the progress at each Site;

4. include information regarding percentage of completion, unresolved delays encountered or anticipated that may affect the future schedule for implementation of the Respondent's obligations under the Order, and efforts made to mitigate those delays or anticipated delays; and

5. include any modifications to any work plans that Respondent has proposed to the Department or that the Department has approved. Respondent shall submit these progress reports to the Department with respect to each Site by the 10th day after the end of the month to which the report pertains.

B. Respondent shall allow the Department to attend, and shall provide the Department at least seven days advance notice of the occurrence of, any of the following: prebid meetings, job progress meetings, substantial completion meeting and inspection, and final inspection and meeting; provided, however, that if circumstances are such as to prevent Respondent from providing the Department with such seven day notice period, Respondent shall provide as much advance notice as possible, under the circumstances.

IX. Review of Submittals

A. (1) The Department shall review each of the submittals Respondent is required to make pursuant to this Order to determine whether it was prepared, and whether the work done to generate the data and other information in the submittal was done, in accordance with this Order and generally accepted technical and scientific principles. Respondent shall include all results of sampling and tests and all other data received or generated by Respondent or Respondent's contractors or agents, including quality assurance/quality control information, whether conducted pursuant to this Order or conducted independently by Respondent, in the submittal to which such sampling, tests, and other data pertain. The Department shall notify Respondent in writing of its approval or disapproval of the submittal, except for the health and safety plans identified in Paragraph III and in Subparagraphs II.C(3) and VI.B(7) of this Order. All Department-approved submittals shall be incorporated into and become an enforceable part of this Order.

(2) (i) If the Department disapproves a submittal, it shall so notify Respondent in writing and shall specify the reasons for its disapproval. Within 30 days after receiving written notice that Respondent's submittal has been disapproved, Respondent shall make a revised submittal to the Department that addresses and resolves all of the Department's stated reasons for disapproving the first submittal.

(ii) Within a reasonable time after receipt of the revised submittal so as to not cause Respondent to be unable to comply with subsequent obligations and schedule deadlines as presented in Department-approved work plans, the Department shall notify Respondent in writing of its approval or disapproval. If the Department disapproves the revised submittal, Respondent shall be in violation of this

Order and the Department may take any action or pursue whatever rights it has pursuant to any provision of statutory or common law, unless Respondent exercises the dispute resolution procedure described in Subparagraph XVII.A of this Order. If the Department approves the revised submittal, it shall be incorporated into and become an enforceable part of this Order.

B. The Department may require Respondent to modify and/or amplify and expand a submittal if the Department determines, as a result of reviewing data generated by an activity required under this Order or as a result of reviewing any other data or facts, that further work is necessary.

X. Penalties

A. Respondent's failure to comply with any term of this Order constitutes a violation of this Order and the ECL.

B. Respondent shall not suffer any penalty under this Order or be subject to any proceeding or action for enforcement of this Order if it cannot comply with any requirement hereof because of war, riot, or an unforeseeable disaster which the exercise of ordinary human prudence could not have prevented. Respondent shall, within five days of when it obtains knowledge of any such condition, notify the Department in writing. Respondent shall include in such notice the measures taken and to be taken by Respondent to prevent or minimize any delays and shall request an appropriate extension or modification of this Order. Failure to give such notice within such five-day period constitutes a waiver of any claim that a delay is not subject to penalties. Respondent shall have the burden of proving that an event is a defense to compliance with this Order.

XI. Entry upon Site

Subject to conditions that may be described in a particular Site's health and safety plan, Respondent hereby consents to the entry upon the Site or areas in the vicinity of the Site which may be under the control of Respondent by any duly designated employee, consultant, contractor, or agent of the Department or any State agency for purposes of inspection, sampling, and testing and to ensure Respondent's compliance with this Order.

XII. Payment of State Costs

The Department shall establish an interest-bearing account into which the Department shall place all monies received from Respondent under the provisions of this Paragraph in order to pay for the State's expenses (including, but not limited to, direct labor and fringe benefits, overhead, travel, analytical costs, and contractor costs) incurred by the State of New York to fund environmental monitors for work associated with

reviewing and revising submittals made pursuant to this Order, overseeing activities conducted pursuant to this Order, collecting and analyzing samples, and administrative costs associated with administering the requirements of this Order. Respondent shall make payments to the Department as follows:

