

DOCUMENT # 3



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ENVIRONMENTAL HEALTH AND SAFETY PLAN

JACQUES WHITFORD COMPANY, INC.

PROJECT IDENTIFICATION

Project Name: Former Substation – Soil Boring/Monitoring Well Installation

Jobsite Address: 7 World Trade Center, Manhattan, NY

JWC Project Number: NHP99202/44

Con Edison Order No. N/A

Client: Consolidated Edison Company of New York, Inc.

Date Prepared: November 16, 2001

Date of Work Start-Up: November 26, 2001

Duration On-site One (1) Month for Initial Investigation & Monitoring Activities.

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**HEALTH AND SAFETY PLAN
JACQUES WHITFORD COMPANY, INC.**

INTRODUCTION

This Environmental Health and Safety Plan establishes guidelines and requirements for safety of personnel during the conduct of field activities associated with the referenced project. All employees of Jacques Whitford Company, Inc. (JWC) and JWC contractors involved in field activities of this project that will perform the soil borings and monitoring well installation are required to abide by the provisions of this plan. They are required to read the plan and sign the attached Compliance Agreement. Subcontractors involved in field activities of this project will be advised of all risks that may be present while working on the site. All JWC subcontractors are required to adopt this plan. The subcontractor has the responsibility of implementing health and safety precautions for their employees based on health hazard information provided by JWC. JWC will document all training sessions and site safety talks for this project.

The health and safety guidelines and requirements presented herein are based on a review of available information and an evaluation of potential hazards. This plan outlines the health and safety procedures and equipment required for activities at this site to minimize the potential for exposure to hazardous situations by field investigative personnel. Since there is a possibility of encountering materials contaminated with PCBs, JWC personnel will also follow Con Edison procedures for these contaminants. A copy of the relevant Con Edison Environment, Health and Safety Work Plan Guide (Section 23.0 – PCB Management) are attached at the end of this HASP (Appendix A). The completed EH&S Hazard Analysis for Contractor Work form and EH&S Plan Checklist are also attached (Appendix B).

All personnel involved in field activities must have taken the 40-hour hazardous waste training program (including Hazard Communication [HazCom] training) and respirator fit testing as specified by the Occupational Safety and Health Administration (OSHA) regulations codified at 29 CFR 1920.120. Additionally, all yearly 8-hour updates must be completed and documented. Those personnel acting as site supervisors shall have also completed the one-time 8-hour supervisor training program.

All JWC site workers shall be regularly monitored as part of corporate medical surveillance program. Subcontractors must show their compliance with an equivalent program. Contractors will also provide to JWC copies of 40-hour HAZWOPR training certificates for all employees working on the site prior to the initiation of site activities. Certifications for all JWC and subcontractor site personnel will be provided as an attachment to this HASP (Appendix C).

All JWC and JWC's subcontractor personnel shall sign and adhere to this HASP.

ABBREVIATIONS

The following abbreviations will be used throughout the remainder of this Health and Safety plan:

PPL -	Personal Protection Level
SCBA -	Self-contained Breathing Apparatus
APR -	Air Purifying Respirator
PEL -	Permissible Exposure Limit
TLV -	Threshold Limit Value
LEL -	Lower Explosive Limit
SHSO -	Site Health and Safety Officer
REZ -	Radiation Exclusion Zone
MSDS -	Material Safety Data Sheet
STEL -	Short Term Exposure Limit
PPM -	Parts Per Million

SITE DESCRIPTION AND PURPOSE OF WORK

The site is at the former location of 7 World Trade Center, which was recently demolished. The site contained a Con Edison substation, which was destroyed as a result of the events of September 11, 2001. The purpose of this investigation is to evaluate the presence of separate phase product at the proposed boring/well locations. The primary on-site and off-site sources of contamination at the site include transformers, oil-filled feeders, and petroleum bulk storage tanks. The site is located on the north side of the World Trade Center with access to the site being along Barclay Street. The following field tasks will be conducted:

- Site reconnaissance
- Installation of soil borings
- Installation of 6-inch groundwater monitoring wells at each boring location

JWC personnel and subcontractors will maintain a daily sign in/out form.

Site Reconnaissance

This task will entail a site walk with Con Edison, NYSDEC, and other personnel prior to the start of the invasive activities.

Installation of Soil Borings

Six soil borings will be advanced using a drill rig equipped with hollow stem auger (HSA) and air rotary capabilities. Where feasible, spilt spoon samplers will be advanced at five-foot intervals until the final depth of the boring, which will be at approximately 10 feet below the observed water table. Ground water is anticipated to be encountered at 15 feet below grade, with the expected total depth of each boring being 25 feet below grade.

A geologist or engineer from JWC will supervise the drilling activities. Drilling will be conducted by Aquifer Drilling & Testing, under subcontract to JWC. The lithology of the soil and any physical evidence of contamination in the soil samples will be documented. No soil samples will be collected for laboratory analysis. Soil boring and well construction logs will be completed for each attempted location.

