SITE OBSERVATION REPORT

PROJECT No.:	170381202	**CLIENT:** 250 Seaport District, LLC c/o The Howard Hughes Corporation	**DATE:**	Wednesday, August 9, 2023
PROJECT:	250 Water Street		**WEATHER:**	Partly Sunny, 70 – 85˚F Wind: NW @ 0.2 – 2.7 mph
LOCATION:	New York, NY		**TIME:**	5:45am – 2:30pm
BCP SITE ID:	C231127		**MONITOR**	Jack Millman

EQUIPMENT:
CAT 335 Excavator
Komatsu PC138 Excavator
ABI Mobilram Drill Rig
Jerome J505 Mercury Vapor Analyzer
RKI GX-6000 Photoionization Detector (PID)
Aeroqual ASQ1 Air Monitoring Station

PRESENT AT SITE: **Day 178**
Langan (Environmental/Geotechnical) Jack Millman, Aron Farber, Tom Keane
Suffolk Construction (Suffolk) (General Contractor) Anthony Galu
East Coast Drilling, Inc. (ECD) (Foundation Contractor) Ryan Nugent
New York State Department of Environmental Conservation (NYSDEC) Meghan Medwid

OBSERVATIONS, DISCUSSIONS, TEST RESULTS, ETC.:

Langan was present to document remediation activities in accordance with the NYSDEC-approved November 2021 Remedial Action Work Plan (RAWP) at the 250 Water Street site (NYSDEC Brownfield Cleanup Program [BCP] Site No C231127).

Site Activities

- ECD used an ABI Mobilram drill rig to install one soil mix column for support-of-excavation (SOE) installation in the southwest part of the site (Water Street). ECD's drill rig advanced a steel rod with a soil mixing paddle at the bottom of the rod, while concurrently injecting grout through the top of the paddle and spinning and advancing the paddle downward. The soil mix column was advanced to about 10 feet below grade surface (bgs) due to a subsurface obstruction preventing further advancement.
    - No drilling spoils were generated during installation of the soil mix column.
    - Excess grout was contained within a temporary trench adjacent to the drilling area and will be managed as construction and demolition (C&D) debris at a later date.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Material Tracking

- No material was exported from the site.
- No material was imported to the site.

Material Import Summary

Facility Name Location Type of Material	Stone Industries, Inc. Haledon, NJ 1.5/2.5-inch Virgin Stone		Stone Industries, Inc. Haledon, NJ 0.75-inch Virgin Stone		Impact Reuse & Recovery Center or Impact Materials Jersey City, Lyndhurst/Jersey City, NJ 1.5-inch Clean Bluestone		Impact Reuse & Recovery Center, Lyndhurst, NJ General Fill	
Quantities	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)
Today	0	0	0	0	0	0	0	0
Project Total	8	184.42	0	0	15	339.65	374	9,157.85
NYSDEC Approved:	1,800 tons*				720 tons*		19,500 tons*	

*0.75-inch, 1.5-inch, and 2.5-inch virgin stone from the Stone Industries, Inc. facility and 1.5-inch clean bluestone from the Impact Reuse & Recovery Center (IRRC) facility were approved for import of 1,000 cubic yards (CY) and 400 CY, respectively. Assuming a conversion factor of 1.8, each quantity was converted to tons in order to accurately compare with import weight tickets. General fill from the IRRC facility was approved for import of 13,000 CY and a conversion factor of 1.5 is applied.

Material Export Summary (1 of 3)

Facility Name Location Type of Material	Allocco Recycling Brooklyn, NY Construction & Demolition (C&D) Debris		IRRC Lyndhurst, NJ C&D Debris		Earth Efficient MSM East Stroudsburg, PA C&D Debris		Clean Earth of North Jersey Kearny, NJ Hazardous Lead-Impacted Soil/Fill	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	0	0	0	0
Project Total	5	85	42	840	14	280	95	1,900

Material Export Summary (2 of 3)

Facility Name Location Type of Material	Middlesex County Landfill East Brunswick, NJ Non-hazardous Soil/Fill		Bayshore Soil Management Keasbey, NJ Petroleum-Impacted Soil/Fill		Clean Earth of Carteret, NJ Carteret, NJ Non-hazardous Soil/Fill	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	0	0
Project Total	263	5,260	267	5,340	66	1,320

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Material Export Summary (3 of 3)		
Facility Name **Location** **Type of Material**	**Clean Earth of North Jersey** **Kearny, NJ** **Non-hazardous Soil/Fill**	
Quantities	No. of Loads	Approx. Volume (CY)
Today	0	0
Project Total	216	4,320

Sampling

- No samples were collected.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

CAMP Activities

Langan performed air monitoring at the perimeter of the site, at the northern sidewalk of Pearl Street, at the western sidewalk of Beekman Street, at the eastern sidewalk of Peck Slip, and at the southern sidewalk of Water Street at eight total locations for mercury vapor, volatile organic compounds (VOCs), and particulate matter less than 10 microns in diameter (PM10) from about 6:54am to 1:36pm. There were no fifteen-minute average concentrations for mercury vapor, VOCs or PM10 that approached or exceeded the action levels established by the CAMP (1.00 µg/m^3, 5.0 ppm, or 0.100 mg/m^3, respectively).

Background Concentrations

Prior to implementation of CAMP, instantaneous background concentrations of mercury vapor and VOCs were recorded using a handheld Jerome® J505 mercury vapor analyzer and a handheld PID, respectively.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

Perimeter and Work Zone Concentrations

Daily Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.010	0.00	0.01
PM-2	0.009	0.00	0.01
PM-3	0.009	0.00	0.01
PM-4	0.009	***** 0.13	0.01
WZ-1	0.010	0.00	0.00
WZ-2	0.009	0.00	0.00
WZ-3	0.009	0.00	0.00
WZ-4	0.010	0.00	0.01

Maximum 15-Minute-Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.018	0.00	0.02
PM-2	0.018	0.00	0.01
PM-3	0.017	0.00	0.02
PM-4	0.018	***** 5.02	0.03
WZ-1	0.020	0.00	0.01
WZ-2	0.018	0.01	0.00
WZ-3	0.018	0.01	0.00
WZ-4	0.020	0.00	0.03

●mg/m^3 = milligrams per cubic meter ●ppm = parts per million ●µg/m^3 = micrograms per cubic meter

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Equipment Calibration

***** Routine maintenance was conducted on perimeter CAMP station PM-4 between 1:55pm and 2:19pm for monthly calibration of the VOC module. Isobutylene gas with a concentration of 5 ppm was used to complete the calibration. No ground-intrusive activities were completed during this time and the VOC detections were the result of calibration activities that were not reflective of the work completed during this time.

Ambient Air (Handheld Jerome® J505 and Handheld PID)

- The dedicated mobile monitor (Langan) used a handheld Jerome® J505 mercury vapor analyzer to monitor ambient air conditions at various heights throughout the site. Instantaneous mercury vapor concentrations throughout the site ranged from 0.00 µg/m^3 to 0.14 µg/m^3.
- The dedicated mobile monitor (Langan) used a handheld PID to monitor VOC concentrations throughout the site. Instantaneous VOC concentrations were not detected above background concentrations throughout the workday.

Off-site CAMP Stations

- CAMP station WZ-1 was placed on the western sidewalk of Beekman Street from 6:36am to 1:50pm.
- CAMP station WZ-2 was placed on the southern sidewalk of Water Street from 6:38am to 1:49pm.
- CAMP station WZ-3 was placed on the eastern sidewalk of Peck Slip from 6:41am to 1:47pm
- CAMP station WZ-4 was placed on the northern sidewalk of Pearl Street from 7:03am to 2:10pm.

Prior to CAMP Shutdown

Prior to discontinuing CAMP, mercury vapor and VOC concentrations were confirmed to return to background conditions at each perimeter station using the handheld Jerome® J505 mercury vapor analyzer and handheld PID, respectively. Perimeter CAMP stations were discontinued sequentially between 1:36pm and 1:42pm.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

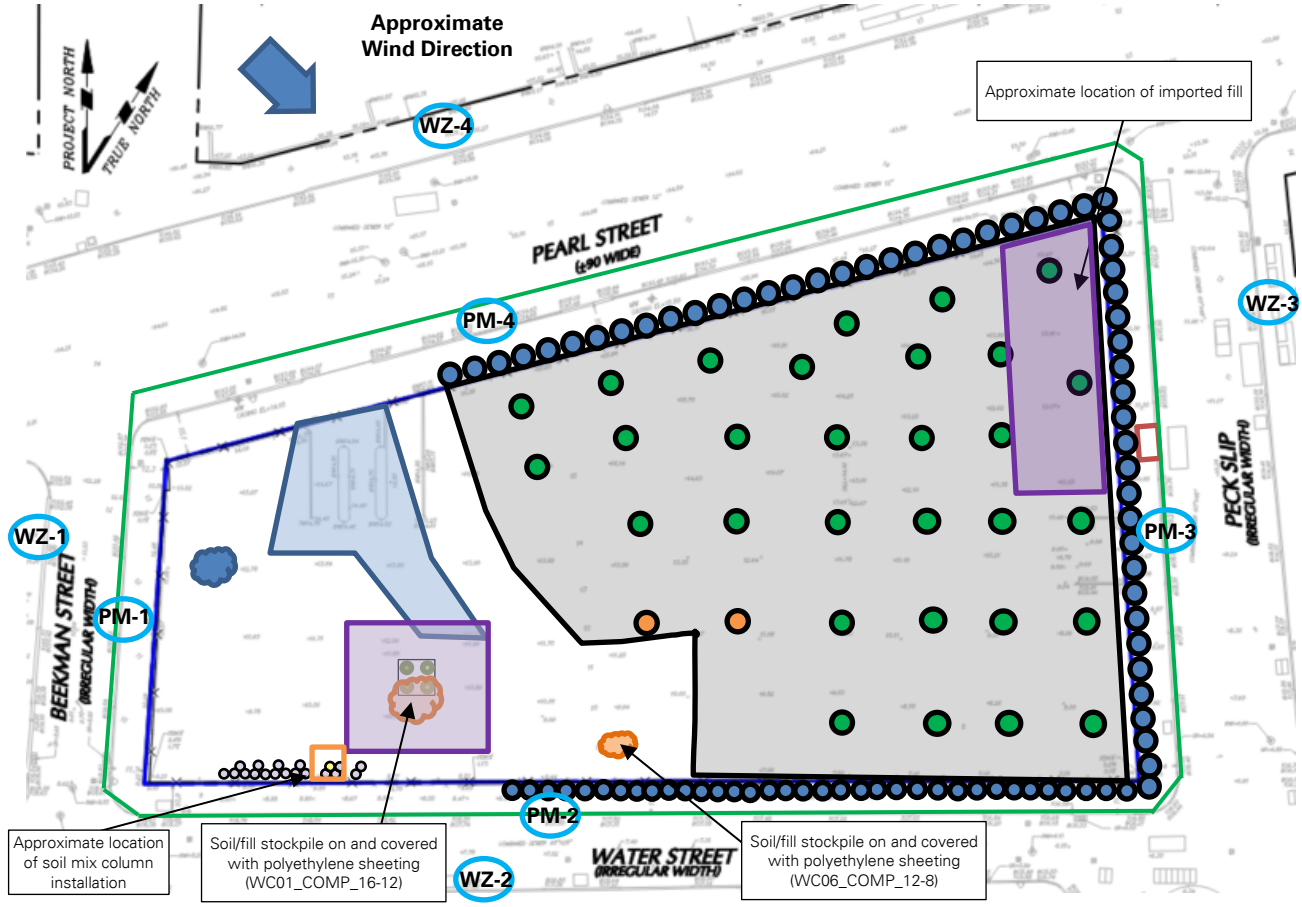
Anticipated Activities

- ECD will continue exporting C&D and soil/fill from the western part of the site for off-site disposal.
- ECD will continue installing soil mix columns for SOE installation along the Water Street boundary of the site.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Site Map



Notes:
1) Locations of air monitoring stations are approximate.

Legend:

- PM-1 — Approximate Location of Air Monitoring Station
- Approximate Work Area
- Approximate Location of Installed Pile Cap
- Approximate Location of Foundation Piles Completed
- Approximate Location of Truck Tracking Pad
- Approximate Location of Underground Storage Tank
- Approximate Location of C&D Stockpile
- Approximate Location of Soil/Fill Stockpile
- Approximate Location of Soldier Pile
- Approximate Location of Soil Mix Column Installed Today
- Approximate Location of Soil Mix Column Installed Previously
- Approximate Perimeter Construction Fence Location
- Previous Excavation Area
- Approximate Location of Documentation Sample
- Approximate Location of Previously Collected Endpoint Sample
- Approximate Location of Imported Fill

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Select Site Photographs:



Photo 1: ECD advancing a soil mix column in the southwest part of the site (facing southeast)

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

PROJECT No.:	170381202	**CLIENT:** 250 Seaport District, LLC c/o The Howard Hughes Corporation	**DATE:**	Thursday, August 10, 2023
PROJECT:	250 Water Street		**WEATHER:**	Partly Cloudy/Rain, 75 – 80˚F Wind: NW @ 0.2 – 1.7 mph
LOCATION:	New York, NY		**TIME:**	5:45am – 4:30pm
BCP SITE ID:	C231127		**MONITOR**	Jack Millman

EQUIPMENT:
CAT 335 Excavator
Komatsu PC138 Excavator
ABI Mobilram Drill Rig
Bauer BG45 Drill Rig
Jerome J505 Mercury Vapor Analyzer
RKI GX-6000 Photoionization Detector (PID)
Aeroqual ASQ1 Air Monitoring Station

PRESENT AT SITE: **Day 179**
Langan (Environmental/Geotechnical) Jack Millman, Aron Farber, Tom Keane
Suffolk Construction (Suffolk) (General Contractor) Anthony Galu
East Coast Drilling, Inc. (ECD) (Foundation Contractor) Ryan Nugent, Danny Rodgers
New York State Department of Environmental Conservation (NYSDEC) Meghan Medwid

OBSERVATIONS, DISCUSSIONS, TEST RESULTS, ETC.:

Langan was present to document remediation activities in accordance with the NYSDEC-approved November 2021 Remedial Action Work Plan (RAWP) at the 250 Water Street site (NYSDEC Brownfield Cleanup Program [BCP] Site No C231127).

Site Activities

- ECD demolished existing asphalt and concrete in the western part of the site. The construction and demolition (C&D) debris was temporarily stockpiled on and covered with polyethylene sheeting in the northwest part of the site pending future off-site disposal.
- ECD used an ABI Mobilram drill rig to install two soldier piles to about 35 feet below grade surface (bgs) for support-of-excavation (SOE) installation in the southwest part of the site (Beekman Street). ECD's drill rig advanced a steel rod with a soil mixing paddle at the bottom of the rod, while concurrently injecting grout through the top of the paddle and spinning and advancing the paddle downward.
    - No drilling spoils were generated during installation of the soldier piles.
    - Excess grout was contained within a temporary trench adjacent to the drilling area and will be managed as C&D debris at a later date.
- ECD placed imported 1.5-inch virgin stone in an about 45-foot-long by 45-foot-wide area in the central part of the site to prepare the subbase for equipment staging.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Material Tracking

- No material was exported from the site.
- ECD imported two truckloads (50.41 tons) of 1.5-inch virgin stone from the Stone Industries Inc. facility, located in Haledon, NJ.

Material Import Summary

Facility Name Location Type of Material	Stone Industries, Inc. Haledon, NJ 1.5/2.5-inch Virgin Stone		Stone Industries, Inc. Haledon, NJ 0.75-inch Virgin Stone		Impact Reuse & Recovery Center or Impact Materials Jersey City, Lyndhurst/Jersey City, NJ 1.5-inch Clean Bluestone		Impact Reuse & Recovery Center, Lyndhurst, NJ General Fill	
Quantities	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)
Today	2	50.41	0	0	0	0	0	0
Project Total	10	234.83	0	0	15	339.65	374	9,157.85
NYSDEC Approved:	1,800 tons*				720 tons*		19,500 tons*	

*0.75-inch, 1.5-inch, and 2.5-inch virgin stone from the Stone Industries, Inc. facility and 1.5-inch clean bluestone from the Impact Reuse & Recovery Center (IRRC) facility were approved for import of 1,000 cubic yards (CY) and 400 CY, respectively. Assuming a conversion factor of 1.8, each quantity was converted to tons in order to accurately compare with import weight tickets. General fill from the IRRC facility was approved for import of 13,000 CY and a conversion factor of 1.5 is applied.

Material Export Summary (1 of 3)

Facility Name Location Type of Material	Allocco Recycling Brooklyn, NY Construction & Demolition (C&D) Debris		IRRC Lyndhurst, NJ C&D Debris		Earth Efficient MSM East Stroudsburg, PA C&D Debris		Clean Earth of North Jersey Kearny, NJ Hazardous Lead-Impacted Soil/Fill	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	0	0	0	0
Project Total	5	85	42	840	14	280	95	1,900

Material Export Summary (2 of 3)

Facility Name Location Type of Material	Middlesex County Landfill East Brunswick, NJ Non-hazardous Soil/Fill		Bayshore Soil Management Keasbey, NJ Petroleum-Impacted Soil/Fill		Clean Earth of Carteret, NJ Carteret, NJ Non-hazardous Soil/Fill	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	0	0
Project Total	263	5,260	267	5,340	66	1,320

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Material Export Summary (3 of 3)		
Facility Name **Location** **Type of Material**	**Clean Earth of North Jersey** **Kearny, NJ** **Non-hazardous Soil/Fill**	
Quantities	No. of Loads	Approx. Volume (CY)
Today	0	0
Project Total	216	4,320

Sampling

- No samples were collected.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

CAMP Activities

Langan performed air monitoring at the perimeter of the site, at the northern sidewalk of Pearl Street, at the western sidewalk of Beekman Street, at the eastern sidewalk of Peck Slip, and at the southern sidewalk of Water Street at eight total locations for mercury vapor, volatile organic compounds (VOCs), and particulate matter less than 10 microns in diameter (PM10) from about 6:40am to 3:50pm. There were no fifteen-minute average concentrations for mercury vapor, VOCs or PM10 that approached or exceeded the action levels established by the CAMP (1.00 µg/m^3, 5.0 ppm, or 0.100 mg/m^3, respectively).

Background Concentrations

Prior to implementation of CAMP, instantaneous background concentrations of mercury vapor and VOCs were recorded using a handheld Jerome® J505 mercury vapor analyzer and a handheld PID, respectively.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

Perimeter and Work Zone Concentrations

Daily Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.016	0.00	0.01
PM-2	0.013	0.00	0.00
PM-3	0.013	0.00	0.00
PM-4	0.013	0.00	0.01
WZ-1	0.013	0.00	0.00
WZ-2	0.013	0.00	0.00
WZ-3	0.013	0.01	0.00
WZ-4	0.013	0.01	0.00

Maximum 15-Minute-Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.084	0.03	0.02
PM-2	0.017	0.03	0.02
PM-3	0.016	0.03	0.02
PM-4	0.017	0.02	0.03
WZ-1	0.017	0.01	0.01
WZ-2	0.016	0.03	0.00
WZ-3	0.016	0.03	0.01
WZ-4	0.020	0.06	0.02

●mg/m^3 = milligrams per cubic meter ●ppm = parts per million ●µg/m^3 = micrograms per cubic meter

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Ambient Air (Handheld Jerome® J505 and Handheld PID)

- The dedicated mobile monitor (Langan) used a handheld Jerome® J505 mercury vapor analyzer to monitor ambient air conditions at various heights throughout the site. Instantaneous mercury vapor concentrations throughout the site ranged from 0.00 µg/m^3 to 0.16 µg/m^3.
- The dedicated mobile monitor (Langan) used a handheld PID to monitor VOC concentrations throughout the site. Instantaneous VOC concentrations were not detected above background concentrations throughout the workday.

Off-site CAMP Stations

- CAMP station WZ-1 was placed on the western sidewalk of Beekman Street from 6:24am to 4:03pm.
- CAMP station WZ-2 was placed on the southern sidewalk of Water Street from 6:22am to 4:06pm.
- CAMP station WZ-3 was placed on the eastern sidewalk of Peck Slip from 6:19am to 3:28pm
- CAMP station WZ-4 was placed on the northern sidewalk of Pearl Street from 6:18am to 3:37pm.

Prior to CAMP Shutdown

Prior to discontinuing CAMP, mercury vapor and VOC concentrations were confirmed to return to background conditions at each perimeter station using the handheld Jerome® J505 mercury vapor analyzer and handheld PID, respectively. Perimeter CAMP stations were discontinued sequentially between 3:50pm and 3:57pm.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

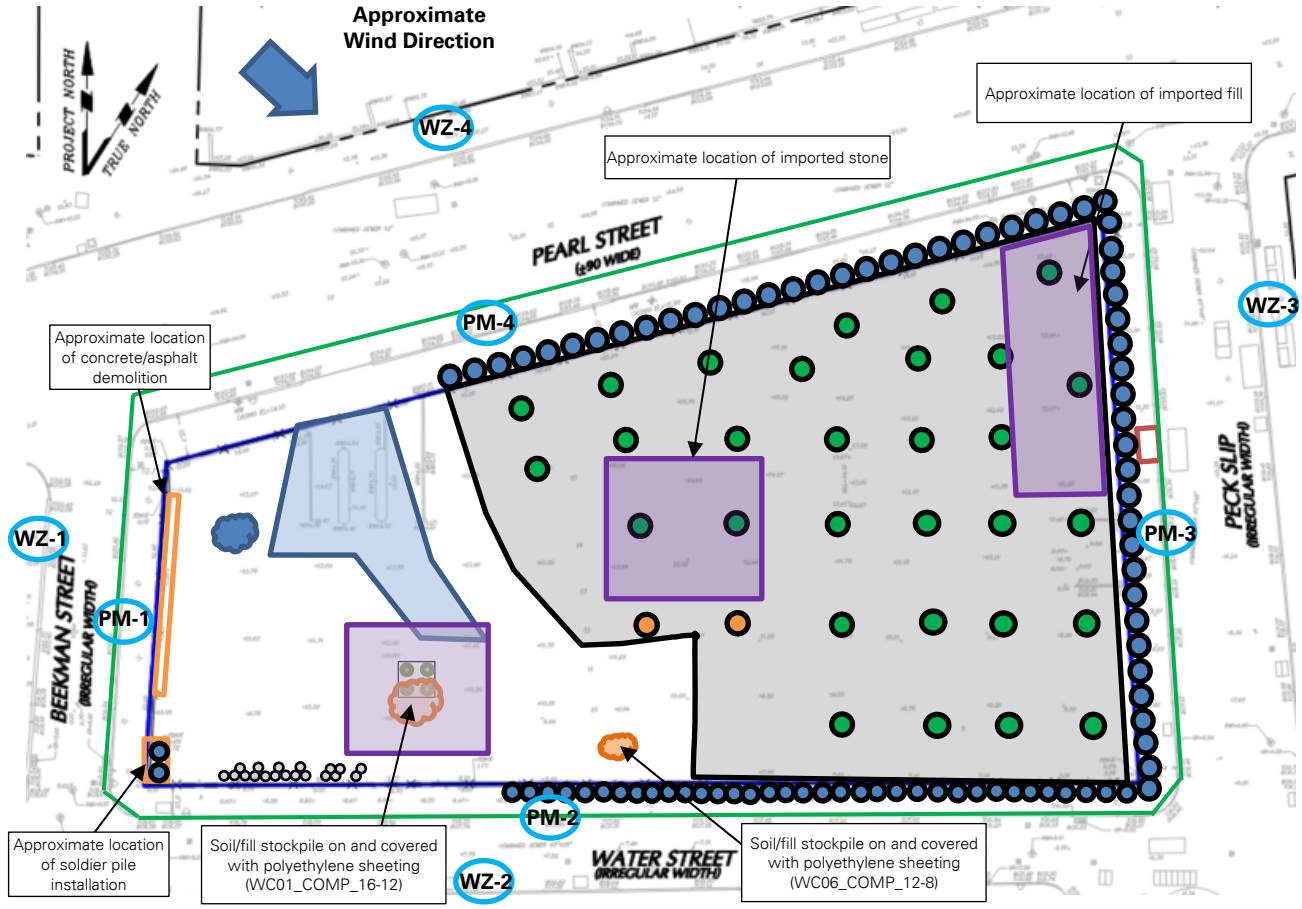
Anticipated Activities

- ECD will continue exporting C&D and soil/fill from the western part of the site for off-site disposal.
- ECD will continue installing soil mix columns and soldier piles for SOE installation along Beekman and Water Streets.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Site Map



Notes:
1) Locations of air monitoring stations are approximate.

Legend:

- PM-1 — Approximate Location of Air Monitoring Station
- Approximate Work Area
- Approximate Location of Installed Pile Cap
- Approximate Location of Foundation Piles Completed
- Approximate Location of Truck Tracking Pad
- Approximate Location of Underground Storage Tank
- Approximate Location of C&D Stockpile
- Approximate Location of Soil/Fill Stockpile
- Approximate Location of Soldier Pile
- Approximate Location of Soil Mix Column Installed Today
- Approximate Location of Soil Mix Column Installed Previously
- Approximate Perimeter Construction Fence Location
- Previous Excavation Area
- Approximate Location of Documentation Sample
- Approximate Location of Previously Collected Endpoint Sample
- Approximate Location of Imported Fill

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Select Site Photographs:



Photo 1: ECD installing a soldier pile in the southwest part of the site (facing southwest)



Photo 2: C&D stockpile on and covered with polyethylene sheeting in the northwestern part of the site (facing west)

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

PROJECT No.:	170381202	**CLIENT:** 250 Seaport District, LLC c/o The Howard Hughes Corporation	**DATE:**	Friday, August 11, 2023
PROJECT:	250 Water Street		**WEATHER:**	Partly Cloudy, 72 – 84˚F Wind: WSW @ 0.2 – 1.6 mph
LOCATION:	New York, NY		**TIME:**	5:45am – 4:30pm
BCP SITE ID:	C231127		**MONITOR**	Jack Millman

EQUIPMENT:
CAT 335 Excavator
CAT 328 Excavator
Komatsu PC138 Excavator
ABI Mobilram Drill Rig
Bauer BG45 Drill Rig
Jerome J505 Mercury Vapor Analyzer
RKI GX-6000 Photoionization Detector (PID)
Aeroqual ASQ1 Air Monitoring Station

PRESENT AT SITE: **Day 180**
Langan (Environmental/Geotechnical) Jack Millman, Angelina Schott, Ashlene Bisram
Suffolk Construction (Suffolk) (General Contractor) Anthony Galu, Wyatt Favia
East Coast Drilling, Inc. (ECD) (Foundation Contractor) Danny Rodgers
New York State Department of Environmental Conservation (NYSDEC) Meghan Medwid

OBSERVATIONS, DISCUSSIONS, TEST RESULTS, ETC.:

Langan was present to document remediation activities in accordance with the NYSDEC-approved November 2021 Remedial Action Work Plan (RAWP) at the 250 Water Street site (NYSDEC Brownfield Cleanup Program [BCP] Site No C231127).

Site Activities

- ECD mobilized and began assembly of a Bauer BG45 drill rig in preparation for deep soil mix column installation along the perimeter of the site.
- ECD used an ABI Mobilram drill rig to install five soldier piles to depths between about 34 and 35 feet below grade surface (bgs) for support-of-excavation (SOE) installation in the western part of the site (Beekman Street). ECD's drill rig advanced a steel rod with a soil mixing paddle at the bottom of the rod, while concurrently injecting grout through the top of the paddle and spinning and advancing the paddle downward.
    - No drilling spoils were generated during installation of the soldier piles.
    - Excess grout was contained within a temporary trench adjacent to the drilling area and will be managed as construction and demolition (C&D) debris at a later date.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Material Tracking

- No material was exported from the site.
- No material was imported to the site.

Material Import Summary

Facility Name Location Type of Material	Stone Industries, Inc. Haledon, NJ 1.5/2.5-inch Virgin Stone		Stone Industries, Inc. Haledon, NJ 0.75-inch Virgin Stone		Impact Reuse & Recovery Center or Impact Materials Jersey City, Lyndhurst/Jersey City, NJ 1.5-inch Clean Bluestone		Impact Reuse & Recovery Center, Lyndhurst, NJ General Fill	
Quantities	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)
Today	0	0	0	0	0	0	0	0
Project Total	10	234.83	0	0	15	339.65	374	9,157.85
NYSDEC Approved:	1,800 tons*				720 tons*		19,500 tons*	

*0.75-inch, 1.5-inch, and 2.5-inch virgin stone from the Stone Industries, Inc. facility and 1.5-inch clean bluestone from the Impact Reuse & Recovery Center (IRRC) facility were approved for import of 1,000 cubic yards (CY) and 400 CY, respectively. Assuming a conversion factor of 1.8, each quantity was converted to tons in order to accurately compare with import weight tickets. General fill from the IRRC facility was approved for import of 13,000 CY and a conversion factor of 1.5 is applied.

