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February 15, 2012

Mr. Scott Deyette
New York State Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway, 12th Floor
Albany, New York 12233-7013

Subject: **Remedial Investigation Work Plan**
York Avenue Former Gas Holder Station Site
Manhattan, New York
Site #: V000544, Order on Consent Index #: D2-0003-02-08

Dear Mr. Deyette:

The Consolidated Edison Company of New York, Inc. (Con Edison) is submitting the following Remedial Investigation (RI) Work Plan for the York Avenue Former Gas Holder Station site (Site) for remaining work to be performed at a portion of the Site located at 450 East 63rd Street in Manhattan, New York. Specifically, the proposed RI Work Plan describes work to be performed at select areas within the Site boundary and at several off-site locations in the right-of-way areas surrounding the Sutton Terrace property covering former Gas Holders 2 and 3. Results of the Site Characterization of the remaining portions of the property were submitted to you for review in late December 2011. The proposed RI work is being conducted by Con Edison pursuant to a Multi-site Order on Consent and Administrative Settlement (OCAS) with the New York State Department of Environmental Conservation (NYSDEC), Index # D2-0003-02-08, site #V00544, executed in 2007 and in accordance with applicable guidelines of the NYSDEC and the New York State Department of Health (NYSDOH).

BACKGROUND

A Site Characterization Study (SCS) was conducted at the above mentioned property by RETEC in 2005 following the NYSDEC-approved SCS Work Plan (SCSWP) produced by RETEC dated February 2004. Following the SCS, an interim Site Characterization Study Report dated September 2006 was submitted to the NYSDEC for review. A response from the NYSDEC was provided in January 2007 and this RI Work Plan is proposed primarily in response to Comment 1 of that communication.

The scope of work described for the RI is to advance six soil borings within the site footprint and adjacent areas to further delineate soils within and adjacent to former Gas Holders 2 and 3, including areas where hydrocarbon impacts were observed during the SCS. Specifically, the primary objective for this work is to:

- Further evaluate soil quality within and adjacent to the footprints of former Gas Holders No. 2 and No. 3 beneath the Sutton Terrace Apartments property. During the SCS, the bottom of Holder No. 2 was not determined at either of the SCS locations SB-13 and MW-5.

- Further delineate hydrocarbon-like visual and olfactory impacts observed in the fill layer at SC locations SB-7, MW-4A, SB-9, SB-10MW, SB-11, and SB-12.

- Complete all proposed borings to either the base of former Holders No. 2 and No. 3 or to the top of bedrock.

The Site Characterization locations completed to date and the proposed RI locations are shown on attached Figure 1. The rationale and sampling analysis summary for each proposed boring is included on attached Table 1. Due to logistical and overburden conditions at the Site encountered during the SCS within the Sutton Terrace parking garage, four locations are proposed in adjacent right-of-way areas to delineate any impacts that may be present from the former Holder operations. No additional investigation is proposed at the Rockefeller University Housing based on recent findings at well MW-7 installed downgradient from this building along an access ramp to FDR Drive. No additional work is proposed in the vicinity of former Holder No.1 south of East 62nd Street based on the information provided in the SCS Report submitted in December 2011. All work will be performed in accordance with the procedures specified in the 2004 NYSDEC Approved SCS Work Plan dated 2004 except where noted below.

RI WORK PLAN SCOPE OF WORK

Borehole Advancement

Proposed soil borings will be advanced with either direct push, sonic, or hollow stem augers (HSAs) accompanied by continuous soil samples from the ground surface to the base of the borehole. The targeted completion depths for soil boring SB-14 and SB-15 are estimated at approximately 15 feet below the base of the parking garage or approximately 35 to 40 feet below outside ground surface (bgs). Both of these soil borings are adjacent to existing SCS investigation locations MW-4A and MW-5A, respectively. Proposed borings SB-16, SB-17, SB-18, and SB-19 along the northern and southern perimeters of Holders No. 2 and No. 3 are designed to delineate potential hydrocarbon impacts in close proximity to the former Gas Holders. These four locations will be advanced to the top of bedrock, if possible, at estimated depths of 35 to 40 feet bgs (for SB-16 and SB-18) and 55 to 60 feet bgs (for SB-17 and SB-19).

Prior to advancement, each boring location will be cleared for utilities following Con Edison's utility pre-clearance protocols. Geophysical clearance will also be performed to identify any subsurface utilities in the proposed investigation areas. The chosen drilling method (direct push, sonic, or HSAs) and the actual drilling locations will be determined based upon field conditions encountered and subsurface utility clearance activities. Any significant changes to the proposed drilling locations will be discussed with the NYSDEC project manager before the boreholes are advanced. Soils will be logged continuously and screened with a photoionization detector (PID) from ground surface to the terminus of the borehole. Upon completion of each boring, the borehole will be tremie-grouted to grade and existing surface conditions will be restored.

