NYSEG

NEW YORK STATE ELECTRIC & GAS CORPORATION
Corporate Drive, Kirkwood Industrial Park, P.O. Box 5224
Binghamton, New York 13902-5224

INTERIM REMEDIAL MEASURES

WORK PLAN

FOR ACTIVITIES AT

PLATTSBURGH BRIDGE STREET
FORMER MANUFACTURE GAS PLANT SITE
City of Plattsburgh, Clinton County, New York

JANUARY 2001

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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
COC	Chain-of-Custody
CPP	Citizen Participation Plan
CPR	cardiopulmonary resuscitation
CQAP	Construction Quality Assurance Plan
CTS	coal tar soils
DEC	Department of Environmental Conservation
DI	deionized
DL&W	Delaware, Lackawanna, and Western Railroad
ECL	Environmental Conservation Law
EEI	Edison Electric Institute
ELAP	Environmental Laboratory Approval Program
EMS	Emergency Medical Services
EPA	Environmental Protection Agency
EPRI	Electric Power Research Institute
F	Fahrenheit
FS	Feasibility study
GC	gas chromatograph
GCS-DN	gas chromatograph station downwind
GCS-UP	gas chromatograph station upwind
GHF	gas relief holder foundation
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
IRM	interim remedial measures
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
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
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
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
RTS1	Real-time Station 1
RTS4	Real-time Station 4
SAP	Sampling and Analysis Plan
SCGs	Standards, Criteria, and Guidance
SGC	short-term guideline concentrations
SHSO	Site Health & Safety Officer
SPL	sound pressure level
STEL	short-term exposure limits
SVOCs	semivolatile organic compounds
SW	solid waste
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

1.0 INTRODUCTION

This Interim Remedial Measures Work Plan *(Work Plan)* describes the source removal interim remedial measures (*IRM*) proposed for the former manufactured gas plant (MGP) facility (Site) located at 140 Bridge Street in the City of Plattsburgh, Clinton County, New York, as shown on Figure 1. The *IRM* will be undertaken by NYSEG (New York State Electric & Gas Corporation) and will involve excavation and off site disposal of the gas holder foundation, associated buried piping, surrounding coal tar contaminated soil, and a minimum of two feet of surface soil. This *IRM* is being proposed in accordance with Section III of the Order on Consent (Index No. D0-0002-9309, see Appendix F) between NYSEG and the New York State Department of Environmental Conservation (NYSDEC).

This *Work Plan* describes the techniques to be utilized for the sampling, excavation, material handling, waste characterization, processing, transportation and disposal of MGP residues. This effort will be performed under the approval and oversight of the NYSDEC and the New York State Department of Health (NYSDOH).

1.1 Site Location and Description

Located on approximately 0.5 acres at 140 Bridge Street in the City of Plattsburgh, Clinton County, New York, the Plattsburgh Bridge Street MGP Site is bounded by Bridge Street on the north, an apartment building on the east, residences to the south, and a vacant lot to west owned by the City of Plattsburgh, which was formerly the Hose Company #5 Firehouse. The property is located near the outlet of the Saranac River into the Cumberland Bay of Lake Champlain. The property is owned by NYSEG and is a vacant lot.

1.2 Site History

The Site was used in the past for the manufacture of gas from coal. The MGP was operated from 1860 until 1882 by the Plattsburgh Gas Light company, from 1882 until 1888 by M.P. Lowe, from 1888 to 1889 by Almon Thomas, from 1889 to 1890 by H.M. Pierson and George Cole, and from 1890 to 1896 by the Plattsburgh Light, Heat and Power Company. In 1909 the Plattsburgh Light , Heat and Power Company was acquired by the Plattsburgh Gas & Electric Company, which changed its name to the Eastern New York Electric and Gas Company, Inc. In 1928. The

Eastern New York Electric and Gas Company, Inc. was acquired by the New York State Gas and Electric Corporation In 1928. The New York State Gas and Electric Corporation eventually became NYSEG (New York State Electric & Gas Corporation).

In 1896 operations ceased at the Bridge Street MGP Site when the Saranac Street MGP Site began operations. In the 1970's the Bridge Street MGP Site plant structure was renovated into three-unit apartment building. Then in December 2000 NYSG razed the apartment building.

A detailed site history was prepared by URS Greiner Woodward Clyde Group Consultants, Inc. for the *Remedial Investigation (IR) at the Plattsburgh - Bridge Street Former Manufactured Gas Plant Site, Plattsburgh, New York*, dated June 2000.

1.3 Nature of Potential Industrial Residues Located at the Site

For the purposes of this document, MGP residues refer to coal tar soils, coal tars, and purifier wastes. Coal tar soils (CTS) are typically a nonhazardous mixture, as defined by the Resource Conservation and Recovery Act (RCRA), of soil, coal tars, and demolition debris (i.e., brick, timbers, scrap metal, etc.). These materials generally contain varying concentrations of polycyclic aromatic hydrocarbons (PAHs), volatile organic compounds (VOCs), and heavy metals.

Coal tars are a by-product from gas manufacturing at the former MGP. These materials are typically defined as a hazardous waste by RCRA due to the leachable concentrations of benzene. At the Plattsburgh Bridge Street Site, the coal tars remain on-site in the gas holder foundation. These structures are believed to be constructed of brick or concrete. These materials generally contain 10% or more of PAHs and VOCs.

Purifier wastes are the spent iron filings and wood chips used to remove impurities (hydrogen sulfide) from the gas stream produced by the former MGP. These materials vary in their concentration of sulfides and cyanides and thus some of the purifier wastes are defined by RCRA as nonhazardous while concentrated disposal areas may have materials which meet the definition of a hazardous waste. Heavy

metals are a result of the naturally occurring mineral content of the coal, which was the fuel for the plant. The heavy metals do not migrate significantly and are not a significant concern at MGP sites.

Petroleum products were used on-site as a fuel source for the MGP and to increase the heat content of the manufactured gas. These products were potentially spilled on-site as a result of material handling practices. The petroleum products were a heavier fraction (i.e. diesel, No. 6, bunker C, etc.) and primarily contain PAH's.

1.4 Previous Investigation

In February 1992, NYSEG's consultant Engineering Science, Inc. completed a site screening evaluation using the Site Screening and Priority Setting System (SSPS) developed by Electric Power Research Institute (EPRI). In July 1999, NYSEG's consultant URS Greiner Woodward Clyde Group Consultants, Inc. completed a Remedial Investigation (*RI*).

All of the documents associated with these tasks are available for public review at the following document repositories:

- Plattsburgh Public Library
  19 Oak Street
  Plattsburgh, New York 12901
  Attn: Colleen Pelletier
  (518) 563-0921

- New York State Department of Environmental Conservation
  50 Wolf Road
  Albany, New York
  Attn.: David A. Crosby
  (518) 457-9285 or 1-800-342-9296

- NYSEG (New York State Electric & Gas Corporation)
  4125 Route 22
  Plattsburgh, New York 12901-5619
  Attn.: Robert A. Perkins
  (518) 566-9846, extension 874

A Draft Remedial Investigation Report at the Plattsburgh - Bridge Street Site Former Manufactured Gas Plant Site, dated June 2000, was prepared by URS Greiner Woodward Clyde Group Consultants, Inc. and submitted to NYSDEC. The report

was revised, based upon comments from the NYSDEC and NYSDOH, and resubmitted in December 2000. This report has not yet been finalized.

2.0 PROJECT OBJECTIVES

The overall objectives of the proposed *IRM* are to restore the site so that it may be returned to use as a residential property, and to limit future impacts to groundwater from MGP residues. Specific objectives are to:

- Remove surface and subsurface soils to eliminate potential for exposure to MGP residues through incidental ingestion, dermal contact, or inhalation of contaminated soil.

- Remove MGP residues, where accessible to excavation, which have the potential to significantly increase impacts to groundwater quality.

The proposed IRM will accomplish these objectives by the excavation and off site disposal of the GHF, associated buried piping, areas of tarry waste, coal tar soil which exceeds remedial goals and a minimum of two feet of surface soil. The excavated area will be returned to original grade.

The *IRM* is scheduled to be completed in the Spring 2001 (see project schedule in Appendix H).

3.0 ORGANIZATIONAL STRUCTURE AND RESPONSIBILITY

NYSEG and New York State regulatory agencies will participate jointly in the remedial action for the Plattsburgh Bridge Street former MGP Site. NYSEG has the ultimate responsibility and authority for implementing the scope of work for the project, including the community air monitoring program during the project (see Organization Structure in Appendix I). 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. The Construction Contractor, which may be NYSEG, will be responsible for all on-site construction operations during the *IRM* unless otherwise stated in Section 4.0, including: excavation safety; construction personnel health and safety; implementation of contingency plans for odor control; management of wastewater

and waste-handling operations; maintenance of Site controls (i.e., runoff, run-on); and the construction, excavation, and material handling activities associated with the remedial action. NYSEG is responsible for ensuring that the remedial program is implemented in accordance with this *Work Plan*; management of the soil sampling program associated with the remedial action; 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 (*Citizen Participation Plan*, CPP) is included in Appendix B.

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

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Corporate Drive, Kirkwood Industrial Park, P.O. Box 5224
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(607) 762-8787

NYSDEC: David A. Crosby, P.E.: Project Oversight
New York State Department of Environmental Conservation
Bureau of Construction Services
Division of Environmental Remediation
50 Wolf Road
Albany, New York 12233-7010
(518) 457-9285

NYSDEC: Eric Knapp: Construction Oversight
New York State Department of Environmental Conservation
Division of Hazardous Waste Remediation
615 Erie Blvd. West
Syracuse, New York 13204-2400
(315) 426-7416

NYSDOH: Rich Fedigan: Community H&S Oversight
New York State Department of Health
2 University Place
Albany, New York 12203
(800) 452-1158

4.0 INTERIM REMEDIAL MEASURE PROGRAM

This *Work Plan* describes the sequencing of construction activities and details the components of the remedial program comprising source removal *IRM* at Plattsburgh Bridge Street MGP Site. These activities will include the excavation and off site disposal of the GHF, associated buried piping, surrounding coal tar contaminated soil, and a minimum of two feet of surface soil. Excavated MGP residue will be removed and transported to a permitted disposal facility, in accordance with Section 4.0.5 and Section 4.8 .

Actual project data (i.e., community air monitoring, noise, dust control, etc.), obtained from NYSEG's previous remediation and material processing efforts at other MGP sites, have been used as guidance to design the procedures for directing the Plattsburgh Bridge Street Site *IRM* program and to minimize any potential impacts to the community. The following sections describe the procedures to be used for the remedial activities.

4.0.1 Definitions of MGP Materials On-Site

4.0.1.1 ***MGP Residue*** - All material on-site 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 coal 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 (CTS)*** - 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.

4.0.2 *Pre-Remediation Sampling and Analysis*

NYSEG has implemented an in situ soil sampling event at the Plattsburgh Bridge Street Former MGP Site. This sampling event has been conducted in accordance with the *Pre-Remediation In Situ Sampling & Analysis Work Plan, Plattsburgh Bridge Street Former MGP Site*, approved by the NYSDEC, see Appendix A.

The results of the sampling and analysis will be used to designate sections of the soil into two (2) categories.

Hazardous Waste - CTS which exceeds the toxicity characteristic leaching procedures (TCLP) limits or reactivity limits.

Nonhazardous Waste - CTS 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.

4.0.3 *General Excavation Limits and Procedures*

The removal limits (depth and areal extent) of contaminated soils will include the complete removal of the GHF, it's contents and an area outside the circumference of the GHF to accomplish safe excavation practices. NYSEG in consultation with the NYSDEC will determine if additional excavation is warranted during this *IRM*. This decision will be based on several factors including the following: the presence of major seems of DNAPL, the ability to excavate these seems, the depth below ground surface. Piping encountered during excavation will be chased and removed to the extent practicable if they contain coal tar along with tarry waste encountered. Piping not removed will be plugged or capped.

The excavation of contaminated soils will be accomplished through open-cut excavation techniques which require sloping and/or benching of the excavation side walls to prevent sloughing or collapse of adjacent soils. A more extensive

description of procedures and contingencies for excavation is contained in Section 4.3 of this *Work Plan*.

The project may result in potential nuisance community impacts such as noise and traffic. However, all on-site work will be conducted so that public impact 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 Saturday.

Construction activities undertaken during the *IRM* will be completed in accordance with the *Construction Quality Assurance Plan* (Appendix C).

4.0.4 Cleanup Objectives and Rationale

There are several scenarios described below in Table 4-1 which will determine the cleanup objectives to be achieved during this *IRM*. The decision which scenario will be applicable for the Site will be made by NYSEG, in consultation with the NYSDEC, based upon information obtained during remediation.

TABLE 4-1
CLEANUP OBJECTIVES

SCENARIO	DEPTH	CONCENTRATION LIMITS (PPM)			
		PAH	cPAH[1]	Benzene	Naphthalene
Unrestricted Residential Use	0 - 2 feet	3.57*	1.65*	0.06	13
	2 - 8 feet	10	1.65	0.06	13
	8 feet - 1 foot below groundwater	500	10	0.06	13
Deed Restricted Residential use	0 - 2 feet	3.57*	1.65*	0.06	13
	2 - 8 feet	100	10	0.06	13
	8 feet - 1 foot below groundwater	500	20**	0.06	13
Deed Restricted Residential Use - after additional remediation / evaluation	0 - 2 feet	3.57*	1.65*	0.06	13
	2 - 8 feet	500	20**	0.06	13
	8 feet - 1 foot below groundwater	>500	>20**	>0.06	>13

* Background surface sampling results - *Remedial Investigation Report Plattsburgh-Bridge Street Former Manufactured Gas Plant Plattsburgh, New York*, dated December 15, 2000.

** Limit does not include Dibenzo (a,h) anthracene since its cleanup objectives to project groundwater is 165,000 ppm.

[1] Carcinogenic Polycyclic Aromatic Hydrocarbons

4.0.5 Disposal Protocol

Pre-remediation in situ samples have been collected in accordance with *Pre-Remediation In Situ Sampling & Analysis Work Plan, Plattsburgh Bridge Street Former MGP Site* (Appendix A). Based on the analytical results, which are summarized at the end of Appendix A, of the in situ samples, waste will be handed according to the following criteria:

- ***Nonhazardous Waste:***

  The analytical results of the in situ samples collected in the **(to be determined) feet interval of the GHF** indicates that the analytes listed in Table 4-2, Table 4-3 and Table 4-4 are within their specified limits. If during excavation this soil has no evidence of free phase coal tar, then its respective soil will be sent to either (1) Seneca Meadows Waterloo, New York or another approved nonhazardous industrial landfill; (2) ESMI of New York Fort Edwards, New York thermal treatment facility. In addition, during excavation, if seams of free phase coal tar are encountered, then this material will be segregated and either: (1) sent to Casie/Mart in Vineland, New Jersey, for thermal treatment; (2) sent to Horizon Environmental, Inc. Landfill in Grandes-Piles, Quebec, Canada; (3) placed in roll-off containers, sampled and analyzed for waste characterization parameters.

- ***Hazardous Waste:***

  The analytical results of the in situ samples collected in the **(to be determined) feet interval of GHF** indicates that the analytes listed in Table 4-2, Table 4-3 and Table 4-4 exceeded its specified limit and its respected soil will either be: (1) sent to Casie/Mart in Vineland, New Jersey, for thermal treatment; (2) sent to Horizon Environmental, Inc. Landfill in Grandes-Piles, Quebec, Canada.

TABLE 4-2 (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
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
Lindane	0.4
Mercury	0.2
Methoxychlor	10.0
Methyl ethyl ketone	200.0
Nitrobenzene	2.0
Pentachlorophenol	100.0
Pyridine	5.0

TABLE 4-2 (Continued from previous page) COMPOSITE SAMPLE TCLP ANALYTES AND LIMITS	
TCLP ANALYTE	**REGULATORY LIMIT (mg/L) [6NYCRR Part 371]**
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 4-3 COMPOSITE 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 4-4 COMPOSITE SAMPLE ANALYTES AND ACTION LIMITS OTHER RCRA CHARACTERISTICS AND LANDFILL REQUIREMENTS	
ANALYTE	**LIMIT**
PCBs (total)	50 mg/Kg
Corrosity (pH)	Non-Corrosive (pH must be >2 or <12.5)
Flashpoint	Must be >60 Deg. C

4.0.6 Confirmation Sampling Requirements

Confirmation sampling and analysis of soils will be conducted after excavation of accessible tarry waste and CTS. Confirmation sampling will be conducted through the duration of the remedial action. In addition confirmation samples will be collected under the equipment decontamination reduction pad and storage areas. Procedures for confirmation soil sampling are presented in Section 6.2.1 of this *Work Plan*.