Con Edison will rely on the New York City Department of Design and Construction (DDC) to arrange for their contractor to use an excavator to remove surface concrete and to create ramps to gain access (where necessary) at the proposed drilling locations during the week of November 19, 2001. JWC's drilling subcontractor will provide two laborers and an air compressor to clear shallow subsurface debris during the course of the drilling activities.

Installation of Monitoring Wells

A 6-inch diameter PVC monitoring well will be installed at each successfully completed boring. However, unforeseen subsurface conditions may necessitate the installation of 4-inch diameter monitoring wells. Each well will be furnished with 15 feet of 0.01-inch slotted screen, with 10 feet below the water table and five feet above the water table. Clean filter sand will be placed around and above the screened interval. A bentonite seal will be placed above the sand pack interval, and the borehole annulus will be grouted to grade with a bentonite/cement slurry. Each well will be furnished with a flush-mount bolt-down road box and a locking well cap. Each well will be developed by pumping and surging following installation.

Miscellaneous

Based upon discussions with Con Edison personnel, clearance of subsurface utilities by non-mechanical means to a depth of 5 feet below grade and grounding of the drilling equipment will not be required at the proposed drilling locations. This is based upon the unusual subsurface conditions at this site, all electrical lines being out of service, and other utilities being clearly marked beforehand.

At each drilling location, the rig will be parked on plastic sheeting to contain any fluids that may conceivably leak (engine oil, transmission fluid, etc.). Because of the possibility of a ruptured hydraulic line, a spill kit will be stored on the drill rig. Soil cuttings and other solids generated during the drilling activities will be placed in 55-gal DOT drums. Samples will be collected from the drums for waste characterization purposes. Drums will be labeled as "Pending Analysis" and stored in a temporary storage area on-site designated by Con Edison. Prior to placing drums in the drum storage area plastic sheeting will be placed on the ground. All drums will be transported and disposed of by Con Edison. Decontamination and well development fluids will either be placed in 55-gallon drums or pumped directly via vacuum truck by USEPA's disposal vendor.

Between boring locations, the drill head and hollow stem augers will be steam cleaned. Other drilling tools such as split-spoon samplers, which would potentially come into direct contact with the soil samples, will be cleaned by the following procedure: simple-grease & water solution scrub, followed by a tap water rinse, and finally by a distilled water rinse. Decontamination procedures will be done in a sheet plastic lined decon area which will capture the decon fluids.

As drilling proceeds, the JWC geologist will monitor the air in the work area with a photoionization detector (PID) that is calibrated daily to 100 part per million (PPM) isobutylene.

Any changes to the scope of work outlined above (e.g., additional borings, changes in boring target depth, change of boring locations, etc.) will be decided by the field geologist based on conditions encountered following consultation with Con Edison.

Con Edison will be notified immediately in the event of a spill (see Emergency Procedures – Spills).

WORK PLAN

Description / Site Location	Type	Primary Level of Protection	For Invasive Tasks, Has Dig Safe Been Contacted
1) Site Reconnaissance	☐ Invasive ☒ Non-Invasive	☐ A ☐ B ☐ C ☒ D ☐ Modified	☐ Yes ☐ No By Plan: Date: Dig Safe No.: If No, is property private? ☒ Yes ☐ No
2) Installation of Soil Borings	☒ Invasive ☐ Non-Invasive	☐ A ☐ B ☐ C ☒ D ☒ Modified	☒ Yes ☐ No By: Ed Bradshaw Date: 11/14/01 Dig Safe No.: 3180135, 3180136, 3180137 If No, is property private? ☐ Yes ☐ No
3) Installation of Monitoring Wells	☒ Invasive ☐ Non-Invasive	☐ A ☐ B ☐ C ☒ D ☒ Modified	☒ Yes ☐ No By: Ed Bradshaw Date: 11/14/01 Dig Safe No.: 3180135, 3180136, 3180137 If No, is property private? ☐ Yes ☐ No
4)	☐ Invasive ☐ Non-Invasive	☐ A ☐ B ☐ C ☐ D ☐ Modified	☐ Yes ☐ No By Whom: Date: Dig Safe No.: If No, is property private? ☐ Yes ☐ No

PERSONNEL AND RESPONSIBILITIES (Include Subcontractors)