Soil Sampling

Two soil samples will be collected from each borehole during soil boring advancement (Table 1). Soil samples may be collected at the following depth intervals based on field observations:

- At the depth interval exhibiting the highest PID readings or visual evidence of impacts. If no impacts are noted, this sample will be collected from an interval with elevated impacts from a nearby boring or the water table if no impacts noted; and
- At the first clean interval or the base of the borehole.

Actual soil sampling depths may be adjusted based on field conditions or in consultation with NYSDEC field oversight personnel. Soil samples will be analyzed for:

- TCL Volatile organic compounds (TCL VOCs) by EPA Method 8260B
- TCL Semi-volatile organic compounds (TCL SVOCs) by EPA Method 8270C
- TAL Metals (TAL Metals) by EPA Method 6010B/6020/7470A

- Total and Available Cyanide by EPA Method 9012/9012A and 9014/9014B.

Quality Assurance and Quality Control

Quality assurance and quality control (QA/QC) samples of soil will be collected and submitted in accordance with the existing SCSWP.

Community Air Monitoring Plan

A Community Air Monitoring Plan (CAMP) has been developed for this project that will be followed during all invasive fieldwork (subsurface pre-clearing activities and soil borings). The CAMP will monitor concentrations of VOCs and particulate matter less than 10 microns in size (PM-10) in accordance with NYSDEC and NYSDOH guidance. The CAMP will monitor these parameters upwind and downwind of the work area. Included in the CAMP is a description of methods that may be used to control odors during the RI if needed. The CAMP is included in the approved SCS Work Plan for the site.

Surveying

A survey of the investigation sampling points will be conducted at the end of the fieldwork by a licensed NY-State surveying contractor. The horizontal coordinates will be tied into the North American Datum of 1983 (NAD83 New York State Plane 3101) and the elevations will be tied into the North American Vertical Datum of 1988 (NAVD88), to the nearest 0.1 ft. and 0.01 ft., respectively.

Schedule

Field work can commence following the approval of this RI work plan, following coordination and granted access with the property owner, and receipt of right-of-way work permits. AECOM and their drilling subcontractor are ready to initiate field activities in early 2012, pending site access. If the proposed work is sufficient to complete the delineation of MGP related impacts in combination with data presented in the December 2011 Site Characterization Report, remedial investigation activities will be considered complete and the results will be forwarded to you for review and approval in a letter report.

Please call me at (718) 204-4347 should you have any comments or questions regarding this submittal.

Sincerely,

for

Charles P. Leary
Project Manager
Remediation, EH&S

Enc.

CC: Bridget Callaghan, NYSDOH – 2 copies, 2 CDs

Table

Table 1
Remedial Investigation Sample Locations, Rationale, and Analyses Summary
York Avenue Former Gas Holder Site, Manhattan, New York

Location ID	Sample ID	Completion Depth	Sample Depth (bgs)	No. of Samples	Analyses	Rationale
Subsurface Soil						
SB-14	SB-14 (depth)	Est 35-40 ft bgs (to base of Holder No.1) or to the top of bedrock	Most impacted interval, and first clean or top of bedrock	2	TCL VOCs, TCL SVOCs, TAL Metals, Total CN, Available CN	Situated ajdacent to MW-4A where shallow refusal was encountered to determine the depth and quality of contents in Holder No.1 and to further evaluate the NAPL impacts noted at the base of boring SB-7.
SB-15	SB-15 (depth)	Est 35-40 ft bgs (to base of Holder No. 2) or to the top of bedrock	Most impacted interval, and first clean or top of bedrock	2	TCL VOCs, TCL SVOCs, TAL Metals, Total CN, Available CN	Situated adjacent to MW-5 where shallow refusal was encountered to determine the depth and quality of contents in Holder No. 2 and to further evaluate impacts observed in SB-10MW and SB-12.
SB-16	SB-16 (depth)	To the top of bedrock estimated at 35-45 ft bgs	Most impacted interval, and first clean or top of bedrock	2	TCL VOCs, TCL SVOCs, TAL Metals, Total CN, Available CN	Situated in the sidewalk along East 62nd Street, south of former Holders No. 3 and 2 and south of SB-9 and SB-11 to further evaluate the extent of hydrocarbon impacts noted in SB-9 and SB-11 and the potential presence of impacts associated with the former holders. This boring is proposed in the sidewalk south of the property due to site logistics and access constraints encountered during the SC.
SB-17	SB-17 (depth)	To the top of bedrock estimated at 55-60 ft bgs	Most impacted interval, and first clean or top of bedrock	2	TCL VOCs, TCL SVOCs, TAL Metals, Total CN, Available CN	Situated in the sidewalk along East 62nd Street, south of and between SB-12 and SB-13 and the former smaller gas holders to further evaluate impacts observed in SB-12 and the potential presence of impacts associated with the former holders. This boring is proposed in the sidewalk south of the property due to site logistics and access constraints encountered during the SC.
SB-18	SB-18 (depth)	To the top of bedrock estimated at 35-45 ft bgs	Most impacted interval, and first clean or top of bedrock	2	TCL VOCs, TCL SVOCs, TAL Metals, Total CN, Available CN	Situated in the sidewalk along East 63rd Street, north of former Holder No. 3 and north of SB-7 and MW-4 to further evaluate the extent of hydrocarbon impacts noted in SB-7 and MW-4 and the potential presence of impacts associated with the former holders. This boring is proposed in the sidewalk north of the property due to site logistics and access constraints encountered during the SC.
SB-19	SB-19 (depth)	To the top of bedrock estimated at 55-60 ft bgs	Most impacted interval, and first clean or top of bedrock	2	TCL VOCs, TCL SVOCs, TAL Metals, Total CN, Available CN	Situated in the sidewalk along East 63rd Street, north of former Holder No. 2 and north of SB-10MW and MW-5 to further evaluate impacts observed in SB-10MW and MW-5 and the potential presence of impacts associated with the former holders. This boring is proposed in the sidewalk north of the property due to site logistics and access constraints encountered during the SC.