4.1 Site Setup

4.1.1 Site Security

A 6-foot high, chain-link fence will be installed around the perimeter of the site with a 30-foot main entrance gate at the northwest corner of the site (see Figure 4). During daily operations, admittance requirements and visitor monitoring will be in effect, as specified in the *Health and Safety Plan for activities at Plattsburgh Bridge Street Former MGP Site*.

4.1.2 Construction Office

NYSEG will lease office space in a building that adjacent to the Bridge Street MGP Site on Macomb Street. The building space will serve as office space for project personnel and NYSDEC. Electric, telephone service, facsimile capabilities, restroom and potable water will be available. 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 daily safety meetings, project office tasks, and changing area. A portable toilet will be staged inside the main entrance gate for use by project personnel.

4.1.3 Notification

Prior to any on-site construction activities, the Underground Facility Protection Organization (UFPO) 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 addresses notification of adjacent property owners and local officials.

4.1.4 Exclusion Zone

The Exclusion Zone will be the immediate area of excavation (see Figure 4).

4.1.5 Contamination Reduction Zone

The Contamination Reduction Zone will include the personnel contamination reduction area, equipment contamination reduction pad, wastewater storage area and roll-off containers storage area. A 4-foot high orange construction fence will be placed along the perimeter of this area. The Contamination Reduction Zone will also include the truck loading area and as a minimum a lane three feet wide outside the Exclusion Zone. Yellow caution tape will be placed along the perimeter of the Contamination Reduction Zone and the Exclusion Zone (see Figure 4).

4.1.5.1 Equipment Contamination Reduction Area

An equipment contamination reduction area will be constructed using 10" X 10" timbers along the perimeter. Medium sand will be placed on existing surface and blended to the top inside edge of the timbers. Then 30-mil thick HDPE sheeting will be placed over the sand and timbers. The sheeting will be secured by nailing wooden battens to the timbers. An additional layer of medium sand will be placed on the sheeting. Then, #2 stone will be placed on the sand. A sump will be constructed using a twelve inch diameter slotted PVC pipe and will be set in the stone to collect water. A submersible pump will be placed in the sump as required. The submersible pump will transfer wastewater via hose to storage containers. At the completion of this *IRM*, the sand and stone will be sampled, analyzed and disposed of at a permitted facility.

4.1.5.2 Personnel Contamination Reduction Area

A personnel contamination reduction area, as a minimum, will be constructed by placing 6-mil polyethylene sheet 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 will contain a hand wash tub with solution of detergent and water. Next will be an additional hand wash tub containing rinse water. Paper hand towels will also be available in this area.

4.1.6 Support Zone

The Support Zone will be the areas outside the Contamination Reduction Zone (see Figure 4).

4.2 Mobilization

Mobilization to the Site will be sequential in nature to accommodate the general requirements and specific operations to be undertaken. Materials, personnel, and equipment will be brought to the site on an "as-needed" basis. Materials and equipment to be mobilized to the site may include: two (2) 1,500 gallon plastic containers, one (1) frac tank, one (1) excavator, one (1) articulated wheel loader, one (1) dozer, miscellaneous portable equipment, and hand tools. Equipment and mode of operation will be described in further detail in the following sections.

4.3 Excavation of Contaminated Soil

The procedure that will be implemented during all excavation activities is as follows. The excavation of contaminated soils will be accomplished through open-cut excavation techniques which require sloping or benching of the excavation side walls at a minimum of one and one-half horizontal to one vertical ratio to minimize sloughing or collapse of adjacent soils. It is anticipated that the walls of the excavation will be of sufficient integrity such that shoring will not be needed. All excavations will be supervised by a competent person (29 CFR 1926.650) to maintain compliance with the Occupational Safety and Health Administration's (OSHA's) excavation standards.

In the event that a particular area becomes impractical or unsafe to continue to excavate, NYSEG will document the concentrations of MGP residuals believed to be contained in the subsurface at that particular location by utilizing the confirmation sampling criteria described in Section 6.2.1.

Tarry waste and coal tar soil that exceeds RCRA hazardous waste limits will be removed and transported to a permitted facility. This material may be stockpiled within the area of contamination.

The on-site NYSDEC representative will make the final determination as to whether or not there is visible free phase coal tar present.

Odors or fugitive vapors which could potentially emanate from this excavation will be actively controlled by misting the working area with BIO SOLVE® and by covering the excavation with polyethylene sheeting in inactive areas and overnight. The BIO SOLVE® will be applied using a pressure washer. A worker will be available for dedicated operation of this equipment if required.

Dust will be actively controlled by misting the excavated area and asphalt service road with water or BIO SOLVE® .

NYSEG will sweep streets as required to insure no tracking of soil or mud off-site.

After soils have been excavated from deep areas, the excavation shall be backfilled with imported fill.

4.3.1 Gas Holder Foundation

The GHF excavation will be performed as Follows:

1. The GHF wall and surrounding soil outside of the GHF will be excavated to the depth just above the groundwater.

2. The remaining contents of the GHF, including the water inside the GHF, will be removed.

3. The bottom floor of the GHF and tarry soil under the GHF, to a maximum depth of five feet below the GHF bottom, will be excavated. The NYSDEC will determine if excavation to a depth of less than five feet in a given area is acceptable based upon field conditions.

4. The remaining GHF wall will be removed .

5. NYSEG in consultation with the NYSDEC will determine if additional excavation is warranted outside the GHF. This decision will be based on several factors including the following: the presence of stain soil and tarry waste, the ability to excavate thesesoils, the volume of soil, the depth below ground surface, and confirmation sampling analysis.

4.3.2 *Piping*

Piping encountered that contains coal tar will be removed, placed in a roll off container and/or temporarily stored within the area of contamination. The piping will then be loaded and transported to a permitted facility that meets NYSDEC acceptance prior to start of off-site transport and disposal. Any visible impacted soil will also be removed and disposed off-site at a permitted facility.

If any other vessels are encountered during the pipe removal, the vessel will be removeda minimum depth of two feet below original grade. The vessel will be checked for the presence of tarry waste. If tarry waste is present, the vessel will be removed. If no tarry waste is present, NYSEG in consultation with the NYSDEC will determine if the entire vessel will be removed during this *IRM*.

4.3.3 Former Building Crawl Space

There was a crawl space on the north side of the former building. The crawl space had approximately three inches of soil above a concrete slab. This soil contains varying concentrations of mercury. During the building razing polyethylene sheeting

was placed over this area. The space was filled with approximately 30 inches of clean fill. A second layer of polyethylene sheeting was placed over the fill. Then approximately 6 inches of clean fill was placed over the sheeting.

The backfill in the former building crawl space will be removed down to the bottom polyethylene sheeting. The backfill will be stockpiled on site and reused as subsurface fill. The polyethylene sheeting and the mercury contaminated soil above the concrete floor will be removed and placed in cubic yard waste containers. The soil will be sampled and analyzed. After the soil has been characterized, it will be disposed at a permitted facility.

4.3.4 Surface Soil

After the completion of the removal and disposal of the GHF and associated buried piping, then a minimum of two feet of surface soil will be excavated from the remaining Site. This soil will be removed and disposed at a permitted facility.

4.4 Erosion and Sedimentation Control

Siltation fence and hay bales will be installed along the perimeter of the work area (see Figure 4). If required, NYSEG may direct the contractor to install additional erosion and sedimentation controls during construction. Erosion and sedimentation control measures will be maintained in place until final stabilization of the work area has been achieved and then they will be removed.

4.5 Control of Groundwater

The degree of groundwater infiltration (if any) into the GHF during excavation of its contents will depend on the elevation of groundwater at the time of remediation. NYSEG will make a good faith effort to control water in the excavation in order to accomplish the goals of the *IRM*. This will include an attempt to remove or otherwise address, prior to backfilling, water that has become heavily impacted as a result of excavation activities. During the removal, the GHF will be dewatered using temporary well points or sumps. NYSEG will not allow groundwater to spill out of the excavation during the backfilling operation. This water will be pumped into the 1,500

gallon containers and/or tank trucks. All groundwater removed will be containerized as wastewater, subject to the provisions of Section 4.8 of this *Work Plan*.

4.6 Rain water

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 pump rain water from excavation area only if required to maintain schedule. Water pumped will be stored in 1,500 gallon containers and/or tank trucks. The containers' contents will be sampled and characterized in accordance with the acceptance requirements of the facility permitted to accept the wastewater. Upon receipt of laboratory analytical results and disposal facility approval, the wastewater will be transferred into a tank truck and transported off-site for disposal at a properly permitted facility.

4.7 Wastewater Management

The wastewater generated during equipment decontamination or dewatering will be collected and stored in 1,500 gallon containers. The container's contents will be sampled and characterized in accordance with the acceptance requirements of the facility permitted to accept the wastewater. Upon receipt of laboratory analytical results and disposal facility approval, the wastewater will be transferred into a tank truck and transported off-site for disposal at a properly permitted facility.

4.8 Construction Equipment, Tools and Trucks 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 Contamination Reduction Zone 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.

- Remove all Site security fencing that was installed during *IRM*. Some siltation fencing may remain on site for erosion control during germination of seeding.

- Six inches of topsoil will be placed over the common fill. Then mulch, fertilizer and seeding will be applied evenly over the Site.

All waste material generated during site restoration will be characterized and disposed of in accordance with applicable regulations. The liner used to prepare the stockpile storage area will be disposed of at a properly permitted facility. All contaminated personal protective equipment (PPE) and plastic sheeting used to cover soil stockpiles will also be characterized and disposed of appropriately.

4.11 Documentation of Site Activities

4.11.1 Daily Logbook

A designated logbook will be used to document daily on-site activities. The daily logbook will be kept in the field office.

4.11.2 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.

4.11.3 Chain-of-Custody Record

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

4.11.4 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.

4.11.5 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 HASP and will be located in the field office.

4.12 Demobilization

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

4.13 Project Schedule

A Project Schedule is provided in Appendix H.

4.14 Permits

NYSDEC Waste Transporter permits (6NYCRR Part 364) will be obtained by the Transportation Contractor for the vehicles used for transportation of waste as specified in subsection 4.9 of this *Work Plan.* No other permits are required for this project.

5.0 AIR-QUALITY MONITORING PLAN

5.1 Overview

The objective of this Air-Quality Monitoring Program (AQMP) is to provide direct measurement of total suspended particulates (0.1 to 10 microns) and chemical

compounds which could potentially be released during excavation, handling, and transportation of MGP residues at the site. The air-quality monitoring program consists of (1) work area (exclusion zone) air-monitoring for evaluating construction worker health and safety; and (2) community air-monitoring to determine the levels of volatile compounds and particulate at the perimeter of the site. Real-time air monitoring and speciated real-time data will be used to guide appropriate action to reduce/minimize air emissions to acceptable levels.

5.2 Work Zone Air-Monitoring Program

The air quality within the work area will be monitored to ensure worker health and safety in accordance with requirements specified in 29 CFR 1910.120, as described in Section 5.3.2 and Section 5.3.2.1 and in the *Plattsburgh Bridge Street Former Manufactured Gas Plant Site Health and Safety Plan*.

5.3 Community Air-Monitoring Program

5.3.1 Overview

NYSEG will undertake a community air-monitoring program during the IRM project to provide direct measurement of volatile organic compounds and total suspended particulates (0.1 to 10 microns) which may be released during excavation and handling of MGP residues and activities associated with the IRM project. This air-monitoring program is directed toward evaluating and documenting the migration of potential emissions to the site perimeter. Results will be used to confirm the maintenance of safe air quality surrounding the site during the handling of contaminated soils. If contaminant levels in the air exceed the air-quality action levels detailed in Section 5.3.2, the site construction supervisor will be promptly alerted to the results of the monitoring and the need for the implementation of additional measures (as described in Section 5.3.2.1) to further control emissions from the site.

Real-time air quality monitoring for volatile organic compounds and total suspended particulates as well as speciated BTEX (benzene, toluene, ethylbenzene and xylenes) real-time air monitoring will provide the site construction supervisor with immediate data concerning air quality at the site during the project. The procedures

for monitoring and the short-term air quality action levels are subsequently described in this section. Real-time air quality data will be collected throughout the duration of soil excavation activities. Background data will be collected over a one-day period prior to soil excavation when no soil handling work is being performed.

5.3.2 Real-Time Air Monitoring -Volatile Organic Compounds

Real-time air quality data will be collected from the downwind perimeter of the work area and the site perimeter using portable instrumentation in accordance with a periodic monitoring protocol described below. Four site perimeter monitoring stations will be established. Each station will be located along the perimeter of the site and will be designated as Real-time Stations 1 through 4 (RTS1 through RTS4, see Figure 4).

Real-time monitoring will commence at the start of each work day and will continue until daily soil handling activities have ceased. The real-time data generated will allow the site construction supervisor to determine if air quality at the work area perimeter and site perimeter are being impacted by site activities and whether the implementation of emission control measures, as delineated in Section 5.3.2.1, is necessary.

Real-time monitoring will be accomplished using a total volatile organic analyzer equipped with a photo ionization detector (PID) and a 10.2-eV lamp, which will be calibrated daily to benzene with a 10 ppm isobutylene air standard. Monitoring will be undertaken at each monitoring station at least hourly during the course of daily operations. In addition, monitoring locations and frequencies may be revised, depending on the location of exposed contaminated soil, wind direction, and data collected. Additional real-time air monitoring may be done at the request of either on-site NYSDEC or NYSDOH personnel. Equivalent backup, real-time air-monitoring equipment will be available on-site, should a piece of equipment malfunction.

Equipment to effectively monitor wind direction will be erected at the site. The equipment anticipated for the site is the Weather Wizard III™. This unit can provide wind speed and direction and temperature and can log data.

Sampling at each station will be accomplished by pointing the intake tube of the PID toward the likely emission source, generally at the height of the breathing zone (4 to 5 feet). The instrument will then be turned on and allowed to run for 30 seconds. After 30 seconds have elapsed, the concentration of total volatiles in air will be measured and recorded on data sheets along with the time, sampling location, wind direction, and weather conditions. Real-time air monitoring data will be kept in on-site files. These data will be submitted to Rich Fedigan, NYSDOH, on a daily basis.

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), short-term air quality action levels have been established for air emissions control at the site perimeter. An action level of total volatiles at the work area and site perimeter has been established at 5.0 ppm above background (see below). If this action level is exceeded the following actions will be taken:

(1) Work activities will be halted and actions specified under the Vapor Emission Response Plan (Section 5.3.2.1) will be undertaken.

(2) A benzene-specific Dräger™ tube or a portable gas chromatograph (GC) unit (i.e., Perkin-Elmer Photovac Voyager™) will be used to measure the concentration of benzene migrating from the site perimeter.

The 5.0 ppm action level at the site perimeter is based on an estimated concentration of benzene in the PID reading from total BTEX compounds measured during monitoring. Since the PID detects volatile compounds other than BTEX, the 5.0 ppm action level is considered conservative. If odors are detected in the nearby community, despite the fact that total VOC levels are below the 5.0 ppm action level, engineering controls as described in Section 5.3.2.1 will be implemented.

An action level of 2.5 ppm above background will be used at the work area perimeter, in accordance with OSHA short-term exposure limits (STEL) for benzene to ensure construction worker health and safety (29 CFR 1910.1028). If the total VOC concentration exceeds 2.5 ppm, worker personal protective equipment will be

upgraded from Modified Level D to Level C as specified in the Health and Safety Plan.

5.3.2.1 Vapor Emission Response Plan

The *Plattsburgh Bridge Street MGP Site Vapor Emission Response Plan* (see Appendix I) will be triggered by either an exceedance of total VOC action levels at either the work area or site perimeter or a benzene measurement of 0.5 ppm at the site perimeter. If a five-minute sustained measurement of 5.0 ppm above background for the work area or the site perimeter or a benzene level of 0.5 ppm at the site perimeter is measured, work activities will be stopped and the following actions will be undertaken:

- Continue total VOC monitoring at the work area perimeter. If the total VOC level decreases below 5 ppm over background, then work activities can resume. If the total VOC levels persist above 5.0 ppm, then the construction supervisor will implement engineering controls and immediately notify the site project manager and the Project Health and Safety Coordinator (PHSC)

- Following the implementation of engineering controls, work activity may resume after the total VOC levels at the work area perimeter and site perimeter are below 5.0 ppm above background and with the approval of the NYSDEC in consultation with the NYSDOH.

- If the total VOC levels are greater than 5.0 ppm but less than 25 ppm over background at the perimeter of the work area, work activity may resume provided that the total VOC level 200 feet downwind of the work area or half the distance to the nearest residential or commercial structure (whichever is less) is below 5.0 ppm above background.