NAME	FIRM	RESPONSIBILITIES	ON-SITE
Marc S. Godick	JWC	Project Manager	Task - ☒ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ No
David Hill	JWC	Senior Technical Reviewer	Task - ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☒ No
Neil O'Halloran	JWC	Field Coordinator	Task - ☐ 1 ☒ 2 ☒ 3 ☐ 4 ☐ 5 ☐ No
Ed Bradshaw	JWC	Field Coordinator	Task - ☐ 1 ☒ 2 ☒ 3 ☐ 4 ☐ 5 ☐ No
Bruce P. Bline	JWC	Senior Technician	Task - ☐ 1 ☒ 2 ☒ 3 ☐ 4 ☐ 5 ☐ No
Eleanor Capasso	JWC	Staff Engineer	Task - ☐ 1 ☒ 2 ☒ 3 ☐ 4 ☐ 5 ☐ No
Craig Massaro	JWC	Staff Scientist	Task - ☐ 1 ☒ 2 ☒ 3 ☐ 4 ☐ 5 ☐ No
Tanya Verbyla	JWC	Staff Engineer	Task - ☐ 1 ☒ 2 ☒ 3 ☐ 4 ☐ 5 ☐ No
David Lewitt	JWC	Staff Geologist	Task - ☐ 1 ☒ 2 ☒ 3 ☐ 4 ☐ 5 ☐ No
Axel Schwendt	JWC	Staff Geologist	Task - ☐ 1 ☒ 2 ☒ 3 ☐ 4 ☐ 5 ☐ No
TBD	ADT	Driller	Task - ☐ 1 ☒ 2 ☒ 3 ☐ 4 ☐ 5 ☐ No

Field personnel listed on this page have completed the training, medical, and respiratory program of the JWC Health and Safety Program and OSHA standard 29 CFR 1910.120.

HAZARDOUS MATERIAL SUMMARY**Waste Type** (check as many as applicable)

☒ Liquid ☒ Solid ☐ Sludge ☐ Gas ☐ Unknown
☐ Other (specify)

Waste Characteristics (check as many as applicable)

☐ Corrosive ☐ Toxic ☐ Inert ☐ Flammable ☐ Volatile
☐ Reactive ☐ Radioactive ☒ Unknown ☐ Other (specify)

Chemicals

☐ Acids
☐ Pickling Liquors
☐ Caustics
☐ Pesticides
☐ Dyes/Inks
☐ Cyanides
☐ Phenols
☐ Halogens
☒ PCBs
☐ Metals
☐ Other (specify):

Solids

☐ Fly Ash/Bottom Ash
☐ Asbestos
☐ Milling/Mine Tailings
☐ Ferrous Smelter
☐ Non-Ferrous Smelter
☐ Other (specify)

Sludges

☐ Paint Pigments
☐ Metals Sludges
☐ POTW Sludge
☐ Aluminum
☐ Other (specify)

Solvents

☐ Halogenated Solvents
☐ Non-Halogenated Solvents
☐ Other (specify)

Oils

☒ Oily Wastes
☐ Other (specify)

Other

☐ Laboratory
☐ Pharmaceutical
☐ Hospital
☐ Radiological
☐ Municipal
☐ Other (specify)

HAZARDS OF CONCERN

☐ Heat Stress (see attached guidelines) ☒ Noise
☒ Cold Stress (see attached guidelines) ☒ Inorganic Chemicals
☐ Explosive/Flammable Substances ☒ Organic Chemicals
☐ Oxygen Deficient Atmosphere ☐ Other (specify)
☐ Radiological
☐ Biological

TABLE OF CHEMICALS AND SAFETY DATA

Chemical	PEL/REL/TLV	HEALTH HAZARDS
Polynuclear Aromatic Hydrocarbons (naphthalene, anthracene, pyrene, chrysene, etc.)	PEL = 0.2 mg/m ³ TLV = 0.2 mg/m ³	Dermatitis, bronchitis, carcinogenic
PCBs (Arochlor 1254)	PEL = 0.5 mg/m ³	Irritate eyes, chloracne, liver, reproductive, carcinogenic
Lead	NIOSH = .100 mg/m ³	Eyes, GI tract, central nervous system, kidneys, blood, gingival tissue
Benzene	REL=0.1 ppm STEL= 1 ppm	Irritate eyes, skin, respiratory; is carcinogenic
Ethylbenzene	REL = 100 ppm PEL = 100 ppm TLV = 100 ppm	Irritate eyes, skin, mucous membranes, headache, dermatitis, narcolepsy, coma
Toluene	REL = 100 ppm PEL = 200 ppm TLV = 50 ppm	Irritate eyes, nose, fatigue, weakness, confusion euphoria, dizziness, headache, dilated pupils, liver and kidney damage
Xylenes	REL = 100 ppm PEL = 100 ppm TLV = 100 ppm	Irritate eyes, skin, nose, throat, dizziness, excitement, drowsiness, staggering gait, nausea, vomiting, dermatitis
Naphthalene	PEL = 10 ppm STEL = 15 ppm	Irritate eyes, headaches, confusion, dizziness, malaise, excitement, vomiting, jaundice, dermatitis
PEL = OSHA Permissible Exposure Limit REL = NIOSH Recommended Exposure Limit TLV = ACGIH Threshold Limit Value STEL = OSHA Short Term Exposure Limit		

NOTE: The chemicals and products that will be used during routine field activities are: Alconox™, bentonite grout, isobutylene (PID calibration gas) and Simple Green™ (solution rinse). The MSDSs for these chemicals and products are provided in Appendix D. It is not anticipated that any other chemicals or products will be used during the site investigation.