Notes
1. No. - number
2. ID - identification
3. ft - feet
4. Est. - Estimated
5. bgs - Below ground surface
6. SB - Soil Boring (Subsurface Soil)
7. VOCs - Volatile Organic Compounds
8. SVOCs - Semi-volatile Organic Compounds
9. TAL - Total Analyte List
10. CN - Cyanide

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Figure

EAST 63rd STREET

SB-18 OIL FILL PORTS (3)

SB-19 GARAGE ENTRANCE

APARTMENT BUILDING

SB-7

MW-4

MW-4A SB-14

SB-8MW

SB-10MW

MW-5 SB-15

MW-6

APARTMENT BUILDING (COMMERCIAL PROPERTIES) (1153-1157 YORK AVE.)

APARTMENT BUILDING

SUTTON TERRACE APARTMENTS (450 E. 63 ST.)

SB-9

TERRACE AND PARKING GARAGE BELOW

SB-11 SB-12 SB-13

BRICK WALL

SB-16 SB-17

CONCRETE

EAST 62nd STREET

MW-1

VAULT

DRIVEWAY

(440 E. 62 ST) APARTMENT BUILDING AND GARAGE

OFFICE BLDG. (430 E. 62 ST)

GAS HOLDER NO. 1

SS-3 BRIDGE SS-2

BRICK

COMMERCIAL BLDG. (415-417 E. 61 ST.)

MUSEUM (421 E. 61 ST.)

ROCK OUTCROP

STONE

BEDROCK OUTCROP

SB-1

GARAGE ENTRANCE

DRIVEWAY

SV-1 G4

SB2

OIL FILL PORT

G3 MW-3

COMMERCIAL BLDG. (1129-1133 YORK AVE)

SB5 P3 P4

SB3

P2 MW SB4

G1 G2

GARAGE ENTRANCE

EAST 61st STREET

YORK AVENUE

BLOCK 1475

ROCKEFELLER UNIVERSITY HOUSING

PAINT SHOP

GOLF YARD

VALVE/EXHAUSTER HOUSE

PARKING GARAGE

SB-6

MW-7

BENTLY HOTEL

VETERINARY MEDICAL CENTER

GAS STATION

FDR DRIVE

LEGEND

	BUILDING
MW-1	MONITORING WELL
SS-3	SURFACE SOIL SAMPLE
SB-11	SOIL BORING
SV-1	SOIL VAPOR (2011)
SB2	SOIL BORING (2011)
G4	GEOTECHNICAL SOIL BORING (2011)
SB-14	PROPOSED RI SOIL BORING (2012)

NOTE: PROPOSED RI SOIL BORINGS TO BE VERIFIED FOLLOWING UTILITY MARK OUT.

AECOM

30 0 60

1"=60'

MAP SOURCE: 1995 SANBORN MAP

YORK AVENUE FORMER GAS HOLDER SITE
MANHATTAN, NEW YORK
60155845

DATE: 01/26/2012 | DRWN: BcV/W-MA

PROPOSED REMEDIAL INVESTIGATION LOCATIONS LOCATED AT SUTTON TERRACE APARTMEN 450 E. 63RD STREET

FIGURE 1