- If the total VOC level is above 25 ppm at the perimeter of the work area, work activities must be shut down. When work shutdown occurs, downwind air monitoring as directed by the PHSC 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 5.3.2.2)

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

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

5.3.2.2 Major Vapor Emission Response Plan

If after the cessation of the work activities and implementation of engineering controls, persistent total VOC levels (1) greater than 25 ppm above background at the work perimeter; or (2) greater than 5.0 ppm above background 200 feet downwind of the work area or half the distance to the nearest residential or commercial structure (whichever is less) are measured, then the following action will be taken within 30 minutes:

- Cover the excavated area with polyethylene sheeting or clean soil.
- Notify the NYSDOH, County Health Department, NYSDEC and the local police.
- Total VOC levels will be monitored within 20 feet of the nearest downwind residential or commercial structure. (20 Foot Zone).

- 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.

- If 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 Response agencies to determine appropriate actions to be implemented. NYSDOH has ultimate authority during major vapor emission emergencies.

5.3.3 Real-Time Air Monitoring - Total Suspended Particulates

In conjunction with the real-time hourly volatile emission monitoring, direct-reading monitoring equipment for particulate matter will be used to collect real-time airborne particulate data. The instrument to be used for this sampling is a Mini Ram™, which operates on the principle of light scattering. The Mini Ram™ responds to particles in the size range of 0.1 to 10 micrometers and in the concentration range of 0.01 to 100 mg/m^3. Real-time particulate measurements will be based on a 30-second, time-weighted average. The Mini Ram™ will be calibrated daily with a filtered air sample. Recorded measurements at each sample point will be logged by the technician. Equivalent backup real-time air monitoring equipment will be available on-site in the event of an equipment malfunction.

A New York State action level of 0.15 mg/m^3 for particulate matter above background will be used to determine whether modifications to given processes are required. If the action level is exceeded, real-time monitoring of the upwind background level will commence immediately using the same portable monitor. If the site particulate measurement 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 (NYSDEC TAGM:

Fugitive Dust Suppression and Particulate Monitoring Program at Inactive Hazardous Waste Sites, October 1989).

5.3.4 Speciated Real-Time Air Monitoring - BTEX

To supplement the real-time VOC air monitoring for the community air monitoring program, a portable gas chomatograph (GC) unit will be used to determine the BTEX (benzene, toluene, ethylbenzene, and xylenes) compounds. The GC instrument will be a Perkin-Elmer Photovac Voyager™. The Voyager™, equipped with a PID detector, can accurately determine the BTEX compounds with detection limits in the low ppb (parts per billion) range. The purpose in generating these data will be twofold: (1) to supplement the real time VOC readings, aiding in critical path decisions to be made for the vapor emission response plan (Section 5.3.2.1) and the major vapor emission response plan (Section 5.3.2.2); and (2) to document emissions of BTEX to the surrounding community during periods of construction activity potentially conducive to the emissions of these compounds.

The Voyager™ will be calibrated daily using gas standards containing BTEX compounds. Calibration checks will be conducted twice daily (AM/PM) with a verification gas standard containing the target analytes. Calibration drift of greater than +/- 20% will require recalibration of the instrument.

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:

- every two hours during excavation of MGP 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 5.3.2.1)

- as necessary during periods of excavation that produce visual or odorous evidence of coal tar

The results of this sampling and analysis will be data logged into the Voyager™ memory and downloaded into a laptop PC (personal computer) daily. The raw data will be reviewed weekly by personnel knowledgeable in gas chromatography. If the results of analysis indicate that a sample contains greater that 0.5 ppm benzene, then action specified in the Vapor Emission Response plan (Section 5.3.2.1) will be implemented.

The results will be provided to the New York State Department of Health (NYSDOH) as soon as possible during instances when the benzene or total VOC action level is exceeded or when an odor complaint is lodged by a community member. In absence of such instances, these data will be provided to NYSDOH or NYSDEC monthly 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

5.3.5 Time Weighted Average (TWA) Air Monitoring - BTEX

As a contingency plan for the speciated real-time air monitoring, NYSEG may, at its own discretion, elect to use TWA air monitoring of BTEX compounds in lieu of using the portable GC unit described in section 5.3.4. Air sampling and analysis for the BTEX compounds will be conducted in accordance with the NYSDOH Method 311-6, Volatile Organics In Air By GC/PID/ELCD.

Samples will be collected over an 8 hour period during excavation of the MGP contaminated soil and debris. Two site perimeter monitoring stations, one upwind and one down wind, will be established daily based on meteorological information and will be designated as TWA-UP (Time Weighted Average Station Upwind) and TWA-DN (Time Weighted Average Station Downwind) respectively. One sample will be collected at each station per day. Based on real-time total VOC readings and odorous observations, the week's worst case upwind and downwind samples will be submitted to the laboratory for analysis. The results of these analyses will be submitted to DOH and DEC within 30 days of submission to the laboratory.

5.3.6 Odor Monitoring Plan

The nature of the MGP 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 *IRM*. A sign will be posted at the gate with a local phone number to call to register complaints of odor. A call to the posted phone number during normal business hours will be answered by one of a group of operators (at the NYSEG Call Center) who can provide information from the project fact sheet. If additional information is required, the operator can contact members of the project team from a call list. After normal business hours, for emergencies, this phone number (800 572-1121) rings directly to NYSEG's Power Supply which will contact a project team member directly from the call list. Project team members will archive all call information and contact the site construction supervisor or project manager, if necessary, so that engineering controls can be implemented. NYSDOH will be promptly notified of any odor complaints.

A project fact sheet will be distributed to adjacent property owners explaining the remediation work to occur on the site, the potential for odors, and how the phone system for odor complaints will work. This will be distributed prior to intrusive work beginning.

Hourly, the designated field technician will walk the site perimeter to take notice of any appreciable odor emanating from the site. If significant odor is noted by the site personnel, or by non-project personnel, engineering controls will be implemented as outlined in the Vapor Emissions Response Plan (Section 5.3.2.1) to reduce odor causing emissions. Once odors are not noticed at the downwind site perimeter,

normal operations may resume. This determination will be subject to the approval of the on-site NYSEG representative.

5.3.7 Meteorological Observations

Wind direction will be monitored throughout the air-sampling program at an on-site weather station. This data will be reduced and reviewed for each 24-hour period during the removal program, and air sampling stations will be adjusted accordingly if necessary.

A log of local weather observations will be kept with observations taken coincidentally with real-time air quality measurements. Data included in the log will consist of temperature, cloud coverage, and precipitation conditions.

5.3.8 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.

6.0 SAMPLING AND ANALYSIS PLAN

This *Sampling and Analysis Plan (SAP)* has been developed to specify the objectives and procedures for the sampling and analyses of MGP residues, soil, and wastewater that will be produced during the Plattsburgh Bridge Street MGP IRM. In addition, the NYSEG *Plattsburgh Bridge Street MGP Site Quality Assurance Project Plan* (QAPP, Appendix D) and NYSEG's *Pre-Remediation Sampling and Analysis Work Plan, Plattsburgh Bridge Street Former MGP Site* (Appendix A) should be consulted where specific sampling and analysis procedures and methods are referenced.

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

Table 6-1
Environmental Sampling Media and Objectives

Sampling Media	Sample Type	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
Wastewater	Waste Characterization Samples	To characterize wastewater for disposal at a permitted facility

MGP residue and soil quality will be evaluated relative to site cleanup objectives and disposal requirements listed in Section 4.0.5 of this *Work Plan*. Wastewater sampling and analysis will be completed as described in Section 6.4 and in accordance with the requirements of a permitted wastewater disposal 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 *SAP* provide specific information regarding the rationale and methods for sampling and analyzing MGP residues, soil, and wastewater.

6.1 Quality Assurance/Quality Control (QA/QC) *Requirements/Data Quality Objectives*

QA/QC requirements are specified throughout the *QAPP*, (Appendix D) data quality objectives are also delineated in the *QAPP* (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 *QAPP* (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 at 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 *QAPP*. 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 Plattsburgh Bridge Street Former MGP 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

6.2.2.1 Sample 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 additional remedial excavation is warranted as described in Section 4.0.6.

6.2.2.2 Laboratory Analytical Protocols.

Confirmation soil samples will be submitted to the laboratory and analyzed for total BTEX (benzene, toluene, ethylbenzene and xylenes) and total PAHs (polycyclic aromatic hydrocarbons) using EPA Laboratory methods 8260 and 8270, respectively. Samples collected will be subject to NYSDEC ASP (Analytical Services Protocol) Category B deliverables.

6.2.2.3 *Soil Sampling Protocol*

In the areas of excavation greater than two feet in depth, confirmation samples will be obtained at a maximum sidewall horizontal interval of 50 feet with a minimum of one (1) sample per each sidewall. Bottom of the excavation confirmation samples will also be collected at the at a maximum horizontal frequency interval of 50 feet.

A sample representing the first 3 to 6 inches of soil encountered will be taken from each 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 an excavation 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 of soil are discarded in both cases to avoid collecting soil at the surface of the excavation since volatile compounds at excavation surface may have been released to the atmosphere prior to sampling. Discarding the first 3 inches will help to ensure that the volatile compounds present in the excavation are more accurately sampled and profiled. The sample will be representative of the excavation area soil based on visual and olfactory observations and PID readings.

Confirmation samples extending lower than 4 feet below grade may be collected by a stainless steel remote sampler or a hydraulically activated sampling device. After each sample is taken, an indicator will be used to mark its location, in the event that additional excavation in that area is required. A drawing depicting confirmation sample locations along with information concerning sample identifications, depth below grade surface and dates of collection will be maintained by the remediation sampling technician throughout the project.

6.2.3 *Pre-Remediation In Situ Sampling and Analysis Work Plan for Waste Characterization*

6.2.3.1 ***Pre-Remediation In Situ Sampling Rationale*** (See *Pre-Remediation In Situ Sampling and Analysis Work Plan for the Plattsburgh Bridge Street MGP Site*, Appendix A, *"Introduction"*.)

6.2.3.2 ***Laboratory Analytical Protocols*** (See *Pre-Remediation In Situ Sampling and Analysis Work Plan for the Plattsburgh Bridge Street MGP Site*, Appendix A, *"Analytical Protocol".*)

6.2.3.3 ***Soil Sampling Protocol*** (See *Pre-Remediation In Situ Sampling and Analysis Work Plan for the Plattsburgh Bridge Street MGP Site*, Appendix A, *"Sampling Protocol".*)

6.2.4 Roll Off Container/Area of Contamination Soil Sampling and Analysis Plan for Waste Characterization

6.2.4.1 Roll off Container/Area of Contamination Sampling Rationale

A soil roll off container/area of contamination sampling and analysis plan may be implemented to supplement the Pre-Remediation In Situ Sampling and Analysis Work Plan. This sampling and analysis plan is to address (1) subsurface soil characterized as RCRA nonhazardous waste by pre-remediation in situ sampling which upon excavation appears to require off-site hazardous waste disposal (i.e., soil that appears to be grossly contaminated with tarry waste) or (2) subsurface soil characterized as RCRA hazardous waste by pre-remediation in situ sampling which upon excavation appears to be suitable for off-site nonhazardous waste disposal (i.e., soil that appears to be clean or lightly contaminated with tarry waste). During the course of remedial excavation, subsurface soil will be examined for visual and odorous evidence of MGP contamination. If the excavated soil appears to fit either description delineated above, it may be placed in a roll off container or stockpiled within the excavation in increments up to 200 cubic yards. Caution will be taken during segregation of waste to ensure that excavation techniques will not be used to dilute tarry waste, which are likely to be RCRA hazardous waste. The Area of Contamination (AOC) for the Plattsburgh Bridge Street Former MGP Site is the entire property, which is identified as Figure 4. Disposition of soil will be based on the criteria delineated in Section 4.0.5.

6.2.4.2 Laboratory Analytical Protocols

(See *Pre-Remediation In Situ Sampling and Analysis Work Plan for the Plattsburgh Bridge Street MGP Site*, Appendix A, *"Analytical Protocol", List A Analytes*)

6.2.4.3 Soil Sampling Protocol

One representative composite sample comprised of at least 3 grab samples will be collected from each roll off container or stockpile as soon as practical following excavation and submitted to the laboratory for analysis. Each sample will represent up to 200 cubic yards of soil.

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. This wastewater will be transferred to 1500 gallon containers that will be stored on-site. A sampling and analysis plan will be implemented to properly characterize the wastewater for disposal at disposal 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 facility permitted to accept the wastewater.

6.3.4 Wastewater Field Sampling Procedures

Wastewater will be sampled directly from each filled container prior to shipment off-site. Latex or rubber 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 *QAPP* (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.

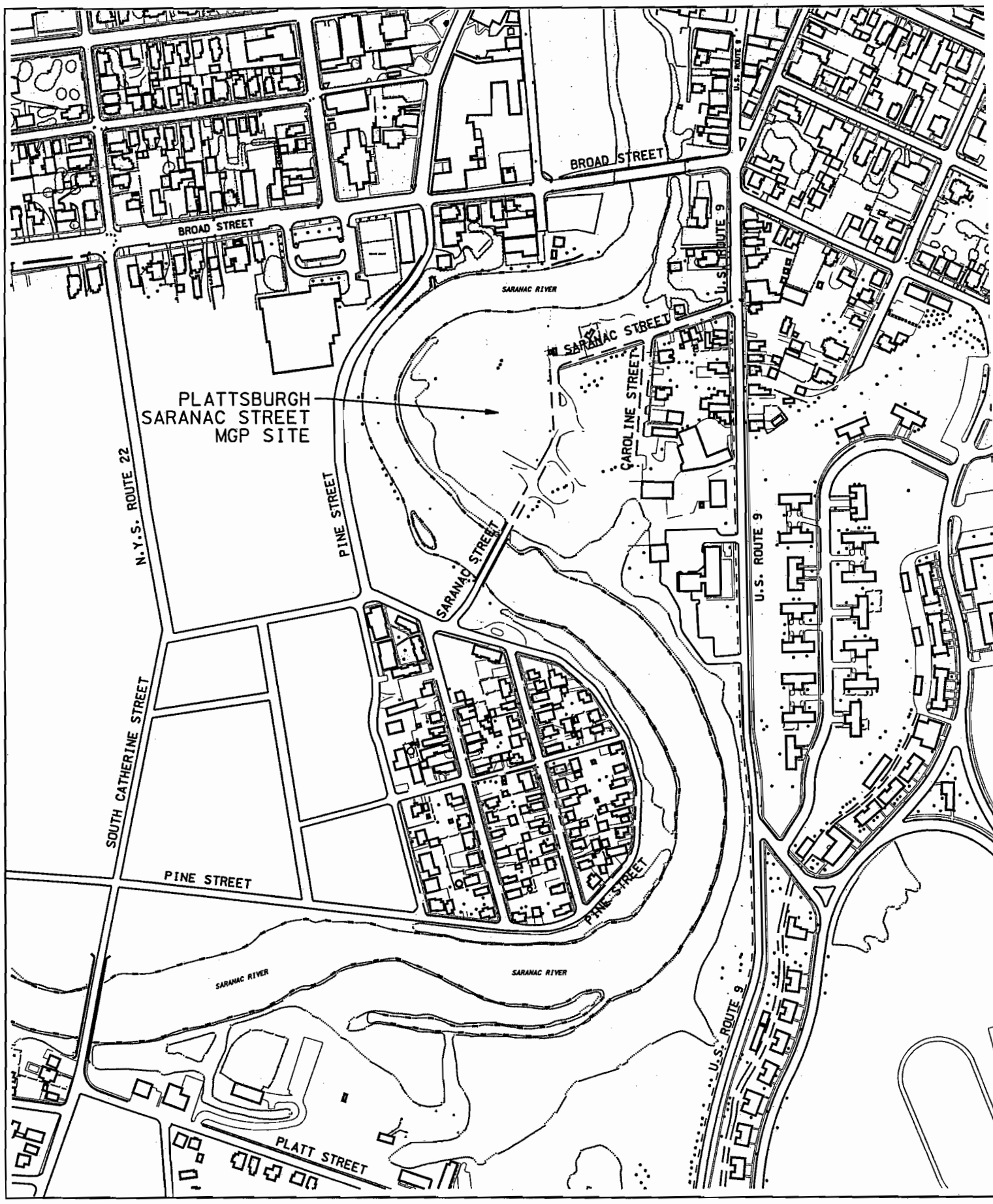
The sample chain-of-custody form will then be immediately filled out and kept with the sample. The sample will be maintained at 4°C until delivered to the off-site analytical laboratory.