Material Export Summary (1 of 3)

Facility Name Location Type of Material	Allocco Recycling Brooklyn, NY Construction & Demolition (C&D) Debris		IRRC Lyndhurst, NJ C&D Debris		Earth Efficient MSM East Stroudsburg, PA C&D Debris		Clean Earth of North Jersey Kearny, NJ Hazardous Lead-Impacted Soil/Fill	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	0	0	0	0
Project Total	5	85	42	840	14	280	95	1,900

Material Export Summary (2 of 3)

Facility Name Location Type of Material	Middlesex County Landfill East Brunswick, NJ Non-hazardous Soil/Fill		Bayshore Soil Management Keasbey, NJ Petroleum-Impacted Soil/Fill		Clean Earth of Carteret, NJ Carteret, NJ Non-hazardous Soil/Fill	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	0	0
Project Total	263	5,260	267	5,340	66	1,320

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Material Export Summary (3 of 3)		
Facility Name **Location** **Type of Material**	**Clean Earth of North Jersey** **Kearny, NJ** **Non-hazardous Soil/Fill**	
Quantities	No. of Loads	Approx. Volume (CY)
Today	0	0
Project Total	216	4,320

Sampling

- No samples were collected.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

CAMP Activities

Langan performed air monitoring at the perimeter of the site, at the northern sidewalk of Pearl Street, at the western sidewalk of Beekman Street, at the eastern sidewalk of Peck Slip, and at the southern sidewalk of Water Street at eight total locations for mercury vapor, volatile organic compounds (VOCs), and particulate matter less than 10 microns in diameter (PM10) from about 6:54am to 3:27pm. There were no fifteen-minute average concentrations for mercury vapor, VOCs or PM10 that approached or exceeded the action levels established by the CAMP (1.00 µg/m^3, 5.0 ppm, or 0.100 mg/m^3, respectively).

Background Concentrations

Prior to implementation of CAMP, instantaneous background concentrations of mercury vapor and VOCs were recorded using a handheld Jerome® J505 mercury vapor analyzer and a handheld PID, respectively.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

Perimeter and Work Zone Concentrations

Daily Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.014	0.01	0.01
PM-2	0.013	0.00	0.00
PM-3	0.013	0.00	0.01
PM-4	0.014	0.00	0.02
WZ-1	0.014	0.00	0.00
WZ-2	0.013	0.00	0.00
WZ-3	0.013	0.07	0.00
WZ-4	0.014	0.00	0.01

Maximum 15-Minute-Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.017	0.09	0.12
PM-2	0.018	0.00	0.02
PM-3	0.018	0.00	0.04
PM-4	0.020	0.02	0.07
WZ-1	0.017	0.00	0.01
WZ-2	0.017	0.00	0.01
WZ-3	0.015	0.00	0.00
WZ-4	0.016	0.04	0.03

●mg/m^3 = milligrams per cubic meter ●ppm = parts per million ●µg/m^3 = micrograms per cubic meter

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Ambient Air (Handheld Jerome® J505 and Handheld PID)

- The dedicated mobile monitor (Langan) used a handheld Jerome® J505 mercury vapor analyzer to monitor ambient air conditions at various heights throughout the site. Instantaneous mercury vapor concentrations throughout the site ranged from 0.00 µg/m^3 to 0.19 µg/m^3.
- The dedicated mobile monitor (Langan) used a handheld PID to monitor VOC concentrations throughout the site. Instantaneous VOC concentrations were not detected above background concentrations throughout the workday.

Off-site CAMP Stations

- CAMP station WZ-1 was placed on the western sidewalk of Beekman Street from 6:36am to 3:38pm.
- CAMP station WZ-2 was placed on the southern sidewalk of Water Street from 6:39am to 3:42pm.
- CAMP station WZ-3 was placed on the eastern sidewalk of Peck Slip from 6:42am to 3:50pm
- CAMP station WZ-4 was placed on the northern sidewalk of Pearl Street from 6:46am to 4:00pm.

Prior to CAMP Shutdown

Prior to discontinuing CAMP, mercury vapor and VOC concentrations were confirmed to return to background conditions at each perimeter station using the handheld Jerome® J505 mercury vapor analyzer and handheld PID, respectively. Perimeter CAMP stations were discontinued sequentially between 3:27pm and 3:34pm.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

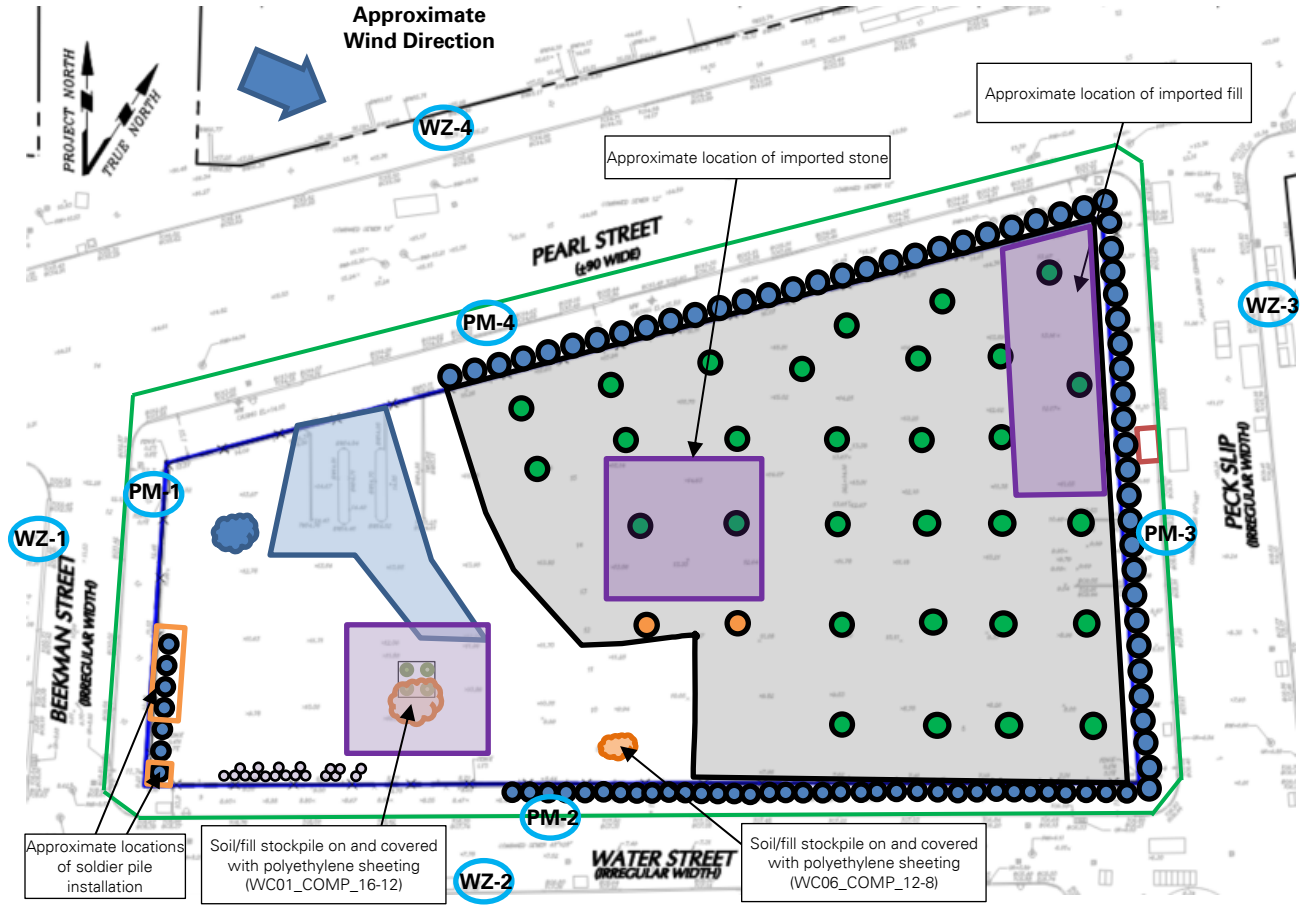
Anticipated Activities

- ECD will continue exporting C&D and soil/fill from the western part of the site for off-site disposal.
- ECD will continue installing soil mix columns and soldier piles for SOE installation along Beekman Street.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Site Map



Notes:
1) Locations of air monitoring stations are approximate.

Legend:

- PM-1 — Approximate Location of Air Monitoring Station
- Approximate Work Area
- Approximate Location of Installed Pile Cap
- Approximate Location of Foundation Piles Completed
- Approximate Location of Truck Tracking Pad
- Approximate Location of Underground Storage Tank
- Approximate Location of C&D Stockpile
- Approximate Location of Soil/Fill Stockpile
- Approximate Location of Soldier Pile
- Approximate Location of Soil Mix Column Installed Today
- Approximate Location of Soil Mix Column Installed Previously
- Approximate Perimeter Construction Fence Location
- Previous Excavation Area
- Approximate Location of Documentation Sample
- Approximate Location of Previously Collected Endpoint Sample
- Approximate Location of Imported Fill

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Select Site Photographs:



Photo 1: ECD installing a soldier pile in the southwest part of the site (facing southwest)



Photo 2: ECD mobilizing a Bauer BG45 drill rig in the eastern part of the site (facing southwest)

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

PROJECT No.:	170381202	**CLIENT:** 250 Seaport District, LLC c/o The Howard Hughes Corporation	**DATE:**	Monday, August 14, 2023
PROJECT:	250 Water Street		**WEATHER:**	Partly Sunny, 75 – 85˚F Wind: WNW @ 0.2 – 1.3 mph
LOCATION:	New York, NY		**TIME:**	5:45am – 4:30pm
BCP SITE ID:	C231127		**MONITOR**	Jack Millman

EQUIPMENT:
CAT 335 Excavator
CAT 328 Excavator
Komatsu PC138 Excavator
ABI Mobilram Drill Rig
Bauer BG45 Drill Rig
Jerome J505 Mercury Vapor Analyzer
RKI GX-6000 Photoionization Detector (PID)
Aeroqual ASQ1 Air Monitoring Station

PRESENT AT SITE: **Day 181**
Langan (Environmental/Geotechnical) Jack Millman, Aron Farber, Anastassios Balaouras
Suffolk Construction (Suffolk) (General Contractor) Anthony Galu, Wyatt Favia
East Coast Drilling, Inc. (ECD) (Foundation Contractor) Danny Rodgers
New York State Department of Environmental Conservation (NYSDEC) Marnie Chancey

OBSERVATIONS, DISCUSSIONS, TEST RESULTS, ETC.:

Langan was present to document remediation activities in accordance with the NYSDEC-approved November 2021 Remedial Action Work Plan (RAWP) at the 250 Water Street site (NYSDEC Brownfield Cleanup Program [BCP] Site No C231127).

Site Activities

- ECD continued assembly of the Bauer BG45 drill rig in preparation for deep soil mix column installation along the perimeter of the site.
- ECD used an ABI Mobilram drill rig to install six soldier piles to depths between about 34 and 35 feet below grade surface (bgs) for support-of-excavation (SOE) installation in the western part of the site (Beekman Street). ECD's drill rig advanced a steel rod with a soil mixing paddle at the bottom of the rod, while concurrently injecting grout through the top of the paddle and spinning and advancing the paddle downward.
    - No drilling spoils were generated during installation of the soldier piles.
    - Excess grout was contained within a temporary trench adjacent to the drilling area and will be managed as construction and demolition (C&D) debris at a later date.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Material Tracking

- No material was exported from the site.
- No material was imported to the site.

Material Import Summary

Facility Name Location Type of Material	Stone Industries, Inc. Haledon, NJ 1.5/2.5-inch Virgin Stone		Stone Industries, Inc. Haledon, NJ 0.75-inch Virgin Stone		Impact Reuse & Recovery Center or Impact Materials Jersey City, Lyndhurst/Jersey City, NJ 1.5-inch Clean Bluestone		Impact Reuse & Recovery Center, Lyndhurst, NJ General Fill	
Quantities	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)
Today	0	0	0	0	0	0	0	0
Project Total	10	234.83	0	0	15	339.65	374	9,157.85
NYSDEC Approved:	1,800 tons*				720 tons*		19,500 tons*	

*0.75-inch, 1.5-inch, and 2.5-inch virgin stone from the Stone Industries, Inc. facility and 1.5-inch clean bluestone from the Impact Reuse & Recovery Center (IRRC) facility were approved for import of 1,000 cubic yards (CY) and 400 CY, respectively. Assuming a conversion factor of 1.8, each quantity was converted to tons in order to accurately compare with import weight tickets. General fill from the IRRC facility was approved for import of 13,000 CY and a conversion factor of 1.5 is applied.

Material Export Summary (1 of 3)

Facility Name Location Type of Material	Allocco Recycling Brooklyn, NY Construction & Demolition (C&D) Debris		IRRC Lyndhurst, NJ C&D Debris		Earth Efficient MSM East Stroudsburg, PA C&D Debris		Clean Earth of North Jersey Kearny, NJ Hazardous Lead-Impacted Soil/Fill	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	0	0	0	0
Project Total	5	85	42	840	14	280	95	1,900

Material Export Summary (2 of 3)

Facility Name Location Type of Material	Middlesex County Landfill East Brunswick, NJ Non-hazardous Soil/Fill		Bayshore Soil Management Keasbey, NJ Petroleum-Impacted Soil/Fill		Clean Earth of Carteret, NJ Carteret, NJ Non-hazardous Soil/Fill	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	0	0
Project Total	263	5,260	267	5,340	66	1,320

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Material Export Summary (3 of 3)		
Facility Name **Location** **Type of Material**	**Clean Earth of North Jersey** **Kearny, NJ** **Non-hazardous Soil/Fill**	
Quantities	No. of Loads	Approx. Volume (CY)
Today	0	0
Project Total	216	4,320

Sampling

- No samples were collected.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

CAMP Activities

Langan performed air monitoring at the perimeter of the site, at the northern sidewalk of Pearl Street, at the western sidewalk of Beekman Street, at the eastern sidewalk of Peck Slip, and at the southern sidewalk of Water Street at eight total locations for mercury vapor, volatile organic compounds (VOCs), and particulate matter less than 10 microns in diameter (PM10) from about 6:35am to 3:49pm. There were no fifteen-minute average concentrations for mercury vapor, VOCs or PM10 that approached or exceeded the action levels established by the CAMP (1.00 µg/m^3, 5.0 ppm, or 0.100 mg/m^3, respectively).

Background Concentrations

Prior to implementation of CAMP, instantaneous background concentrations of mercury vapor and VOCs were recorded using a handheld Jerome® J505 mercury vapor analyzer and a handheld PID, respectively.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

Perimeter and Work Zone Concentrations

Daily Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.008	0.01	0.01
PM-2	0.006	0.01	0.01
PM-3	0.005	0.01	0.00
PM-4	0.006	0.01	0.01
WZ-1	0.006	0.00	0.00
WZ-2	0.006	0.00	0.00
WZ-3	0.005	0.01	0.01
WZ-4	0.007	0.01	0.01

Maximum 15-Minute-Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.030	0.06	0.02
PM-2	0.009	0.08	0.02
PM-3	0.008	0.08	0.01
PM-4	0.010	0.10	0.03
WZ-1	0.010	0.05	0.01
WZ-2	0.010	0.07	0.01
WZ-3	0.008	0.10	0.02
WZ-4	0.016	0.11	0.05

●mg/m^3 = milligrams per cubic meter ●ppm = parts per million ●µg/m^3 = micrograms per cubic meter

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Ambient Air (Handheld Jerome® J505 and Handheld PID)

- The dedicated mobile monitor (Langan) used a handheld Jerome® J505 mercury vapor analyzer to monitor ambient air conditions at various heights throughout the site. Instantaneous mercury vapor concentrations throughout the site ranged from 0.00 µg/m^3 to 0.16 µg/m^3.
- The dedicated mobile monitor (Langan) used a handheld PID to monitor VOC concentrations throughout the site. Instantaneous VOC concentrations were not detected above background concentrations throughout the workday.

Off-site CAMP Stations

- CAMP station WZ-1 was placed on the western sidewalk of Beekman Street from 6:19am to 3:58pm.
- CAMP station WZ-2 was placed on the southern sidewalk of Water Street from 6:21am to 4:01pm.
- CAMP station WZ-3 was placed on the eastern sidewalk of Peck Slip from 6:24am to 4:04pm
- CAMP station WZ-4 was placed on the northern sidewalk of Pearl Street from 6:26am to 4:05pm.

Prior to CAMP Shutdown

Prior to discontinuing CAMP, mercury vapor and VOC concentrations were confirmed to return to background conditions at each perimeter station using the handheld Jerome® J505 mercury vapor analyzer and handheld PID, respectively. Perimeter CAMP stations were discontinued sequentially between 3:49pm and 3:55pm.

- Background concentrations of mercury vapor at each CAMP station ranged from 0.00 and 0.01 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

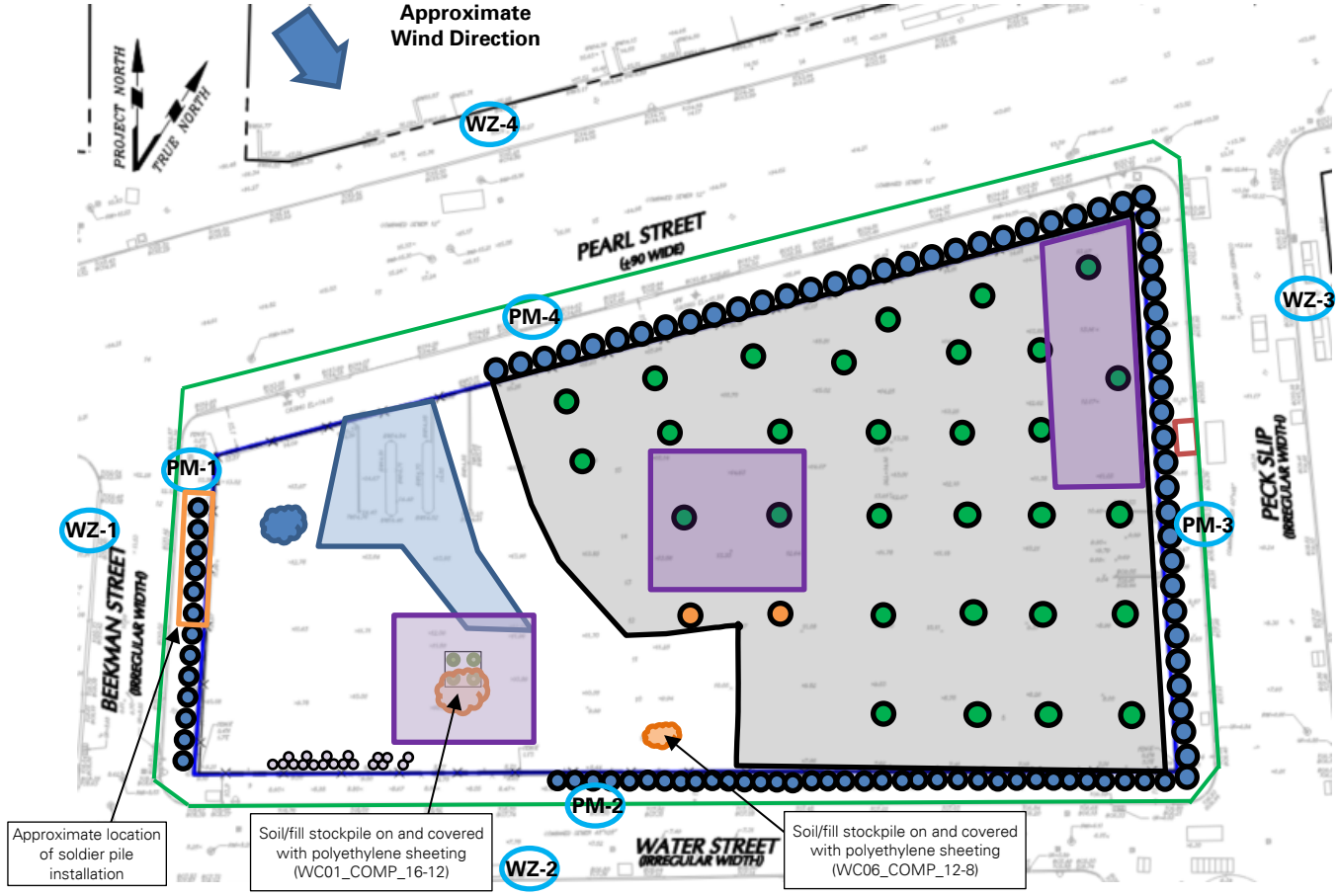
Anticipated Activities

- ECD will continue exporting C&D and soil/fill from the western part of the site for off-site disposal.
- ECD will continue installing soil mix columns and soldier piles for SOE installation along Beekman Street.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Site Map



Notes:
1) Locations of air monitoring stations are approximate.

Legend:

- PM-1 — Approximate Location of Air Monitoring Station
- Approximate Work Area
- Approximate Location of Installed Pile Cap
- Approximate Location of Foundation Piles Completed
- Approximate Location of Truck Tracking Pad
- Approximate Location of Underground Storage Tank
- Approximate Location of C&D Stockpile
- Approximate Location of Soil/Fill Stockpile
- Approximate Location of Soldier Pile
- Approximate Location of Soil Mix Column Installed Today
- Approximate Location of Soil Mix Column Installed Previously
- Approximate Perimeter Construction Fence Location
- Previous Excavation Area
- Approximate Location of Documentation Sample
- Approximate Location of Previously Collected Endpoint Sample
- Approximate Location of Imported Fill

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Select Site Photographs:



Photo 1: ECD installing a soldier pile in the western part of the site (facing southwest)



Photo 2: ECD assembling the Bauer BG45 drill rig in the eastern part of the site (facing southeast)

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

PROJECT No.:	170381202	**CLIENT:** 250 Seaport District, LLC c/o The Howard Hughes Corporation	**DATE:**	Tuesday, August 15, 2023
PROJECT:	250 Water Street		**WEATHER:**	Partly Sunny, 70 – 80˚F Wind: SW @ 0.1 – 1.7 mph
LOCATION:	New York, NY		**TIME:**	5:45am – 4:45pm
BCP SITE ID:	C231127		**MONITOR**	Jack Millman

EQUIPMENT:
CAT 335 Excavator
CAT 328 Excavator
Komatsu PC138 Excavator
ABI Mobilram Drill Rig
Delmag Drill Rig
Bauer BG45 Drill Rig
Jerome J505 Mercury Vapor Analyzer
RKI GX-6000 Photoionization Detector (PID)
Aeroqual ASQ1 Air Monitoring Station

PRESENT AT SITE: **Day 182**
Langan (Environmental/Geotechnical) Jack Millman, Aron Farber, Anastassios Balaouras
Suffolk Construction (Suffolk) (General Contractor) Anthony Galu, Wyatt Favia
East Coast Drilling, Inc. (ECD) (Foundation Contractor) Danny Rodgers
New York State Department of Environmental Conservation (NYSDEC) Marnie Chancey

OBSERVATIONS, DISCUSSIONS, TEST RESULTS, ETC.:

Langan was present to document remediation activities in accordance with the NYSDEC-approved November 2021 Remedial Action Work Plan (RAWP) at the 250 Water Street site (NYSDEC Brownfield Cleanup Program [BCP] Site No C231127).

Site Activities

- ECD continued assembly of the Bauer BG45 drill rig in preparation for deep soil mix column installation along the perimeter of the site.
- ECD relocated a section of the perimeter construction fencing along Peck Slip for future equipment staging in the eastern part of the site.
- ECD used an ABI Mobilram drill rig to install two soldier piles to depths between about 34 and 35 feet below grade surface (bgs) for support-of-excavation (SOE) installation in the western part of the site (Beekman Street). ECD's drill rig advanced a steel rod with a soil mixing paddle at the bottom of the rod, while concurrently injecting grout through the top of the paddle and spinning and advancing the paddle downward.
    - No drilling spoils were generated during installation of the soldier piles.
    - Excess grout was contained within a temporary trench adjacent to the drilling area and will be managed as construction and demolition (C&D) debris at a later date.
- ECD excavated an about 20-foot-long by 2-foot-wide area to a maximum depth of about 1 foot bgs for temporary installation of a hose beneath the stabilized construction entrance in the northern part of the site (Pearl Street).
    - Excavated soil/fill was temporarily stockpiled adjacent to the work area and was screened for odors, staining, organic vapors, and mercury vapor using a handheld photoionization detector (PID) and handheld Jerome® J505 mercury vapor analyzer, respectively. No evidence of impacts was observed. The excavated soil/fill was temporarily backfilled into the original location following installation of the hose.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Material Tracking

- No material was exported from the site.
- No material was imported to the site.

Material Import Summary

Facility Name Location Type of Material	Stone Industries, Inc. Haledon, NJ 1.5/2.5-inch Virgin Stone		Stone Industries, Inc. Haledon, NJ 0.75-inch Virgin Stone		Impact Reuse & Recovery Center or Impact Materials Jersey City, Lyndhurst/Jersey City, NJ 1.5-inch Clean Bluestone		Impact Reuse & Recovery Center, Lyndhurst, NJ General Fill	
Quantities	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)
Today	0	0	0	0	0	0	0	0
Project Total	10	234.83	0	0	15	339.65	374	9,157.85
NYSDEC Approved:	1,800 tons*				720 tons*		19,500 tons*	

*0.75-inch, 1.5-inch, and 2.5-inch virgin stone from the Stone Industries, Inc. facility and 1.5-inch clean bluestone from the Impact Reuse & Recovery Center (IRRC) facility were approved for import of 1,000 cubic yards (CY) and 400 CY, respectively. Assuming a conversion factor of 1.8, each quantity was converted to tons in order to accurately compare with import weight tickets. General fill from the IRRC facility was approved for import of 13,000 CY and a conversion factor of 1.5 is applied.

Material Export Summary (1 of 3)

Facility Name Location Type of Material	Allocco Recycling Brooklyn, NY Construction & Demolition (C&D) Debris		IRRC Lyndhurst, NJ C&D Debris		Earth Efficient MSM East Stroudsburg, PA C&D Debris		Clean Earth of North Jersey Kearny, NJ Hazardous Lead-Impacted Soil/Fill	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	0	0	0	0
Project Total	5	85	42	840	14	280	95	1,900

Material Export Summary (2 of 3)

Facility Name Location Type of Material	Middlesex County Landfill East Brunswick, NJ Non-hazardous Soil/Fill		Bayshore Soil Management Keasbey, NJ Petroleum-Impacted Soil/Fill		Clean Earth of Carteret, NJ Carteret, NJ Non-hazardous Soil/Fill	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	0	0
Project Total	263	5,260	267	5,340	66	1,320

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Material Export Summary (3 of 3)		
Facility Name **Location** **Type of Material**	**Clean Earth of North Jersey** **Kearny, NJ** **Non-hazardous Soil/Fill**	
Quantities	No. of Loads	Approx. Volume (CY)
Today	0	0
Project Total	216	4,320

Sampling

- No samples were collected.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

CAMP Activities

Langan performed air monitoring at the perimeter of the site, at the northern sidewalk of Pearl Street, at the western sidewalk of Beekman Street, at the eastern sidewalk of Peck Slip, and at the southern sidewalk of Water Street at eight total locations for mercury vapor, volatile organic compounds (VOCs), and particulate matter less than 10 microns in diameter (PM10) from about 7:05am to 3:58pm. There were no fifteen-minute average concentrations for mercury vapor, VOCs or PM10 that approached or exceeded the action levels established by the CAMP (1.00 µg/m^3, 5.0 ppm, or 0.100 mg/m^3, respectively).

Background Concentrations

Prior to implementation of CAMP, instantaneous background concentrations of mercury vapor and VOCs were recorded using a handheld Jerome® J505 mercury vapor analyzer and a handheld PID, respectively.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

Perimeter and Work Zone Concentrations

Daily Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.007	0.00	0.01
PM-2	0.006	0.00	0.01
PM-3	0.006	0.00	0.01
PM-4	0.006	0.03	0.02
WZ-1	0.007	0.00	0.00
WZ-2	0.006	0.00	0.00
WZ-3	0.006	0.00	0.01
WZ-4	0.006	0.00	0.01

Maximum 15-Minute-Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.015	0.03	0.12
PM-2	0.011	0.03	0.02
PM-3	0.010	0.04	0.09
PM-4	0.010	0.81	0.11
WZ-1	0.012	0.00	0.01
WZ-2	0.018	0.01	0.01
WZ-3	0.010	0.00	0.02
WZ-4	0.010	0.01	0.02

●mg/m^3 = milligrams per cubic meter ●ppm = parts per million ●µg/m^3 = micrograms per cubic meter

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Ambient Air (Handheld Jerome® J505 and Handheld PID)

- The dedicated mobile monitor (Langan) used a handheld Jerome® J505 mercury vapor analyzer to monitor ambient air conditions at various heights throughout the site. Instantaneous mercury vapor concentrations throughout the site ranged from 0.00 µg/m^3 to 0.20 µg/m^3.
- The dedicated mobile monitor (Langan) used a handheld PID to monitor VOC concentrations throughout the site. Instantaneous VOC concentrations were not detected above background concentrations throughout the workday.