OVERALL HAZARD EVALUATION

<u>Task 1</u>	<u>Site Reconnaissance</u>			
	() High	() Medium	(x) Low	() Unknown
<u>Task 2</u>	<u>Installation of Soil Borings</u>			
	() High	() Medium	(x) Low	() Unknown
<u>Task 3</u>	<u>Installation of Monitoring Wells</u>			
	() High	() Medium	(x) Low	() Unknown

Justification:

High - Exposure hazard justifies level A or B PPL.
 Medium - Exposure hazard justifies Level C PPL.
 Low - Exposure hazard justifies Level D PPL.
 Unknown - Knowledge of existing hazards insufficient to determine proper level of protection. Use most conservative PPL (A or B) until site reconnaissance completed.

Con Edison Hazardous Analysis that have been completed by JWC are Provided in Appendix B.

PROTECTIVE CLOTHING

<u>Task 1</u>	<u>Site Reconnaissance</u>
<u>Task 2</u>	<u>Installation of Soil Borings</u>
<u>Task 3</u>	<u>Installation of Monitoring Wells</u>

Protection Level: () A () B () C (x) D (x) Modified

Respiratory: () Not needed Protect. Clothing: () Not needed Boots: () Not needed

() SCBA, Airline: _____ () Encapsulated Suit: _____ (x) Boots: steel toe required
 (x) APR: * _____ () Splash Suit: _____ () Overboots: _____
 () Cartridge: _____ () Apron: _____
 () Escape Mask: _____ (x) Tyvek Coverall** () Other (specify below)
 () Other: _____ () Saranex Coverall
 () Coverall: _____
 () Other: _____

* If PID readings in breathing zone exceed 5 ppm, then PPE shall be upgraded to Level C PPE including APR

** If visual or olfactory evidence of contamination is encountered during any of the tasks listed above then Tyvek coveralls will be donned by drilling personnel.

Head, Eye, and Ear: () Not needed Gloves: () Not needed

(x) Safety Glasses: _____ () Undergloves: _____
 () Face Shield: _____ (x) Gloves: Nitrile
 () Goggles: _____ () Overgloves: _____
 (x) Ear Plugs: _____ () Other: _____
 (x) Hard Hat: color can not be blue or white
 () Other: _____

Comments: Respirator users must be clean. Respirators should be rinsed and sanitized after each use (see Personnel Decontamination Procedures section). Respirator cartridges should be changed at least once a day or when breakthrough occurs. Refer to Table 1 for breakthrough characteristics of specific site contaminants.

MONITORING EQUIPMENT: Specify by task, indicate type as necessary. Attach additional sheets as necessary.

<u>INSTRUMENT</u>	<u>TASK</u>	<u>ACTION LEVELS</u>
<u>Photoionization Detector</u>	() 1 (x) 2 (x) 3	Parameter: Total Volatile Organics
Type: Thermo OVM Model 580B		
() 11.7 eV lamp		PPL
() 10.2 eV lamp		<u>Level</u> <u>At Concentration</u>
(x) 10.6 eV lamp		D Background - 5.0 ppm
		C 5.0 ppm to 50 ppm above background
		B 50 - 500 ppm above background
() Not needed		

COMMENTS:

All JWC field personnel are routinely trained and possess extensive experience in the calibration and proper use of the PID, which will be used at the site. The PID will be calibrated at the start of each workday on-site with the calibration results recorded in the field book. The Thermo OVM Model 580B was factory calibrated in November 1999.

Instrument to be calibrated to Action levels must be sustained for 15 minutes at the breathing zone to justify implementing specific PPL. The above action levels only apply if types of contaminants are unknown. If contaminants are known, contaminant-specific exposure data will be used to determine action levels. Background to TLV for specific compound will justify use of Level D PPL. TLV to compound-specific STEL or 3 x TLV will justify use of Level D PPL for 15 minutes only. If concentrations between TLV and STEL/3 x TLV are maintained for greater than 15 minutes, Level C will be implemented. Level B action levels will be determined on a project-specific basis. Project manager will be notified of any upgrade of PPL.

<u>INSTRUMENT</u>	<u>TASK</u>	<u>ACTION LEVELS</u>
<u>Flame Ionization Detector</u>	() 1 () 2 () 3	Parameter: Total Volatile Organics
Type: OVA		
		PPE
		<u>Level</u> <u>At Concentration</u>
		D Background - 5.0 ppm
		C 5.0 ppm to 50 ppm above background
		B 50 - 500 ppm above background

(x) Not needed

COMMENTS:

Action levels must be sustained for 15 minutes at the breathing zone to justify implementing specific PPL. The above action levels only apply if types of contaminants are unknown. If contaminants are known, contaminant-specific exposure data will be used to determine action levels. Background to TLV for specific compound will justify use of Level D PPL. TLV to compound-specific STEL or 3 x TLV will justify use of Level D PPL for 15 minutes only. If concentrations between TLV and STEL or 3 x TLV are maintained for greater than 15 minutes, Level C will be implemented. Level B action levels will be determined on a project-specific basis. Project manager will be notified of any upgrade of PPL.