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 Plattsburgh Bridge Street Former MGP 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



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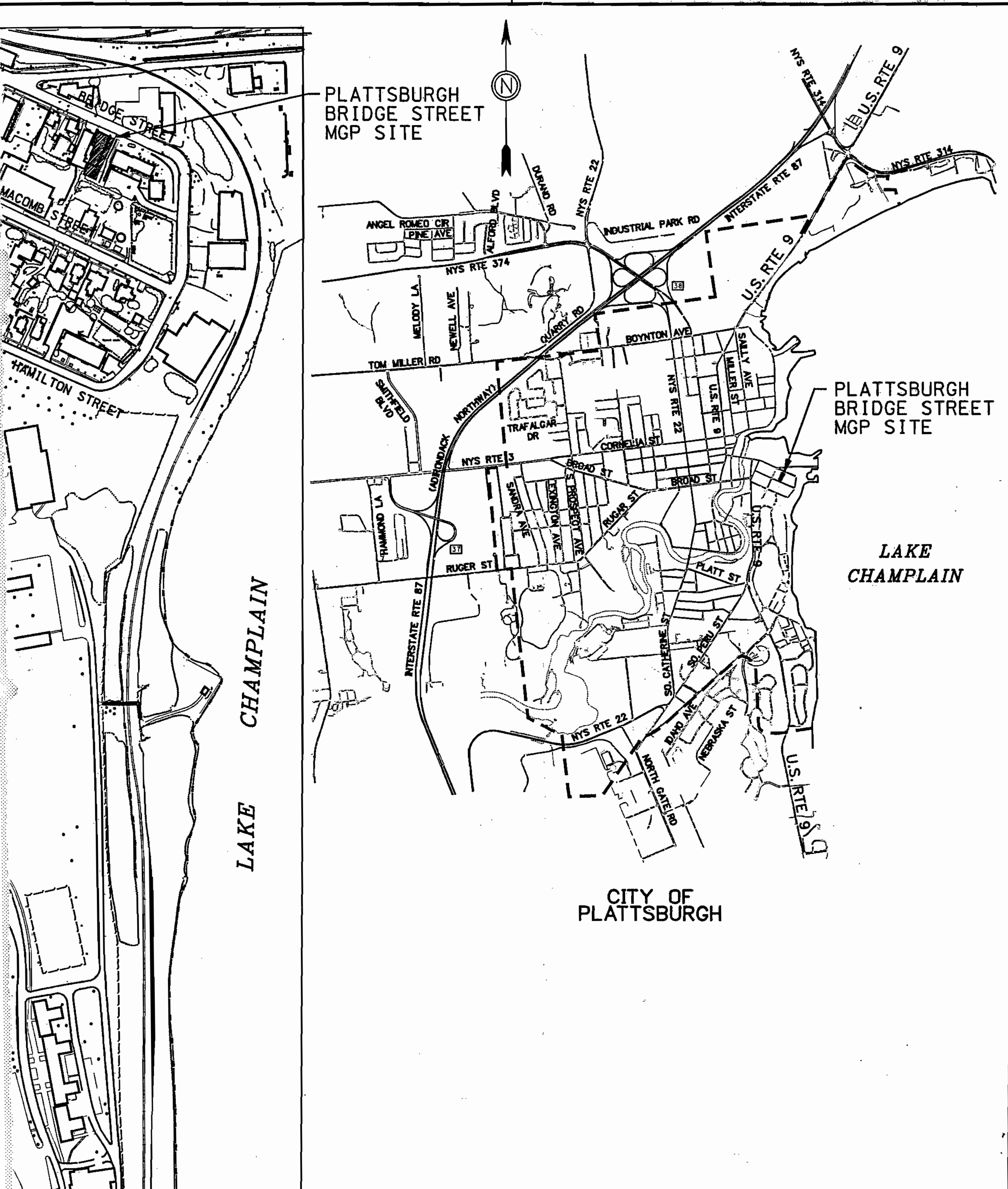

BASE MAP DIGITIZED FROM AERIAL PHOTOS DATED APRIL, 1990 BY MICHAEL BAKER JR. BEAVER, PA.

NYSEG	ENGINEERING SERVICES BINGHAMTON, N. Y.
TITLE	LOCATION MAP
	PLATTSBURGH BRIDGE STREET MGP SITE
	CITY OF PLATTSBURGH
	CLINTON COUNTY, NEW YORK
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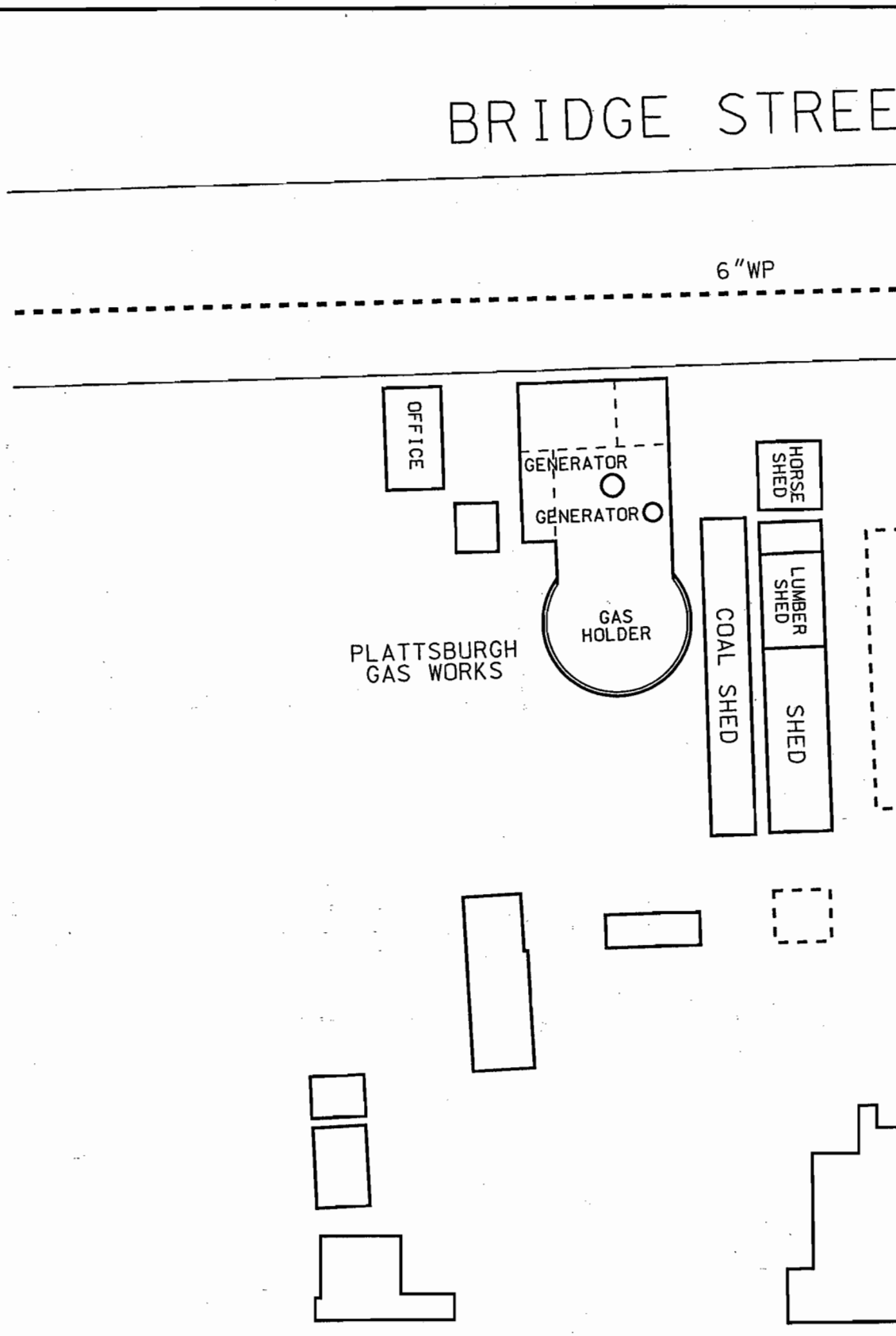

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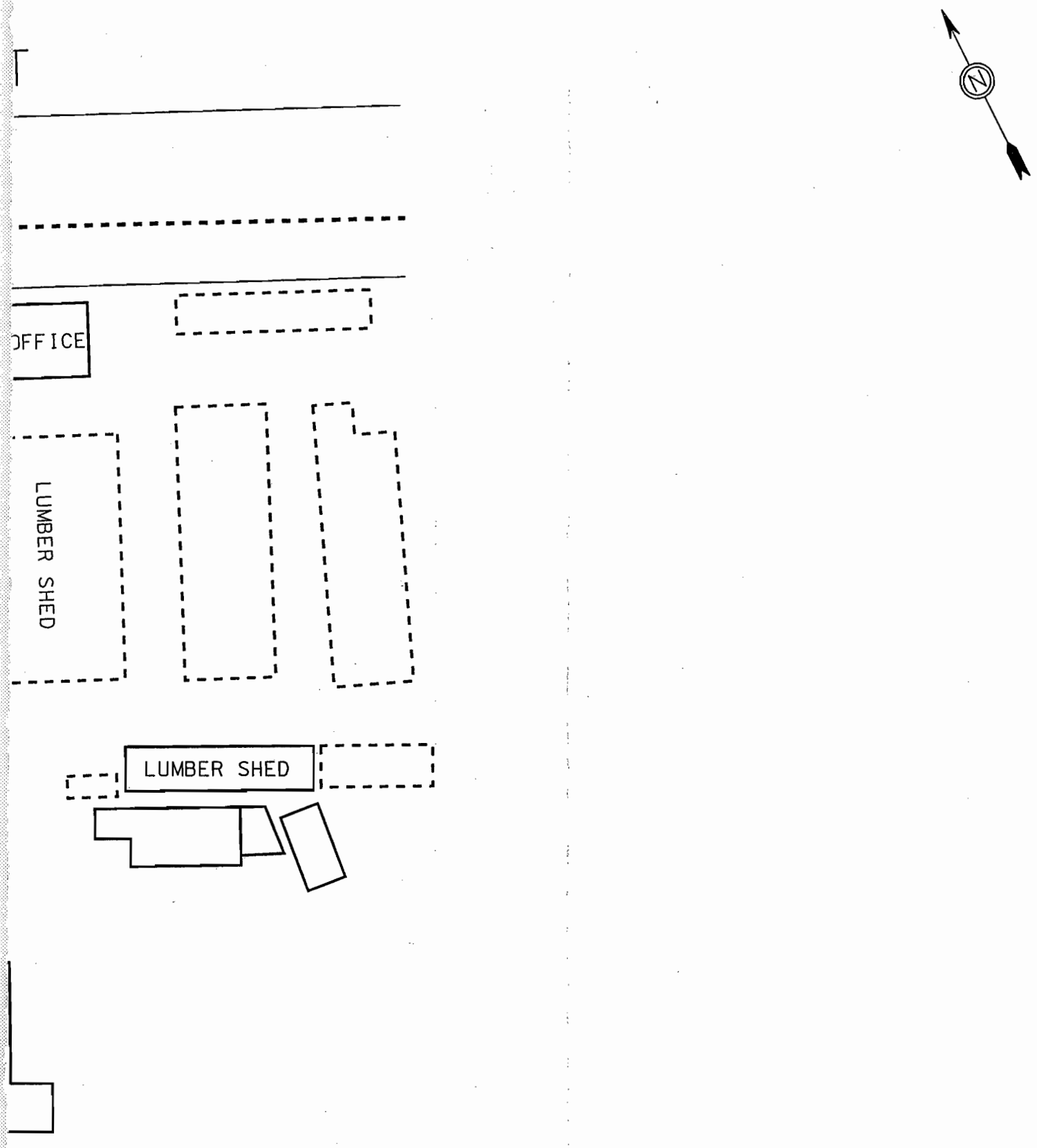

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NYSEG ENGINEERING SERVICES BINGHAMTON, N.Y.

TITLE FORMER MGP SITE PLAN
PLATTSBURGH-BRIDGE ST. SITE
CIRCA 1891

SCALE 1"=50'

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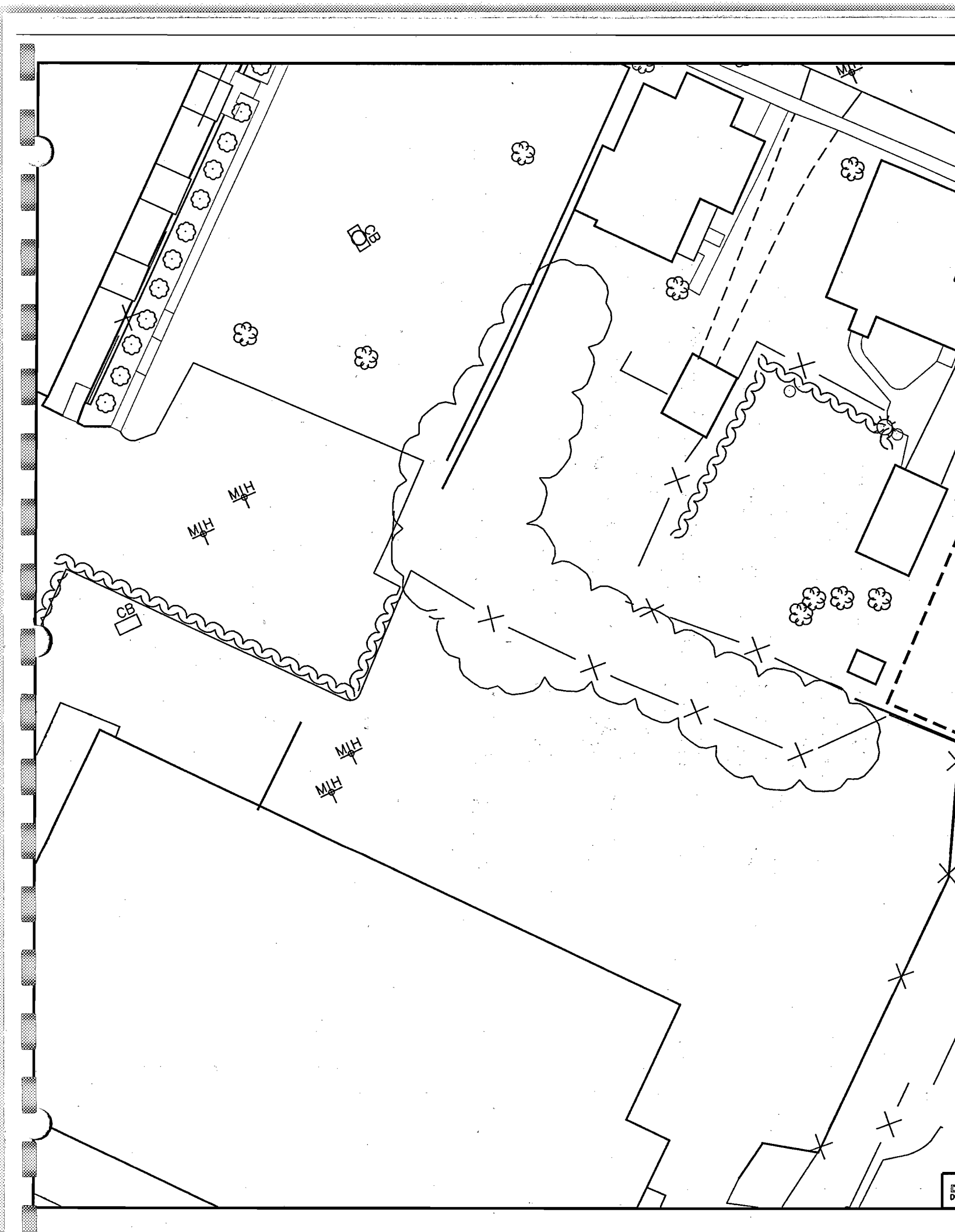
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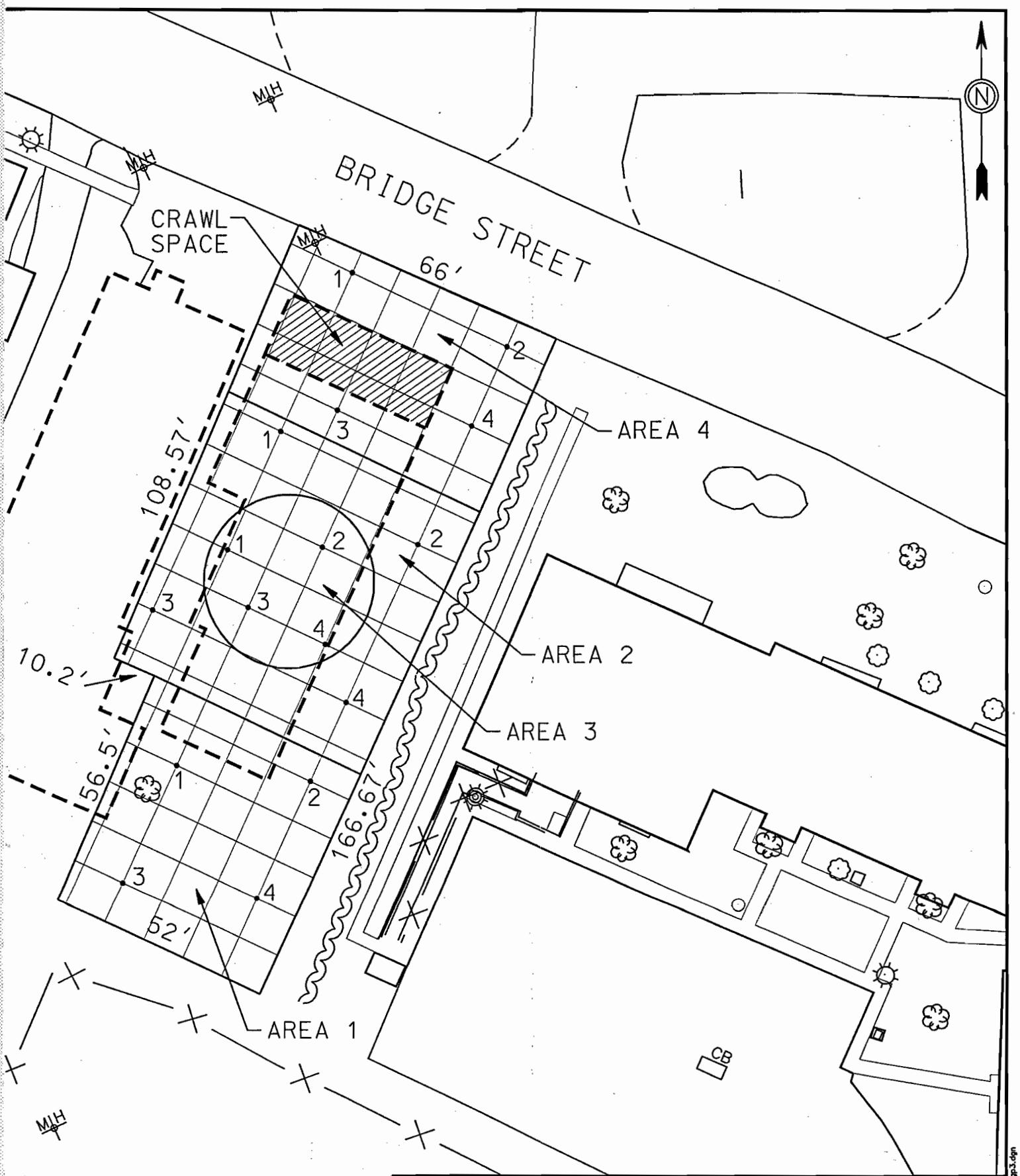