Off-site CAMP Stations

- CAMP station WZ-1 was placed on the western sidewalk of Beekman Street from about 6:21am to 4:06pm.
- CAMP station WZ-2 was placed on the southern sidewalk of Water Street from about 6:23am to 4:10pm.
- CAMP station WZ-3 was placed on the eastern sidewalk of Peck Slip from about 6:26am to 4:16pm
- CAMP station WZ-4 was placed on the northern sidewalk of Pearl Street from about 6:28am to 4:21pm.

Prior to CAMP Shutdown

Prior to discontinuing CAMP, mercury vapor and VOC concentrations were confirmed to return to background conditions at each perimeter station using the handheld Jerome® J505 mercury vapor analyzer and handheld PID, respectively. Perimeter CAMP stations were discontinued sequentially between 3:58pm and 4:06pm.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

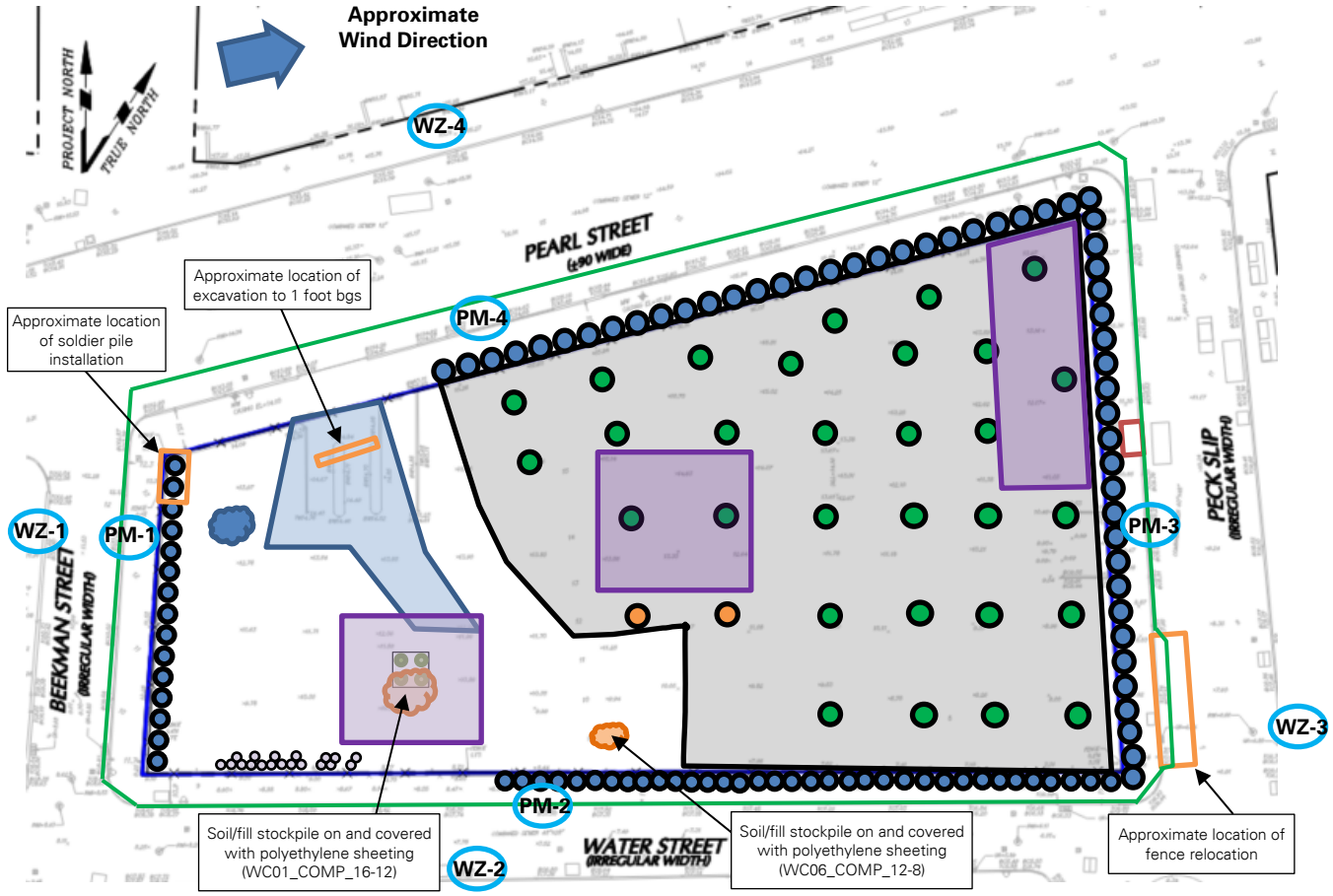
Anticipated Activities

- ECD will continue exporting C&D and soil/fill from the western part of the site for off-site disposal.
- ECD will continue installing soldier piles for SOE installation along Pearl Street.
- ECD will continue assembly of the Bauer BG45 drill rig in preparation for deep soil mix column installation along the perimeter of the site.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Site Map



Notes:
1) Locations of air monitoring stations are approximate.

Legend:

- PM-1 — Approximate Location of Air Monitoring Station
- Approximate Work Area
- Approximate Location of Installed Pile Cap
- Approximate Location of Foundation Piles Completed
- Approximate Location of Truck Tracking Pad
- Approximate Location of Underground Storage Tank
- Approximate Location of C&D Stockpile
- Approximate Location of Soil/Fill Stockpile
- Approximate Location of Soldier Pile
- Approximate Location of Soil Mix Column Installed Today
- Approximate Location of Soil Mix Column Installed Previously
- Approximate Perimeter Construction Fence Location
- Previous Excavation Area
- Approximate Location of Documentation Sample
- Approximate Location of Previously Collected Endpoint Sample
- Approximate Location of Imported Fill

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Select Site Photographs:



Photo 1: ECD installing a soldier pile in the western part of the site (facing southwest)



Photo 2: CAMP station WZ-3 on the eastern sidewalk of Peck Slip (facing west)

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

PROJECT No.:	170381202	**CLIENT:** 250 Seaport District, LLC c/o The Howard Hughes Corporation	**DATE:**	Wednesday, August 16, 2023
PROJECT:	250 Water Street		**WEATHER:**	Partly Cloudy, 70 – 80˚F Wind: SW @ 0.1 – 1.6 mph
LOCATION:	New York, NY		**TIME:**	5:45am – 5:00pm
BCP SITE ID:	C231127		**MONITOR**	Jack Millman

EQUIPMENT:
CAT 335 Excavator
CAT 328 Excavator
Komatsu PC138 Excavator
ABI Mobilram Drill Rig
Delmag Drill Rig
Bauer BG45 Drill Rig
Jerome J505 Mercury Vapor Analyzer
RKI GX-6000 Photoionization Detector (PID)
Aeroqual ASQ1 Air Monitoring Station

PRESENT AT SITE: **Day 183**
Langan (Environmental/Geotechnical) Jack Millman, Aron Farber, Anastassios Balaouras
Suffolk Construction (Suffolk) (General Contractor) Anthony Galu, Wyatt Favia
East Coast Drilling, Inc. (ECD) (Foundation Contractor) Danny Rodgers
New York State Department of Environmental Conservation (NYSDEC) Marnie Chancey
Earth Efficient Yinette Batista

OBSERVATIONS, DISCUSSIONS, TEST RESULTS, ETC.:

Langan was present to document remediation activities in accordance with the NYSDEC-approved November 2021 Remedial Action Work Plan (RAWP) at the 250 Water Street site (NYSDEC Brownfield Cleanup Program [BCP] Site No C231127).

Site Activities

- ECD continued assembly of the Bauer BG45 drill rig in preparation for deep soil mix column installation along the perimeter of the site.
- ECD relocated a section of the perimeter construction fencing along Peck Slip for future equipment staging in the eastern part of the site.
- ECD used an ABI Mobilram drill rig to install one soldier pile to about 35 feet below grade surface (bgs) for support-of-excavation (SOE) installation in the northwest part of the site (Pearl Street). ECD's drill rig advanced a steel rod with a soil mixing paddle at the bottom of the rod, while concurrently injecting grout through the top of the paddle and spinning and advancing the paddle downward.
    - No drilling spoils were generated during installation of the soldier piles.
    - Excess grout was contained within a temporary trench adjacent to the drilling area and will be managed as construction and demolition (C&D) debris at a later date.
- ECD graded an about 15-foot-long by 30-foot-wide area and placed imported 1.5-inch virgin stone across the area to create a level surface for equipment staging in the southern part of the site.
    - Graded soil/fill was screened for odors, staining, organic vapors, and mercury vapor using a handheld photoionization detector (PID) and handheld Jerome® J505 mercury vapor analyzer, respectively. No evidence of impacts was observed.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Material Tracking

- ECD exported one truckload (about 20 cubic yards [CY]) of C&D debris (previously demolished concrete and asphalt) for off-site disposal at the Earth Efficient MSM facility located in East Stroudsburg, PA.
- ECD imported two truckloads (49.08 tons) of 1.5-inch virgin stone from the Stone Industries Inc. facility, located in Haledon, NJ.

Material Import Summary

Facility Name Location Type of Material	Stone Industries, Inc. Haledon, NJ 1.5/2.5-inch Virgin Stone		Stone Industries, Inc. Haledon, NJ 0.75-inch Virgin Stone		Impact Reuse & Recovery Center or Impact Materials Jersey City, Lyndhurst/Jersey City, NJ 1.5-inch Clean Bluestone		Impact Reuse & Recovery Center, Lyndhurst, NJ General Fill	
Quantities	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)
Today	2	49.08	0	0	0	0	0	0
Project Total	12	283.91	0	0	15	339.65	374	9,157.85
NYSDEC Approved:	1,800 tons*				720 tons*		19,500 tons*	

*0.75-inch, 1.5-inch, and 2.5-inch virgin stone from the Stone Industries, Inc. facility and 1.5-inch clean bluestone from the Impact Reuse & Recovery Center (IRRC) facility were approved for import of 1,000 cubic yards (CY) and 400 CY, respectively. Assuming a conversion factor of 1.8, each quantity was converted to tons in order to accurately compare with import weight tickets. General fill from the IRRC facility was approved for import of 13,000 CY and a conversion factor of 1.5 is applied.

Material Export Summary (1 of 3)

Facility Name Location Type of Material	Allocco Recycling Brooklyn, NY Construction & Demolition (C&D) Debris		IRRC Lyndhurst, NJ C&D Debris		Earth Efficient MSM East Stroudsburg, PA C&D Debris		Clean Earth of North Jersey Kearny, NJ Hazardous Lead-Impacted Soil/Fill	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	1	20	0	0
Project Total	5	85	42	840	15	300	95	1,900

Material Export Summary (2 of 3)

Facility Name Location Type of Material	Middlesex County Landfill East Brunswick, NJ Non-hazardous Soil/Fill		Bayshore Soil Management Keasbey, NJ Petroleum-Impacted Soil/Fill		Clean Earth of Carteret, NJ Carteret, NJ Non-hazardous Soil/Fill	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	0	0
Project Total	263	5,260	267	5,340	66	1,320

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Material Export Summary (3 of 3)		
Facility Name **Location** **Type of Material**	**Clean Earth of North Jersey** **Kearny, NJ** **Non-hazardous Soil/Fill**	
Quantities	No. of Loads	Approx. Volume (CY)
Today	0	0
Project Total	216	4,320

Sampling

- No samples were collected.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

CAMP Activities

Langan performed air monitoring at the perimeter of the site, at the northern sidewalk of Pearl Street, at the western sidewalk of Beekman Street, at the eastern sidewalk of Peck Slip, and at the southern sidewalk of Water Street at eight total locations for mercury vapor, volatile organic compounds (VOCs), and particulate matter less than 10 microns in diameter (PM10) from about 6:59am to 4:05pm. There were no fifteen-minute average concentrations for mercury vapor, VOCs or PM10 that approached or exceeded the action levels established by the CAMP (1.00 µg/m^3, 5.0 ppm, or 0.100 mg/m^3, respectively).

Background Concentrations

Prior to implementation of CAMP, instantaneous background concentrations of mercury vapor and VOCs were recorded using a handheld Jerome® J505 mercury vapor analyzer and a handheld PID, respectively.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

Perimeter and Work Zone Concentrations

Daily Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.006	0.00	0.01
PM-2	0.006	0.00	0.01
PM-3	0.005	0.00	0.01
PM-4	0.006	0.00	0.02
WZ-1	0.005	0.00	0.00
WZ-2	0.005	0.00	0.00
WZ-3	0.005	0.00	0.01
WZ-4	0.006	0.00	0.01

Maximum 15-Minute-Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.008	0.01	0.14
PM-2	0.013	0.06	0.02
PM-3	0.009	0.01	0.16
PM-4	0.010	0.04	0.13
WZ-1	0.009	0.00	0.01
WZ-2	0.008	0.05	0.00
WZ-3	0.007	0.01	0.01
WZ-4	0.009	0.02	0.02

●mg/m^3 = milligrams per cubic meter ●ppm = parts per million ●µg/m^3 = micrograms per cubic meter

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Ambient Air (Handheld Jerome® J505 and Handheld PID)

- The dedicated mobile monitor (Langan) used a handheld Jerome® J505 mercury vapor analyzer to monitor ambient air conditions at various heights throughout the site. Instantaneous mercury vapor concentrations throughout the site ranged from 0.00 µg/m^3 to 0.17 µg/m^3.
- The dedicated mobile monitor (Langan) used a handheld PID to monitor VOC concentrations throughout the site. Instantaneous VOC concentrations were not detected above background concentrations throughout the workday.

Off-site CAMP Stations

- CAMP station WZ-1 was placed on the western sidewalk of Beekman Street from about 6:30am to 4:17pm.
- CAMP station WZ-2 was placed on the southern sidewalk of Water Street from about 6:31am to 4:25pm.
- CAMP station WZ-3 was placed on the eastern sidewalk of Peck Slip from about 6:34am to 4:31pm
- CAMP station WZ-4 was placed on the northern sidewalk of Pearl Street from about 6:37am to 4:20pm.

Prior to CAMP Shutdown

Prior to discontinuing CAMP, mercury vapor and VOC concentrations were confirmed to return to background conditions at each perimeter station using the handheld Jerome® J505 mercury vapor analyzer and handheld PID, respectively. Perimeter CAMP stations were discontinued sequentially between 4:05pm and 4:15pm.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

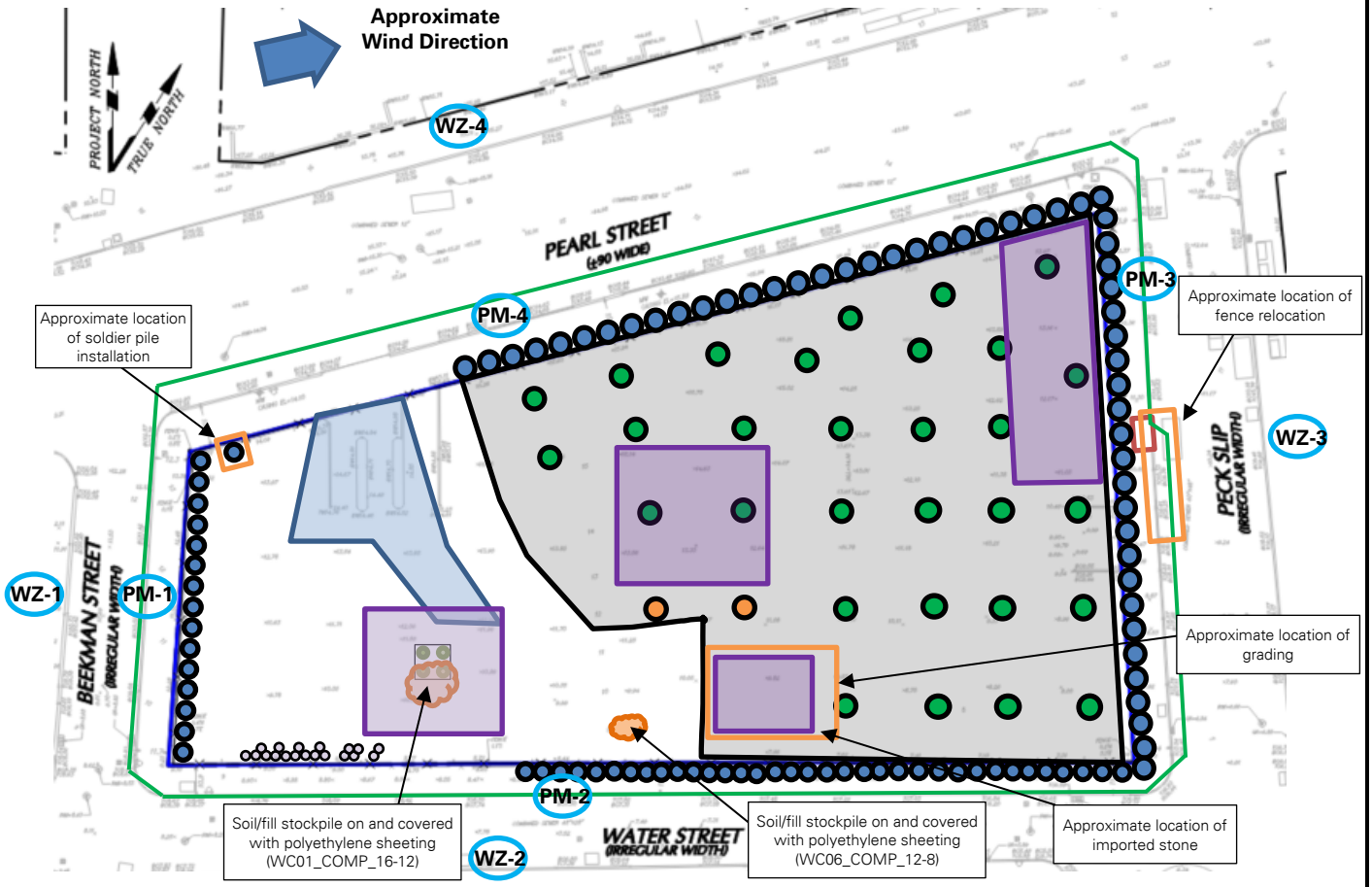
Anticipated Activities

- ECD will continue exporting C&D and soil/fill from the western part of the site for off-site disposal.
- ECD will continue installing soldier piles for SOE installation along Pearl Street.
- ECD will continue assembly of the Bauer BG45 drill rig in preparation for deep soil mix column installation along the perimeter of the site.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Site Map



Notes:
1) Locations of air monitoring stations are approximate.

Legend:

- PM-1 — Approximate Location of Air Monitoring Station
- Approximate Work Area
- Approximate Location of Installed Pile Cap
- Approximate Location of Foundation Piles Completed
- Approximate Location of Truck Tracking Pad
- Approximate Location of Underground Storage Tank
- Approximate Location of C&D Stockpile
- Approximate Location of Soil/Fill Stockpile
- Approximate Location of Soldier Pile
- Approximate Location of Soil Mix Column Installed Today
- Approximate Location of Soil Mix Column Installed Previously
- Approximate Perimeter Construction Fence Location
- Previous Excavation Area
- Approximate Location of Documentation Sample
- Approximate Location of Previously Collected Endpoint Sample
- Approximate Location of Imported Fill

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Select Site Photographs:

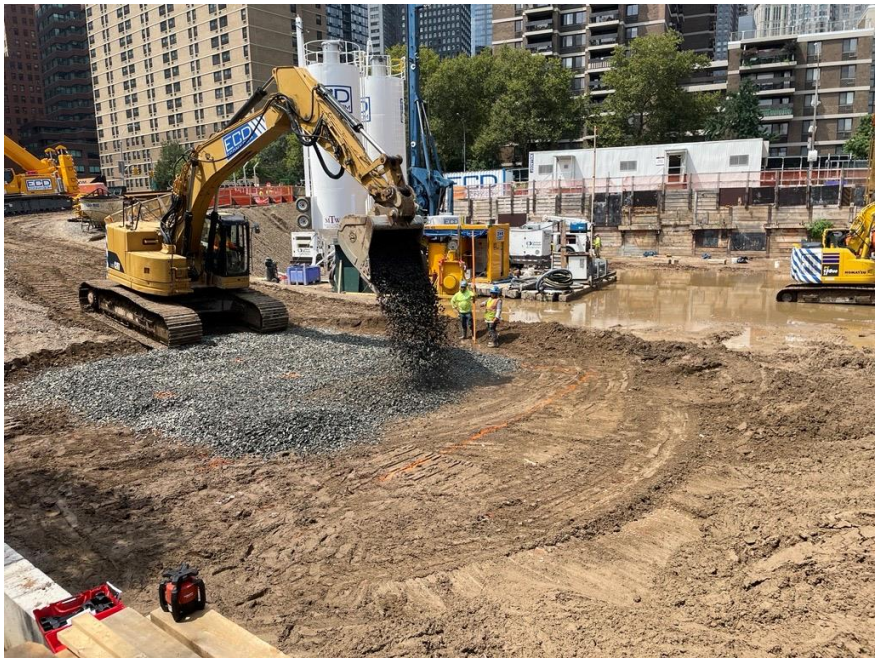


Photo 1: ECD placing imported virgin stone in the southern part of the site (facing northwest)



Photo 2: Relocated perimeter construction fencing along Peck Slip (facing northeast)

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

PROJECT No.:	170381202	**CLIENT:** 250 Seaport District, LLC c/o The Howard Hughes Corporation	**DATE:**	Thursday, August 17, 2023
PROJECT:	250 Water Street		**WEATHER:**	Partly Sunny, 72 – 78˚F Wind: SW @ 0.2 – 2.2 mph
LOCATION:	New York, NY		**TIME:**	5:45am – 5:00pm
BCP SITE ID:	C231127		**MONITOR**	Jack Millman

EQUIPMENT:
CAT 335 Excavator
CAT 328 Excavator
Komatsu PC138 Excavator
ABI Mobilram Drill Rig
Delmag Drill Rig
Bauer BG45 Drill Rig
Jerome J505 Mercury Vapor Analyzer
RKI GX-6000 Photoionization Detector (PID)
Aeroqual ASQ1 Air Monitoring Station

PRESENT AT SITE: **Day 184**
Langan (Environmental/Geotechnical) Jack Millman, Aron Farber, Michael Cole, Anastassios Balaouras
Suffolk Construction (Suffolk) (General Contractor) Anthony Galu, Wyatt Favia
East Coast Drilling, Inc. (ECD) (Foundation Contractor) Danny Rodgers
New York State Department of Environmental Conservation (NYSDEC) Marnie Chancey

OBSERVATIONS, DISCUSSIONS, TEST RESULTS, ETC.:

Langan was present to document remediation activities in accordance with the NYSDEC-approved November 2021 Remedial Action Work Plan (RAWP) at the 250 Water Street site (NYSDEC Brownfield Cleanup Program [BCP] Site No C231127).

Site Activities

- ECD continued assembly of the Bauer BG45 drill rig in preparation for deep soil mix column installation along the perimeter of the site.
- ECD relocated a section of the perimeter construction fencing along Peck Slip for future equipment staging in the eastern part of the site.
- ECD used an ABI Mobilram drill rig to install four soldier piles to a depth of about 35 feet below grade surface (bgs) for support-of-excavation (SOE) installation in the northwest part of the site (Pearl Street). ECD's drill rig advanced a steel rod with a soil mixing paddle at the bottom of the rod, while concurrently injecting grout through the top of the paddle and spinning and advancing the paddle downward.
    - No drilling spoils were generated during installation of the soldier piles.
    - Excess grout was contained within a temporary trench adjacent to the drilling area and will be managed as construction and demolition (C&D) debris at a later date.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Material Tracking

- No material was exported from the site.
- No material was imported to the site.

Material Import Summary

Facility Name Location Type of Material	Stone Industries, Inc. Haledon, NJ 1.5/2.5-inch Virgin Stone		Stone Industries, Inc. Haledon, NJ 0.75-inch Virgin Stone		Impact Reuse & Recovery Center or Impact Materials Jersey City, Lyndhurst/Jersey City, NJ 1.5-inch Clean Bluestone		Impact Reuse & Recovery Center, Lyndhurst, NJ General Fill	
Quantities	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)
Today	0	0	0	0	0	0	0	0
Project Total	12	283.91	0	0	15	339.65	374	9,157.85
NYSDEC Approved:	1,800 tons*				720 tons*		19,500 tons*	

*0.75-inch, 1.5-inch, and 2.5-inch virgin stone from the Stone Industries, Inc. facility and 1.5-inch clean bluestone from the Impact Reuse & Recovery Center (IRRC) facility were approved for import of 1,000 cubic yards (CY) and 400 CY, respectively. Assuming a conversion factor of 1.8, each quantity was converted to tons in order to accurately compare with import weight tickets. General fill from the IRRC facility was approved for import of 13,000 CY and a conversion factor of 1.5 is applied.

Material Export Summary (1 of 3)

Facility Name Location Type of Material	Allocco Recycling Brooklyn, NY Construction & Demolition (C&D) Debris		IRRC Lyndhurst, NJ C&D Debris		Earth Efficient MSM East Stroudsburg, PA C&D Debris		Clean Earth of North Jersey Kearny, NJ Hazardous Lead-Impacted Soil/Fill	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	0	0	0	0
Project Total	5	85	42	840	15	300	95	1,900

Material Export Summary (2 of 3)

Facility Name Location Type of Material	Middlesex County Landfill East Brunswick, NJ Non-hazardous Soil/Fill		Bayshore Soil Management Keasbey, NJ Petroleum-Impacted Soil/Fill		Clean Earth of Carteret, NJ Carteret, NJ Non-hazardous Soil/Fill	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	0	0
Project Total	263	5,260	267	5,340	66	1,320

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Material Export Summary (3 of 3)		
Facility Name **Location** **Type of Material**	**Clean Earth of North Jersey** **Kearny, NJ** **Non-hazardous Soil/Fill**	
Quantities	No. of Loads	Approx. Volume (CY)
Today	0	0
Project Total	216	4,320

Sampling

- No samples were collected.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

CAMP Activities

Langan performed air monitoring at the perimeter of the site, at the northern sidewalk of Pearl Street, at the western sidewalk of Beekman Street, at the eastern sidewalk of Peck Slip, and at the southern sidewalk of Water Street at eight total locations for mercury vapor, volatile organic compounds (VOCs), and particulate matter less than 10 microns in diameter (PM10) from about 6:42am to 4:23pm. There were no fifteen-minute average concentrations for mercury vapor, VOCs or PM10 that approached or exceeded the action levels established by the CAMP (1.00 µg/m^3, 5.0 ppm, or 0.100 mg/m^3, respectively).

Background Concentrations

Prior to implementation of CAMP, instantaneous background concentrations of mercury vapor and VOCs were recorded using a handheld Jerome® J505 mercury vapor analyzer and a handheld PID, respectively.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

Perimeter and Work Zone Concentrations

Daily Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.006	0.00	0.01
PM-2	0.007	0.01	0.01
PM-3	0.006	0.00	0.01
PM-4	0.007	0.00	0.02
WZ-1	0.005	0.00	0.00
WZ-2	0.006	0.00	0.00
WZ-3	0.006	0.00	0.01
WZ-4	0.006	0.00	0.01

Maximum 15-Minute-Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.009	0.00	0.11
PM-2	0.013	0.11	0.02
PM-3	0.010	0.01	0.05
PM-4	0.010	0.00	0.12
WZ-1	0.006	0.00	0.01
WZ-2	0.008	0.00	0.01
WZ-3	0.007	0.01	0.01
WZ-4	0.008	0.01	0.02

●mg/m^3 = milligrams per cubic meter ●ppm = parts per million ●µg/m^3 = micrograms per cubic meter

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Ambient Air (Handheld Jerome® J505 and Handheld PID)

- The dedicated mobile monitor (Langan) used a handheld Jerome® J505 mercury vapor analyzer to monitor ambient air conditions at various heights throughout the site. Instantaneous mercury vapor concentrations throughout the site ranged from 0.00 µg/m^3 to 0.14 µg/m^3.
- The dedicated mobile monitor (Langan) used a handheld PID to monitor VOC concentrations throughout the site. Instantaneous VOC concentrations were not detected above background concentrations throughout the workday.