<u>INSTRUMENT</u>	<u>TASK</u>	<u>Contaminant</u>	<u>TLV</u>	<u>STEL</u>	<u>Tube Type</u>
<u>Detector Tubes</u>	() 1 () 2 () 3				

Type: Draeger

(x) Not needed

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WASTE CHARACTERIZATION/DISPOSAL LOCATIONS/VENDERS

NOTE: All waste requiring handling will be characterized and disposed by Con Edison.

**OSHA TRAINING CERTIFICATES FOR
ON-SITE PERSONNEL**

APPENDIX A

**Selected Sections of Con Edison's
Environment, Health and Safety Work Plan Guide**

APPENDIX B

Con Edison Hazardous Analysis Forms

APPENDIX C

HAZWOPR Training Certificates

APPENDIX D

Material Safety Data Sheets (MSDSs)

For

Products Used During Routine Field Activities

SITE CONTROL

Site workers should minimize contact of personnel and equipment with contaminated or potentially contaminated materials. Access to the site for non-project personnel should be limited by the use of barriers such as tape, fencing, etc. All project personnel shall wear Con Edison issued identification cards.

HEAT/COLD STRESS MONITORING

The SHSO or Alternate shall monitor ambient temperature and implement the following work/rest regimes accordingly:

- * For ambient temperatures between 15° and 70°F, standard rest breaks (i.e., fifteen minutes every four hours should be used). (Rest breaks will be taken inside the heated cab of the work and transport vehicles at the discretion of the workers)
- * For temperatures below 15°F, work will be done at the discretion of the SHSO or Alternate.
- * For temperatures above 70°F, the following regime shall be followed for workers wearing permeable coveralls:

<u>Adjusted Temperature (a)</u>	<u>Normal Work Ensemble (b)</u>	<u>Impermeable Ensemble</u>
90°F or above	after 45 min. of work	after 15 min. of work
87.5°F to 90°F	after 60 min. of work	after 30 min. of work
82.5°F to 87.5°F	after 90 min. of work	after 60 min. of work
77.5°F to 82.5°F	after 120 min. of work	after 120 min. of work
77.2°F to 77.5°F	after 150 min. of work	after 120 min. of work

- a) Calculate the adjusted air temperature (ta adj) by using this equation: $ta \text{ adj degrees F} = ta \text{ }^{\circ}\text{F} + 13^{\circ} \times \text{sunshine}$. Measure air temperature (ta) with a standard mercury-in glass thermometer, with the bulb shielded from radiant heat. Estimate percent sunshine by judging what percent time the sun causes shadows. (100 percent sunshine -no cloud cover and a sharp, distinct shadow; 0 percent sunshine - cloudy, no shadows).
- b) A normal work ensemble consists of cotton coveralls or other cotton clothing with long sleeves and pants.

Workers wearing semi-permeable or impermeable encapsulating protective clothing should be monitored when the temperature in the work area is above 70°F. To monitor the worker, measure:

1. **Heart Rate** - Count the radial pulse during a 30-second period as early as possible in the rest period. If the heart rate exceeds 110 beats per minute at the beginning of the rest period, shorten the next work cycle by one-third. If the heart rate exceeds 110 beats per minute at the next rest period, shorten the following work cycle by one-third. An alternate test is if the heart rate exceeds 140 beats per minute at the end of the work period, and 100 beats per minute at the end of the rest period, shorten the work cycle by one-third or lengthen the rest period by one-third.
2. **Oral Temperature** - Use a clinical thermometer (3 minutes under the tongue or similar device to measure the oral temperature at the end of the work period (before drinking). If oral temperature exceeds 99.6 F, shorten the next work cycle by one-third. If oral temperature still exceeds 99.6 °F at the beginning of the next rest period, shorten the following work cycle by one-third.

Do not permit a worker to wear a semi-permeable or impermeable garment when their temperature exceeds 100.6°F. Workers shall not be required to continue working if they feel any of the symptoms of heart stress. Rest periods should be a minimum of 15 minutes. Length of rest periods should be extended as appropriate or as recommended by the SHSO or Alternate.

EMERGENCY PROCEDURES

PERSONNEL EXPOSURE

In the event of chemical exposure to known site contaminants, the MSDS or chemical data sheet, if available, should be consulted first. General practice exposure emergency actions include:

Inhalation Exposure - The following actions should be taken based on the condition of the effected employee.

- * If symptoms are present (dizziness, nausea, headache, shortness of breath, burning sensation in mouth, throat, or lungs), the victim should be escorted from the work zone immediately.
- * If unconscious, the victim should be removed from the work zone immediately. Rescuers must be wearing proper respiratory and protective equipment before attempting the rescue.
- * If the victim is no longer breathing, cardiopulmonary resuscitation (CPR) or some other form of artificial respiration should begin immediately and medical support personnel notified.

Skin Exposure - The skin should be thoroughly washed with copious amounts of soap and water. If clothing is contaminated, it should be removed immediately and the skin washed thoroughly with running water. All contaminated parts of the body, including the hair, should be thoroughly decontaminated. It may be necessary to wash repeatedly.

Ingestion - Medical support should be obtained immediately.