A. Respondent shall submit to the Department the sum of $310,000, which shall represent the State's estimate of the first year expenses (including, but not limited to, direct labor and fringe benefits, overhead, travel, analytical costs, and contractor costs) incurred by the State of New York to fund environmental monitors for work associated with reviewing and revising submittals made pursuant to this Order to date, overseeing activities conducted pursuant to this Order, collecting and analyzing samples, and administrative costs associated with administering the requirements of this Order. The $310,000 shall be submitted as follows: $110,000 on or before the effective date of this Order; $100,000 on or before the 60th day after the effective date of this Order; and $100,000 on or before the 120th day after the effective date of this Order. Respondent shall make subsequent quarterly payments to the Department for the duration of this Order in order to maintain an account balance sufficient to meet the next nine months' anticipated above-described State costs, however, not exceeding on an annual basis $310,000 (which amount may be increased on an annual basis based upon increases in the Consumer Price Index). Each quarterly billing will be based on expenditures incurred to date. The quarterly billing will take into account matters such as inflation, salary increases, accrued interest to be applied to the balance, changes in operating hours and procedures and the need for additional personnel and supervision of such personnel by full-time supervisors. Costs and expenses to be covered by this account include:

(1) Direct personal service costs and fringe benefits of the State's staff assigned to work associated with reviewing and revising submittals made pursuant to this Order, overseeing activities conducted pursuant to this Order, collecting and analyzing samples, and administrative costs associated with administering the requirements of this Order, including their supervisors and including the costs of replacement personnel for the persons regularly assigned to these duties;

(2) Direct non-personal service costs, including but not limited to purchase of a vehicle if necessary and its full operating costs, any appropriate chemical sampling and analysis, travel, supplies, and contractual costs;

(3) Indirect support or overhead costs at the annually approved indirect support cost rate; and

(4) Consultant services.

B. The Department shall notify Respondent in writing when a quarterly payment is due by submitting a quarterly billing. Respondent shall make such payment

in the form of a check payable to the order of the New York State Department of Environmental Conservation and shall submit such payment to the Department at the following address no later than 30 days from receipt of such billing:

New York State Department of Environmental Conservation
50 Wolf Road, Room 608
Albany, NY 12233-1510
ATTENTION: Director of Environmental Monitors

Payments are to be in advance of the period in which they will be expended. Respondent may dispute a quarterly billing by informing the Department in writing within 30 days of receipt of such billing that the amount of such billing is unreasonable. For purposes of this Order, the sole grounds for determining that a billing is unreasonable are that it contains clerical errors; and that all or a portion of a billing cannot be substantiated by the documentation identified in Subparagraph XII.D or XII.E, as appropriate, of this Order. The procedures contained in Subparagraph XVII.A of this Order shall be used to resolve such dispute, and Respondent shall pay the amount as those procedures shall determine Respondent shall pay, within the time period they shall require.

C. Upon the later termination of this Order and upon payment of any outstanding costs and expenses, the Department shall return the unexpended balance, including interest, to Respondent.

D. Actual personal service costs will be based on Site-specific time and activity ("T&A") costs. Non-personal service costs will be prorated based on the type of cost incurred: general costs (such as, supplies and equipment) will be prorated evenly among the Sites subject to this Order; while other project-related costs will be prorated based on the percentage of T&A incurred for each Site subject to this Order for that time period.

E. Actual costs incurred will be documented by quarterly T&A reports for personal service costs. Copies of actual invoices will not be provided but shall be made available for auditing purposes.

XIII. Department Reservation of Rights

A. Nothing contained in this Order shall be construed as barring, diminishing, adjudicating, or in any way affecting any of the Department's rights.

B. Nothing contained in this Order shall be construed to prohibit the Commissioner or his duly authorized representative from exercising any summary abatement powers.

XIV. Indemnification

Respondent shall indemnify and hold the Department, the State of New York, and their representatives and employees harmless for all claims, suits, actions, damages, and costs of every name and description arising out of or resulting from the fulfillment or attempted fulfillment of this Order by Respondent, and/or Respondent's directors, officers, employees, servants, agents, successors, and assigns; provided, however, that Respondent shall not indemnify the Department, the State of New York, and their representatives and employees in the event that such claim, suit, action, damages, or cost relate to or arise from any unlawful, willful, grossly negligent, or malicious acts or omissions on the part of the Department, the State of New York, or their representatives and employees.

XV. Public Notice

A. Within 30 days after the effective date of this Order with respect to each Site Respondent owns as of the effective date of this Order, or within 30 days after Respondent acquires ownership in any Site, Respondent shall file, with respect to each Site, a Declaration of Covenants and Restrictions with the Clerk of the County within which each such Site is located to give all parties who may acquire any interest in such Site notice of this Order.