Off-site CAMP Stations

- CAMP station WZ-1 was placed on the western sidewalk of Beekman Street from about 6:32am to 4:01pm.
- CAMP station WZ-2 was placed on the southern sidewalk of Water Street from about 6:30am to 4:05pm.
- CAMP station WZ-3 was placed on the eastern sidewalk of Peck Slip from about 6:27am to 4:16pm
- CAMP station WZ-4 was placed on the northern sidewalk of Pearl Street from about 6:24am to 4:11pm.

Prior to CAMP Shutdown

Prior to discontinuing CAMP, mercury vapor and VOC concentrations were confirmed to return to background conditions at each perimeter station using the handheld Jerome® J505 mercury vapor analyzer and handheld PID, respectively. Perimeter CAMP stations were discontinued sequentially between 4:23pm and 4:34pm.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

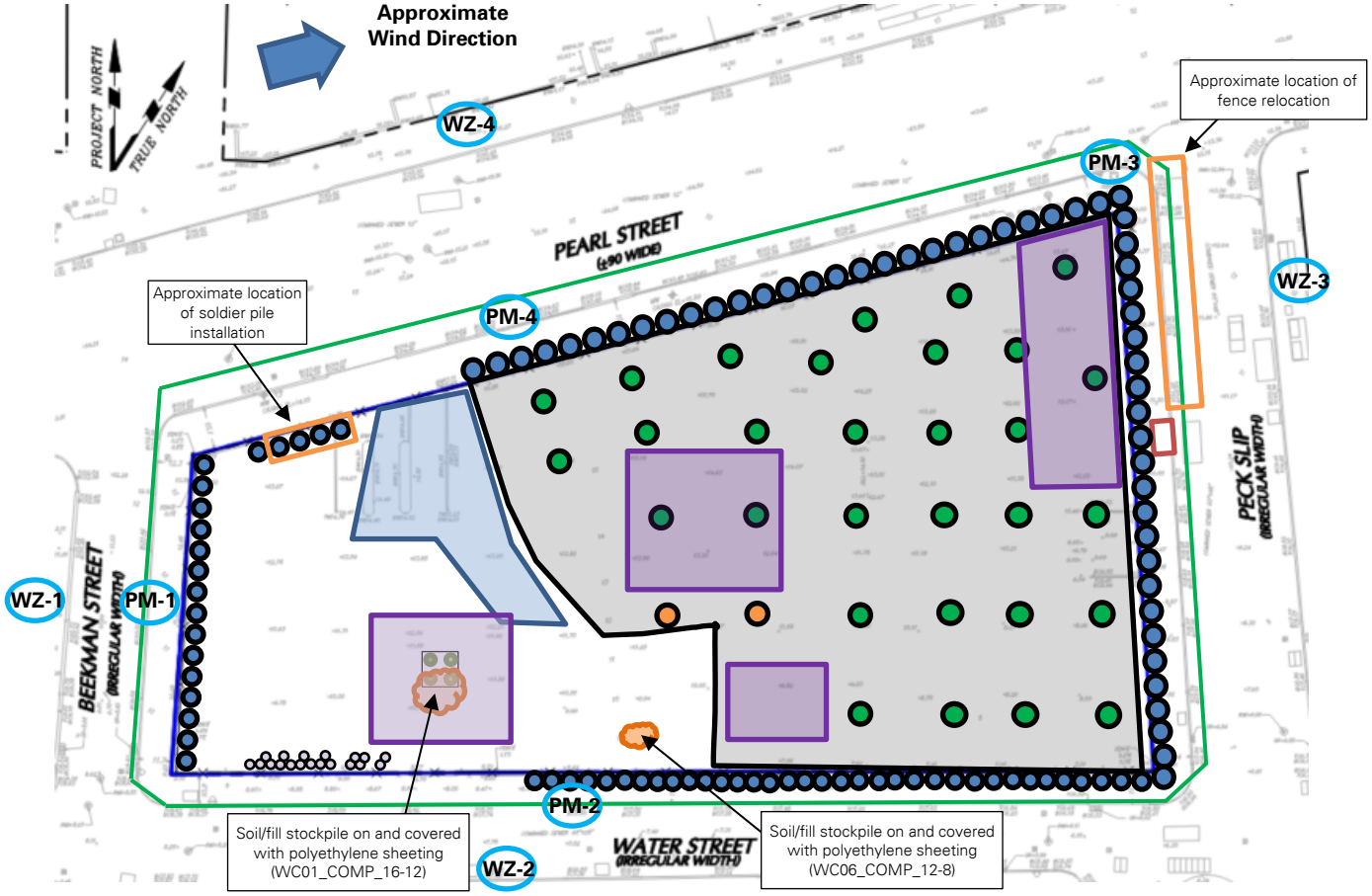
Anticipated Activities

- ECD will continue exporting C&D and soil/fill from the western part of the site for off-site disposal.
- ECD will continue installing soldier piles for SOE installation along Pearl Street.
- ECD will continue assembly of the Bauer BG45 drill rig in preparation for deep soil mix column installation along the perimeter of the site.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Site Map



Notes:
1) Locations of air monitoring stations are approximate.

Legend:

- PM-1 — Approximate Location of Air Monitoring Station
- Approximate Work Area
- Approximate Location of Installed Pile Cap
- Approximate Location of Foundation Piles Completed
- Approximate Location of Truck Tracking Pad
- Approximate Location of Underground Storage Tank
- Approximate Location of C&D Stockpile
- Approximate Location of Soil/Fill Stockpile
- Approximate Location of Soldier Pile
- Approximate Location of Soil Mix Column Installed Today
- Approximate Location of Soil Mix Column Installed Previously
- Approximate Perimeter Construction Fence Location
- Previous Excavation Area
- Approximate Location of Documentation Sample
- Approximate Location of Previously Collected Endpoint Sample
- Approximate Location of Imported Fill

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Select Site Photographs:



Photo 1: ECD installing a soldier pile in the northwest part of the site (facing west)



Photo 2: Relocated perimeter construction fencing along Peck Slip (facing southeast)

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

PROJECT No.:	170381202	**CLIENT:** 250 Seaport District, LLC c/o The Howard Hughes Corporation	**DATE:**	Friday, August 18, 2023
PROJECT:	250 Water Street		**WEATHER:**	Partly Cloudy/Rain, 70 – 80˚F Wind: NNW @ 0.1 – 1.6 mph
LOCATION:	New York, NY		**TIME:**	5:45am – 4:45pm
BCP SITE ID:	C231127		**MONITOR**	Jack Millman

EQUIPMENT:
CAT 335 Excavator
CAT 328 Excavator
Komatsu PC138 Excavator
ABI Mobilram Drill Rig
Delmag Drill Rig
Bauer BG45 Drill Rig
Jerome J505 Mercury Vapor Analyzer
RKI GX-6000 Photoionization Detector (PID)
Aeroqual ASQ1 Air Monitoring Station

PRESENT AT SITE: **Day 185**
Langan (Environmental/Geotechnical) Jack Millman, Michael Cole, Anastassios Balaouras
Suffolk Construction (Suffolk) (General Contractor) Anthony Galu, Wyatt Favia
East Coast Drilling, Inc. (ECD) (Foundation Contractor) Danny Rodgers
New York State Department of Environmental Conservation (NYSDEC) Marnie Chancey

OBSERVATIONS, DISCUSSIONS, TEST RESULTS, ETC.:

Langan was present to document remediation activities in accordance with the NYSDEC-approved November 2021 Remedial Action Work Plan (RAWP) at the 250 Water Street site (NYSDEC Brownfield Cleanup Program [BCP] Site No C231127).

Site Activities

- ECD continued assembly of the Bauer BG45 drill rig in preparation for deep soil mix column installation along the perimeter of the site.
- ECD relocated a section of the perimeter construction fencing along Water Street for future equipment staging in the southern part of the site.
- ECD used an ABI Mobilram drill rig to install two soldier piles to a depth of about 35 feet below grade surface (bgs) for support-of-excavation (SOE) installation in the northwest part of the site (Pearl Street). ECD's drill rig advanced a steel rod with a soil mixing paddle at the bottom of the rod, while concurrently injecting grout through the top of the paddle and spinning and advancing the paddle downward.
    - No drilling spoils were generated during installation of the soldier piles.
    - Excess grout was contained within a temporary trench adjacent to the drilling area and will be managed as construction and demolition (C&D) debris at a later date.
- ECD excavated an about 10-foot-long by 5-foot-wide area to a maximum depth of about 8 feet bgs to identify potential subsurface utilities and/or obstructions prior to SOE installation in the northwest part of the site (along Beekman Street).
    - Excavated soil/fill was temporarily stockpiled adjacent to the work area and was screened for odors, staining, organic vapors, and mercury vapor using a handheld photoionization detector (PID) and handheld Jerome® J505 mercury vapor analyzer, respectively. No evidence of impacts was observed. The excavated soil/fill was temporarily backfilled into the original location following removal of concrete obstructions.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

- ECD began mobilizing and staging equipment for the site dewatering system in the southeast part of the site (along Water Street).

Material Tracking

- No material was exported from the site.
- No material was imported to the site.

Material Import Summary

Facility Name Location Type of Material	Stone Industries, Inc. Haledon, NJ 1.5/2.5-inch Virgin Stone		Stone Industries, Inc. Haledon, NJ 0.75-inch Virgin Stone		Impact Reuse & Recovery Center or Impact Materials Jersey City, Lyndhurst/Jersey City, NJ 1.5-inch Clean Bluestone		Impact Reuse & Recovery Center, Lyndhurst, NJ General Fill	
Quantities	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)
Today	0	0	0	0	0	0	0	0
Project Total	12	283.91	0	0	15	339.65	374	9,157.85
NYSDEC Approved:	1,800 tons*				720 tons*		19,500 tons*	

*0.75-inch, 1.5-inch, and 2.5-inch virgin stone from the Stone Industries, Inc. facility and 1.5-inch clean bluestone from the Impact Reuse & Recovery Center (IRRC) facility were approved for import of 1,000 cubic yards (CY) and 400 CY, respectively. Assuming a conversion factor of 1.8, each quantity was converted to tons in order to accurately compare with import weight tickets. General fill from the IRRC facility was approved for import of 13,000 CY and a conversion factor of 1.5 is applied.

Material Export Summary (1 of 3)

Facility Name Location Type of Material	Allocco Recycling Brooklyn, NY Construction & Demolition (C&D) Debris		IRRC Lyndhurst, NJ C&D Debris		Earth Efficient MSM East Stroudsburg, PA C&D Debris		Clean Earth of North Jersey Kearny, NJ Hazardous Lead-Impacted Soil/Fill	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	0	0	0	0
Project Total	5	85	42	840	15	300	95	1,900

Material Export Summary (2 of 3)

Facility Name Location Type of Material	Middlesex County Landfill East Brunswick, NJ Non-hazardous Soil/Fill		Bayshore Soil Management Keasbey, NJ Petroleum-Impacted Soil/Fill		Clean Earth of Carteret, NJ Carteret, NJ Non-hazardous Soil/Fill	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	0	0
Project Total	263	5,260	267	5,340	66	1,320

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Material Export Summary (3 of 3)		
Facility Name **Location** **Type of Material**	**Clean Earth of North Jersey** **Kearny, NJ** **Non-hazardous Soil/Fill**	
Quantities	No. of Loads	Approx. Volume (CY)
Today	0	0
Project Total	216	4,320

Sampling

- No samples were collected.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

CAMP Activities

Langan performed air monitoring at the perimeter of the site, at the northern sidewalk of Pearl Street, at the western sidewalk of Beekman Street, at the eastern sidewalk of Peck Slip, and at the southern sidewalk of Water Street at eight total locations for mercury vapor, volatile organic compounds (VOCs), and particulate matter less than 10 microns in diameter (PM10) from about 7:00am to 3:44pm. There were no fifteen-minute average concentrations for mercury vapor, VOCs or PM10 that approached or exceeded the action levels established by the CAMP (1.00 µg/m^3, 5.0 ppm, or 0.100 mg/m^3, respectively).

Background Concentrations

Prior to implementation of CAMP, instantaneous background concentrations of mercury vapor and VOCs were recorded using a handheld Jerome® J505 mercury vapor analyzer and a handheld PID, respectively.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

Perimeter and Work Zone Concentrations

Daily Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.006	0.00	0.01
PM-2	0.004	0.00	0.01
PM-3	0.004	0.00	0.01
PM-4	0.004	0.00	0.01
WZ-1	0.005	0.00	0.00
WZ-2	0.003	0.00	0.00
WZ-3	0.004	0.00	0.01
WZ-4	0.004	0.00	0.02

Maximum 15-Minute-Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.023	0.01	0.06
PM-2	0.007	0.02	0.02
PM-3	0.006	0.03	0.04
PM-4	0.006	0.05	0.05
WZ-1	0.009	0.00	0.01
WZ-2	0.007	0.04	0.00
WZ-3	0.006	0.01	0.01
WZ-4	0.006	0.00	***** 0.52

●mg/m^3 = milligrams per cubic meter ●ppm = parts per million ●µg/m^3 = micrograms per cubic meter

***** Two consecutive mercury vapor readings were recorded at 3.88 µg/m^3 at off-site CAMP station WZ-4 (located at an upgradient wind direction from the site) between 10:33am and 10:34am. The detections occurred during a

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

scheduled work break by ECD; no ground-intrusive activities were ongoing, and no on-site source was detected at the on-site CAMP stations. The 15-minute time-weighted-average (TWA) action level of 1.00µg/m^3 was not exceeded as a result of the mercury vapor detections.

Ambient Air (Handheld Jerome® J505 and Handheld PID)

- The dedicated mobile monitor (Langan) used a handheld Jerome® J505 mercury vapor analyzer to monitor ambient air conditions at various heights throughout the site. Instantaneous mercury vapor concentrations throughout the site ranged from 0.00 µg/m^3 to 0.16 µg/m^3.
- The dedicated mobile monitor (Langan) used a handheld PID to monitor VOC concentrations throughout the site. Instantaneous VOC concentrations were not detected above background concentrations throughout the workday.

Off-site CAMP Stations

- CAMP station WZ-1 was placed on the western sidewalk of Beekman Street from about 6:41am to 3:59pm.
- CAMP station WZ-2 was placed on the southern sidewalk of Water Street from about 6:43am to 4:04pm.
- CAMP station WZ-3 was placed on the eastern sidewalk of Peck Slip from about 6:45am to 4:21pm
- CAMP station WZ-4 was placed on the northern sidewalk of Pearl Street from about 6:47am to 4:12pm.

Prior to CAMP Shutdown

Prior to discontinuing CAMP, mercury vapor and VOC concentrations were confirmed to return to background conditions at each perimeter station using the handheld Jerome® J505 mercury vapor analyzer and handheld PID, respectively. Perimeter CAMP stations were discontinued sequentially between 3:44pm and 3:53pm.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

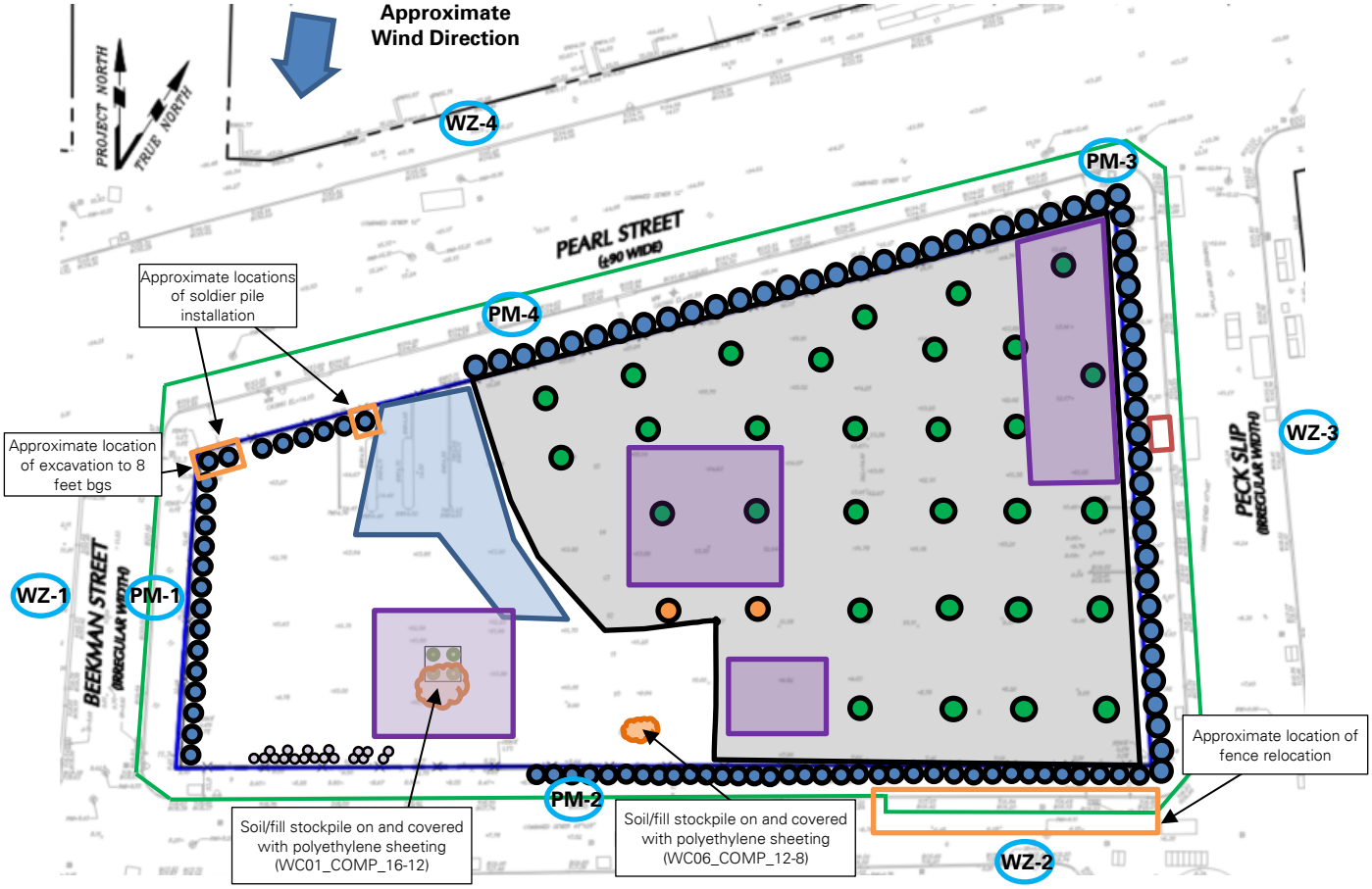
Anticipated Activities

- ECD will continue exporting C&D and soil/fill from the western part of the site for off-site disposal.
- ECD will continue installing soldier piles for SOE installation along Pearl Street.
- ECD will continue assembly of the Bauer BG45 drill rig in preparation for deep soil mix column installation along the perimeter of the site.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Site Map



Notes:
1) Locations of air monitoring stations are approximate.

Legend:

- PM-1 — Approximate Location of Air Monitoring Station
- Approximate Work Area
- Approximate Location of Installed Pile Cap
- Approximate Location of Foundation Piles Completed
- Approximate Location of Truck Tracking Pad
- Approximate Location of Underground Storage Tank
- Approximate Location of C&D Stockpile
- Approximate Location of Soil/Fill Stockpile
- Approximate Location of Soldier Pile
- Approximate Location of Soil Mix Column Installed Today
- Approximate Location of Soil Mix Column Installed Previously
- Approximate Perimeter Construction Fence Location
- Previous Excavation Area
- Approximate Location of Documentation Sample
- Approximate Location of Previously Collected Endpoint Sample
- Approximate Location of Imported Fill

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Select Site Photographs:



Photo 1: ECD installing a soldier pile for SOE installation in the northwest part of the site (facing southwest)



Photo 2: CAMP station WZ-2 on the southern sidewalk of Water Street (facing northeast)

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

PROJECT No.:	170381202	**CLIENT:** 250 Seaport District, LLC c/o The Howard Hughes Corporation	**DATE:**	Monday, August 21, 2023
PROJECT:	250 Water Street		**WEATHER:**	Sunny, 72 – 86˚ F Wind: N @ 0.14 – 1.62 mph
LOCATION:	New York, NY		**TIME:**	5:30am – 5:30pm
BCP SITE ID:	C231127		**MONITOR**	Jack Millman

EQUIPMENT:
CAT 335 Excavator
CAT 328 Excavator
Komatsu PC138 Excavator
ABI Mobilram Drill Rig
Delmag Drill Rig
Bauer BG45 Drill Rig
Jerome J505 Mercury Vapor Analyzer
RKI GX-6000 Photoionization Detector (PID)
Aeroqual ASQ1 Air Monitoring Station

PRESENT AT SITE: **Day 186**
Langan (Environmental/Geotechnical) Jack Millman, Michael Cole, Pepper Greenley, Paul McMahon, Anastassios Balaouras
Suffolk Construction (Suffolk) (General Contractor) Anthony Galu, Wyatt Favia
East Coast Drilling, Inc. (ECD) (Foundation Contractor) Danny Rodgers
New York State Department of Environmental Conservation (NYSDEC) Rafi Alam, Shawn Roberts

OBSERVATIONS, DISCUSSIONS, TEST RESULTS, ETC.:

Langan was present to document remediation activities in accordance with the NYSDEC-approved November 2021 Remedial Action Work Plan (RAWP) at the 250 Water Street site (NYSDEC Brownfield Cleanup Program [BCP] Site No C231127).

Site Activities

- ECD excavated previously imported fill in an about 10-foot-long by 10-foot-wide area to a maximum depth of about 4 feet below grade surface (bgs) in the eastern part of the site to create a temporary containment area for excess grout generated from support of excavation (SOE) installation along the eastern boundary of the site (along Peck Slip).
    - Excavated soil/fill was temporarily stockpiled adjacent to the work area and was screened for odors, staining, organic vapors, and mercury vapor using a handheld photoionization detector (PID) and handheld Jerome® J505 mercury vapor analyzer, respectively. No evidence of impacts was observed and the excavated soil/fill was temporarily graded into the adjacent area.
- ECD used a Bauer BG45 drill rig to install a deep soil mix column for SOE installation in the eastern part of the site (along Peck Slip). ECD's drill rig advanced a steel rod with two cutter blades at the bottom of the rod, while concurrently injecting grout through the cutting head and spinning and advancing the blades downward to about 70 feet bgs. The soil mix column will be completed at a later date.
    - No drilling spoils were generated during installation of the soil mix column
    - Excess grout was contained within a temporary containment area in the eastern part of the site and will be managed as construction and demolition (C&D) debris at a later date.
- ECD continued mobilizing and staging equipment for the site dewatering system in the southeast part of the site (along Water Street).

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Material Tracking

- No material was exported from the site.
- No material was imported to the site.

Material Import Summary

Facility Name Location Type of Material	Stone Industries, Inc. Haledon, NJ 1.5/2.5-inch Virgin Stone		Stone Industries, Inc. Haledon, NJ 0.75-inch Virgin Stone		Impact Reuse & Recovery Center or Impact Materials Jersey City, Lyndhurst/Jersey City, NJ 1.5-inch Clean Bluestone		Impact Reuse & Recovery Center, Lyndhurst, NJ General Fill	
Quantities	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)
Today	0	0	0	0	0	0	0	0
Project Total	12	283.91	0	0	15	339.65	374	9,157.85
NYSDEC Approved:	1,800 tons*				720 tons*		19,500 tons*	

*0.75-inch, 1.5-inch, and 2.5-inch virgin stone from the Stone Industries, Inc. facility and 1.5-inch clean bluestone from the Impact Reuse & Recovery Center (IRRC) facility were approved for import of 1,000 cubic yards (CY) and 400 CY, respectively. Assuming a conversion factor of 1.8, each quantity was converted to tons in order to accurately compare with import weight tickets. General fill from the IRRC facility was approved for import of 13,000 CY and a conversion factor of 1.5 is applied.

Material Export Summary (1 of 3)

Facility Name Location Type of Material	Allocco Recycling Brooklyn, NY Construction & Demolition (C&D) Debris		IRRC Lyndhurst, NJ C&D Debris		Earth Efficient MSM East Stroudsburg, PA C&D Debris		Clean Earth of North Jersey Kearny, NJ Hazardous Lead-Impacted Soil/Fill	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	0	0	0	0
Project Total	5	85	42	840	15	300	95	1,900

Material Export Summary (2 of 3)

Facility Name Location Type of Material	Middlesex County Landfill East Brunswick, NJ Non-hazardous Soil/Fill		Bayshore Soil Management Keasbey, NJ Petroleum-Impacted Soil/Fill		Clean Earth of Carteret, NJ Carteret, NJ Non-hazardous Soil/Fill	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	0	0
Project Total	263	5,260	267	5,340	66	1,320

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Material Export Summary (3 of 3)		
Facility Name **Location** **Type of Material**	**Clean Earth of North Jersey** **Kearny, NJ** **Non-hazardous Soil/Fill**	
Quantities	No. of Loads	Approx. Volume (CY)
Today	0	0
Project Total	216	4,320

Sampling

- No samples were collected.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

CAMP Activities

Langan performed air monitoring at the perimeter of the site, at the northern sidewalk of Pearl Street, at the western sidewalk of Beekman Street, at the eastern sidewalk of Peck Slip, and at the southern sidewalk of Water Street at eight total locations for mercury vapor, volatile organic compounds (VOCs), and particulate matter less than 10 microns in diameter (PM10) from about 6:20am to 4:28pm. There were no fifteen-minute average concentrations for mercury vapor, VOCs or PM10 that approached or exceeded the action levels established by the CAMP (1.00 µg/m^3, 5.0 ppm, or 0.100 mg/m^3, respectively).

Background Concentrations

Prior to implementation of CAMP, instantaneous background concentrations of mercury vapor and VOCs were recorded using a handheld Jerome® J505 mercury vapor analyzer and a handheld PID, respectively.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

Perimeter and Work Zone Concentrations

Daily Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.016	0.00	0.01
PM-2	0.016	0.00	0.01
PM-3	0.015	0.00	0.01
PM-4	0.015	0.00	0.02
WZ-1	0.016	0.00	0.00
WZ-2	0.015	0.01	0.00
WZ-3	0.015	0.00	0.01
WZ-4	0.015	0.00	0.01

Maximum 15-Minute-Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.019	0.01	0.02
PM-2	0.021	0.01	0.02
PM-3	0.019	0.00	0.03
PM-4	0.020	0.01	0.04
WZ-1	0.020	0.00	0.01
WZ-2	0.018	0.12	0.01
WZ-3	0.019	0.06	0.03
WZ-4	0.019	0.00	0.03

●mg/m^3 = milligrams per cubic meter ●ppm = parts per million ●µg/m^3 = micrograms per cubic meter

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Ambient Air (Handheld Jerome® J505 and Handheld PID)

- The dedicated mobile monitor (Langan) used a handheld Jerome® J505 mercury vapor analyzer to monitor ambient air conditions at various heights throughout the site. Instantaneous mercury vapor concentrations throughout the site ranged from 0.00 µg/m^3 to 0.13 µg/m^3.
- The dedicated mobile monitor (Langan) used a handheld PID to monitor VOC concentrations throughout the site. Instantaneous VOC concentrations were not detected above background concentrations throughout the workday.

Off-site CAMP Stations

- CAMP station WZ-1 was placed on the western sidewalk of Beekman Street from about 6:07am to 4:45pm.
- CAMP station WZ-2 was placed on the southern sidewalk of Water Street from about 6:09am to 4:50pm.
- CAMP station WZ-3 was placed on the eastern sidewalk of Peck Slip from about 6:11am to 5:01pm
- CAMP station WZ-4 was placed on the northern sidewalk of Pearl Street from about 6:14am to 5:08pm.