Eyes - If a toxicant should get into the eyes, flush with generous amounts of water. Washing should be continued for at least fifteen minutes and medical attention should be obtained if deemed necessary by the SHSO or Alternate.

PERSONNEL INJURY

The following contingency plan will be enacted in the event of personnel injuries.

1. **Initial alarm and first aid.** Upon observation of an injury, quickly get attention of other nearby workers. Immediately act to protect the injured person from a life-threatening situation. Render appropriate first aid. Warn unsuspecting persons of the potential hazard.
2. **Notify SHSO.** Utilizing freon air horn or other rapid method, notify the SHSO or the SHSO representative of the situation. Identify the injured person, the type of injury and the project site location.
3. **Ambulance and hospital services.** The SHSO or other appropriate personnel will immediately assess the situation and, if necessary, notify the designated ambulance service and hospital of the emergency situation.
4. **Follow-up.** The Site Safety Officer will determine why the injury occurred and will take appropriate steps to prevent a similar recurrence. Events associated with the injury will be recorded in the project safety logbook.

FIRE/EXPLOSION

Upon notification of a fire or explosion on site, the designated emergency signal shall be sounded and all site personnel assembled at the designated access points. The Fire Department shall be alerted and all personnel moved to a safe distance from the involved area. Personnel in the immediate vicinity of a fire shall use fire extinguishers or other immediately available means if this can be done safely and the fire can be immediately controlled or stopped from spreading, but should not attempt to fight major fires or fires involving potential explosives. The Fire Department will be notified regarding site activities and should respond in case of an emergency.

EMERGENCY PROCEDURES (continued)**SPILLS:** In the event of a liquid/solid spill:

1. **First aid will be administered to injured/contaminated persons.** Any person observing a spill will act immediately to safely remove and protect injured/contaminated persons from any life-threatening situation. First aid and decontamination procedures will be implemented as appropriate.
2. **Warn unsuspecting persons/vehicles of the hazard.** All personnel will act to prevent any unsuspecting persons from coming in contact with spilled materials by alerting other nearby persons and by obtaining assistance of other personnel who are familiar with spill control and clean-up techniques.
3. **Stop the spill at the source, if possible.** Without taking unnecessary risks, personnel will attempt to stop the spill at the source. This may involve activities such as uprighting a drum, closing a valve or temporarily sealing a hole with a plug. Personnel will not expend more than a brief effort prior to notifying the Project Manager.
4. **Notify the Project Manager.** Utilizing available personal radio communications or other rapid communication procedures, the Project Manager will be notified of the spill, including information on material spilled, quantity, personnel injuries and immediate life-threatening hazards.
5. **Notify Con Edison.** The Project Manager will immediately notify Con Edison's authorized representative of the spill, and provide him with all pertinent information. Con Edison will contact and notify all appropriate regulatory agencies of the spill. If an on-site Con Edison representative is unavailable, JWC will notify the EH&S-Remediation Project Manager, Allison Meyrowitz (phone: 718-204-4295, pager: 917-317-1256) or Manhattan Substations Environmental Manager, Stuart Hanebuth (phone: 212-664-0680, pager: 917-448-8110).
6. **Spill assessment and primary containment.** The SHSO will make a rapid assessment of the spill and direct primary containment measure. Depending upon the nature of the spill, primary containment measures may include, but are not limited to:
 - * construction of a temporary containment berm utilizing on-site absorbent material;
 - * digging a sump, installing a polyethylene liner and diverting the spill material into the sump;
 - * placing drums under the leak to collect the spilling material before it flows over the ground;
 - * transferring the material from its original container to another container.
7. **The Project Manager will discuss with and obtain the SHSO's concurrence as to secondary spill containment procedures, if necessary.** He will make a determination regarding the requirements for notifications of backup response personnel, and State and local officials including emergency response teams, and the National Response Center.

NOTE: Steps 8 through 11 listed below shall be coordinated through Con Edison.

8. **Spill clean-up procedures.** The Project Manager will develop spill clean-up procedures taking into consideration associated hazards, quantity of spilled material, disposal methods, and costs.
 9. **Spill clean-up.** Personnel will clean up spills following the spill clean-up plan developed by the Project Manager. The Project Manager will supervise the procurement of supplies necessary to clean up a spill. Such items may include, but are not limited to: front end loader, shovels, rakes, clay absorbent, polyethylene, personal safety equipment, steel drums, pumps and miscellaneous hand tools. All material and equipment will be located in the Containment Reduction Zone.
 10. **Spill clean-up inspection.** The Project Manager will inspect the spill site to determine that the spill has been cleaned up satisfactorily. If necessary, soil, water or air samples may be taken and analyzed to demonstrate the effectiveness of the spill clean-up effort.
 11. **Identify the cause of the spill and remedial action to prevent recurrence.** The Project Manager will determine the cause of the spill and determine remedial steps to ensure that recurrence is prevented. The Project Manager will review the cause of the spill and obtain his concurrence with the remedial action plan.
-

EMERGENCY PROCEDURES (continued)**EVACUATION PROCEDURES**

If at any time, the entire project site needs to be evacuated, the following procedures are to be carried out immediately:

1. The Project Manager or SHSO will initiate the site evacuation.
2. The SHSO will instruct that the evacuation signal will be given. This signal will consist of a repetitive three (3) blasts from the alarm system (air horn).
3. All personnel will immediately halt work and proceed off site by the shortest upwind route.
4. Unless otherwise directed, all site personnel will report to the field office or other staging area.