B. If Respondent proposes to convey the whole or any part of Respondent's ownership interest in any Site, Respondent shall, not fewer than 60 days before the date of conveyance, notify the Department in writing of the identity of the transferee and of the nature and proposed date of the conveyance of the Site in question and shall notify the transferee in writing, with a copy to the Department, of the applicability of this Order and shall accompany such notification with a copy of this Order.

XVI. Communications

A. All written communications required by this Order shall be transmitted by United States Postal Service, by private courier service, or hand delivered as follows:

Communication from Respondent shall be sent to:

(1) Charles N. Goddard, P.E.
Assistant Director
Division of Hazardous Waste Remediation
New York State Department of Environmental Conservation
50 Wolf Road
Albany, New York 12233-7010

(2) Director, Bureau of Environmental
Exposure Investigation
New York State Department of Health
2 University Place
Albany, New York 12203

(3) Department Regional Director in whose
Region the Site in question is located

(4) Charles E. Sullivan, Jr.
Division of Environmental Enforcement
New York State Department of
Environmental Conservation
50 Wolf Road, Room 609
Albany, New York 12233-5500

B. Copies of work plans and reports shall be submitted as follows:

(1) Six copies (one unbound) to Mr. Goddard

(2) Two copies to the Director, Bureau of
Environmental Exposure Investigation

(3) One copy to Mr. Sullivan

C. Within 30 days of the Department's approval of any report submitted pursuant to this Order, Respondent shall submit to Mr. Goddard a computer readable magnetic media copy of the approved report in American Standard Code for Information Interchange (ASCII) format. This requirement shall not apply to past reports that will be submitted to the Department but have already been completed by Respondent.

D. Communication to be made from the Department to Respondent shall be sent to:

Phillip M. Murphy, Manager--Alternative Methods
Environment & Research Department
New York State Electric & Gas Corporation
Corporate Drive, Kirkwood Industrial Park
P.O. Box 5227
Binghamton, New York 13902-5227

E. The Department and Respondent reserve the right to designate additional or different addressees for communication or written notice to the other.

XVII. Miscellaneous

A. (1) This Subparagraph applies only to those Sites identified in Table "A" of Paragraph I of this Order concerning which the Department determines under this Order that an RI/FS must be prepared.

(2) If after conferring in good faith, there remains a dispute between Respondent and the Department concerning a provision of this Order identified as subject to this Subparagraph's procedures, within the time period provided in that provision Respondent serve on the Department a request for an appointment of an Administrative Law Judge ("ALJ"), and a written statement of the issues in dispute, the relevant facts upon which the dispute is based, and factual data, analysis, or opinion supporting its position, and all supporting documentation on which Respondent relies (hereinafter called the "Statement of Position"). The Department shall serve upon Respondent its Statement of Position, including supporting documentation no later than ten (10) business days after receipt of Respondent's Statement of Position. Respondent shall have five (5) business days after receipt of the Department's Statement of Position within which to serve upon the Department a reply to the Department's Statement of Position, and in the event Respondent serves such a reply, the Department shall have five (5) business days after receipt of Respondent's reply to the Department's Statement of Position within which to serve upon Respondent the Department's reply to Respondent's reply to the Department's Statement of Position. In the event that the periods for exchange of Statements of Position and replies may cause a delay in the work being performed under this Order, the time periods may be shortened upon and in accordance with notice by the Department as agreed to by Respondent.

(3) The Department shall maintain an administrative record of any dispute being addressed under this Subparagraph. The record shall include the Statement of Position of each party served pursuant to Subparagraph XVII.A(2) and any relevant information. The record shall be available for review of all parties and the public.

(4) Upon review of the administrative record as developed pursuant to this Subparagraph, the ALJ shall issue a final decision and order resolving the dispute. If the matter in dispute concerns a submittal,

(i) Respondent shall revise the submittal in accordance with the Department's specific comments, as may be modified by the ALJ and except for those which have been withdrawn by the ALJ, and shall submit a revised submittal. The period of time within which the submittal must be revised as specified by the Department in its notice of disapproval shall control unless the ALJ revises the time frame in the ALJ's final decision and order resolving the dispute.

(ii) After receipt of the revised submittal, the Department

shall notify Respondent in writing of its approval or disapproval of the revised submittal.