Prior to CAMP Shutdown

Prior to discontinuing CAMP, mercury vapor and VOC concentrations were confirmed to return to background conditions at each perimeter station using the handheld Jerome® J505 mercury vapor analyzer and handheld PID, respectively. Perimeter CAMP stations were discontinued sequentially between 4:28pm and 4:37pm.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

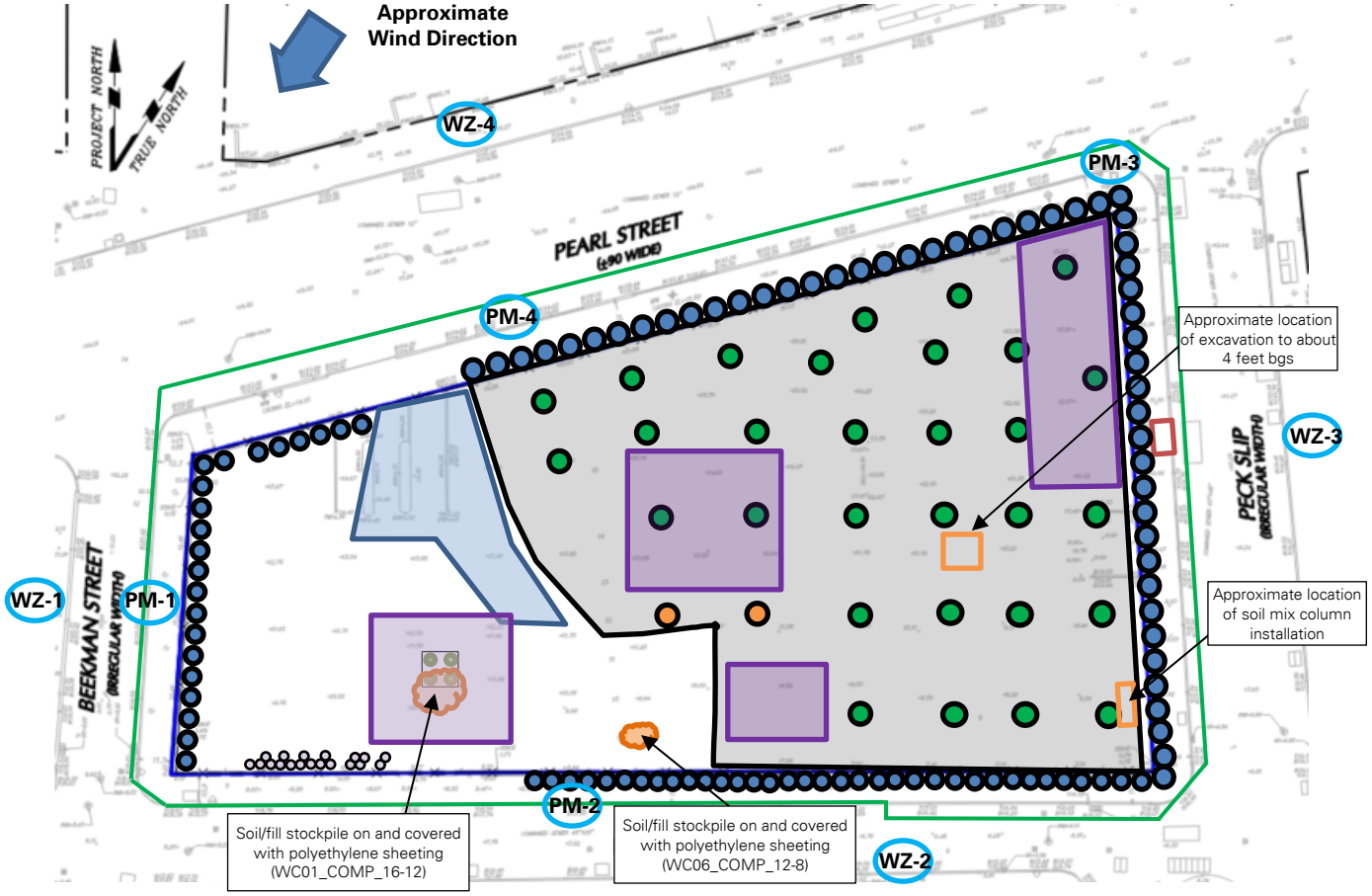
Anticipated Activities

- ECD will continue exporting C&D and soil/fill from the western part of the site for off-site disposal.
- ECD will continue installing soil mix columns and/or soldier piles for SOE installation along Pearl Street and Peck Slip.
- ECD will continue mobilizing and staging equipment for the site dewatering system in the southeast part of the site.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Site Map



Notes:
1) Locations of air monitoring stations are approximate.

Legend:

- PM-1 — Approximate Location of Air Monitoring Station
- Approximate Work Area
- Approximate Location of Installed Pile Cap
- Approximate Location of Foundation Piles Completed
- Approximate Location of Truck Tracking Pad
- Approximate Location of Underground Storage Tank
- Approximate Location of C&D Stockpile
- Approximate Location of Soil/Fill Stockpile
- Approximate Location of Soldier Pile
- Approximate Location of Soil Mix Column Installed Today
- Approximate Location of Soil Mix Column Installed Previously
- Approximate Perimeter Construction Fence Location
- Previous Excavation Area
- Approximate Location of Documentation Sample
- Approximate Location of Previously Collected Endpoint Sample
- Approximate Location of Imported Fill

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Select Site Photographs:



Photo 1: ECD installing a soil mix column in the eastern part of the site (facing northeast)



Photo 2: Dewatering tank staged in the southeast part of the site (facing southwest)

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

PROJECT No.:	170381202	**CLIENT:** 250 Seaport District, LLC c/o The Howard Hughes Corporation	**DATE:**	Tuesday, August 22, 2023
PROJECT:	250 Water Street		**WEATHER:**	Sunny, 68 – 76˚ F Wind: NW @ 0.3 – 2.5 mph
LOCATION:	New York, NY		**TIME:**	5:45am – 4:45pm
BCP SITE ID:	C231127		**MONITOR**	Jack Millman

EQUIPMENT:
CAT 335 Excavator
CAT 328 Excavator
Komatsu PC138 Excavator
ABI Mobilram Drill Rig
Delmag Drill Rig
Bauer BG45 Drill Rig
Jerome J505 Mercury Vapor Analyzer
RKI GX-6000 Photoionization Detector (PID)
Aeroqual ASQ1 Air Monitoring Station

PRESENT AT SITE: **Day 187**
Langan (Environmental/Geotechnical) Jack Millman, Michael Cole, Pepper Greenley, Anastassios Balaouras
Suffolk Construction (Suffolk) (General Contractor) Anthony Galu, Wyatt Favia
East Coast Drilling, Inc. (ECD) (Foundation Contractor) Danny Rodgers
New York State Department of Environmental Conservation (NYSDEC) Rafi Alam

OBSERVATIONS, DISCUSSIONS, TEST RESULTS, ETC.:

Langan was present to document remediation activities in accordance with the NYSDEC-approved November 2021 Remedial Action Work Plan (RAWP) at the 250 Water Street site (NYSDEC Brownfield Cleanup Program [BCP] Site No C231127).

Site Activities

- ECD excavated an about 25-foot-long by 20-foot-wide area to a maximum depth of about 5 feet below grade surface (bgs) and an about 50-foot-long by 5-foot-wide area to a maximum depth of about 3 feet bgs in the western part of the site (waste characterization cells WC01, WC02, and WC03) for removal and future off-site disposal of non-hazardous soil/fill.
    - Excavated soil/fill was screened for odors, staining, organic vapors, and mercury vapor using a handheld photoionization detector (PID) and handheld Jerome® J505 mercury vapor analyzer, respectively. No evidence of impacts was observed and the excavated soil/fill was temporarily stockpiled on and covered with polyethylene sheeting adjacent to the work area for future off-site disposal.
- ECD used a Bauer BG45 drill rig to install a deep soil mix column for support-of-excavation (SOE) installation in the eastern part of the site (along Peck Slip). ECD's drill rig advanced a steel rod with two cutter blades at the bottom of the rod, while concurrently injecting grout through the cutting head and spinning and advancing the blades downward to about 94 feet bgs.
    - No drilling spoils were generated during installation of the soil mix column.
    - Excess grout was contained within a temporary containment area in the eastern part of the site and will be managed as construction and demolition (C&D) debris at a later date.
- ECD used an ABI Mobilram drill rig to install one soldier pile to a depth of about 35 feet bgs for SOE installation in the northwest part of the site (along Pearl Street). ECD's drill rig advanced a steel rod with a soil mixing paddle at the bottom of the rod, while concurrently injecting grout through the top of the paddle and spinning and advancing the paddle downward.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

  - No drilling spoils were generated during installation of the soldier pile.
  - Excess grout was contained within a temporary trench adjacent to the drilling area and will be managed as C&D debris at a later date.
- ECD relocated a section of the perimeter construction fencing along Water Street for equipment staging in the southern part of the site.
- ECD continued mobilizing and staging equipment for the site dewatering system in the southeast part of the site (along Water Street).

Material Tracking

- No material was exported from the site.
- No material was imported to the site.

Material Import Summary

Facility Name Location Type of Material	Stone Industries, Inc. Haledon, NJ 1.5/2.5-inch Virgin Stone		Stone Industries, Inc. Haledon, NJ 0.75-inch Virgin Stone		Impact Reuse & Recovery Center or Impact Materials Jersey City, Lyndhurst/Jersey City, NJ 1.5-inch Clean Bluestone		Impact Reuse & Recovery Center, Lyndhurst, NJ General Fill	
Quantities	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)
Today	0	0	0	0	0	0	0	0
Project Total	12	283.91	0	0	15	339.65	374	9,157.85
NYSDEC Approved:	1,800 tons*				720 tons*		19,500 tons*	

*0.75-inch, 1.5-inch, and 2.5-inch virgin stone from the Stone Industries, Inc. facility and 1.5-inch clean bluestone from the Impact Reuse & Recovery Center (IRRC) facility were approved for import of 1,000 cubic yards (CY) and 400 CY, respectively. Assuming a conversion factor of 1.8, each quantity was converted to tons in order to accurately compare with import weight tickets. General fill from the IRRC facility was approved for import of 13,000 CY and a conversion factor of 1.5 is applied.

Material Export Summary (1 of 3)

Facility Name Location Type of Material	Allocco Recycling Brooklyn, NY Construction & Demolition (C&D) Debris		IRRC Lyndhurst, NJ C&D Debris		Earth Efficient MSM East Stroudsburg, PA C&D Debris		Clean Earth of North Jersey Kearny, NJ Hazardous Lead-Impacted Soil/Fill	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	0	0	0	0
Project Total	5	85	42	840	15	300	95	1,900

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Material Export Summary (2 of 3)						
Facility Name Location Type of Material	**Middlesex County Landfill East Brunswick, NJ Non-hazardous Soil/Fill**		**Bayshore Soil Management Keasbey, NJ Petroleum-Impacted Soil/Fill**		**Clean Earth of Carteret, NJ Carteret, NJ Non-hazardous Soil/Fill**	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	0	0
Project Total	263	5,260	267	5,340	66	1,320

Material Export Summary (3 of 3)		
Facility Name Location Type of Material	**Clean Earth of North Jersey Kearny, NJ Non-hazardous Soil/Fill**	
Quantities	No. of Loads	Approx. Volume (CY)
Today	0	0
Project Total	216	4,320

Sampling

- No samples were collected.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

CAMP Activities

Langan performed air monitoring at the perimeter of the site, at the northern sidewalk of Pearl Street, at the western sidewalk of Beekman Street, at the eastern sidewalk of Peck Slip, and at the southern sidewalk of Water Street at eight total locations for mercury vapor, volatile organic compounds (VOCs), and particulate matter less than 10 microns in diameter (PM10) from about 6:52am to 3:43pm. There were no fifteen-minute average concentrations for mercury vapor, VOCs or PM10 that approached or exceeded the action levels established by the CAMP (1.00 µg/m^3, 5.0 ppm, or 0.100 mg/m^3, respectively).

Background Concentrations

Prior to implementation of CAMP, instantaneous background concentrations of mercury vapor and VOCs were recorded using a handheld Jerome® J505 mercury vapor analyzer and a handheld PID, respectively.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

Perimeter and Work Zone Concentrations

Daily Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.009	0.00	0.01
PM-2	0.007	0.00	0.01
PM-3	0.007	0.00	0.00
PM-4	0.007	0.00	0.01
WZ-1	0.008	0.00	0.00
WZ-2	0.007	0.00	0.00
WZ-3	0.007	0.01	0.01
WZ-4	0.007	0.00	0.01

Maximum 15-Minute-Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.016	0.01	0.02
PM-2	0.009	0.02	0.02
PM-3	0.008	0.02	0.01
PM-4	0.009	0.02	0.03
WZ-1	0.011	0.00	0.01
WZ-2	0.009	0.02	0.00
WZ-3	0.009	0.09	0.03
WZ-4	0.009	0.00	0.02

●mg/m^3 = milligrams per cubic meter ●ppm = parts per million ●µg/m^3 = micrograms per cubic meter

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Ambient Air (Handheld Jerome® J505 and Handheld PID)

- The dedicated mobile monitor (Langan) used a handheld Jerome® J505 mercury vapor analyzer to monitor ambient air conditions at various heights throughout the site. Instantaneous mercury vapor concentrations throughout the site ranged from 0.00 µg/m^3 to 0.17 µg/m^3.
- The dedicated mobile monitor (Langan) used a handheld PID to monitor VOC concentrations throughout the site. Instantaneous VOC concentrations were not detected above background concentrations throughout the workday.

Off-site CAMP Stations

- CAMP station WZ-1 was placed on the western sidewalk of Beekman Street from about 6:25am to 3:56pm.
- CAMP station WZ-2 was placed on the southern sidewalk of Water Street from about 6:28am to 4:02pm.
- CAMP station WZ-3 was placed on the eastern sidewalk of Peck Slip from about 6:34am to 4:11pm
- CAMP station WZ-4 was placed on the northern sidewalk of Pearl Street from about 6:37am to 4:20pm.

Prior to CAMP Shutdown

Prior to discontinuing CAMP, mercury vapor and VOC concentrations were confirmed to return to background conditions at each perimeter station using the handheld Jerome® J505 mercury vapor analyzer and handheld PID, respectively. Perimeter CAMP stations were discontinued sequentially between 3:43pm and 3:51pm.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

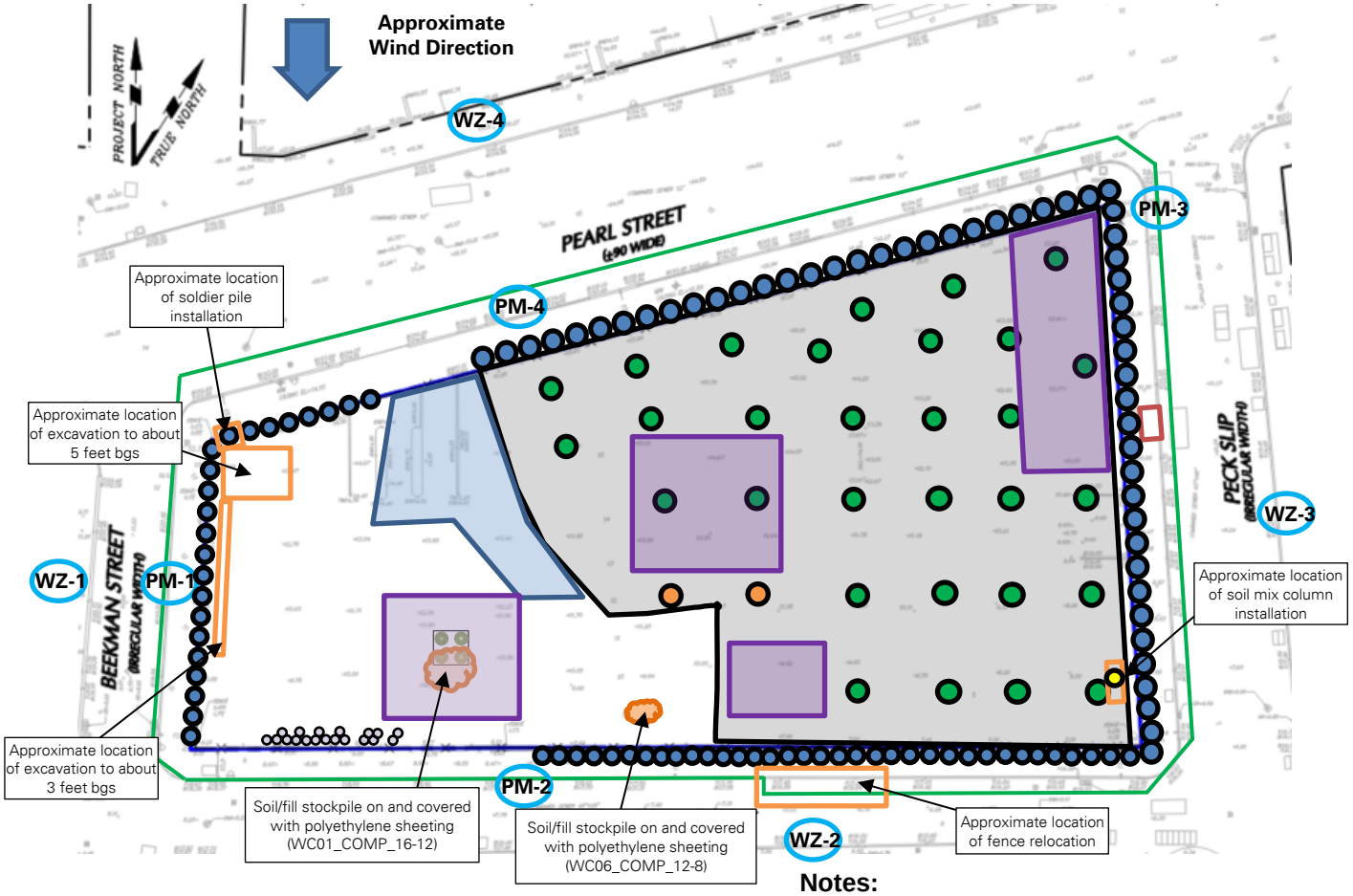
Anticipated Activities

- ECD will continue exporting C&D and soil/fill from the western part of the site for off-site disposal.
- ECD will continue installing soil mix columns and/or soldier piles for SOE installation along Pearl Street and Peck Slip.
- ECD will continue relocating the perimeter construction fencing along Water Street for equipment staging.
- ECD will continue mobilizing and staging equipment for the site dewatering system in the southeastern part of the site.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Site Map



Notes:
1) Locations of air monitoring stations are approximate.

Legend:

- PM-1 — Approximate Location of Air Monitoring Station
- Approximate Work Area
- Approximate Location of Installed Pile Cap
- Approximate Location of Foundation Piles Completed
- Approximate Location of Truck Tracking Pad
- Approximate Location of Underground Storage Tank
- Approximate Location of C&D Stockpile
- Approximate Location of Soil/Fill Stockpile
- Approximate Location of Soldier Pile
- Approximate Location of Soil Mix Column Installed Today
- Approximate Location of Soil Mix Column Installed Previously
- Approximate Perimeter Construction Fence Location
- Previous Excavation Area
- Approximate Location of Documentation Sample
- Approximate Location of Previously Collected Endpoint Sample
- Approximate Location of Imported Fill

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Select Site Photographs:



Photo 1: ECD installing a soldier pile in the northwestern part of the site (facing west)

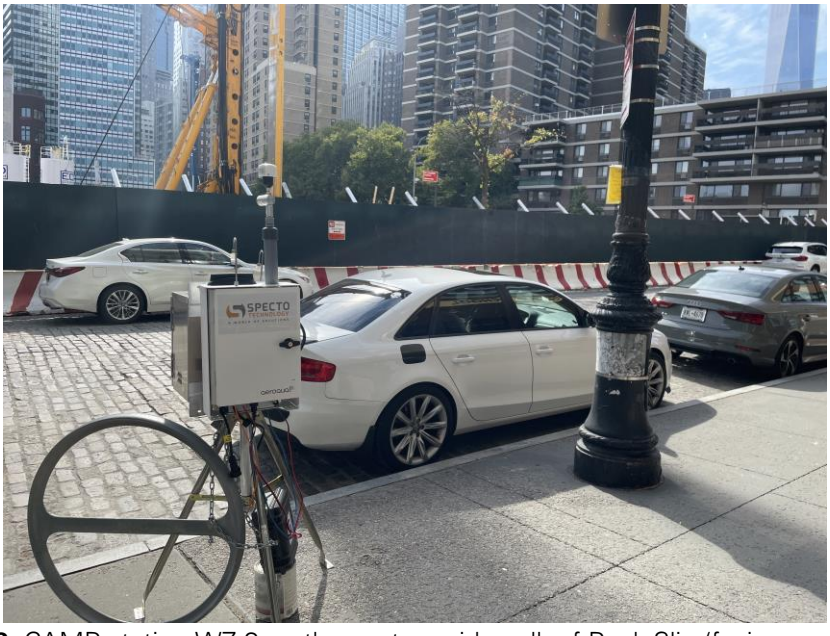


Photo 2: CAMP station WZ-3 on the eastern sidewalk of Peck Slip (facing northwest)

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

PROJECT No.:	170381202	**CLIENT:** 250 Seaport District, LLC c/o The Howard Hughes Corporation	**DATE:**	Wednesday, August 23, 2023
PROJECT:	250 Water Street		**WEATHER:**	Sunny, 65 – 80˚F Wind: WSW @ 0.2 – 2.2 mph
LOCATION:	New York, NY		**TIME:**	5:45am – 4:45pm
BCP SITE ID:	C231127		**MONITOR**	Jack Millman

EQUIPMENT:
CAT 335 Excavator
CAT 328 Excavator
Komatsu PC138 Excavator
ABI Mobilram Drill Rig
Delmag Drill Rig
Bauer BG45 Drill Rig
Jerome J505 Mercury Vapor Analyzer
RKI GX-6000 Photoionization Detector (PID)
Aeroqual ASQ1 Air Monitoring Station

PRESENT AT SITE: **Day 188**
Langan (Environmental/Geotechnical) Jack Millman, Michael Cole, Pepper Greenley, Anastassios Balaouras
Suffolk Construction (Suffolk) (General Contractor) Anthony Galu, Wyatt Favia
East Coast Drilling, Inc. (ECD) (Foundation Contractor) Danny Rodgers
New York State Department of Environmental Conservation (NYSDEC) Rafi Alam
Earth Efficient (Soil Broker) Yinette Batista and Michael DiGaetano

OBSERVATIONS, DISCUSSIONS, TEST RESULTS, ETC.:

Langan was present to document remediation activities in accordance with the NYSDEC-approved November 2021 Remedial Action Work Plan (RAWP) at the 250 Water Street site (NYSDEC Brownfield Cleanup Program [BCP] Site No C231127).

Site Activities

- ECD excavated two about 5-foot-long by 5-foot-wide areas to a maximum depth of about 4 feet below grade surface (bgs) in the eastern part of the site to create a temporary containment area for excess grout generated from support of excavation (SOE) installation along the eastern boundary of the site (along Peck Slip).
    - Excavated soil/fill was temporarily stockpiled adjacent to the work area and was screened for odors, staining, organic vapors, and mercury vapor using a handheld photoionization detector (PID) and handheld Jerome® J505 mercury vapor analyzer, respectively. No evidence of impacts was observed and the excavated soil/fill was temporarily graded into the adjacent area.
- ECD used a Bauer BG45 drill rig to install a deep soil mix column for SOE installation in the eastern part of the site (along Peck Slip). ECD's drill rig advanced a steel rod with two cutter blades at the bottom of the rod, while concurrently injecting grout through the cutting head and spinning and advancing the blades downward to about 75 feet bgs.
    - No drilling spoils were generated during installation of the soil mix column.
    - Excess grout was contained within a temporary containment area in the eastern part of the site and will be managed as construction and demolition (C&D) debris at a later date.
- ECD used an ABI Mobilram drill rig to install three soldier piles to a depth of about 35 feet bgs for SOE installation in the northern part of the site (along Pearl Street). ECD's drill rig advanced a steel rod with a soil mixing paddle at the bottom of the rod, while concurrently injecting grout through the top of the paddle and spinning and advancing the paddle downward.
    - No drilling spoils were generated during installation of the soldier piles.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

  - Excess grout was contained within a temporary trench adjacent to the drilling area and will be managed as C&D debris at a later date.

- ECD relocated a section of the perimeter construction fencing along Water Street for equipment staging in the southern part of the site.

Material Tracking

- ECD exported one truckload (about 20 cubic yards [CY]) of non-hazardous soil/fill from waste characterization cells WC01, WC02, and WC03 for off-site disposal at the Middlesex County Landfill, located in East Brunswick, NJ.
- No material was imported to the site.

Material Import Summary

Facility Name Location Type of Material	Stone Industries, Inc. Haledon, NJ 1.5/2.5-inch Virgin Stone		Stone Industries, Inc. Haledon, NJ 0.75-inch Virgin Stone		Impact Reuse & Recovery Center or Impact Materials Jersey City, Lyndhurst/Jersey City, NJ 1.5-inch Clean Bluestone		Impact Reuse & Recovery Center, Lyndhurst, NJ General Fill	
Quantities	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)
Today	0	0	0	0	0	0	0	0
Project Total	12	283.91	0	0	15	339.65	374	9,157.85
NYSDEC Approved:	1,800 tons*				720 tons*		19,500 tons*	

*0.75-inch, 1.5-inch, and 2.5-inch virgin stone from the Stone Industries, Inc. facility and 1.5-inch clean bluestone from the Impact Reuse & Recovery Center (IRRC) facility were approved for import of 1,000 cubic yards (CY) and 400 CY, respectively. Assuming a conversion factor of 1.8, each quantity was converted to tons in order to accurately compare with import weight tickets. General fill from the IRRC facility was approved for import of 13,000 CY and a conversion factor of 1.5 is applied.

Material Export Summary (1 of 3)

Facility Name Location Type of Material	Allocco Recycling Brooklyn, NY Construction & Demolition (C&D) Debris		IRRC Lyndhurst, NJ C&D Debris		Earth Efficient MSM East Stroudsburg, PA C&D Debris		Clean Earth of North Jersey Kearny, NJ Hazardous Lead-Impacted Soil/Fill	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	0	0	0	0
Project Total	5	85	42	840	15	300	95	1,900

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Material Export Summary (2 of 3)						
Facility Name Location Type of Material	**Middlesex County Landfill East Brunswick, NJ Non-hazardous Soil/Fill**		**Bayshore Soil Management Keasbey, NJ Petroleum-Impacted Soil/Fill**		**Clean Earth of Carteret, NJ Carteret, NJ Non-hazardous Soil/Fill**	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	1	20	0	0	0	0
Project Total	264	5,280	267	5,340	66	1,320

Material Export Summary (3 of 3)		
Facility Name Location Type of Material	**Clean Earth of North Jersey Kearny, NJ Non-hazardous Soil/Fill**	
Quantities	No. of Loads	Approx. Volume (CY)
Today	0	0
Project Total	216	4,320

Sampling

- No samples were collected.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

CAMP Activities

Langan performed air monitoring at the perimeter of the site, at the northern sidewalk of Pearl Street, at the western sidewalk of Beekman Street, at the eastern sidewalk of Peck Slip, and at the southern sidewalk of Water Street at eight total locations for mercury vapor, volatile organic compounds (VOCs), and particulate matter less than 10 microns in diameter (PM10) from about 6:50am to 3:43pm. There were no fifteen-minute average concentrations for mercury vapor, VOCs or PM10 that approached or exceeded the action levels established by the CAMP (1.00 µg/m^3, 5.0 ppm, or 0.100 mg/m^3, respectively).

Background Concentrations

Prior to implementation of CAMP, instantaneous background concentrations of mercury vapor and VOCs were recorded using a handheld Jerome® J505 mercury vapor analyzer and a handheld PID, respectively.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

Perimeter and Work Zone Concentrations

Daily Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.004	0.00	0.01
PM-2	0.005	0.00	0.00
PM-3	0.003	0.00	0.00
PM-4	0.004	0.00	0.01
WZ-1	0.003	0.00	0.00
WZ-2	0.004	0.00	0.00
WZ-3	0.004	0.00	0.00
WZ-4	0.004	0.01	0.02

Maximum 15-Minute-Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.017	0.01	0.02
PM-2	0.009	0.02	0.02
PM-3	0.004	0.00	0.01
PM-4	0.006	0.00	0.03
WZ-1	0.008	0.00	0.00
WZ-2	0.006	0.00	0.01
WZ-3	0.008	0.06	0.01
WZ-4	0.009	0.19	***** 0.53

●mg/m^3 = milligrams per cubic meter ●ppm = parts per million ●µg/m^3 = micrograms per cubic meter

***** Two consecutive mercury vapor readings were recorded at 3.86 µg/m^3 and 3.88 µg/m^3 at off-site CAMP station WZ-4 (located at an upgradient wind direction from the site) between 11:27am and 11:28am. The detections

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

occurred during soil mix column installation in the eastern part of the site (Peck Slip) and no on-site source of mercury vapor was detected at the on-site CAMP stations. The 15-minute time-weighted-average (TWA) action level of 1.00 µg/m^3 was not exceeded as a result of the off-site mercury vapor detections. The filter on the Jerome® J505 unit within off-site CAMP station WZ-4 was replaced.

Ambient Air (Handheld Jerome® J505 and Handheld PID)

- The dedicated mobile monitor (Langan) used a handheld Jerome® J505 mercury vapor analyzer to monitor ambient air conditions at various heights throughout the site. Instantaneous mercury vapor concentrations throughout the site ranged from 0.00 µg/m^3 to 0.15 µg/m^3.
- The dedicated mobile monitor (Langan) used a handheld PID to monitor VOC concentrations throughout the site. Instantaneous VOC concentrations were not detected above background concentrations throughout the workday.

Off-site CAMP Stations

- CAMP station WZ-1 was placed on the western sidewalk of Beekman Street from about 6:31am to 3:58pm.
- CAMP station WZ-2 was placed on the southern sidewalk of Water Street from about 6:34am to 4:03pm.
- CAMP station WZ-3 was placed on the eastern sidewalk of Peck Slip from about 6:36am to 4:12pm
- CAMP station WZ-4 was placed on the northern sidewalk of Pearl Street from about 6:39am to 4:21pm.