Following an emergency situation, the SHSO will fill out a Hazardous Waste Incident Report (copy attached) and submit it to the Corporate Health and Safety Officer and Project Manager for review and evaluation.

EMERGENCY EQUIPMENT

The following safety equipment is included in the standard JWC Level D or Level C "Ready Bags". This equipment will provide appropriate protection from chemical and noise in most situations encountered. However, for a particular job, certain items which are not included in a standard ready bag may be required. The Project Manager and SHSO will be consulted on what extra or alternate equipment is needed.

Level D

- * Hard hat with winter liner
- * Latex/nitrile gloves
- * Neoprene gloves
- * Standard tyvek suit
- * Polycoated tyvek suit
- * Tyvek hood
- * Safety glasses and goggles
- * Disposable ear plugs
- * Disposable overboots
- * First aid kit
- * Eyewash kit
- * Fire extinguisher
- * Air horn
- * Duct tape

Level C (in addition to Level D equipment)

- * Full-face air-purifying respirator
 - * Suitable cartridges
 - * Nose-cup insert
 - * Protective lenses
 - * Respirator disinfectant (alcohol wipes)
-

EMERGENCY CONTACTS**NOTE: All regulatory agency contacts MUST go through Con Edison.**

<u>CONTACTS</u>		<u>NAME</u>	<u>PHONE NUMBER</u>	<u>LOCATION</u>
JWC Project Manager		Marc S. Godick	(914) 686-1100	White Plains, NY
		(845) 449-9482 (pager), (516) 650-0570(cell), (914) 834-4984 (home)		
Client Contact	EH&S-Remediation	Allison Meyrowitz	(718) 204-4295	Astoria, NY
	Manhattan Substations	Stuart Hanebuth	(917) 317-1256 (pager) (212) 664-0680 (917) 448-8110	Manhattan, NY
Fire Department			911	
Police or Sheriff's Department			911	
Poison Control Center			(800) 336-6997	
State Hazmat Emergency Agency			(800) 457-7362	
State Environmental Agency			(718) 482-4933 x 7114	
National Response Center			(800) 424-8802	Washington, DC
USEPA Environmental Response Team			(201) 321-6660	
Association of American Railroads Response Team			(202) 293-4048	
US Coast Guard Environmental Response Team			(800) 424-8802	
CHEMTREC			(800) 424-9300	
Emergency Services Unit			(718) 289-3330	

MEDICAL EMERGENCY

Hospital Name and Telephone Number:

NYU Downtown Hospital
170 William Street, New York, NY 10038
(212) 312-5000

Name of Contact at Hospital:

Emergency Room

Telephone of 24-hour Ambulance:

911

Distance to Hospital:

Approximately 1 mile

Route to Hospital:

Make left on to Barclays Street. Make right on to West Street. Make right on to Chambers Street and follow to end. Make right on to Park Row. Take left on to on Frankfort Street. Make right on to Gold Street. Turn left one block to NYU Downtown Hospital – 170 William Street.

HEALTH AND SAFETY PLAN APPROVALS

Signature: _____ Date: _____
JWC Corporate Health & Safety Officer

Signature: _____ Date: _____
JWC Project Manager

HEALTH AND SAFETY PLAN COMPLIANCE AGREEMENT

I (signatory below), have received a copy of the Health and Safety Plan for the Consolidated Edison site. I have read the plan, understand it, and agree to comply with all of its provisions. I understand that I could be prohibited from working on the project for violating any of the safety requirements specified in the plan.

Signature/Firm _____ Date:

Signature/Firm _____ Date:

Signature/Firm _____ Date:

Signature/Firm _____ Date:

Signature/Firm _____ Date:

Signature/Firm _____ Date:

Signature/Firm _____ Date:

Signature/Firm: _____ Date:

Signature/Firm: _____ Date:

Signature/Firm: _____ Date:

Signature/Firm: _____ Date:

Signature/Firm: _____ Date:

Signature/Firm: _____ Date:

Signature/Firm: _____ Date:

HEALTH AND SAFETY PLAN REVISIONS

NOTE: Any revision to this HASP MUST be approved by Con Edison prior to implementation

Date: _____

SHSO Approval: _____

Corporate Health and Safety Officer Approval: _____

Con Edison Approval: _____

Revision (describe below)

Date: _____

SHSO Approval: _____

Corporate Health and Safety Officer Approval: _____

Con Edison Approval: _____

Revision (describe below)

Date: _____

SHSO Approval: _____

Corporate Health and Safety Officer Approval: _____

Con Edison Approval: _____

Revision (describe below)

HAZARDOUS WASTE INCIDENT REPORT

DATE OF INCIDENT _____

DATE OF REPORT _____

DESCRIPTION OF INCIDENT, INCLUDING INJURIES, PROPERTY DAMAGE AND EMERGENCY ACTION TAKEN AND PERSONNEL INVOLVED (use additional sheets if needed):

WITNESS OF INCIDENT:

POSSIBLE OR KNOWN CAUSES:

WHAT ACTIONS ARE NEEDED TO PREVENT A SIMILAR INCIDENT?