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NYSEG ENGINEERING SERVICES BINGHAMTON, N. Y.

TITLE PRE-REMEDIATION INSITE SAMPLING
PLATTSBURGH BRIDGE STREET
FORMER MGP SITE

SCALE 1"=30' DWG NO FIGURE 3 REV

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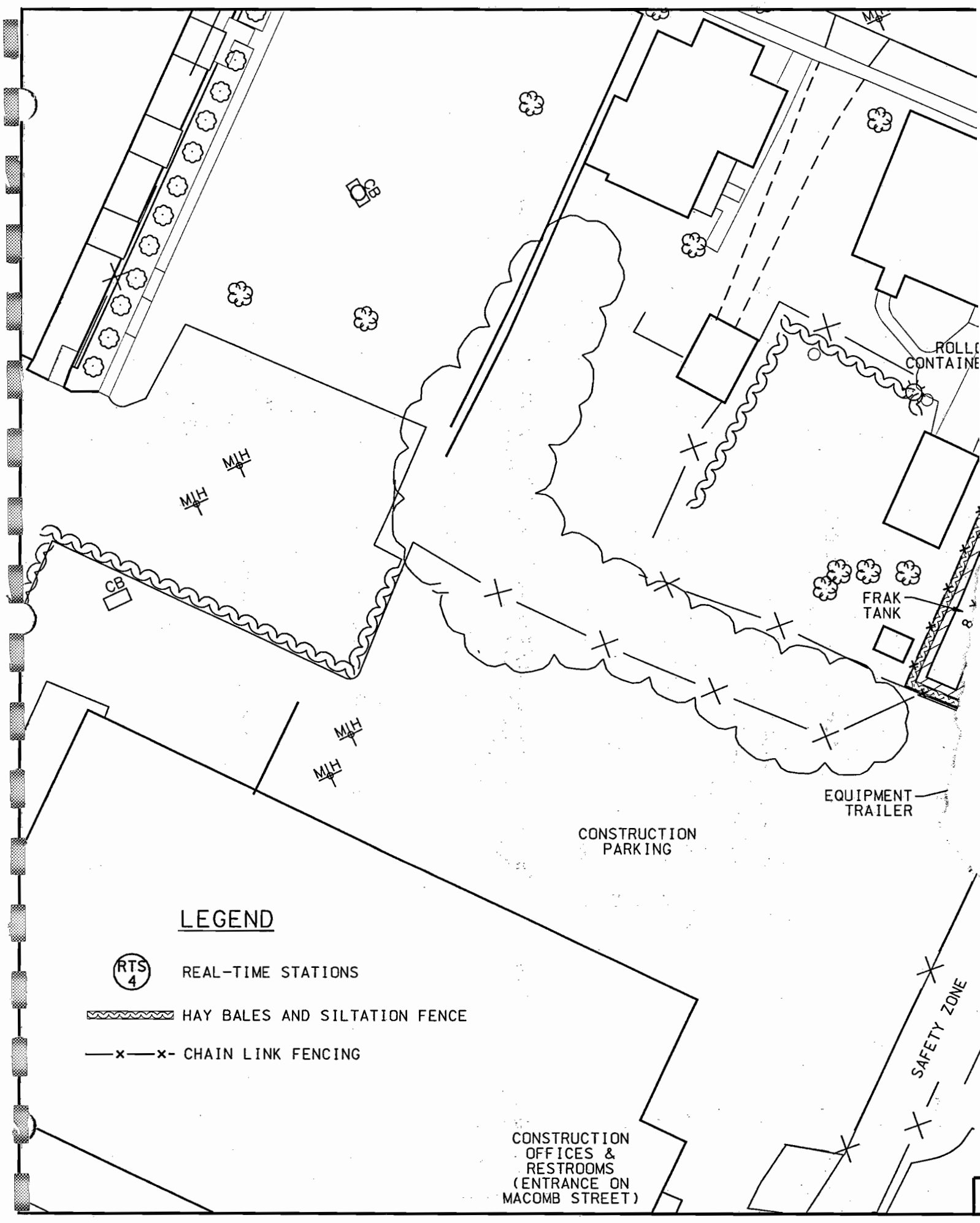
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CONSTRUCTION
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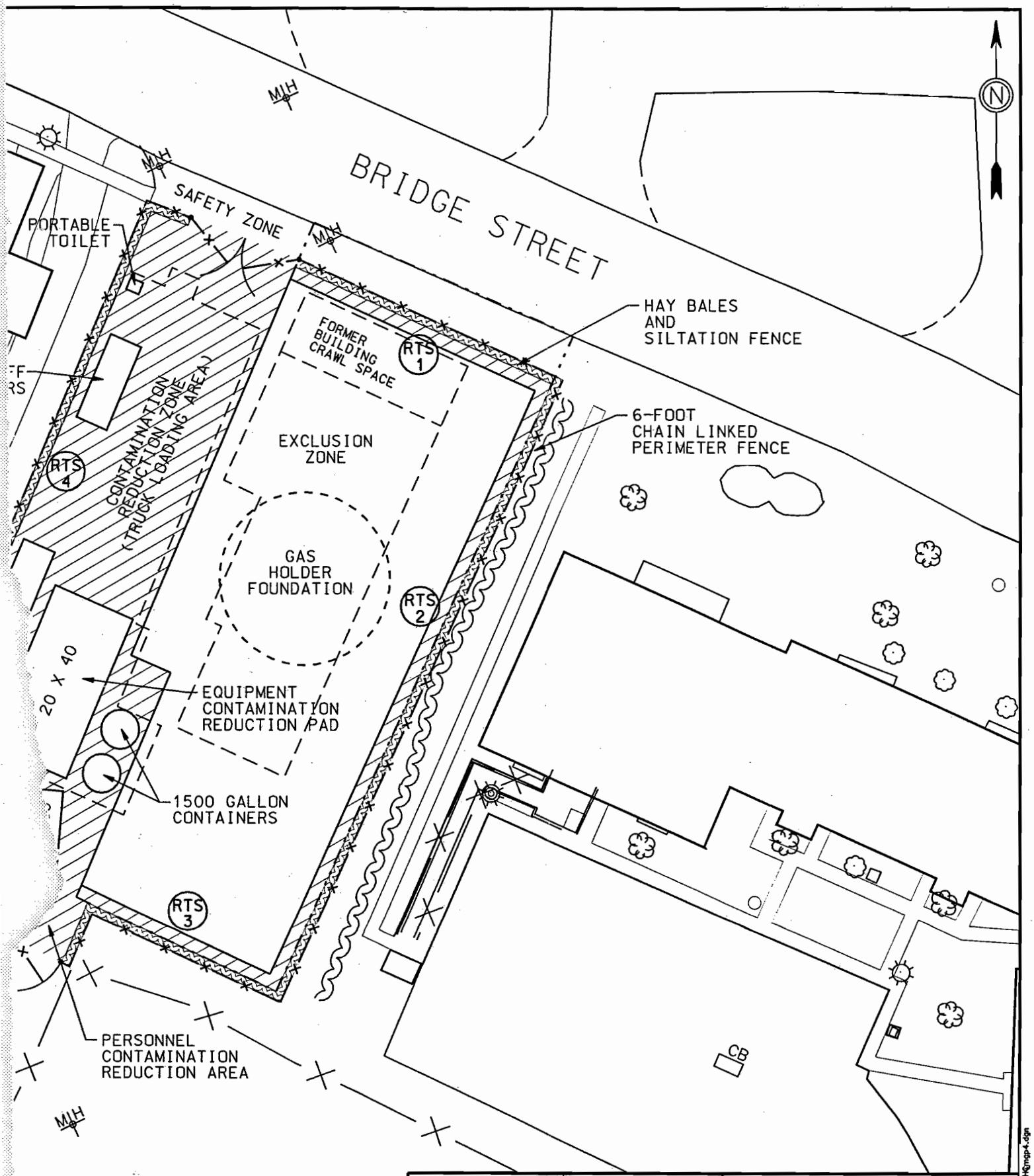
LEGEND
RTS 4
REAL-TIME STATIONS
HAY BALES AND SILTATION FENCE
CHAIN LINK FENCING
SAFETY ZONE
CONSTRUCTION
OFFICES &
RESTROOMS
(ENTRANCE ON
MACOMB STREET)



1" = 30' Scale — 0 15 30 45 Feet — SCALE REFERENCE

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

NYSEG ENGINEERING SERVICES BINGHAMTON, N. Y.

TITLE: BRIDGE STREET MGP SITE
CITY OF PLATTSBURGH
CLINTON COUNTY, NEW YORK

SCALE: 1"=30' | DWG NO: FIGURE 4 | REV

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		/				

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Date/Time Plotted: 29-JAN-2001 12:25

APPENDIX A

PRE-REMEDIATION IN SITU SAMPLING & ANALYSIS WORK PLAN

NYSEG

NEW YORK STATE ELECTRIC & GAS CORPORATION

Licensing & Environmental Operations Department
Corporate Drive, Kirkwood Industrial Park, P. O. Box 5224
Binghamton, NY 13902-5224

INTERIM REMEDIAL MEASURES

PRE-REMEDIATION
IN SITU SAMPLING & ANALYSIS WORK PLAN

PLATTSBURGH STREET FORMER MGP SITE
PLATTSBURGH, NEW YORK

January 2001

Introduction:

NYSEG (New York State Electric & Gas Corp.) is preparing to conduct an Interim Remedial Measures project (IRM) involving the removal of a subsurface gas holder foundation, associated subsurface piping, surrounding coal tar contaminated soil and site-wide excavation of surface soil to a minimum depth of two feet. This protocol describes a pre-remediation sampling and analysis plan designed to provide data for in situ waste characterization and preliminary site characterization.

The soil will be sampled in situ. A total of approximately 4300 cubic yards of soil will be sampled for waste characterization. Based on the analytical results of in situ sampling for waste characterization, the soil determined to be a RCRA hazardous waste will be excavated and either be (1) sent to a thermal treatment facility; or (2) sent to a secured hazardous waste landfill in Canada. If upon excavation, the soil does not appear to meet the description of hazardous waste (i.e., soil impacted with tarry MGP residuals) it may be stockpiled and re-sampled ex-situ to determine if it is a RCRA hazardous waste.

Soil determined to be a RCRA non-hazardous waste will be excavated and sent to a non-hazardous waste landfill or thermal treatment facility permitted to accept it. If during excavation, visual observations indicate that the soil appears to be contaminated with tarry MGP residuals which would classify it as a RCRA hazardous waste, this material will either be disposed as a RCRA hazardous waste or stockpiled and re-sampled ex-situ to confirm the proper waste characterization status.

Soil samples will also be collected for preliminary site characterization. The analytical results of these samples will be used as a preliminary guide to determine depth of excavation required to meet cleanup objectives as specified by the IRM Work Plan.

NYSEG or its contractor will conduct the sampling event. Zebra Environmental Corp. or an alternate contractor will provide geoprobe services. Adirondack Environmental Services, Inc. or an alternate contractor will provide analytical laboratory services. All sampling and analyses will be performed in accordance with the attached Quality Assurance Project Plan (QAPP). Data will be submitted to NYSDEC for review. The data will also be sent to the disposal facility for review and approval prior to the transport of soil to any disposal facility.

The attached Health and Safety Plan drafted for the IRM will be used for the pre-remediation sampling event. Care will be taken to ensure that no subsurface material will be spread over the surface of the site. This material will be containerized for proper off-site disposal.

Sampling Protocol:

The sections of the site targeted for remedial excavation have been designated Areas 1 - 4. (See Fig. 3) The southernmost and northernmost areas of the site will be designated as Areas 1 and 4, respectively. The area immediately surrounding the former gas holder will be designated as Area 2. The former gas holder will be designated as Area 3. A sampling grid has been established for each Area. From

these grids, sampling points have been chosen to gather representative waste characterization samples for the target Areas. Composite samples will be collected in each Area for waste characterization of various depth horizons. Additional grab sampling points may be taken from the grid or in any area where grossly contaminated soil is observed.

A geoprobe sampling rig will be used to collect 2" macrocore samples. Each core sample will be placed in a large stainless steel collection vessel. The core will be examined to determine any distinct change in coal tar impact with depth. Where specified, the core samples will be properly mixed to generate a composite sample that is representative of its respective soil volume. When collecting composite samples for 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.

Sampling For Areas 1 and 4

The maximum depth of excavation anticipated for these areas is approximately 8 feet below grade surface (bgs). For waste characterization profiling of Areas 1 and 4, a composite sample will be generated at depth intervals of 0-2', 2-4', 4-6', 6-8' . Each composite sample will be comprised of a minimum of four core grab samples collected at the designated sampling points (depicted in Figure 3) for each depth interval. Each sample from Area 1 will represent approximately 220 yd^3 of soil and each sample from Area 4 will represent approximately 150 yd^3 of soil. Each composite sample will be submitted to the laboratory for determination of List A Analytes (See **Analytical Protocol**). Note that the crawl space area in Area 4 will not be sampled in situ. This area will be excavated and sampled ex situ during the IRM.

To gather preliminary site characterization data, at least one worst case grab sample will be collected from each depth horizon. Worst case determination will be based on visual, olfactory and OVA meter observations. Each grab sample will be submitted to the laboratory for determination of List B Analytes (See **Analytical Protocol**).

Sampling for Area 2

The maximum depth of excavation anticipated for this area is approximately 16 feet bgs. For waste characterization profiling of Area 2, a composite sample will be generated for depth intervals of 0-2', 2-4', 4-6', 6-8', 8-10', 10-12', 12-14' and 14-16' bgs. Each composite sample will be comprised of a minimum of four core grab samples collected at the designated sampling points (depicted in Figure 3) for each depth interval. Each composite sample will represent approximately 225 yd^3 of soil and will be submitted to the laboratory for determination of List A Analytes.

To gather preliminary site characterization data, at least one worst case grab sample will be collected from each depth horizon. Worst case

determination will be based on visual, olfactory and OVA meter observations. Each grab sample will be submitted to the laboratory for determination of List B Analytes.