Prior to CAMP Shutdown

Prior to discontinuing CAMP, mercury vapor and VOC concentrations were confirmed to return to background conditions at each perimeter station using the handheld Jerome® J505 mercury vapor analyzer and handheld PID, respectively. Perimeter CAMP stations were discontinued sequentially between 3:43pm and 3:51pm.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

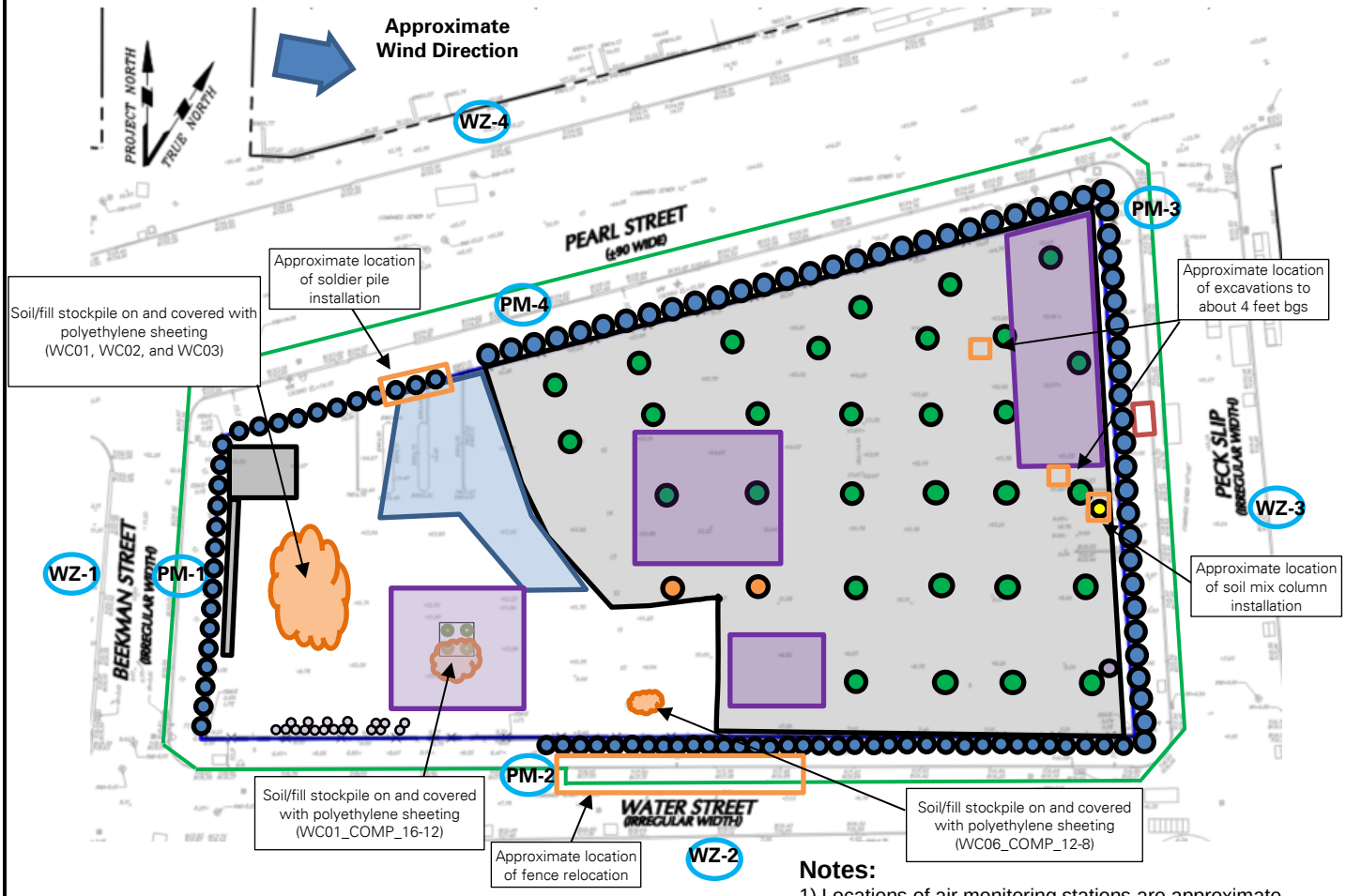
Anticipated Activities

- ECD will continue exporting C&D and soil/fill from the western part of the site for off-site disposal.
- ECD will continue installing soil mix columns and/or soldier piles for SOE installation along Pearl Street and Peck Slip.
- ECD will continue relocating the perimeter construction fencing along Water Street for equipment staging.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Site Map



Notes:
1) Locations of air monitoring stations are approximate.

Legend:

- PM-1 — Approximate Location of Air Monitoring Station
- Approximate Work Area
- Approximate Location of Installed Pile Cap
- Approximate Location of Foundation Piles Completed
- Approximate Location of Truck Tracking Pad
- Approximate Location of Underground Storage Tank
- Approximate Location of C&D Stockpile
- Approximate Location of Soil/Fill Stockpile
- Approximate Location of Soldier Pile
- Approximate Location of Soil Mix Column Installed Today
- Approximate Location of Soil Mix Column Installed Previously
- Approximate Perimeter Construction Fence Location
- Previous Excavation Area
- Approximate Excavation Area
- Approximate Location of Documentation Sample
- Approximate Location of Previously Collected Endpoint Sample
- Approximate Location of Imported Fill

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Select Site Photographs:



Photo 1: ECD exacavting soil/fill in the eastern part of the site (facing south)



Photo 2: ECD installing a soldier pile in the northern part of the site (facing west)

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

PROJECT No.:	170381202	**CLIENT:** 250 Seaport District, LLC c/o The Howard Hughes Corporation	**DATE:**	Thursday, August 24, 2023
PROJECT:	250 Water Street		**WEATHER:**	Partly Cloudy/Rain, 70 – 72˚F Wind: SW @ 0.1 – 1.8 mph
LOCATION:	New York, NY		**TIME:**	5:45am – 5:30pm
BCP SITE ID:	C231127		**MONITOR**	Jack Millman

EQUIPMENT:
CAT 335 Excavator
CAT 328 Excavator
Komatsu PC138 Excavator
ABI Mobilram Drill Rig
Delmag Drill Rig
Bauer RTG RG 27S
Bauer BG45 Drill Rig
Jerome J505 Mercury Vapor Analyzer
RKI GX-6000 Photoionization Detector (PID)
Aeroqual ASQ1 Air Monitoring Station

PRESENT AT SITE: **Day 189**
Langan (Environmental/Geotechnical) Jack Millman, Michael Cole, Pepper Greenley, Pradeep Pandey
Suffolk Construction (Suffolk) (General Contractor) Anthony Galu, Wyatt Favia
East Coast Drilling, Inc. (ECD) (Foundation Contractor) Danny Rodgers
New York State Department of Environmental Conservation (NYSDEC) Rafi Alam
Earth Efficient (Soil Broker) Yinette Batista and Michael DiGaetano

OBSERVATIONS, DISCUSSIONS, TEST RESULTS, ETC.:

Langan was present to document remediation activities in accordance with the NYSDEC-approved November 2021 Remedial Action Work Plan (RAWP) at the 250 Water Street site (NYSDEC Brownfield Cleanup Program [BCP] Site No C231127).

Site Activities

- ECD excavated an about 60-foot-long by 35-foot-wide area to a maximum depth of about 3 feet below grade surface (bgs) in the eastern part of the site. The excavated material consisted of previously imported fill and was placed in an about 35-foot-long by 35-foot-wide area on polyethylene sheeting in the northeastern corner of the site to create a temporary ramp for equipment access.
- ECD used a Bauer BG45 drill rig to install a deep soil mix column for support-of-excavation (SOE) installation in the eastern part of the site (along Peck Slip). ECD's drill rig advanced a steel rod with two cutter blades at the bottom of the rod, while concurrently injecting grout through the cutting head and spinning and advancing the blades downward to about 83 feet bgs.
    - No drilling spoils were generated during installation of the soil mix column.
    - Excess grout was contained within a temporary containment area in the eastern part of the site and will be managed as construction and demolition (C&D) debris at a later date.
- ECD relocated a section of the perimeter construction fencing along Water Street for equipment staging in the southern part of the site.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Material Tracking

- ECD exported three truckloads (about 60 cubic yards [CY]) of non-hazardous soil/fill from waste characterization cells WC01, WC02, and WC03 for off-site disposal at the Middlesex County Landfill, located in East Brunswick, NJ.
- ECD exported nine truckloads (about 180 CY) of C&D debris for off-site disposal at the Earth Efficient MSM facility located in East Stroudsburg, PA.
- No material was imported to the site.

Material Import Summary

Facility Name Location Type of Material	Stone Industries, Inc. Haledon, NJ 1.5/2.5-inch Virgin Stone		Stone Industries, Inc. Haledon, NJ 0.75-inch Virgin Stone		Impact Reuse & Recovery Center or Impact Materials Jersey City, Lyndhurst/Jersey City, NJ 1.5-inch Clean Bluestone		Impact Reuse & Recovery Center, Lyndhurst, NJ General Fill	
Quantities	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)
Today	0	0	0	0	0	0	0	0
Project Total	12	283.91	0	0	15	339.65	374	9,157.85
NYSDEC Approved:	1,800 tons*				720 tons*		19,500 tons*	

*0.75-inch, 1.5-inch, and 2.5-inch virgin stone from the Stone Industries, Inc. facility and 1.5-inch clean bluestone from the Impact Reuse & Recovery Center (IRRC) facility were approved for import of 1,000 cubic yards (CY) and 400 CY, respectively. Assuming a conversion factor of 1.8, each quantity was converted to tons in order to accurately compare with import weight tickets. General fill from the IRRC facility was approved for import of 13,000 CY and a conversion factor of 1.5 is applied.

Material Export Summary (1 of 3)

Facility Name Location Type of Material	Allocco Recycling Brooklyn, NY Construction & Demolition (C&D) Debris		IRRC Lyndhurst, NJ C&D Debris		Earth Efficient MSM East Stroudsburg, PA C&D Debris		Clean Earth of North Jersey Kearny, NJ Hazardous Lead-Impacted Soil/Fill	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	9	180	0	0
Project Total	5	85	42	840	24	480	95	1,900

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Material Export Summary (2 of 3)						
Facility Name Location Type of Material	**Middlesex County Landfill East Brunswick, NJ Non-hazardous Soil/Fill**		**Bayshore Soil Management Keasbey, NJ Petroleum-Impacted Soil/Fill**		**Clean Earth of Carteret, NJ Carteret, NJ Non-hazardous Soil/Fill**	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	3	60	0	0	0	0
Project Total	267	5,340	267	5,340	66	1,320

Material Export Summary (3 of 3)		
Facility Name Location Type of Material	**Clean Earth of North Jersey Kearny, NJ Non-hazardous Soil/Fill**	
Quantities	No. of Loads	Approx. Volume (CY)
Today	0	0
Project Total	216	4,320

Sampling

- No samples were collected.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

CAMP Activities

Langan performed air monitoring at the perimeter of the site, at the northern sidewalk of Pearl Street, at the western sidewalk of Beekman Street, at the eastern sidewalk of Peck Slip, and at the southern sidewalk of Water Street at eight total locations for mercury vapor, volatile organic compounds (VOCs), and particulate matter less than 10 microns in diameter (PM10) from about 6:47am to 4:16pm. There were no fifteen-minute average concentrations for mercury vapor, VOCs or PM10 that approached or exceeded the action levels established by the CAMP (1.00 µg/m^3, 5.0 ppm, or 0.100 mg/m^3, respectively).

Background Concentrations

Prior to implementation of CAMP, instantaneous background concentrations of mercury vapor and VOCs were recorded using a handheld Jerome® J505 mercury vapor analyzer and a handheld PID, respectively.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

Perimeter and Work Zone Concentrations

Daily Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.006	0.00	0.02
PM-2	0.006	0.00	0.01
PM-3	0.005	0.00	0.00
PM-4	0.006	0.00	0.01
WZ-1	0.004	0.00	0.00
WZ-2	0.006	0.00	0.00
WZ-3	0.004	0.00	0.00
WZ-4	0.005	0.00	0.01

Maximum 15-Minute-Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.013	0.00	0.33
PM-2	0.011	0.00	0.02
PM-3	0.007	0.02	0.01
PM-4	0.009	0.02	0.03
WZ-1	0.006	0.00	0.01
WZ-2	0.009	0.06	0.01
WZ-3	0.007	0.01	0.01
WZ-4	0.007	0.02	0.03

●mg/m^3 = milligrams per cubic meter ●ppm = parts per million ●µg/m^3 = micrograms per cubic meter

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Ambient Air (Handheld Jerome® J505 and Handheld PID)

- The dedicated mobile monitor (Langan) used a handheld Jerome® J505 mercury vapor analyzer to monitor ambient air conditions at various heights throughout the site. Instantaneous mercury vapor concentrations throughout the site ranged from 0.00 µg/m^3 to 0.17 µg/m^3.
- The dedicated mobile monitor (Langan) used a handheld PID to monitor VOC concentrations throughout the site. Instantaneous VOC concentrations were not detected above background concentrations throughout the workday.

Off-site CAMP Stations

- CAMP station WZ-1 was placed on the western sidewalk of Beekman Street from about 6:31am to 4:28pm.
- CAMP station WZ-2 was placed on the southern sidewalk of Water Street from about 6:33am to 4:34pm.
- CAMP station WZ-3 was placed on the eastern sidewalk of Peck Slip from about 6:35am to 4:54pm
- CAMP station WZ-4 was placed on the northern sidewalk of Pearl Street from about 6:38am to 5:06pm.

Prior to CAMP Shutdown

Prior to discontinuing CAMP, mercury vapor and VOC concentrations were confirmed to return to background conditions at each perimeter station using the handheld Jerome® J505 mercury vapor analyzer and handheld PID, respectively. Perimeter CAMP stations were discontinued sequentially between 4:16pm and 4:21pm.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

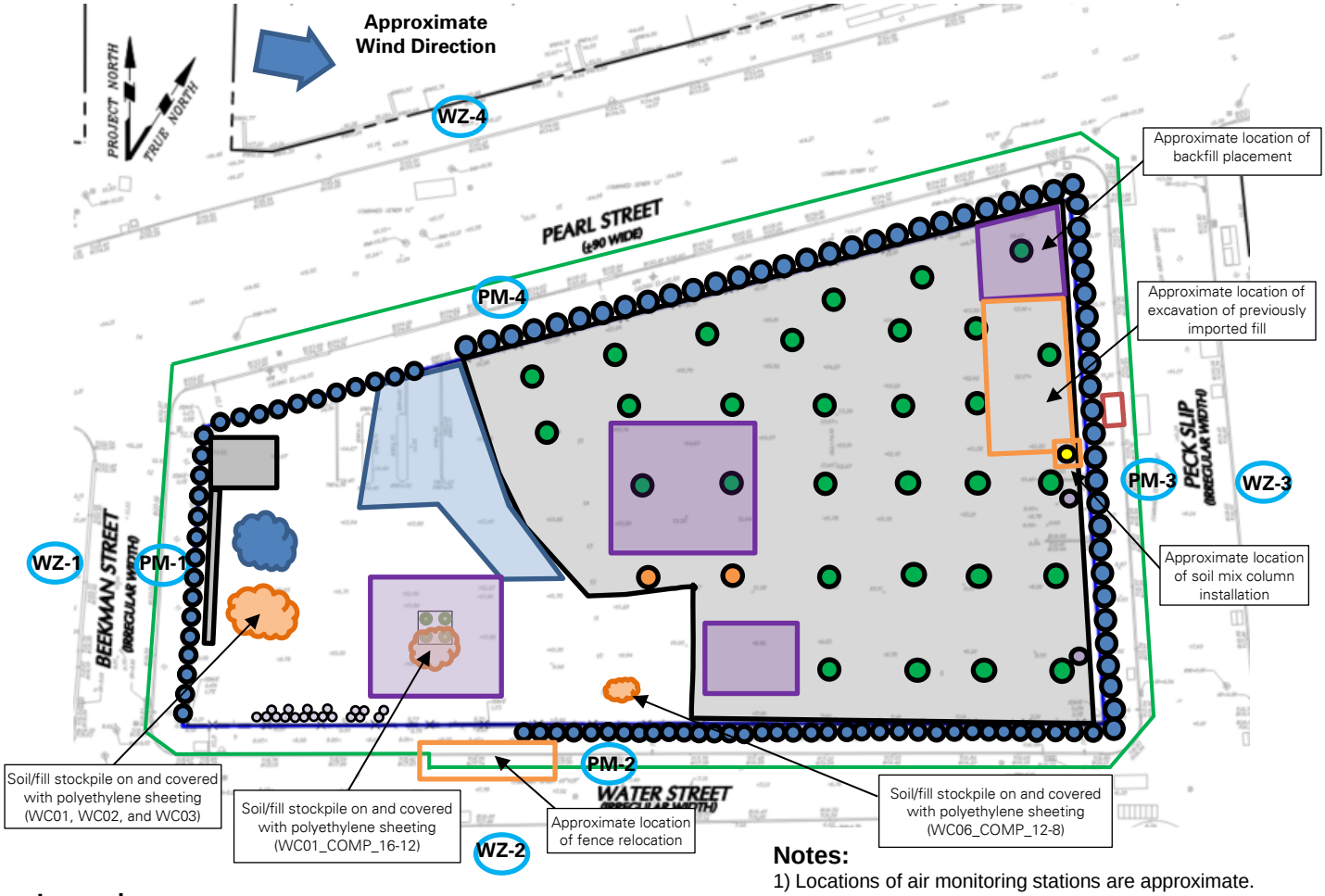
Anticipated Activities

- ECD will continue exporting C&D and soil/fill from the western part of the site for off-site disposal.
- ECD will continue installing soil mix columns and/or soldier piles for SOE installation along Pearl Street and Peck Slip.
- ECD will continue relocating the perimeter construction fencing along Water Street for equipment staging.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Site Map



Notes:
1) Locations of air monitoring stations are approximate.

Legend:

- PM-1 — Approximate Location of Air Monitoring Station
- Approximate Work Area
- Approximate Location of Installed Pile Cap
- Approximate Location of Foundation Piles Completed
- Approximate Location of Truck Tracking Pad
- Approximate Location of Underground Storage Tank
- Approximate Location of C&D Stockpile
- Approximate Location of Soil/Fill Stockpile
- Approximate Location of Soldier Pile
- Approximate Location of Soil Mix Column Installed Today
- Approximate Location of Soil Mix Column Installed Previously
- Approximate Perimeter Construction Fence Location
- Previous Excavation Area
- Approximate Excavation Area
- Approximate Location of Documentation Sample
- Approximate Location of Previously Collected Endpoint Sample
- Approximate Location of Imported Fill

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Select Site Photographs:



Photo 1: Securely covered dump truck prior to exiting the site (facing northwest)

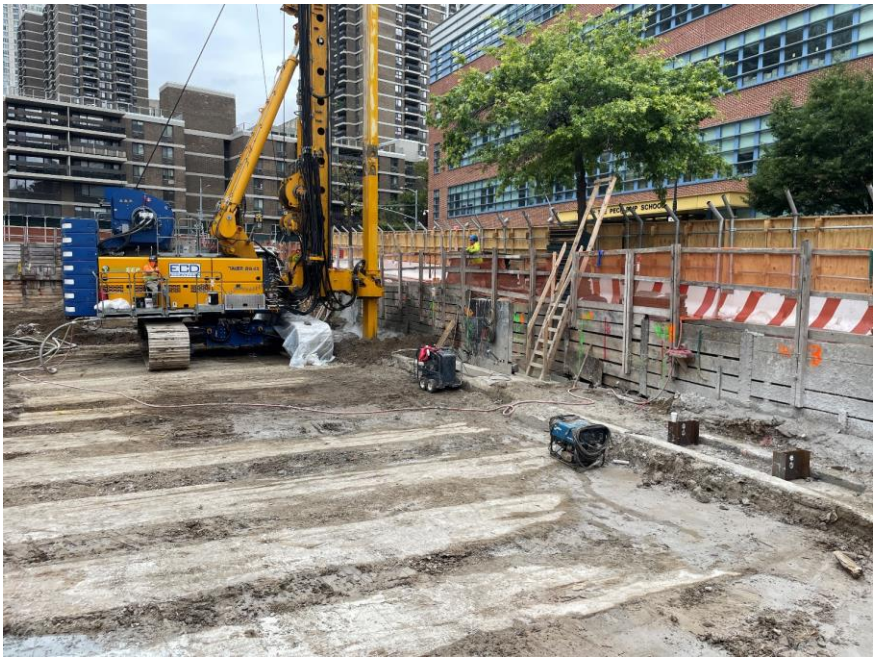


Photo 2: ECD installing a soil mix column in the eastern part of the site (facing northeast)

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

PROJECT No.:	170381202	**CLIENT:** 250 Seaport District, LLC c/o The Howard Hughes Corporation	**DATE:**	Friday, August 25, 2023
PROJECT:	250 Water Street		**WEATHER:**	Partly Cloudy/Rain, 70 – 78˚ F Wind: NE @ 0.16 – 2.14 mph
LOCATION:	New York, NY		**TIME:**	5:45am – 5:00pm
BCP SITE ID:	C231127		**MONITOR**	Jack Millman

EQUIPMENT:
CAT 335 Excavator
CAT 328 Excavator
Komatsu PC138 Excavator
ABI Mobilram Drill Rig
Delmag Drill Rig
Bauer RTG RG 27S
Bauer BG45 Drill Rig
Jerome J505 Mercury Vapor Analyzer
RKI GX-6000 Photoionization Detector (PID)
Aeroqual ASQ1 Air Monitoring Station

PRESENT AT SITE: **Day 190**
Langan (Environmental/Geotechnical) Jack Millman, Michael Cole, Sarah Castillo
Suffolk Construction (Suffolk) (General Contractor) Anthony Galu, Wyatt Favia
East Coast Drilling, Inc. (ECD) (Foundation Contractor) Danny Rodgers
New York State Department of Environmental Conservation (NYSDEC) Rafi Alam
Earth Efficient (Soil Broker) Yinette Batista and Michael DiGaetano

OBSERVATIONS, DISCUSSIONS, TEST RESULTS, ETC.:

Langan was present to document remediation activities in accordance with the NYSDEC-approved November 2021 Remedial Action Work Plan (RAWP) at the 250 Water Street site (NYSDEC Brownfield Cleanup Program [BCP] Site No C231127).

Site Activities

- ECD excavated an about 40-foot-long by 20-foot-wide area to a maximum depth of about 4 feet below grade surface (bgs) in the western part of the site (waste characterization cells WC01, WC02, and WC03) for removal and off-site disposal of non-hazardous soil/fill.
    - Excavated soil/fill was screened for odors, staining, organic vapors, and mercury vapor using a handheld photoionization detector (PID) and handheld Jerome® J505 mercury vapor analyzer, respectively. No evidence of impacts was observed and the excavated soil/fill was live-loaded into securely covered tri-axle dump trucks for off-site disposal.
- ECD used a Bauer BG45 drill rig to install two deep soil mix columns for support-of-excavation (SOE) installation in the eastern part of the site (along Peck Slip). ECD's drill rig advanced a steel rod with two cutter blades at the bottom of the rod, while concurrently injecting grout through the cutting head and spinning and advancing the blades downward to depths between about 78 and 81 feet bgs.
    - No drilling spoils were generated during installation of the soil mix column.
    - Excess grout was contained within a temporary containment area in the eastern part of the site and will be managed as construction and demolition (C&D) debris at a later date.
- ECD relocated a section of the perimeter construction fencing along Water Street for equipment staging in the southern part of the site.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Material Tracking

- ECD exported six truckloads (about 120 cubic yards [CY]) of non-hazardous soil/fill from waste characterization cells WC01, WC02, and WC03 for off-site disposal at the Middlesex County Landfill, located in East Brunswick, NJ.
- ECD exported four truckloads (about 80 CY) of C&D debris for off-site disposal at the Earth Efficient MSM facility located in East Stroudsburg, PA.
- No material was imported to the site.

Material Import Summary

Facility Name Location Type of Material	Stone Industries, Inc. Haledon, NJ 1.5/2.5-inch Virgin Stone		Stone Industries, Inc. Haledon, NJ 0.75-inch Virgin Stone		Impact Reuse & Recovery Center or Impact Materials Jersey City, Lyndhurst/Jersey City, NJ 1.5-inch Clean Bluestone		Impact Reuse & Recovery Center, Lyndhurst, NJ General Fill	
Quantities	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)
Today	0	0	0	0	0	0	0	0
Project Total	12	283.91	0	0	15	339.65	374	9,157.85
NYSDEC Approved:	1,800 tons*				720 tons*		19,500 tons*	

*0.75-inch, 1.5-inch, and 2.5-inch virgin stone from the Stone Industries, Inc. facility and 1.5-inch clean bluestone from the Impact Reuse & Recovery Center (IRRC) facility were approved for import of 1,000 cubic yards (CY) and 400 CY, respectively. Assuming a conversion factor of 1.8, each quantity was converted to tons in order to accurately compare with import weight tickets. General fill from the IRRC facility was approved for import of 13,000 CY and a conversion factor of 1.5 is applied.

Material Export Summary (1 of 3)

Facility Name Location Type of Material	Allocco Recycling Brooklyn, NY Construction & Demolition (C&D) Debris		IRRC Lyndhurst, NJ C&D Debris		Earth Efficient MSM East Stroudsburg, PA C&D Debris		Clean Earth of North Jersey Kearny, NJ Hazardous Lead-Impacted Soil/Fill	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	4	80	0	0
Project Total	5	85	42	840	28	560	95	1,900

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Material Export Summary (2 of 3)						
Facility Name Location Type of Material	**Middlesex County Landfill East Brunswick, NJ Non-hazardous Soil/Fill**		**Bayshore Soil Management Keasbey, NJ Petroleum-Impacted Soil/Fill**		**Clean Earth of Carteret, NJ Carteret, NJ Non-hazardous Soil/Fill**	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	6	120	0	0	0	0
Project Total	273	5,460	267	5,340	66	1,320

Material Export Summary (3 of 3)		
Facility Name Location Type of Material	**Clean Earth of North Jersey Kearny, NJ Non-hazardous Soil/Fill**	
Quantities	No. of Loads	Approx. Volume (CY)
Today	0	0
Project Total	216	4,320

Sampling

- No samples were collected.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

CAMP Activities

Langan performed air monitoring at the perimeter of the site, at the northern sidewalk of Pearl Street, at the western sidewalk of Beekman Street, at the eastern sidewalk of Peck Slip, and at the southern sidewalk of Water Street at eight total locations for mercury vapor, volatile organic compounds (VOCs), and particulate matter less than 10 microns in diameter (PM10) from about 6:42am to 3:53pm. There were no fifteen-minute average concentrations for mercury vapor, VOCs or PM10 that approached or exceeded the action levels established by the CAMP (1.00 µg/m^3, 5.0 ppm, or 0.100 mg/m^3, respectively).

Background Concentrations

Prior to implementation of CAMP, instantaneous background concentrations of mercury vapor and VOCs were recorded using a handheld Jerome® J505 mercury vapor analyzer and a handheld PID, respectively.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

Perimeter and Work Zone Concentrations

Daily Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.009	0.00	0.02
PM-2	0.006	0.00	0.01
PM-3	0.006	0.01	0.01
PM-4	0.006	0.00	0.02
WZ-1	0.006	0.00	0.00
WZ-2	0.006	0.00	0.00
WZ-3	0.005	0.00	0.01
WZ-4	0.006	0.00	0.01

Maximum 15-Minute-Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.055	0.00	0.21
PM-2	0.010	0.04	0.08
PM-3	0.010	0.08	0.15
PM-4	0.009	0.01	0.12
WZ-1	0.010	0.00	0.01
WZ-2	0.009	0.05	0.01
WZ-3	0.009	0.02	0.02
WZ-4	0.009	0.03	0.05

●mg/m^3 = milligrams per cubic meter ●ppm = parts per million ●µg/m^3 = micrograms per cubic meter

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Ambient Air (Handheld Jerome® J505 and Handheld PID)

- The dedicated mobile monitor (Langan) used a handheld Jerome® J505 mercury vapor analyzer to monitor ambient air conditions at various heights throughout the site. Instantaneous mercury vapor concentrations throughout the site ranged from 0.00 µg/m^3 to 0.16 µg/m^3.
- The dedicated mobile monitor (Langan) used a handheld PID to monitor VOC concentrations throughout the site. Instantaneous VOC concentrations were not detected above background concentrations throughout the workday.