COMMENTS:

A 1/2 1

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MONITORING EQUIPMENT (continued)

	<u>TASK</u>	<u>ACTION LEVELS</u>
<u>Combustible Gas Indicator</u>	() 1 () 2 () 3	0-10% LEL No explosion hazard. 10-25% LEL Potential explosion hazard; notify SHSO. >25% LEL Explosion hazard; interrupt task/evacuate.
Type: LEL/O ₂		21.0% O ₂ Oxygen normal. <21.0% O ₂ Oxygen deficient; notify SHSO. <19.5% O ₂ Interrupt task/evacuate.

(x) Not needed

COMMENTS:

PERSONNEL DECONTAMINATION PROCEDURES

ATTACH SITE MAP INDICATING EXCLUSION, DECONTAMINATION, AND SUPPORT ZONES (x) Not needed

Level C

- * Wash overboots and overgloves with detergent (i.e., Alconox) solution.
- * Rinse with potable water.
- * Remove tape from overboots and wrists.
- * Remove overboots, overgloves, and coverall.
- * Discard all into secure drum; label and place drum in designated storage area.
- * Remove respirator.
- * Remove undergloves and discard into secure drum; label and place drum in designated storage area.
- * Wash face and hands with soap and water.

Level D

- * Wash face and hands with soap and water.

Respirators will be disassembled and rinsed with potable water in the field and allowed to drip dry, then inserted into a plastic bag after each use. They will be cleaned at the end of each day using alcohol wipes. Non-expendable reusable equipment (i.e., outer gloves, boots, and hard-hats) will be thoroughly washed at the decontamination location. Decontamination will consist of scrubbing contaminated gloves and boots with an Alconox or Simple Green detergent followed by a water rinse. Equipment will either be allowed to drip dry or be wiped off with paper towels, which will be collected, in secure drums. The drums will be labeled and then placed in designated storage area pending characterization and disposal by Con Edison.

() Not needed

Containment and Disposal Method (Personnel Protective Equipment)

Disposable protective clothing and non-reusable equipment will be collected in secure drums. The drums will be labeled and then placed in a designated storage area pending final disposal. Reusable protective equipment will be thoroughly washed at the decontamination location. Decontamination will consist of scrubbing contaminated gloves and boots with an Alconox (or equal) detergent followed by a water rinse. Equipment will either be allowed to drip dry or be wiped off with paper towels, which will be collected, in secure drums. The drums will be labeled and then placed in a designated storage area pending characterization and disposal by Con Edison.

EQUIPMENT DECONTAMINATION

Sampling Equipment

All sampling equipment will be decontaminated between each sampling station using the following procedures:

- * Wear clean surgical gloves (and outer gloves if task-required).
- * Disassemble equipment and place component parts on polyethylene sheeting.
- * Clean all component parts with detergent solution (Alconox or Simple Green) using a brush to clean inside and outside surfaces.
- * Rinse surfaces with potable water.
- * Rinse all surfaces with distilled water.
- * Allow all components to air dry.
- * Reassemble equipment.
- * Wrap equipment in aluminum foil or in polyethylene sheeting. Tape sheeting closed with duct tape.
- * Label equipment, indicating date of decontamination (not needed).

() Not needed

Containment and Disposal Method (Sampling Equipment)

Materials will be containerized (solids and water separately) and marked with a permanent marker indicating the site, date, and medium (solid or water). Containerized materials will be stored in a secure on-site location until characterized and disposed by Con Edison.

The decontamination area will be lined with polyethylene sheeting to capture any and all steam-cleaning fluids.

() Not needed

Drilling & Augering Equipment

Drilling equipment (augers and drill head) will be will be steam cleaned on-site between boring locations.

During the drilling activities, a polyethylene liner will be placed under the drill rig to contain any potential spills resulting from equipment failure or leaks (e.g., motor oil, hydraulic fluid, diesel fuel, etc.).

() Not needed

Containment and Disposal Method (Drilling Equipment)

Drilling tools will be decontaminated in a 55 gallon DOT approved drum that is placed within a sheet plastic lined containment area. The drill head will be steam cleaned by parking the drill rig over the containment area. A 55-gallon drum will be placed under the drill head to collect the cleaning fluids. Any fluids that are not collected by the drum and are retained by the plastic lined containment area will be pumped into a 55-gallon drum. Wastes generated will be stored in the approved on-site waste storage area pending analyses of the contents of the drums. Upon receipt of analyses, Con Edison will dispose of the wastes in an approved manner.

() Not needed