Sampling for Area 3

The maximum depth of excavation anticipated for this area is approximately 12 feet below grade surface (bgs). For waste characterization profiling of Area 3, a composite sample will be generated at depth intervals of 2 to 8 feet bgs. The depth intervals will be determined in the field such that soil with similar levels of contamination will be grouped in discrete depth intervals. For example, if the top 4 feet are uncontaminated, the next 4 feet are lightly contaminated, and the final 4 feet are heavily contaminated, then the top 4 feet will be sectioned as one depth interval, the next 4 feet will be sectioned as a second depth interval, and the final 4 feet as a third depth interval. Each composite sample will be comprised of a minimum of four core grab samples collected for each depth interval at sampling points within Area 3 (See Figure 3). Each composite sample will represent approximately 95 - 380 yd^3 of soil and will be submitted to the laboratory for determination of List A Analytes.

Analytical Protocol:

(Refer to the attached QAPP for specific methods.)

List A Analytes: TCLP Volatiles, TCLP Semivolatiles, TCLP Metals, TCLP Pesticides, TCLP Herbicides, Reactive Cyanide and Reactive Sulfide (Reactivity) - Corrosivity (pH), Flashpoint, PCBs, % Solids, (Tables 1, 2 & 3).

List B Analytes: Total Benzene (Table 4), Total PAHs(Table 5).

TABLE 1: 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
Tetrachloroethylene	0.7
Toxaphene	0.5
Trichloroethylene	0.5

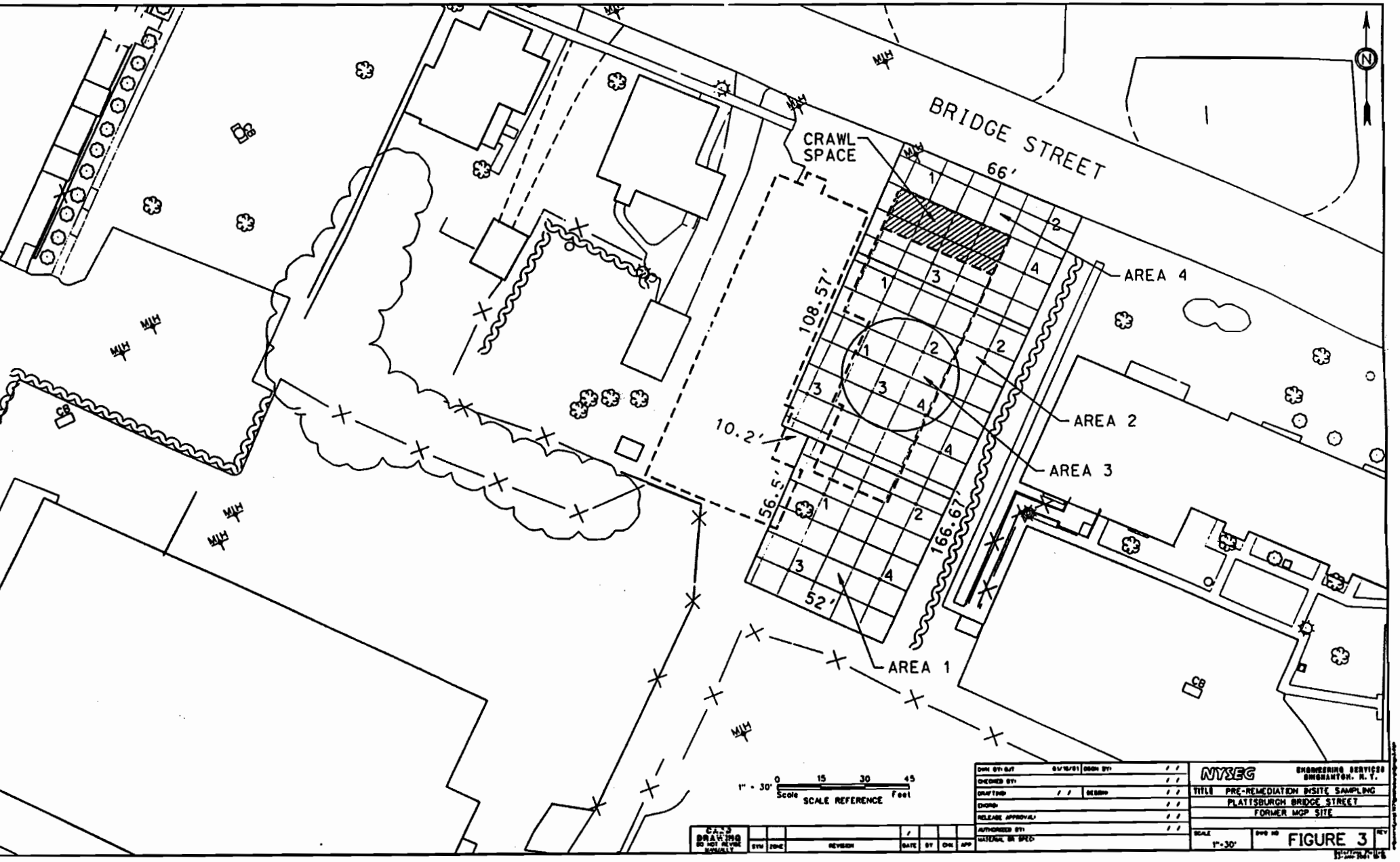
TABLE 1: COMPOSITE SAMPLE TCLP ANALYTES AND LIMITS	
TCLP Analyte	**Regulatory Limit (mg/L) 6NYCRR Part 371**
2,4,5-Trichlorophenol	400.0
2,4,6-Trichlorophenol	2.0
Vinyl chloride	0.2

TABLE 2: COMPOSITE 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 3: 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)
Flashpoint	Must be > 60 deg. C
PCBs (Total)	50 mg/Kg
% Solids	Must be > 20%

TABLE 4: GRAB SAMPLE ANALYTES : TOTAL BENZENE
ANALYTE
Benzene

TABLE 5: GRAB SAMPLE ANALYTES : TOTAL POLYCYCLIC AROMATIC HYDROCARBONS (PAH)
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)


BRIDGE STREET
CRAWL SPACE
66'
108.57'
10.2'
56.5'
166.67'
52'
AREA 4
AREA 2
AREA 3
AREA 1
N
1" - 30'
0 15 30 45
Scale
SCALE REFERENCE
Feet
NYSEG
ENGINEERING SERVICES
BINGHAMTON, N.Y.
TITLE PRE-REMEDIATION ONSITE SAMPLING
PLATTSBURGH BRIDGE STREET
FORMER MGP SITE
SCALE 1"=30'
FIGURE 3

APPENDIX B

CITIZEN PARTICIPATION PLAN
(CPP)

NYSEG

NEW YORK STATE ELECTRIC & GAS CORPORATION
Corporate Drive, Kirkwood Industrial Park, P.O. Box 5224
Binghamton, New York 13902-5224

INTERIM REMEDIAL MEASURES

CITIZEN PARTICIPATION PLAN

FOR ACTIVITIES AT

PLATTSBURGH BRIDGE STREET
FORMER MANUFACTURE GAS PLANT SITE
City of Plattsburgh, Clinton County, New York

JANUARY 2001

Prepared By:
NYSEG Licensing & Environmental Operations Department

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

1.0 INTRODUCTION

NYSEG has developed this document (*Citizen Participation Plan, CPP*) to facilitate two-way communication with individuals, groups, and organizations which have or might expressed an interest in the Plattsburgh Bridge Street former manufactured gas plant (MGP) site or surrounding areas, or those who may be affected by the MGP Site's program, and to enable citizens to participate in the decision making process associated with the remediation of the site. This *CPP* will detail the citizen participation activities that will be implemented at the MGP Site.

An *Interim Remedial Measures Work Plan for Activities at Plattsburgh Bridge Street Former Manufactured Gas Plant Site (Work Plan)* has been produced. The proposed remedial measures will involve the excavation and off site disposal of the gas holder foundation, associated buried piping, surrounding coal tar contaminated soil, and general excavation of two feet of surface soil. The *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 between NYSEG and the NYSDEC which defines the requirements of each party for conducting site investigations and remediations. The Order on Consent includes requirements for thirty-three of NYSEG's MGP sites (including the site at Bridge Street). The Order on Consent requires that all work 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

The Plattsburgh Bridge Street MGP Site is located on approximately 0.5 acres at 140 Bridge Street in the City of Plattsburgh, Clinton County, New York. The Plattsburgh Bridge Street MGP Site is bounded by Bridge Street on the north, an apartment building on the east, residences to the south, and a vacant lot to west owned by the City of Plattsburgh, which was formerly the Hose Company #5 Firehouse. The property is located near the outlet of the Saranac River into the Cumberland Bay of Lake Champlain. NYSEG purchased the property in the summer of 2000 and in December of 2000 razed the building. The Site now vacant lot.

The Site was used to manufacture gas from coal for approximately 36 years, from 1860 until 1896, by the Plattsburgh Light, Heat and Power Company. Prior to the

availability of natural gas, manufactured gas (sometimes known as coal gas) was an important source of fuel for street lights, lighting homes, cooking and heating. There were several processes used to produce coal gas, and a number of them were employed at the Bridge Street Site. In general, all of the processes involved the controlled combustion of a carbon based fuel which produced a gas, the quality of which may have been improved through various processes depending upon the production method in use at the time.

The initial method used to produce gas was known as the Aubin process, where resin was burned in ovens and the resulting gas was captured, cleaned and stored in gas holders until it was distributed to the end users. The Aubin process was used for only a brief period of time and was replaced by the coal carbonization process. The coal carbonization process involved the combustion of coal (or other carbon based fuel source) in special ovens called retorts. Like the Aubin process, the gas resulting from the fuel combustion process was captured, cleaned and stored until delivery to the homes and businesses that used it. In 1882 the production method was changed to the water gas process, in which steam was blown onto a bed of incandescent coal in an oven known as a generator, and the resulting gas was collected. The gas, which was then sent through a purifying process to remove sulfur and cyanide compounds, after which it was stored in a structure known as a gas holder, from which it was sent out to the homes and businesses that used it. In 1888 the plant converted its operation to use the carbureted water gas process. The front end of this process was the same as the water gas process, resulting in the production of blue gas, but an additional step was added to the process. The blue gas was sent through a superheater where oil was added to the gas. The high temperatures in the superheater caused the oil to thermally crack (breaking apart of the oil molecules), improving the Btu value and luminescence of the gas. The gas was then purified, stored, and distributed in the same manner as in the water gas process. The term carbureted refers to the controlled manner in which steam and oil were mixed into the gas, much like a carburetor on an internal combustion engine mixes air with gasoline. Thermal cracking of oil caused the formation of aromatic compounds which were typical found in MGP residues.

By-products 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 Resource Conservation and Recovery Act (RCRA) regulatory limits due to the leachable concentrations of benzene. Coal tars generally contain high

levels of volatile organic compounds (VOC's) and polycyclic aromatic hydrocarbons (PAH's).

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 MGP. These materials contain varying concentrations of sulfides and cyanides complexed with iron.

Petroleum products were used on-site as a fuel source for the MGP and to increase the heat content of the manufactured gas. These products were potentially spilled on-site as a result of material handling practices. The petroleum products were a heavier fraction (i.e. diesel, No. 6, bunker C, etc.) and primarily contain PAH's.

3.0 SITE INVESTIGATIONS

NYSEG completed a site screening evaluation at the Bridge Street MGP site in 1992. The site screening involved historical data collection, limited field sampling to characterize and quantify direct exposure pathways, and inspections at the site, followed by application of a site ranking model developed by the Electric Power Institute(EPRI)[1]. A Remedial Investigation (*RI*) was completed in 2000. The *RI* involved soil gas sampling, surface soil/sediment sampling, subsurface soil investigation and groundwater Investigation. The investigation included the former gas holder, crawl space in the basement of the building, overall soil quality at the Site and at neighboring properties and sewer system.

4.0 PROJECT DESCRIPTION

The *IRM* will be undertaken by NYSEG and will involve excavation and off site disposal of the gas holder, associated buried piping, surrounding coal tar contaminated soil, and general excavation of two feet of surface soil.

This *IRM* is scheduled to be initiated in the spring of 2001.

---

[1] The Electric Power Research Institute (EPRI) is a non-profit research consortium that provides science and technology solutions to more than 1,000 member energy related organizations worldwide

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. One's name can be added to the mailing list by contacting any of the individuals listed below in Section 8.0 - Additional Information, or by completing a "mailer" which is included with all mailings.

6.0 DOCUMENT REPOSITORY

Documents associated with the previous investigations and the upcoming IRM are available for public review at the following repositories:

- Plattsburgh Pubiic Library
  19 Oak Street
  Plattsburgh, New York 12901
  Attn.: Ms. Lisa Wise, Head-Information Services
  (607) 778-6407

- New York State Department of Environmental Conservation
  50 Wolf Road
  Albany, New York 12233-7010
  Attn.: Mr. David Crosby
  (518) 457-9285 or 1-800-342-9296

- NYSEG (New York State Electric & Gas Corporation)
  4125 Route 22
  Plattsburgh, New York 12901-5619
  Attn.: Mr. Robert Perkins
  (518) 566-9846, extension 874

7.0 DESCRIPTION OF CITIZEN PARTICIPATION ACTIVITIES FOR EACH MAJOR ELEMENT OF THE INTERIM REMEDIAL MEASURE (IRM) PROGRAM

To facilitate the *IRM* process, NYSEG in cooperation with NYSDEC and NYSDOH will inform the public and local officials of planned remedial activities and address concerns raised by the community. The public participation plan will include at least the following:

- The NYSDEC has prepared a fact sheet describing the planned remedial activities and distributed the fact sheet to those identified in Section 5.0 of this document;

- NYSEG, in conjunction with the DEC and DOH will hold a public availability session, prior to *Work Plan* finalization, to describe the planned activities at the Site. Community concerns will be addressed prior to initiation of on-site remedial work.

- NYSEG will prepare and distribute a fact sheet summarizing the results of the remedial activities when the field activities have been completed.

- NYSEG will provide a telephone number for the public to call with any questions or concerns which may arise during the Project[2].

---

[2] A call to the posted phone number (1-800-572-1111) during normal business hours will be answered by one of a specially trained group of operators who can provide information from the fact sheet. If additional information is required, the operator can contact members of the project team from a call list. After normal business hours, for emergencies, this phone number (1-800-572-1121) rings directly to a dedicated trained answering service which will contact a project team member directly from the call list.