Off-site CAMP Stations

- CAMP station WZ-1 was placed on the western sidewalk of Beekman Street from about 6:29am to 4:12pm.
- CAMP station WZ-2 was placed on the southern sidewalk of Water Street from about 6:30am to 4:20pm.
- CAMP station WZ-3 was placed on the eastern sidewalk of Peck Slip from about 6:33am to 4:28pm
- CAMP station WZ-4 was placed on the northern sidewalk of Pearl Street from about 6:35am to 4:36pm.

Prior to CAMP Shutdown

Prior to discontinuing CAMP, mercury vapor and VOC concentrations were confirmed to return to background conditions at each perimeter station using the handheld Jerome® J505 mercury vapor analyzer and handheld PID, respectively. Perimeter CAMP stations were discontinued sequentially between 3:53pm and 4:04pm.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

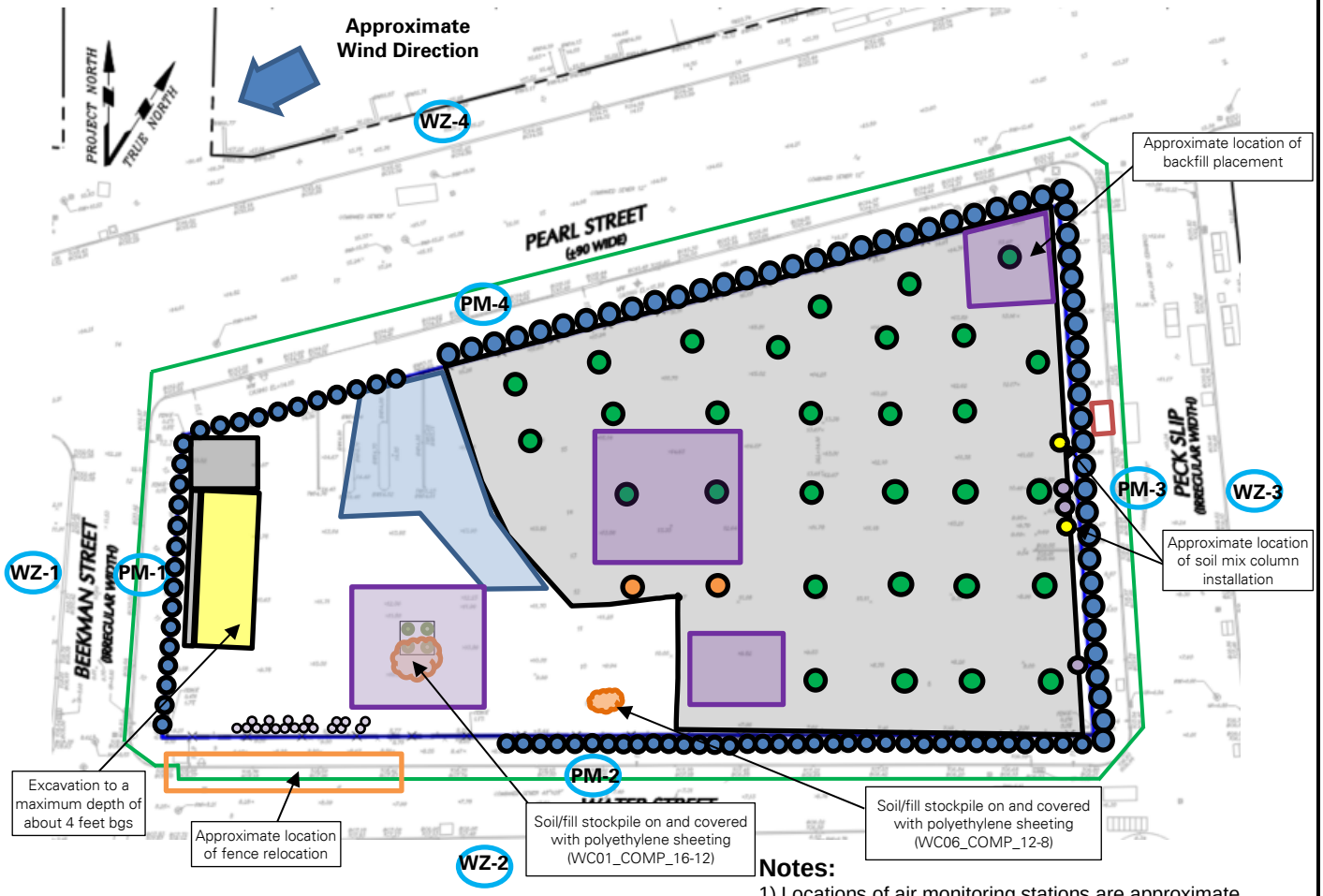
Anticipated Activities

- ECD will continue exporting C&D and soil/fill from the western part of the site for off-site disposal.
- ECD will continue installing soil mix columns and/or soldier piles for SOE installation along Pearl Street and Peck Slip.
- ECD will continue relocating the perimeter construction fencing along Water Street for equipment staging.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Site Map



Notes:
1) Locations of air monitoring stations are approximate.

Legend:

- PM-1 — Approximate Location of Air Monitoring Station
- Approximate Work Area
- Approximate Location of Installed Pile Cap
- Approximate Location of Foundation Piles Completed
- Approximate Location of Truck Tracking Pad
- Approximate Location of Underground Storage Tank
- Approximate Location of C&D Stockpile
- Approximate Location of Soil/Fill Stockpile
- Approximate Location of Soldier Pile
- Approximate Location of Soil Mix Column Installed Today
- Approximate Location of Soil Mix Column Installed Previously
- Approximate Perimeter Construction Fence Location
- Previous Excavation Area
- Approximate Excavation Area
- Approximate Location of Documentation Sample
- Approximate Location of Previously Collected Endpoint Sample
- Approximate Location of Imported Fill

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Select Site Photographs:



Photo 1: Securely covered dump truck prior to exiting the site (facing northwest)

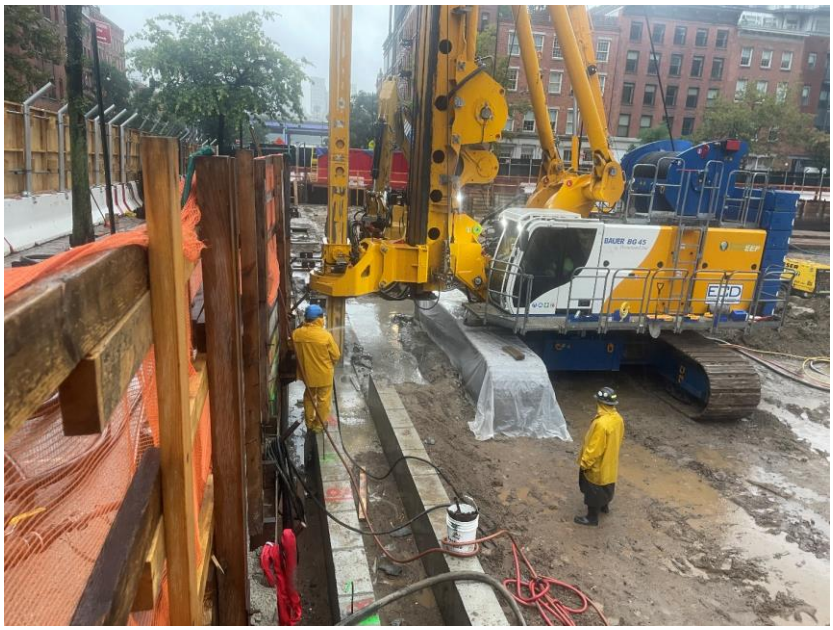


Photo 2: ECD installing a soil mix column in the eastern part of the site (facing south)

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

PROJECT No.:	170381202	**CLIENT:** 250 Seaport District, LLC c/o The Howard Hughes Corporation	**DATE:**	Monday, August 28, 2023
PROJECT:	250 Water Street		**WEATHER:**	Partly Sunny, 70 – 75˚F Wind: ENE @ 0.21 – 1.71 mph
LOCATION:	New York, NY		**TIME:**	5:45am – 5:30pm
BCP SITE ID:	C231127		**MONITOR**	Jack Millman

EQUIPMENT:
CAT 335 Excavator
CAT 328 Excavator
Komatsu PC138 Excavator
ABI Mobilram Drill Rig
Delmag Drill Rig
Bauer RTG RG 27S
Bauer BG45 Drill Rig
Jerome J505 Mercury Vapor Analyzer
RKI GX-6000 Photoionization Detector (PID)
Aeroqual ASQ1 Air Monitoring Station

PRESENT AT SITE: **Day 191**
Langan (Environmental/Geotechnical) Jack Millman, Michael Cole, Pradeep Pandey
Suffolk Construction (Suffolk) (General Contractor) Anthony Galu, Wyatt Favia
East Coast Drilling, Inc. (ECD) (Foundation Contractor) Danny Rodgers
New York State Department of Environmental Conservation (NYSDEC) Shawn Roberts

OBSERVATIONS, DISCUSSIONS, TEST RESULTS, ETC.:

Langan was present to document remediation activities in accordance with the NYSDEC-approved November 2021 Remedial Action Work Plan (RAWP) at the 250 Water Street site (NYSDEC Brownfield Cleanup Program [BCP] Site No C231127).

Site Activities

- ECD used a Bauer RTG RG 27S drill rig to pre-drill two boreholes in the southeast part of the site to loosen the underlying soil in preparation for soil mix column installation.
- ECD used a Bauer BG45 drill rig to install one deep soil mix column for support-of-excavation (SOE) installation in the eastern part of the site (along Peck Slip). ECD's drill rig advanced a steel rod with two cutter blades at the bottom of the rod, while concurrently injecting grout through the cutting head and spinning and advancing the blades downward to a depth of about 98 feet below grade surface (bgs).
    - No drilling spoils were generated during installation of the soil mix column.
    - Excess grout was contained within a temporary containment area in the eastern part of the site and will be managed as construction and demolition (C&D) debris at a later date.
- ECD removed previously imported 1.5-inch virgin stone from an about 30-foot-long by 15-foot-wide area in the southern part of the site and replaced the stone in the central part of the site for relocation of an equipment staging area.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Material Tracking

- No material was exported from the site.
- No material was imported to the site.

Material Import Summary

Facility Name Location Type of Material	Stone Industries, Inc. Haledon, NJ 1.5/2.5-inch Virgin Stone		Stone Industries, Inc. Haledon, NJ 0.75-inch Virgin Stone		Impact Reuse & Recovery Center or Impact Materials Jersey City, Lyndhurst/Jersey City, NJ 1.5-inch Clean Bluestone		Impact Reuse & Recovery Center, Lyndhurst, NJ General Fill	
Quantities	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)
Today	0	0	0	0	0	0	0	0
Project Total	12	283.91	0	0	15	339.65	374	9,157.85
NYSDEC Approved:	1,800 tons*				720 tons*		19,500 tons*	

*0.75-inch, 1.5-inch, and 2.5-inch virgin stone from the Stone Industries, Inc. facility and 1.5-inch clean bluestone from the Impact Reuse & Recovery Center (IRRC) facility were approved for import of 1,000 cubic yards (CY) and 400 CY, respectively. Assuming a conversion factor of 1.8, each quantity was converted to tons in order to accurately compare with import weight tickets. General fill from the IRRC facility was approved for import of 13,000 CY and a conversion factor of 1.5 is applied.

Material Export Summary (1 of 3)

Facility Name Location Type of Material	Allocco Recycling Brooklyn, NY Construction & Demolition (C&D) Debris		IRRC Lyndhurst, NJ C&D Debris		Earth Efficient MSM East Stroudsburg, PA C&D Debris		Clean Earth of North Jersey Kearny, NJ Hazardous Lead-Impacted Soil/Fill	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	0	0	0	0
Project Total	5	85	42	840	28	560	95	1,900

Material Export Summary (2 of 3)

Facility Name Location Type of Material	Middlesex County Landfill East Brunswick, NJ Non-hazardous Soil/Fill		Bayshore Soil Management Keasbey, NJ Petroleum-Impacted Soil/Fill		Clean Earth of Carteret, NJ Carteret, NJ Non-hazardous Soil/Fill	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	0	0
Project Total	273	5,460	267	5,340	66	1,320

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Material Export Summary (3 of 3)		
Facility Name **Location** **Type of Material**	**Clean Earth of North Jersey** **Kearny, NJ** **Non-hazardous Soil/Fill**	
Quantities	No. of Loads	Approx. Volume (CY)
Today	0	0
Project Total	216	4,320

Sampling

- No samples were collected.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

CAMP Activities

Langan performed air monitoring at the perimeter of the site, at the northern sidewalk of Pearl Street, at the western sidewalk of Beekman Street, at the eastern sidewalk of Peck Slip, and at the southern sidewalk of Water Street at eight total locations for mercury vapor, volatile organic compounds (VOCs), and particulate matter less than 10 microns in diameter (PM10) from about 7:32am to 4:11pm. There were no fifteen-minute average concentrations for mercury vapor, VOCs or PM10 that approached or exceeded the action levels established by the CAMP (1.00 µg/m^3, 5.0 ppm, or 0.100 mg/m^3, respectively).

Background Concentrations

Prior to implementation of CAMP, instantaneous background concentrations of mercury vapor and VOCs were recorded using a handheld Jerome® J505 mercury vapor analyzer and a handheld PID, respectively.

- Background concentrations of mercury vapor at each CAMP station ranged from 0.00 to 0.02 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

Perimeter and Work Zone Concentrations

Daily Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.007	0.00	0.01
PM-2	0.007	0.00	0.01
PM-3	0.008	0.00	0.02
PM-4	0.008	0.04	0.01
WZ-1	0.007	0.00	0.00
WZ-2	0.006	0.00	0.00
WZ-3	0.006	0.00	0.01
WZ-4	0.007	0.00	0.01

Maximum 15-Minute-Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.013	0.00	0.08
PM-2	0.014	0.00	0.02
PM-3	0.017	0.06	0.06
PM-4	0.013	0.26	0.03
WZ-1	0.012	0.00	0.01
WZ-2	0.013	0.00	0.01
WZ-3	0.011	0.04	0.02
WZ-4	0.012	0.09	0.03

●mg/m^3 = milligrams per cubic meter ●ppm = parts per million ●µg/m^3 = micrograms per cubic meter

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Equipment Troubleshooting

- Mercury vapor, VOC, and PM10 readings were not recorded at perimeter CAMP station PM-3 between about 11:41am and 11:56am due to a power issue within the station. During this time, ECD was drilling along the eastern boundary of the site (along Peck Slip) for installation of a soil mix column. The 15-minute time-weighted-average (TWA) action levels established in the CAMP were not exceeded at off-site CAMP station WZ-3 during this time. Additionally, the dedicated CAMP monitor used a handheld Jerome®J505 mercury vapor analyzer and a handheld PID to monitor ambient air concentrations at the eastern boundary of the site while the spare CAMP station was set up. Mercury vapor and VOCs were not recorded by the handheld units at concentrations above background conditions, and no fugitive dust or odors associated with remediation activities were observed migrating off-site. Datalogging resumed at about 11:57am following setup of the spare CAMP station. The equipment rental vendor was contacted and the power issue within perimeter CAMP station PM-3 was subsequently resolved.

Ambient Air (Handheld Jerome® J505 and Handheld PID)

- The dedicated mobile monitor (Langan) used a handheld Jerome® J505 mercury vapor analyzer to monitor ambient air conditions at various heights throughout the site. Instantaneous mercury vapor concentrations throughout the site ranged from 0.00 µg/m^3 to 0.16 µg/m^3.
- The dedicated mobile monitor (Langan) used a handheld PID to monitor VOC concentrations throughout the site. Instantaneous VOC concentrations were not detected above background concentrations throughout the workday.

Off-site CAMP Stations

- CAMP station WZ-1 was placed on the western sidewalk of Beekman Street from about 7:26am to 4:39pm.
- CAMP station WZ-2 was placed on the southern sidewalk of Water Street from about 7:27am to 4:46pm.
- CAMP station WZ-3 was placed on the eastern sidewalk of Peck Slip from about 7:30am to 4:59pm.
- CAMP station WZ-4 was placed on the northern sidewalk of Pearl Street from about 7:32am to 5:15pm.

Prior to CAMP Shutdown

Prior to discontinuing CAMP, mercury vapor and VOC concentrations were confirmed to return to background conditions at each perimeter station using the handheld Jerome® J505 mercury vapor analyzer and handheld PID, respectively. Perimeter CAMP stations were discontinued sequentially between 4:11pm and 4:19pm.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

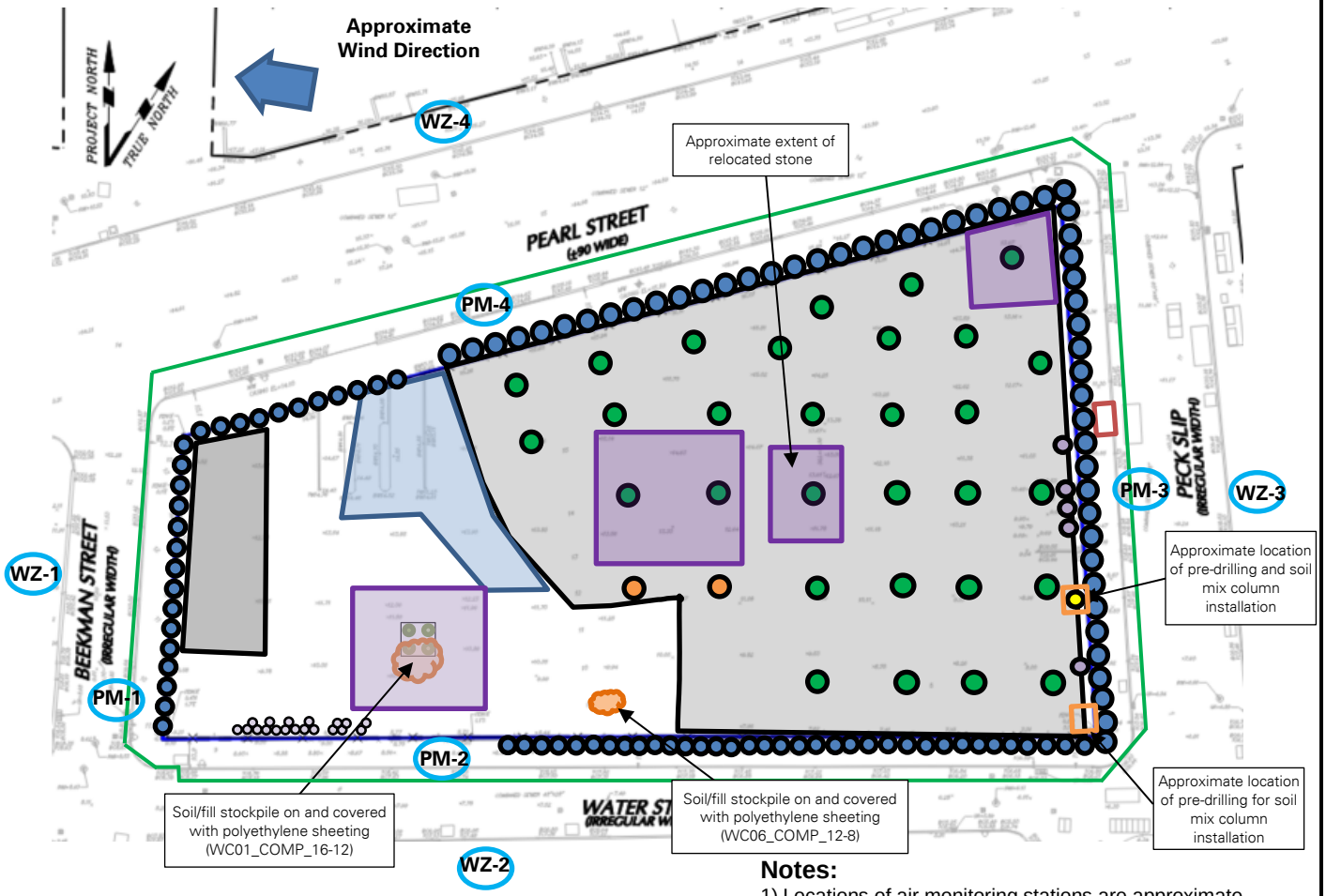
Anticipated Activities

- ECD will continue exporting C&D and soil/fill from the western part of the site for off-site disposal.
- ECD will continue installing soil mix columns and/or soldier piles for SOE installation along Pearl Street and Peck Slip.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Site Map



Notes:
1) Locations of air monitoring stations are approximate.

Legend:

- PM-1 — Approximate Location of Air Monitoring Station
- Approximate Work Area
- Approximate Location of Installed Pile Cap
- Approximate Location of Foundation Piles Completed
- Approximate Location of Truck Tracking Pad
- Approximate Location of Underground Storage Tank
- Approximate Location of C&D Stockpile
- Approximate Location of Soil/Fill Stockpile
- Approximate Location of Soldier Pile
- Approximate Location of Soil Mix Column Installed Today
- Approximate Location of Soil Mix Column Installed Previously
- Approximate Perimeter Construction Fence Location
- Previous Excavation Area
- Approximate Excavation Area
- Approximate Location of Documentation Sample
- Approximate Location of Previously Collected Endpoint Sample
- Approximate Location of Imported Fill/Stone

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Select Site Photographs:

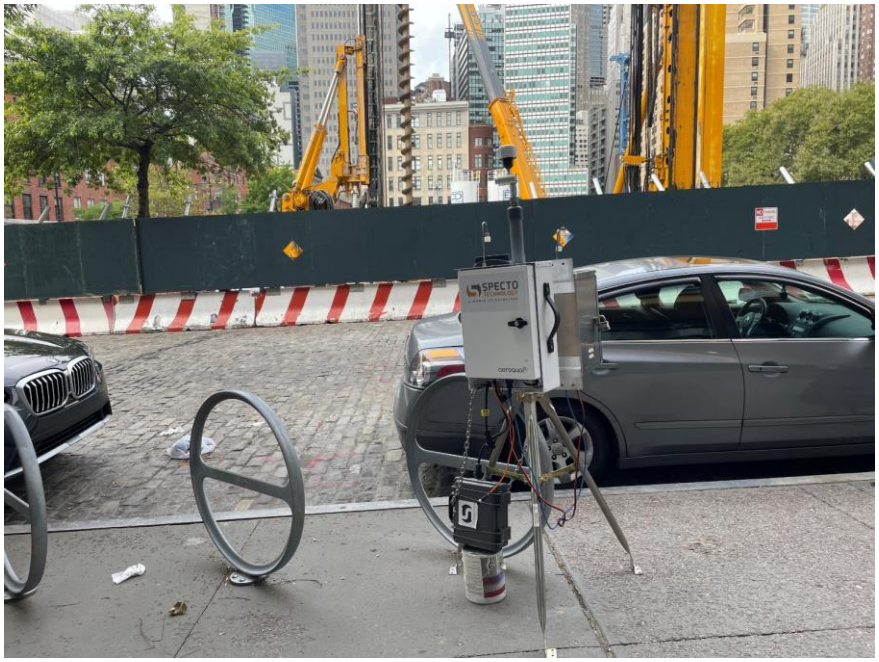


Photo 1: CAMP station WZ-3 on the eastern sidewalk of Peck Slip (facing west)



Photo 2: ECD installing a soil mix column in the eastern part of the site (facing north)

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

PROJECT No.:	170381202	**CLIENT:** 250 Seaport District, LLC c/o The Howard Hughes Corporation	**DATE:**	Tuesday, August 29, 2023
PROJECT:	250 Water Street		**WEATHER:**	Partly Sunny, 70 – 78[8] F Wind: SE @ 0.2 – 2.3 mph
LOCATION:	New York, NY		**TIME:**	5:45am – 5:15pm
BCP SITE ID:	C231127		**MONITOR**	Jack Millman

EQUIPMENT:
CAT 335 Excavator
CAT 328 Excavator
Komatsu PC138 Excavator
ABI Mobilram Drill Rig
Delmag Drill Rig
Bauer RTG RG 27S
Bauer BG45 Drill Rig
Jerome J505 Mercury Vapor Analyzer
RKI GX-6000 Photoionization Detector (PID)
Aeroqual ASQ1 Air Monitoring Station

PRESENT AT SITE: **Day 192**
Langan (Environmental/Geotechnical) Jack Millman, Michael Cole, Pradeep Pandey
Suffolk Construction (Suffolk) (General Contractor) Anthony Galu, Wyatt Favia
East Coast Drilling, Inc. (ECD) (Foundation Contractor) Danny Rodgers
New York State Department of Environmental Conservation (NYSDEC) Shawn Roberts

OBSERVATIONS, DISCUSSIONS, TEST RESULTS, ETC.:

Langan was present to document remediation activities in accordance with the NYSDEC-approved November 2021 Remedial Action Work Plan (RAWP) at the 250 Water Street site (NYSDEC Brownfield Cleanup Program [BCP] Site No C231127).

Site Activities

- ECD used a Bauer RTG RG 27S drill rig to pre-drill two boreholes in the eastern part of the site to loosen the underlying soil in preparation for soil mix column installation.
- ECD used a Bauer BG45 drill rig to install two deep soil mix columns for support-of-excavation (SOE) installation in the eastern part of the site (along Peck Slip). ECD's drill rig advanced a steel rod with two cutter blades at the bottom of the rod, while concurrently injecting grout through the cutting head and spinning and advancing the blades downward to depths between about 80 and 100 feet below grade surface (bgs).
    - No drilling spoils were generated during installation of the soil mix column.
    - Excess grout was contained within a temporary containment area in the eastern part of the site and will be managed as construction and demolition (C&D) debris at a later date.
- ECD excavated an about 25-foot-long by 10-foot-wide area to a maximum depth of about 8 feet bgs in the western part of the site (waste characterization cells WC01 and WC02) to install timber lagging for the SOE system.
    - Excavated soil/fill was screened for odors, staining, organic vapors, and mercury vapor using a handheld photoionization detector (PID) and handheld Jerome® J505 mercury vapor analyzer, respectively. No evidence of impacts was observed and the excavated soil/fill was temporarily graded adjacent to the excavation area for future off-site disposal.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Material Tracking

- No material was exported from the site.
- No material was imported to the site.

Material Import Summary

Facility Name Location Type of Material	Stone Industries, Inc. Haledon, NJ 1.5/2.5-inch Virgin Stone		Stone Industries, Inc. Haledon, NJ 0.75-inch Virgin Stone		Impact Reuse & Recovery Center or Impact Materials Jersey City, Lyndhurst/Jersey City, NJ 1.5-inch Clean Bluestone		Impact Reuse & Recovery Center, Lyndhurst, NJ General Fill	
Quantities	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)
Today	0	0	0	0	0	0	0	0
Project Total	12	283.91	0	0	15	339.65	374	9,157.85
NYSDEC Approved:	1,800 tons*				720 tons*		19,500 tons*	

*0.75-inch, 1.5-inch, and 2.5-inch virgin stone from the Stone Industries, Inc. facility and 1.5-inch clean bluestone from the Impact Reuse & Recovery Center (IRRC) facility were approved for import of 1,000 cubic yards (CY) and 400 CY, respectively. Assuming a conversion factor of 1.8, each quantity was converted to tons in order to accurately compare with import weight tickets. General fill from the IRRC facility was approved for import of 13,000 CY and a conversion factor of 1.5 is applied.

Material Export Summary (1 of 3)

Facility Name Location Type of Material	Allocco Recycling Brooklyn, NY Construction & Demolition (C&D) Debris		IRRC Lyndhurst, NJ C&D Debris		Earth Efficient MSM East Stroudsburg, PA C&D Debris		Clean Earth of North Jersey Kearny, NJ Hazardous Lead-Impacted Soil/Fill	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	0	0	0	0
Project Total	5	85	42	840	28	560	95	1,900

Material Export Summary (2 of 3)

Facility Name Location Type of Material	Middlesex County Landfill East Brunswick, NJ Non-hazardous Soil/Fill		Bayshore Soil Management Keasbey, NJ Petroleum-Impacted Soil/Fill		Clean Earth of Carteret, NJ Carteret, NJ Non-hazardous Soil/Fill	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	0	0
Project Total	273	5,460	267	5,340	66	1,320

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Material Export Summary (3 of 3)		
Facility Name **Location** **Type of Material**	**Clean Earth of North Jersey** **Kearny, NJ** **Non-hazardous Soil/Fill**	
Quantities	No. of Loads	Approx. Volume (CY)
Today	0	0
Project Total	216	4,320

Sampling

- No samples were collected.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

CAMP Activities

Langan performed air monitoring at the perimeter of the site, at the northern sidewalk of Pearl Street, at the western sidewalk of Beekman Street, at the eastern sidewalk of Peck Slip, and at the southern sidewalk of Water Street at eight total locations for mercury vapor, volatile organic compounds (VOCs), and particulate matter less than 10 microns in diameter (PM10) from about 7:14am to 4:20pm. There were no fifteen-minute average concentrations for mercury vapor, VOCs or PM10 that approached or exceeded the action levels established by the CAMP (1.00 µg/m^3, 5.0 ppm, or 0.100 mg/m^3, respectively).