(iii) If the revised submittal fails to address the Department's specific comments, as may be modified by the ALJ, and the Department disapproves the revised submittal for this reason, Respondent shall be in violation of this Order and the ECL.

(5) In review by the ALJ of any dispute pursued under this Subparagraph, Respondent shall have the burden of proving by a preponderance of the evidence that the Department's position should not prevail.

(6) a deadline involving any matter that is the subject of the dispute resolution process described in this Subparagraph shall be held in abeyance while it is the subject of the dispute resolution process unless the Department and Respondent otherwise agree in writing. The invocation of the procedures stated in this Subparagraph shall constitute an election of administrative remedies by Respondent, and such election of this remedy shall constitute a waiver of any and all other administrative remedies which may otherwise be available to Respondent regarding the issue in dispute.

B. All activities and submittals required by this Order shall address both on-Site and off-Site contamination resulting from the disposal of hazardous substances at each Site.

C. Respondent shall retain professional consultants, contractors, laboratories, quality assurance/quality control personnel, and data validators acceptable to the Department to perform the technical, engineering, and analytical obligations required by this Order. Within 30 days after completion of Respondent's retainer process resulting in the selection of a particular firm or individual to perform any of such obligations, Respondent shall submit to the Department a summary of the experience, capabilities, and qualifications of the firm or individual retained. Respondent must obtain the Department's approval of these firms or individuals before the initiation of any activities for which Respondent and such firms or individuals will be responsible.

D. The Department shall have the right to obtain split samples, duplicate samples, or both, of all substances and materials sampled by Respondent, and the Department also shall have the right to take its own samples. Respondent shall have the right to obtain split samples, duplicate samples, or both, of all substances and materials sampled by the Department, and Respondent also shall have the right to take its own samples. Respondent shall make available to the Department the results of all sampling and/or tests or other data generated by Respondent with respect to implementation of this Order, including a tabular summary of any such results in any report submitted pursuant to this Order requiring such results.

E. Respondent shall notify the Department at least 10 working days in

advance of any field activities to be conducted pursuant to this Order. The Department's project manager is hereby authorized to approve any modification to an activity to be conducted under a Department-approved work plan in order to adapt the activities to be undertaken under such work plan to the conditions actually encountered in the field.

F. Respondent shall use reasonable efforts to obtain whatever permits, easements, rights-of-way, rights-of-entry, approvals, or authorizations are necessary to perform Respondent's obligations under this Order. If Respondent is unable, after exhaustion of such reasonable efforts, to obtain any such permissions, the Department will exercise whatever authority is available to it, in its discretion, to obtain same. In no event will Respondent be determined to be in violation of this Order if it fails to obtain any such permissions after exhausting reasonable efforts to obtain same. This is in recognition of the fact that, with respect to certain Sites, the New York State Electric and Gas Corporation is the current owner of only part of the potential area of disposal of MGP wastes, and may in fact, as to certain Sites, not be the owner of any portion of the Site. Significant impediments may, therefore, be encountered as to Respondent's ability to obtain access for purposes of carrying out the requirements of this Order.

G. If Respondent determines, in connection with any given Site, that a valid claim exists in favor of Respondent as against any other potentially responsible party, for contribution toward response costs deemed necessary by the Department in connection with such Site (or for recovery of an appropriate portion of such costs previously incurred by Respondent), the Department shall provide, in a timely manner, information responsive to any reasonable request (otherwise in conformity with Freedom of Information Law requirements) by such party related to conditions at the Site and any other relevant information that may be helpful in substantiating Respondent's claim. Similarly, if Respondent requests access to non-privileged and otherwise disclosable information in the Department's possession and relevant to the potential liability of any person or entity who may be subject to such claim by Respondent for contribution or cost recovery, the Department will take reasonable steps to expedite Respondent's access to such information.

H. Respondent and its successors and assigns shall be bound by this Order. Any change in ownership or corporate status of Respondent including, but not limited to, any transfer of assets or real or personal property shall in no way alter Respondent's responsibilities under this Order. Respondent's officers, directors, employees, servants, and agents shall be obliged to comply with the relevant provisions of this Order in the performance of their designated duties on behalf of Respondent.

I. Respondent shall provide a copy of this Order to each contractor hired to perform work required by this Order and to each person representing Respondent with respect to the Site and shall condition all contracts entered into hereunder upon performance in conformity with the terms of this Order. Respondent or Respondent's contractors shall provide written notice of this Order to all subcontractors hired to

perform any portion of the work required by this Order. Respondent shall nonetheless be responsible for ensuring that Respondent's contractors and subcontractors perform the work to be done under this Order in accordance with this Order.