8.0 Additional Information

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

Mr. Bert W Finch
Project Manager
NYSEG
P.O. Box 5224
Plattsburgh, New York 13902-5224
(607) 762-8683

Mr. Robert A. Perkins
Community Projects Manager
NYSEG
4125 Route 22
Plattsburgh, NY 12901-5619
(518) 566-9846, extension 874

Mr. David L. Crosby, P.E.
Project Manager
NYSDEC
50 Wolf Road
Albany, New York 12233-7010
1-800-342-9296
or (518) 457-9285

Mr. Rich Fedigan
Community H&S Oversight
NYSDOH
2 University Place
Albany, New York 12203
1-800-452-1158

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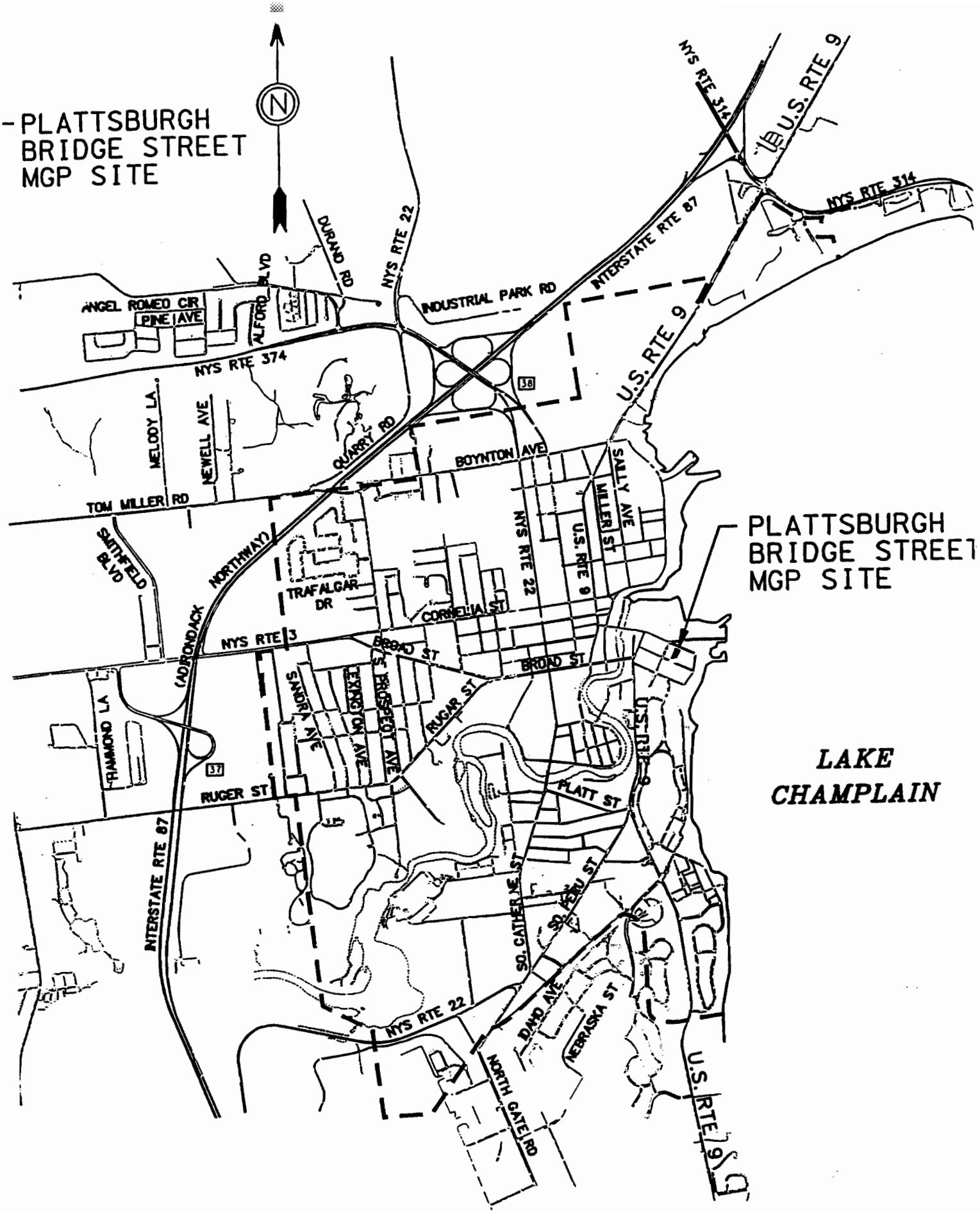
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MGP SITE
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NORTH GATE RD
U.S. RTE 9
CITY OF
PLATTSBURGH

FIGURE 1

APPENDIX C

CONSTRUCTION QUALITY ASSURANCE PLAN (CQAP)

NYSEG

NEW YORK STATE ELECTRIC & GAS CORPORATION
Licensing & Environmental Operations Department
Corporate Drive, Kirkwood Industrial Park, P.O. Box 5224
Binghamton, New York 13902-5224

INTERIM REMEDIAL MEASURES

CONSTRUCTION QUALITY ASSURANCE PLAN (CQAP)

FOR ACTIVITIES AT

PLATTSBURGH BRIDGE STREET
FORMER MANUFACTURED GAS PLANT SITE
City of Plattsburgh, Clinton County, New York

JANUARY 2001

Prepared By:
NYSEG Licensing & Environmental Operations Department

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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 Measure (*IRM*) to be completed at NYSEG's (New York State Electric and Gas Corporation's) Plattsburgh Bridge Street Former Manufactured Gas Plant site (MGP), City of Plattsburgh, Clinton County, New York. This Construction Quality Assurance Plan supplements the *Interim Remedial Measures Work Plan, dated* January 2001.

1.1 Construction Quality Assurance Plan (CQAP) Objectives

The objective of this *CQAP* 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 CQAP 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., plans, specifications, and local, state and federal regulations).

3. **Sampling Strategies** - Establish responsibility for sampling activities and methods including frequency and acceptance criteria for ensuring that material and performance specifications and applicable regulations will be met during the construction process.

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 (NYSEG)

The contractor is responsible for coordinating field operations of the *IRM*, 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 *CQAP* 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, Project Manager

The responsibility of the construction quality assurance officer is to perform those activities in this *CQAP* deemed necessary to assure the quality of construction and support quality control efforts. To avoid conflicts of interest, the construction quality assurance is performed by an person other than the construction quality control representative and provides the permitting agency an assurance that the facility was constructed as specified in the design. 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 specification and/or engineering plans and identified in the *Quality Assurance Plan (QAPP)*. 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: John J. Ruspantini, CHMM Project Scientist

The responsibility of the sampling quality assurance officer is to perform those activities in this *CQAP, Work Plan and QAPP* 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 specification and/or engineering plans and identified in the *CQAP*. 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:

- confirming 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);

- confirming 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

- confirming 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) Construction Supervisor

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 design plans and specifications 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:

- Reviewing design, plans, and specifications for clarity and completeness so that the construction activities can be effectively implemented.

- Verifying that a contractor's construction quality is in accordance with *CQAP*.

- Performing on-site inspection of the work in progress to assess compliance with the design plans, and specifications.

- Prepare and log material shipping manifest for transportation of non-hazardous and Hazardous materials.

- The construction quality control representative will also perform the duties of the health & safety officer.

- Reporting the results of all observations and tests as the work progresses and interacting with the contractor to provide assistance in modifying the materials and work to comply with specified design. 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.

- 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 specified design.

- 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 exeeds 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 *QAPP* 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 *QAPP* 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 *CQAP* describes the anticipated inspection, testing, and sampling requirements of these definable feature works.

3.1 Site Preparation

Elements of the site preparation, including clearing, grubbing, fencing, and entrance road construction, will be inspected as they occur to assure compliance with the *Work Plan*. Inspection of the siltation fence shall confirm that it is contiguous and its skirt is embedded along its length.

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 Staging of Materials

Material will be transported to storage area. Piles 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.

3.4 Loading of Material for Transportation

Staged products will be loaded with a rubber tired articulated wheel loader into dump trailers for transportation to permitted disposal facility. Polyethylene sheeting will be placed between the pile and the truck to retain any material spilled from the loader. The spilled material will be added back to the pile following completion of loading of

each truck. The loading area will be visually inspected to confirm that material remains within the bermed stockpile area.

3.5 Excavation of Existing MGP Residue

MGP residue will be excavated from the former gas holder, piping and surface soil in accordance with the *Work Plan*. All excavation activities will be observed and recorded by the construction quality control representative noting soil type, color, moisture, foreign objects, odor and any other noticeable characteristics. Limits of the excavation will be measured by the construction quality control representative upon completion of the excavation for documentation drawings. Sampling of the excavated materials and residual soils is covered in a separate sampling assurance plan.

3.6 Site Restoration

Site restoration will be observed by the construction quality control representative. The excavation noted above will be backfilled with as specified in the *Work Plan*, and the surface will match the existing surfacing material. Clean imported backfill material will be inspected upon arrival. Backfilling and compacting of the excavation will be observed and documented by the construction quality control representative. All liners will be removed and disposed. No stockpiles will remain on-site at the end of the project. All affected areas will be graded to match existing grades. The finish surface will match the existing stone. Visual inspections will confirm that the site surfacing meets owner approval.

4.0 DOCUMENTATION AND REPORTING REQUIREMENTS FOR *CQAP* ACTIVITIES

The value of the *CQAP* 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 engineered plans and specifications. 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 Meeting Log

Each meeting involving an individual or individuals and any member of the construction quality control team will be recorded by a designated construction quality control representative on a Meeting Log. To maintain information continuity, minutes of each meeting as well as subject, location, and action items will be recorded and a copy given to each participant. Meeting logs are designed to limit misunderstandings that may develop in controlled conversations.

4.6 Variances to *Work Plan*

Required changes to the engineered plans and specifications will be processed through the use of a variance log. Approval from the construction quality assurance officer is required to recommend a change to the engineered drawings and specifications. Once an approved recommended plan change is received from all parties an addendum to the engineered plans and specifications can be completed and returned to the job site.

4.7 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 DFCR's, Photographic Log, Sampling Log, Meeting Log, Material Disposition Log, and Variances to *Work Plan*. The Final Engineering Report will be signed by the construction quality assurance officer and sampling quality assurance office. In addition, the Final Engineering Report will be signed and certified by an engineer licensed to practice engineering in New York State verifying that the work was performed and constructed substantially in accordance with the plans and specifications.

APPENDIX D

QUALITY ASSURANCE PROJECT PLAN (QAPP)

NYSEG

NEW YORK STATE ELECTRIC & GAS CORPORATION
Corporate Drive, Kirkwood Industrial Park, P.O. Box 5224
Binghamton, New York 13902-5224

INTERIM REMEDIAL MEASURES

QUALITY ASSURANCE PROJECT PLAN (QAPP)

FOR ACTIVITIES AT

PLATTSBURGH BRIDEGE STREET
FORMER MANUFACTURED GAS PLANT SITE
City of Plattsburgh, Clinton County, New York

JANUARY 2001

Prepared By:
Licensing & Environmental Operations Department

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 (IRM) project at the Plattsburgh Bridge Street Former Manufactured Gas Plant (MGP) Site, City of Plattsburgh, Clinton County, New York. The fundamental purpose of the *QAPP* is to ensure that quality analytical data will be generated to support the project in a manner consistent with the Data Quality Objectives (*DQOs*) as specified herein. This *QAPP* is designed to be used in conjunction with a New York State Department of Environmental Conservation (NYSDEC) approved Work Plan (*Work Plan*) with regards to specific project objectives and field sampling activities. To the extent that discrepancies exist between this *QAPP* and the *Work Plan*, the *Work Plan* shall control.

2.0 DATA QUALITY OBJECTIVES

Data quality objectives (*DQOs*) 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 *DQOs* are summarized in this section, with detailed information given throughout this *QAPP* and associated sections of the specific project *Work Plan*. The overall *DQOs* 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 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 (Continued on next page)
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

TABLE A (Continued from previous page)
SAMPLE CONTAINERS & PRESERVATIVES

Analysis	Matrix	Container	Preservative
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)
Mercury	Water	26 days
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

* ASP Category B deliverables required. Duplicates, matrix spike, and matrix spike duplicate samples will be collected at a rate of ten percent.
** Samples will be analyzed on a priority basis and reported within 5 days or the maximum holding time, whichever is less.
*** 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 (COC) from the point of sampling to delivery of the samples to the laboratory. The COC 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 COC 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 COC) 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 U.S. EPA analytical procedures or equivalent NYSDOH ELAP (Environmental Laboratory Approval Program) sanctioned methods. 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 HNu meter used to measure Volatile Organic Vapors will be calibrated to a benzene standard. The Mini Ram used to measure particulates will be calibrated to zero with filtered air. 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 IRM 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 Adirondack Environmental Services, Inc. to perform laboratory services for this *IRM*.

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 (DUSR)

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 *DUSR* 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 *IRM*.

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 (QC)

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 reanalyzing samples which do not pass established laboratory quality control (QC) criteria.

Laboratory quality control procedures are specified in the analytical methods. These specifications include the type of QC check required, compounds and concentrations to be used, and QC acceptance criteria. QC 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 Y N NA
Received by:	Loc:	Date:	Time:	
Relinquished by:	Loc:	Date:	Time:	Seals Intact Y N NA
Received by:	Loc:	Date:	Time:	

Special Instructions / Remarks: _____

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

ATTACHMENT 2

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. MILLIKEN WELLPOINT 81-01 SH

M I 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)

ENVIROMENTAL 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	CANADAIGUA 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
GG	GREENIDGE GRAVEL PIT ASH DISPOSAL SITE
GO	GOUDEY STATION
GR	GREENIDGE STATION
GS	GOSHEN MGP
GV	GRANVILLE MGP
HI	HICKLING STATION
HN	HORNELL MGP
IC	ITHACA COURT ST MGP
IF	ITHACA FIRST STREET MGP
II	ITHACA CAYUGA INLET MGP STORAGE AREA
JE	JENNISON STATION
LO	LOCKWOOD ASH DISPOSAL SITE
LP	LOCKPORT MGP
LS	LOCKPORT STATE STREET MGP HOLDER
LY	LYONS MGP
MA	MILLIKEN ASH DISPOSAL SITE
MC	MECHANICVILLE COONS CROSSING MGP DISPOSAL AREA
MD	MEDINA MGP
ME	MECHANICVILLE CENTRAL AVE. MGP
MI	MILLIKEN STATION
MW	MECHANICVILLE WILLOW GLEN MGP DISPOSAL AREA
NO	NORWICH MGP

ENVIROMENTAL QUALITY ANALYSIS SYSTEM
CLASS: SITE

CODE	DESCRIPTION
NW	NEWARK MGP
ON	ONEONTA MGP
OW	OWEGO MGP
PA	PALMYRA MGP
PB	PLATTSBURGH BRIDGE STREET MGP
PH	PINE HILL ASH HAULBACK SITE
PJ	PENN YAN JACKSON STREET MGP
PL	PLATTSBURGH SARANIC STREET MGP
PP	POZZOLANA PARK ASH DISPOSAL SITE
PY	PENN YAN MGP
RE	(FOR "REASON9999" LIMITS)
RR	ROCK RUN ASH HAULBACK FACILITY
SA	KINITGH ASH DISPOSAL SITE
SF	SENECA FALLS MGP
SO	KINTIGH
WA	WARSAW MGP
WE	WEBER ASH DISPOSAL SITE
WR	WATERLOO MGP HOLDER
WT	WATERVILLE MGP
WW	GENEVA WADSWORTH STREET MGP

ENVIROMENTAL QUALITY ANALYSIS SYSTEM
CLASS: SOURCE

CODE	DESCRIPTION
A	AIR SAMPLE
B	BOTTOM ASH
C	COAL PILE
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
Y	PYRITES
Z	PIEZOMETER

06-May-92

ENVIROMENTAL 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

ENVIROMENTAL QUALITY ANALYSIS SYSTEM
CLASS: LOCATION

CODE	DESCRIPTION
A-	DENOTES A WELL
AH	AIR HEATER WASH
AI	AIR INDOOR
AO	AIR OUTDOOR
AP	API SEPARATOR DISCHARGE -SEPARATES OIL & GREASE FORM WATER
AS	AIR SAMPLING LOCATION
AT	FLY ASH/BOTTOM ASH FINES/LIME
B-	BORING
BB	BOILER BLOWDOWN - ACCUMULATION OF DRAINAGE LIQUID
BD	BOTTON ASH POND DISCHARGE - NOT TREATED
BI	SETTLING BASIN INFLUENT
BO	BOILER
BP	BOTTOM ASH POND
CK	SINK
CL	COAL PILE LEACHATE BEFORE MIXING WITH RUNOFF COAL PILE LEACHATE - WATER THAT DRAINS THROUGH THE COAL PILE RUNOFF - SURFACE WATER THAT RUNS OFF THE PILE
CN	CANAL
CO	CONVEYOR
CP	COAL PILE RUNOFF & LEACHATE DISCHARGE - BEFORE TREATMENT
CR	COAL TAR TANK
CT	COAL PILE DRAINAGE TREATMENT PLANT DISCHARGE - AFTER TREATMENT
CW	COOLING WATER DISCHARGE - WATER USED FOR CONDENSOR COOLING. DISCHARGE FROM PLANT
D-	DEEP
DS	DISTRIBUTION SYSTEM
DU	REPLICATE
E-	EAST
EP	ELECTROSTATIC PRECIPITATOR
FB	FIELD BLANK
FD	FLY ASH POND DISCHARGE
FF	FLY ASH/BOTTOM ASH FINES
FG	FLUE GAS STREAM
FL	FLOOR DRAIN
FO	DRINKING WATER FOUNTAIN
FS	FLY ASH SILO
GD	GROUND WATER DRAIN
GH	GAS HOLDER
HO	HOPPER

13-May-92

ENVIROMENTAL QUALITY ANALYSIS SYSTEM
CLASS: LOCATION

CODE	DESCRIPTION
I-	INSIDE LOCATION AREA
IN	INTAKE WATER - WATER BROUGHT INTO THE PLANT
L-	LOWER
LA	LAGOON
LD	LEAK DETECTION DRAIN
LE	ASH LEACHATE
LM	LIME
LS	LIFT STATION - PUMPING STATION
LT	LOOP TRACK
MA	MECHANICAL SEPARATOR ASH
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
PS	PLANT SUMP
PW	PROCESS WATER TREATMENT PLANT DISCHARGE - FINAL DISCHARGE FROM TREATMENT FACILITY
R-	DENOTES REPLACEMENT WELL
RF	ROLLOFF CONTAINER
RL	RECYCLE LINE - RECYCLED WATER THAT IS RUN THROUGH TREATMENT
RO	ROOF DRAIN
S-	SOUTH
SB	SURGE BASIN
SD	SEDIMENTATION POND DISCHARGE
SE	STORAGE PILE
SF	SURFACE
SG	SPRING
SH	SHALLOW
SI	SILO
SK	STACK
SP	SEDIMENTATION POND

13-May-92

ENVIROMENTAL QUALITY ANALYSIS SYSTEM
CLASS: LOCATION

CODE	DESCRIPTION
SR	SEWER
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

ENVIROMENTAL 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
Corporate Drive, Kirkwood Industrial Park, P.O. Box 5224
Binghamton, New York 13902-5224

INTERIM REMEDIAL MEASURES

TRANSPORTATION OF SOLID AND/OR LIQUID WASTE

FOR ACTIVITIES AT

PLATTSBURGH BRIDGE STREET
FORMER MANUFACTURED GAS PLANT SITE
City of Plattsburgh, Clinton County, New York

JANUARY 2001

Prepared By:
NYSEG Licensing & Environmental Operations Department

A SCOPE OF WORK

This specification is for the transportation of solid and/or liquid nonhazardous and hazardous waste for NYSEG's Plattsburgh Bridge Street Former Manufactured Gas Plant (MGP) Site, City of Plattsburgh, Clinton County, New York as detailed herein. All transportation must be in accordance with 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.