J . All references to "professional engineer" in this Order are to an individual licensed and registered to practice professional engineering in accordance with Article 145 of the New York State Education Law.

K. All references to "days" in this Order are to calendar days unless otherwise specified.

L. The section headings set forth in this Order are included for convenience of reference only and shall be disregarded in the construction and interpretation of any of the provisions of this Order.

M. (1) The terms of this Order shall constitute the complete and entire Order between Respondent and the Department concerning the Site. No term, condition, understanding, or agreement purporting to modify or vary any term of this Order shall be binding unless made in writing and subscribed by the party to be bound. No informal advice, guidance, suggestion, or comment by the Department regarding any report, proposal, plan, specification, schedule, or any other submittal shall be construed as relieving Respondent of Respondent's obligation to obtain such formal approvals as may be required by this Order. However, in the event that Respondent determines that it cannot continue burning CTS at either its Jennison Station or Hickling Station, then Respondent may request that the Department modify its obligations regarding the Sites listed in Table "A" of Paragraph I of this Order. The Department's decision on whether to grant Respondent's request shall not be unreasonably denied and shall consider, but not be limited to, Respondent's costs of proceeding with its obligations under this Order.

(2) If Respondent desires that any provision of this Order be changed, Respondent shall make timely written application, signed by the Respondent, to the Commissioner setting forth reasonable grounds for the relief sought. Copies of such written application shall be delivered or mailed to Messrs. Goddard and Sullivan.

N. The effective date of this Order shall be the date it is signed by the Commissioner or his designee.

DATED: Albany, New York
March 30, 1994

J. LANGDON MARSH
Acting Commissioner
New York State Department
of Environmental Conservation

CONSENT BY RESPONDENT

Respondent hereby waives its right to a hearing herein as provided by law; consents to the issuance and entry of this Order; and agrees to be bound by its terms, not to contest the authority or jurisdiction of the Department to issue or enforce this Order, and not to contest the validity of this Order or its terms.

NEW YORK STATE ELECTRIC & GAS CORPORATION

by: Vincent W Rider

Typed name of signer: Vincent W. Rider

Title of signer: Vice President - Electric Generation

Date signed: March 25, 1994

STATE OF NEW YORK)
) ss:
COUNTY OF Broome)

On this 25th day of March, 1994, before me personally appeared Vincent W. Rider, to me known, who, being duly sworn, did depose and say that he resides in Endwell, New York; that he is Vice President-Electric Generation of the New York State Electric & Gas Corporation; that he executed the foregoing instrument on behalf of the New York State Electric & Gas Corporation; that he knew the seal of said corporation; that the seal affixed to said instrument was such 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.

Gail A. Marion
Notary Public State of New York
Registration number: 5003473
My commission expires: 10/26/94

GAIL A. MARION
Notary Public, State of New York
No. 5003473
Residing in Broome County
My commission expires Oct 26 1994

(oNYSEG2.cst)

APPENDIX L

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
APPROVAL LETTER

New York State Department of Environmental Conservation
Division of Environmental Remediation
Remedial Action Bureau C, 11th Floor
625 Broadway, Albany, New York 12233-7014
Phone: (518) 402-9662 • **FAX:** (518) 402-9679
Website: www.dec.state.ny.us

Erin M. Crotty
Commissioner

May 5, 2004

Mr. Burt Finch
NYS Electric & Gas
Corporate Drive - Kirkwood Industrial Park
P.O. Box 5224
Binghamton, NY 13902-5224

Dear Mr. Finch:

Re: Geneva/Border City Former Manufactured Gas Plant Site
Waterloo (T), Seneca County, Site No: 8-50-008
Interim Remedial Measures Work Plan

The New York State Department of Environmental Conservation (NYSDEC) and New York State Department of Health (NYSDOH) has reviewed the changes you made to the referenced document in response to our comments. All the items have been addressed to our satisfaction and the work plan is approved. Please supply NYSDEC with two hard copies (one unbound) and one electronic copy of the final work plan. It is understood that the contractor will mobilize to the site on May 10, 2004 and excavation will begin on May 17, 2004. If this schedule changes or if you have any questions, please contact me at (518) 402-9564.

Sincerely,

Douglas MacNeal
Environmental Engineer 1
MGP Remedial Section

ec: B. Finch
G. Harris
M. Schuck, DOH