B WORK BY CONTRACTOR

1.0 The transporter shall provide all necessary supervision, training, permits, manifests (when required), labor, personal protective equipment (PPE), tools, equipment, consumable materials, and expendable materials, to transport solid and/or liquid waste as detailed herein.

C GENERAL WORK CONDITIONS

1.0 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.

2.0 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.

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

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

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

6.0 The transporter shall adhere to the following rules while working on an MGP Site and waste disposal facility.

6.1 Any truck found unacceptable by NYSEG'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.

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

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 NYSEG.

6.4 Truck drivers will don **hard hats, safety glasses, safety shoes, rubber boots, tyvek suits and gloves**, as a minimum for personal protection.

6.5 All trucks and roll off containers transporting hazardous solid material will have the driver line the entire box (to top of side boards) with 6-mil thick polyethylene sheets (poly sheets). Trucks transporting non hazardous material may be lined as previously stated. All trucks will also have a gasket between the box and tailgate.

6.6 All trucks require working audible and visual backup signals.

6.7 When loading or when directed by a representative on site, 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 a Site representative.

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

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.

6.10 The drivers will cover trucks with tarps inside the loading area. Care should be taken to maintain stable footing when climbing on loads. No driver will walk over the load without proper PPE.

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

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

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

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

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

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

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

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

APPENDIX F

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL ORDER ON CONSENT

NYSDEC

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
50 Wolf Road
Albany, New York 12233-7010

ORDER ON CONSENT

INDEX # DO-0002-9309

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

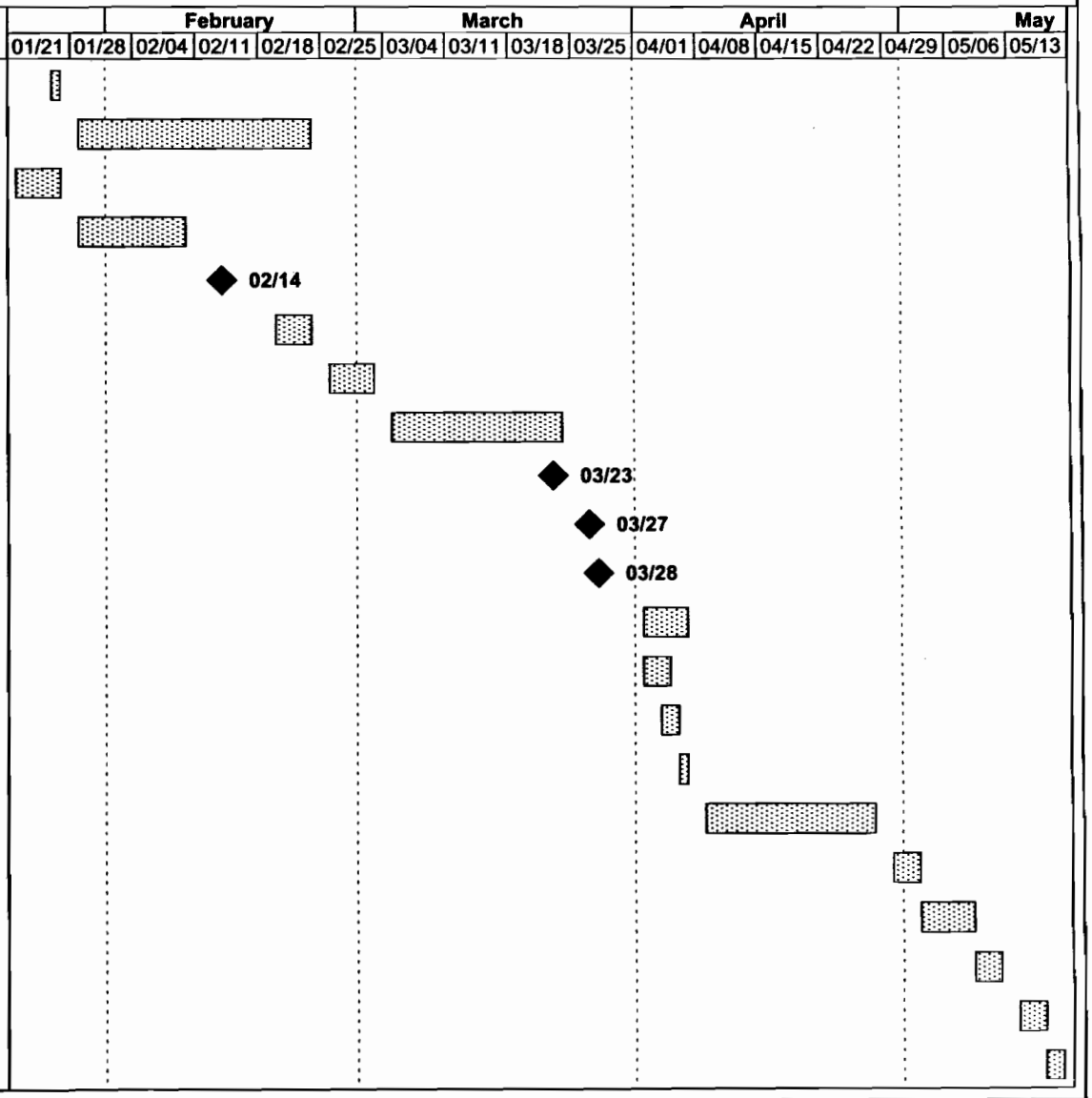
(oNYSEG2.cst)

APPENDIX G

PROJECT SCHEDULE

NYSEG Plattsburgh Bridge Street MGP Site
Interim remedial Measures (IRM)
PROJE CT SCHEDULE

ID	Task Name	Duration	Start	Finish
1	DRAFT Work Plan to DEC	1d	01/26/01	01/26/01
2	DEC Review Work Plan	20d	01/29/01	02/23/01
3	Prepare Draft Sampling Plan	5d	01/22/01	01/26/01
4	DEC Review Sampling Plan	10d	01/29/01	02/09/01
5	DEC Approve Sampling Plan	0d	02/14/01	02/14/01
6	Pre-Remediation Sampling	4d	02/20/01	02/23/01
7	Sampling Analytical	5d	02/26/01	03/02/01
8	Wst. Profile/EPA & Canada	15d	03/05/01	03/23/01
9	Waste Disposal Contract	0d	03/23/01	03/23/01
10	Public Availability Session	0d	03/27/01	03/27/01
11	DEC Work Plan Approval	0d	03/28/01	03/28/01
12	Site Setup	5d	04/02/01	04/06/01
13	Fencing	3d	04/02/01	04/04/01
14	Equip. Decon Pad	2d	04/04/01	04/05/01
15	Personnel Decon Area	1d	04/06/01	04/06/01
16	Excavate GHF	15d	04/09/01	04/27/01
17	Excavate Crawl Space	3d	04/30/01	05/02/01
18	Excavate Surface Soil	4d	05/03/01	05/08/01
19	Finish common fill	3d	05/09/01	05/11/01
20	Topsoil/mulch/fert./seeding	3d	05/14/01	05/16/01
21	Demobilization	2d	05/17/01	05/18/01



Project: Bert W Finch
Date: 01/10/01

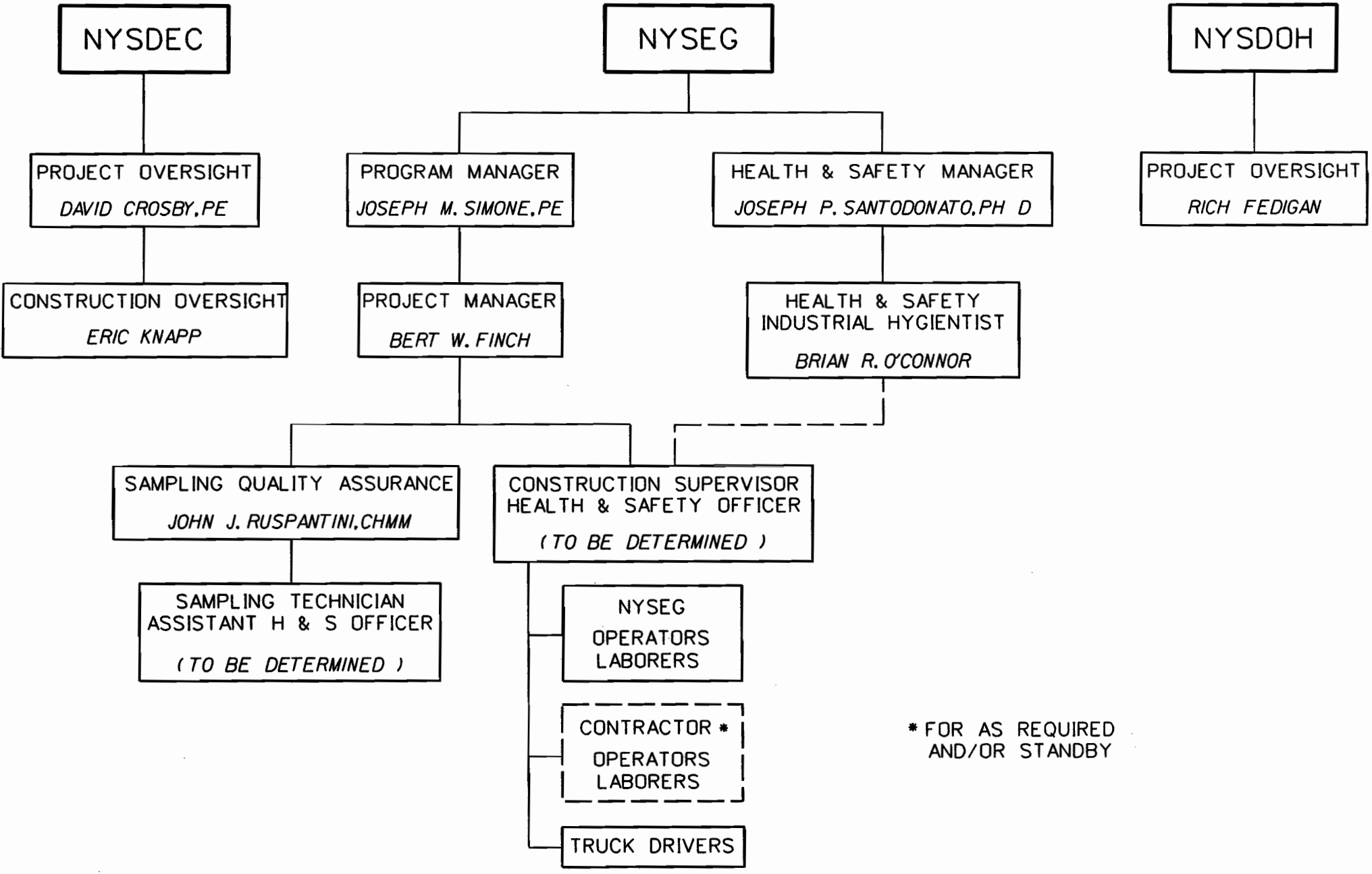
Task
Progress
Milestone
Summary
Rolled Up Task
Rolled Up Milestone
Rolled Up Progress

LICENSING & ENVIRONMENTAL OPERATIONS DEPARTMENT

APPENDIX H

ORGANIZATION STRUCTURE

ORGANIZATION STRUCTURE FOR ACTIVITIES AT PLATTSBURGH BRIDGE STREET FORMER MGP SITE 2001 REMEDIATION PROJECT

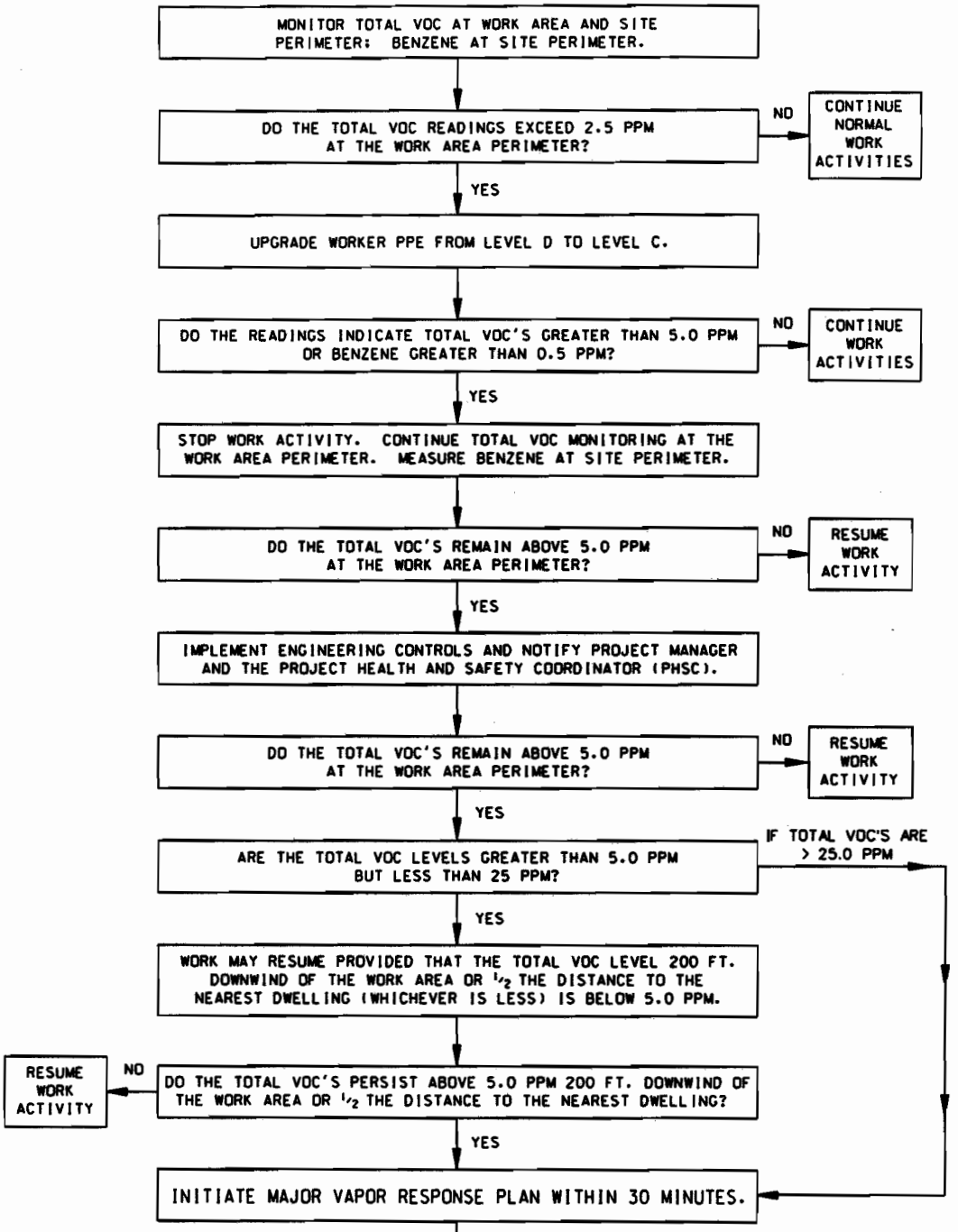


platbstorg.dgn 01-15-01

APPENDIX I

VAPOR EMISSION RESPONSE PLAN

PLATTSBURGH BRIDGE STREET MGP SITE
VAPOR EMISSION RESPONSE PLAN



1. COVER THE EXCAVATED AREA WITH POLYETHYLENE SHEETING.
2. NOTIFY THE NYSDOH. RICH FEDIGAN 1-800-452-1158: CLINTON COUNTY HEALTH DEPARTMENT. EDWARD SNIZEK (518) 565-4870: NYSDEC. DAVID CROSBY (518) 457-9285: AND THE PLATTSBURGH POLICE BUREAU. (518) 563-3416.
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. NYSDOH HAS ULTIMATE AUTHORITY DURING MAJOR VAPOR EMISSION EMERGENCIES.

APPENDIX J

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
APPROVAL LETTER