Background Concentrations

Prior to implementation of CAMP, instantaneous background concentrations of mercury vapor and VOCs were recorded using a handheld Jerome® J505 mercury vapor analyzer and a handheld PID, respectively.

- Background concentrations of mercury vapor at each CAMP station ranged from 0.00 to 0.02 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

Perimeter and Work Zone Concentrations

Daily Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.006	0.00	0.01
PM-2	0.005	0.00	0.01
PM-3	0.006	0.01	0.01
PM-4	0.006	0.00	0.02
WZ-1	0.005	0.00	0.00
WZ-2	0.005	0.00	0.00
WZ-3	0.005	0.00	0.00
WZ-4	0.005	0.00	0.02

Maximum 15-Minute-Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.010	0.02	0.11
PM-2	0.009	0.00	0.09
PM-3	0.012	0.16	0.07
PM-4	0.010	0.03	0.06
WZ-1	0.008	0.08	0.01
WZ-2	0.007	0.00	0.01
WZ-3	0.008	0.00	0.03
WZ-4	0.008	0.02	0.03

●mg/m^3 = milligrams per cubic meter ●ppm = parts per million ●µg/m^3 = micrograms per cubic meter

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Ambient Air (Handheld Jerome® J505 and Handheld PID)

- The dedicated mobile monitor (Langan) used a handheld Jerome® J505 mercury vapor analyzer to monitor ambient air conditions at various heights throughout the site. Instantaneous mercury vapor concentrations throughout the site ranged from 0.00 µg/m^3 to 0.14 µg/m^3.
- The dedicated mobile monitor (Langan) used a handheld PID to monitor VOC concentrations throughout the site. Instantaneous VOC concentrations were not detected above background concentrations throughout the workday.

Off-site CAMP Stations

- CAMP station WZ-1 was placed on the western sidewalk of Beekman Street from about 6:47am to 4:36pm.
- CAMP station WZ-2 was placed on the southern sidewalk of Water Street from about 6:49am to 4:43pm.
- CAMP station WZ-3 was placed on the eastern sidewalk of Peck Slip from about 6:53am to 4:54pm.
- CAMP station WZ-4 was placed on the northern sidewalk of Pearl Street from about 6:56am to 4:50pm.

Prior to CAMP Shutdown

Prior to discontinuing CAMP, mercury vapor and VOC concentrations were confirmed to return to background conditions at each perimeter station using the handheld Jerome® J505 mercury vapor analyzer and handheld PID, respectively. Perimeter CAMP stations were discontinued sequentially between 4:20pm and 4:26pm.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

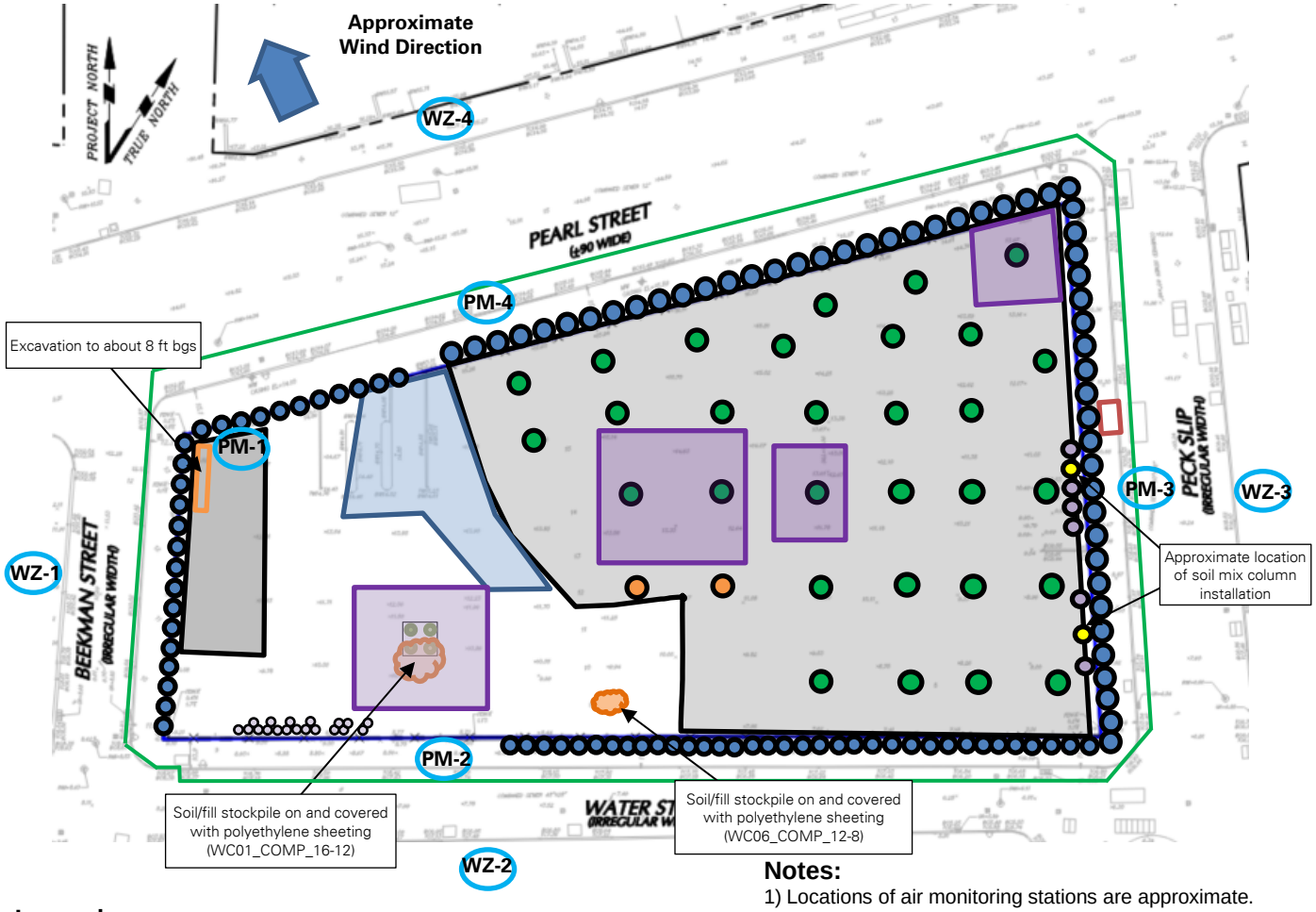
Anticipated Activities

- ECD will continue exporting C&D and soil/fill from the western part of the site for off-site disposal.
- ECD will continue installing soil mix columns and/or soldier piles for SOE installation along Pearl Street and Peck Slip.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Site Map



Notes:
1) Locations of air monitoring stations are approximate.

Legend:

- PM-1 — Approximate Location of Air Monitoring Station
- Approximate Work Area
- Approximate Location of Installed Pile Cap
- Approximate Location of Foundation Piles Completed
- Approximate Location of Truck Tracking Pad
- Approximate Location of Underground Storage Tank
- Approximate Location of C&D Stockpile
- Approximate Location of Soil/Fill Stockpile
- Approximate Location of Soldier Pile
- Approximate Location of Soil Mix Column Installed Today
- Approximate Location of Soil Mix Column Installed Previously
- Approximate Perimeter Construction Fence Location
- Previous Excavation Area
- Approximate Excavation Area
- Approximate Location of Documentation Sample
- Approximate Location of Previously Collected Endpoint Sample
- Approximate Location of Imported Fill/Stone

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Select Site Photographs:



Photo 1: ECD excavating soil/fill in the western part of the site (facing southwest)



Photo 2: Timber lagging installed along the western perimeter of the site (facing west)

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

PROJECT No.:	170381202	**CLIENT:** 250 Seaport District, LLC c/o The Howard Hughes Corporation	**DATE:**	Wednesday, August 30, 2023
PROJECT:	250 Water Street		**WEATHER:**	Partly Cloudy/Rain, 74 – 82° F Wind: SE @ 0.1 – 1.6 mph
LOCATION:	New York, NY		**TIME:**	5:45am – 7:00pm
BCP SITE ID:	C231127		**MONITOR**	Jack Millman

EQUIPMENT:
CAT 335 Excavator
CAT 328 Excavator
Komatsu PC138 Excavator
ABI Mobilram Drill Rig
Delmag Drill Rig
Bauer RTG RG 27S
Bauer BG45 Drill Rig
Jerome J505 Mercury Vapor Analyzer
RKI GX-6000 Photoionization Detector (PID)
Aeroqual ASQ1 Air Monitoring Station

PRESENT AT SITE: **Day 193**
Langan (Environmental/Geotechnical) Jack Millman, Michael Cole, Pepper Greenley, JN Stanley, Pradeep Pandey
Suffolk Construction (Suffolk) (General Contractor) Anthony Galu, Wyatt Favia
East Coast Drilling, Inc. (ECD) (Foundation Contractor) Danny Rodgers
New York State Department of Environmental Conservation (NYSDEC) Shawn Roberts

OBSERVATIONS, DISCUSSIONS, TEST RESULTS, ETC.:

Langan was present to document remediation activities in accordance with the NYSDEC-approved November 2021 Remedial Action Work Plan (RAWP) at the 250 Water Street site (NYSDEC Brownfield Cleanup Program [BCP] Site No C231127).

Site Activities

- ECD used a Bauer RTG RG 27S drill rig to pre-drill two boreholes in the eastern part of the site to loosen the underlying soil in preparation for soil mix column installation.
- ECD used a Bauer BG45 drill rig to install two deep soil mix columns for support-of-excavation (SOE) installation in the eastern part of the site (along Peck Slip). ECD's drill rig advanced a steel rod with two cutter blades at the bottom of the rod, while concurrently injecting grout through the cutting head and spinning and advancing the blades downward to depths between about 90 and 96 feet below grade surface (bgs).
    - No drilling spoils were generated during installation of the soil mix column.
    - Excess grout was contained within a temporary containment area in the eastern part of the site and will be managed as construction and demolition (C&D) debris at a later date.
- ECD excavated an about 5-foot-long by 5-foot-wide area and an about 5-foot-long by 10-foot-wide area to a maximum depth of about 8 feet bgs in the northwest part of the site (waste characterization cells WC01 and WC02) to install timber lagging for the SOE system.
    - Excavated soil/fill was screened for odors, staining, organic vapors, and mercury vapor using a handheld photoionization detector (PID) and handheld Jerome® J505 mercury vapor analyzer, respectively. No evidence of impacts was observed and the excavated soil/fill was temporarily graded adjacent to the excavation area for future off-site disposal.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Material Tracking

- No material was exported from the site.
- No material was imported to the site.

Material Import Summary

Facility Name Location Type of Material	Stone Industries, Inc. Haledon, NJ 1.5/2.5-inch Virgin Stone		Stone Industries, Inc. Haledon, NJ 0.75-inch Virgin Stone		Impact Reuse & Recovery Center or Impact Materials Jersey City, Lyndhurst/Jersey City, NJ 1.5-inch Clean Bluestone		Impact Reuse & Recovery Center, Lyndhurst, NJ General Fill	
Quantities	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)
Today	0	0	0	0	0	0	0	0
Project Total	12	283.91	0	0	15	339.65	374	9,157.85
NYSDEC Approved:	1,800 tons*				720 tons*		19,500 tons*	

*0.75-inch, 1.5-inch, and 2.5-inch virgin stone from the Stone Industries, Inc. facility and 1.5-inch clean bluestone from the Impact Reuse & Recovery Center (IRRC) facility were approved for import of 1,000 cubic yards (CY) and 400 CY, respectively. Assuming a conversion factor of 1.8, each quantity was converted to tons in order to accurately compare with import weight tickets. General fill from the IRRC facility was approved for import of 13,000 CY and a conversion factor of 1.5 is applied.

Material Export Summary (1 of 3)

Facility Name Location Type of Material	Allocco Recycling Brooklyn, NY Construction & Demolition (C&D) Debris		IRRC Lyndhurst, NJ C&D Debris		Earth Efficient MSM East Stroudsburg, PA C&D Debris		Clean Earth of North Jersey Kearny, NJ Hazardous Lead-Impacted Soil/Fill	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	0	0	0	0
Project Total	5	85	42	840	28	560	95	1,900

Material Export Summary (2 of 3)

Facility Name Location Type of Material	Middlesex County Landfill East Brunswick, NJ Non-hazardous Soil/Fill		Bayshore Soil Management Keasbey, NJ Petroleum-Impacted Soil/Fill		Clean Earth of Carteret, NJ Carteret, NJ Non-hazardous Soil/Fill	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	0	0
Project Total	273	5,460	267	5,340	66	1,320

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Material Export Summary (3 of 3)		
Facility Name **Location** **Type of Material**	**Clean Earth of North Jersey** **Kearny, NJ** **Non-hazardous Soil/Fill**	
Quantities	No. of Loads	Approx. Volume (CY)
Today	0	0
Project Total	216	4,320

Sampling

- No samples were collected.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

CAMP Activities

Langan performed air monitoring at the perimeter of the site, at the northern sidewalk of Pearl Street, at the western sidewalk of Beekman Street, at the eastern sidewalk of Peck Slip, and at the southern sidewalk of Water Street at eight total locations for mercury vapor, volatile organic compounds (VOCs), and particulate matter less than 10 microns in diameter (PM10) from about 7:03am to 5:00pm. There were no fifteen-minute average concentrations for mercury vapor, VOCs or PM10 that approached or exceeded the action levels established by the CAMP (1.00 µg/m^3, 5.0 ppm, or 0.100 mg/m^3, respectively).

Background Concentrations

Prior to implementation of CAMP, instantaneous background concentrations of mercury vapor and VOCs were recorded using a handheld Jerome® J505 mercury vapor analyzer and a handheld PID, respectively.

- Background concentrations of mercury vapor at each CAMP station ranged from 0.00 to 0.02 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

Perimeter and Work Zone Concentrations

Daily Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.008	0.00	0.02
PM-2	0.007	0.00	0.01
PM-3	0.007	0.00	0.01
PM-4	0.007	0.00	0.02
WZ-1	0.006	0.00	0.00
WZ-2	0.006	0.00	0.00
WZ-3	0.006	0.00	0.01
WZ-4	0.007	0.00	0.01

Maximum 15-Minute-Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.014	0.03	0.15
PM-2	0.013	0.00	0.04
PM-3	0.011	0.02	0.07
PM-4	0.010	0.01	0.05
WZ-1	0.009	0.03	0.01
WZ-2	0.011	0.02	0.01
WZ-3	0.008	0.01	0.02
WZ-4	0.025	0.01	0.04

●mg/m^3 = milligrams per cubic meter ●ppm = parts per million ●µg/m^3 = micrograms per cubic meter

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Ambient Air (Handheld Jerome® J505 and Handheld PID)

- The dedicated mobile monitor (Langan) used a handheld Jerome® J505 mercury vapor analyzer to monitor ambient air conditions at various heights throughout the site. Instantaneous mercury vapor concentrations throughout the site ranged from 0.00 µg/m^3 to 0.17 µg/m^3.
- The dedicated mobile monitor (Langan) used a handheld PID to monitor VOC concentrations throughout the site. Instantaneous VOC concentrations were not detected above background concentrations throughout the workday.

Off-site CAMP Stations

- CAMP station WZ-1 was placed on the western sidewalk of Beekman Street from about 6:38am to 5:15pm.
- CAMP station WZ-2 was placed on the southern sidewalk of Water Street from about 6:41am to 5:19pm.
- CAMP station WZ-3 was placed on the eastern sidewalk of Peck Slip from about 6:46am to 5:34pm.
- CAMP station WZ-4 was placed on the northern sidewalk of Pearl Street from about 6:49am to 5:26pm.

Prior to CAMP Shutdown

Prior to discontinuing CAMP, mercury vapor and VOC concentrations were confirmed to return to background conditions at each perimeter station using the handheld Jerome® J505 mercury vapor analyzer and handheld PID, respectively. Perimeter CAMP stations were discontinued sequentially between 5:00pm and 5:06pm.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

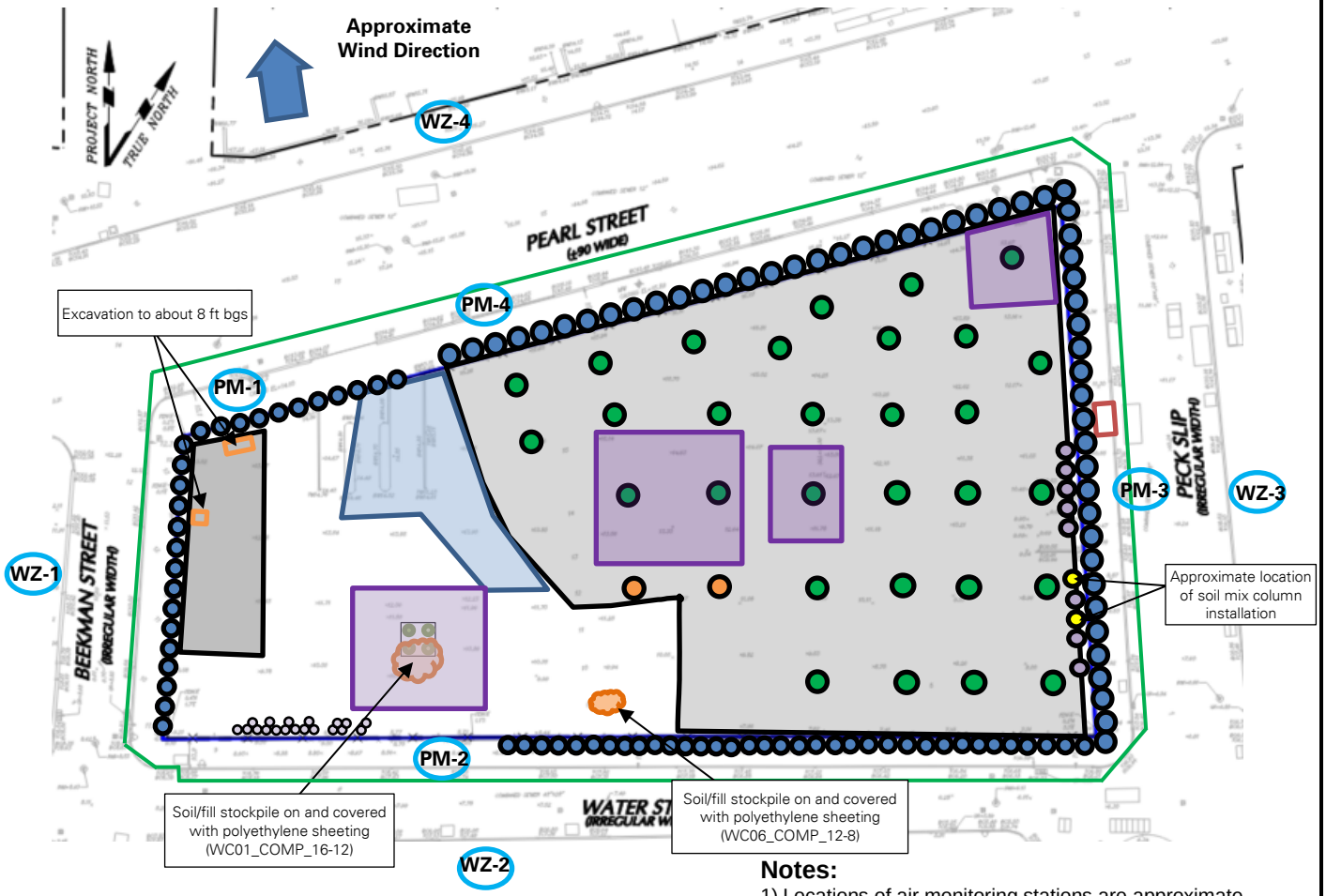
Anticipated Activities

- ECD will continue exporting C&D and soil/fill from the western part of the site for off-site disposal.
- ECD will continue installing soil mix columns and/or soldier piles for SOE installation along Pearl Street and Peck Slip.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Site Map



Notes:
1) Locations of air monitoring stations are approximate.

Legend:

- PM-1 — Approximate Location of Air Monitoring Station
- Approximate Work Area
- Approximate Location of Installed Pile Cap
- Approximate Location of Foundation Piles Completed
- Approximate Location of Truck Tracking Pad
- Approximate Location of Underground Storage Tank
- Approximate Location of C&D Stockpile
- Approximate Location of Soil/Fill Stockpile
- Approximate Location of Soldier Pile
- Approximate Location of Soil Mix Column Installed Today
- Approximate Location of Soil Mix Column Installed Previously
- Approximate Perimeter Construction Fence Location
- Previous Excavation Area
- Approximate Excavation Area
- Approximate Location of Documentation Sample
- Approximate Location of Previously Collected Endpoint Sample
- Approximate Location of Imported Fill/Stone

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Select Site Photographs:



Photo 1: Timber lagging installed along the northern perimeter of the site (facing northwest)



Photo 2: ECD installing a soil mix column in the eastern part of the site (facing southeast)

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

PROJECT No.:	170381202	**CLIENT:** 250 Seaport District, LLC c/o The Howard Hughes Corporation	**DATE:**	Thursday, August 31, 2023
PROJECT:	250 Water Street		**WEATHER:**	Partly Sunny, 68 – 76° F Wind: NE @ 0.3 – 2.5 mph
LOCATION:	New York, NY		**TIME:**	5:45am – 4:30pm
BCP SITE ID:	C231127		**MONITOR**	Jack Millman

EQUIPMENT:
CAT 335 Excavator
CAT 328 Excavator
Komatsu PC138 Excavator
Delmag Drill Rig
Bauer RTG RG 27S
Bauer BG45 Drill Rig
Jerome J505 Mercury Vapor Analyzer
RKI GX-6000 Photoionization Detector (PID)
Aeroqual ASQ1 Air Monitoring Station

PRESENT AT SITE: **Day 194**
Langan (Environmental/Geotechnical) Jack Millman, Michael Cole, Pepper Greenley, Pradeep Pandey
Suffolk Construction (Suffolk) (General Contractor) Anthony Galu, Wyatt Favia
East Coast Drilling, Inc. (ECD) (Foundation Contractor) Danny Rodgers
New York State Department of Environmental Conservation (NYSDEC) Shawn Roberts

OBSERVATIONS, DISCUSSIONS, TEST RESULTS, ETC.:

Langan was present to document remediation activities in accordance with the NYSDEC-approved November 2021 Remedial Action Work Plan (RAWP) at the 250 Water Street site (NYSDEC Brownfield Cleanup Program [BCP] Site No C231127).

Site Activities

- ECD used a Bauer RTG RG 27S drill rig to pre-drill one borehole in the southeast part of the site to loosen the underlying soil in preparation for soil mix column installation.
- ECD used a Bauer BG45 drill rig to install one deep soil mix column for support-of-excavation (SOE) installation in the southeast part of the site (along Water Street). ECD's drill rig advanced a steel rod with two cutter blades at the bottom of the rod, while concurrently injecting grout through the cutting head and spinning and advancing the blades downward to a depth of about 93 feet below grade surface (bgs).
    - No drilling spoils were generated during installation of the soil mix column.
    - Excess grout was contained within a temporary containment area in the eastern part of the site and will be managed as construction and demolition (C&D) debris at a later date.
- ECD excavated an about 10-foot-long by 10-foot-wide area and an about 10-foot-long by 20-foot-wide area to a maximum depth of about 8 feet bgs in the western part of the site (waste characterization cells WC01 and WC03) to install timber lagging for the SOE system.
    - Excavated soil/fill was screened for odors, staining, organic vapors, and mercury vapor using a handheld photoionization detector (PID) and handheld Jerome® J505 mercury vapor analyzer, respectively. No evidence of impacts was observed and the excavated soil/fill was temporarily backfilled into the original location following installation of timber lagging.
- ECD temporarily backfilled an about 30-foot-long by 10-foot-wide area and an about 5-foot-long by 10-foot-wide area from about 8 to 5 feet bgs using previously excavated soil/fill originating from the same area in the western part of the site (waste characterization cells WC01 and WC02) following installation of timber lagging for the SOE system.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Material Tracking

- No material was exported from the site.
- No material was imported to the site.

Material Import Summary

Facility Name Location Type of Material	Stone Industries, Inc. Haledon, NJ 1.5/2.5-inch Virgin Stone		Stone Industries, Inc. Haledon, NJ 0.75-inch Virgin Stone		Impact Reuse & Recovery Center or Impact Materials Jersey City, Lyndhurst/Jersey City, NJ 1.5-inch Clean Bluestone		Impact Reuse & Recovery Center, Lyndhurst, NJ General Fill	
Quantities	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)
Today	0	0	0	0	0	0	0	0
Project Total	12	283.91	0	0	15	339.65	374	9,157.85
NYSDEC Approved:	1,800 tons*				720 tons*		19,500 tons*	

*0.75-inch, 1.5-inch, and 2.5-inch virgin stone from the Stone Industries, Inc. facility and 1.5-inch clean bluestone from the Impact Reuse & Recovery Center (IRRC) facility were approved for import of 1,000 cubic yards (CY) and 400 CY, respectively. Assuming a conversion factor of 1.8, each quantity was converted to tons in order to accurately compare with import weight tickets. General fill from the IRRC facility was approved for import of 13,000 CY and a conversion factor of 1.5 is applied.

Material Export Summary (1 of 3)

Facility Name Location Type of Material	Allocco Recycling Brooklyn, NY Construction & Demolition (C&D) Debris		IRRC Lyndhurst, NJ C&D Debris		Earth Efficient MSM East Stroudsburg, PA C&D Debris		Clean Earth of North Jersey Kearny, NJ Hazardous Lead-Impacted Soil/Fill	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	0	0	0	0
Project Total	5	85	42	840	28	560	95	1,900

Material Export Summary (2 of 3)

Facility Name Location Type of Material	Middlesex County Landfill East Brunswick, NJ Non-hazardous Soil/Fill		Bayshore Soil Management Keasbey, NJ Petroleum-Impacted Soil/Fill		Clean Earth of Carteret, NJ Carteret, NJ Non-hazardous Soil/Fill	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	0	0
Project Total	273	5,460	267	5,340	66	1,320

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Material Export Summary (3 of 3)		
Facility Name **Location** **Type of Material**	**Clean Earth of North Jersey** **Kearny, NJ** **Non-hazardous Soil/Fill**	
Quantities	No. of Loads	Approx. Volume (CY)
Today	0	0
Project Total	201	4,020

Sampling

- No samples were collected.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

CAMP Activities

Langan performed air monitoring at the perimeter of the site, at the northern sidewalk of Pearl Street, at the western sidewalk of Beekman Street, at the eastern sidewalk of Peck Slip, and at the southern sidewalk of Water Street at eight total locations for mercury vapor, volatile organic compounds (VOCs), and particulate matter less than 10 microns in diameter (PM10) from about 7:17am to 3:32pm. There were no fifteen-minute average concentrations for mercury vapor, VOCs or PM10 that approached or exceeded the action levels established by the CAMP (1.00 µg/m^3, 5.0 ppm, or 0.100 mg/m^3, respectively).

Background Concentrations

Prior to implementation of CAMP, instantaneous background concentrations of mercury vapor and VOCs were recorded using a handheld Jerome® J505 mercury vapor analyzer and a handheld PID, respectively.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

Perimeter and Work Zone Concentrations

Daily Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.006	0.01	0.01
PM-2	0.003	0.00	0.00
PM-3	0.006	0.00	0.01
PM-4	0.003	0.00	0.01
WZ-1	0.002	0.00	0.00
WZ-2	0.002	0.00	0.00
WZ-3	0.003	0.00	0.01
WZ-4	0.003	0.00	0.02

Maximum 15-Minute-Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.015	0.22	0.02
PM-2	0.005	0.02	0.03
PM-3	0.017	0.03	0.04
PM-4	0.005	0.09	0.03
WZ-1	0.003	0.01	0.01
WZ-2	0.003	0.00	0.01
WZ-3	0.005	0.00	0.03
WZ-4	0.003	0.01	0.03

●mg/m^3 = milligrams per cubic meter ●ppm = parts per million ●µg/m^3 = micrograms per cubic meter

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Ambient Air (Handheld Jerome® J505 and Handheld PID)

- The dedicated mobile monitor (Langan) used a handheld Jerome® J505 mercury vapor analyzer to monitor ambient air conditions at various heights throughout the site. Instantaneous mercury vapor concentrations throughout the site ranged from 0.00 µg/m^3 to 0.15 µg/m^3.
- The dedicated mobile monitor (Langan) used a handheld PID to monitor VOC concentrations throughout the site. Instantaneous VOC concentrations were not detected above background concentrations throughout the workday.

Off-site CAMP Stations

- CAMP station WZ-1 was placed on the western sidewalk of Beekman Street from about 6:50am to 3:47pm.
- CAMP station WZ-2 was placed on the southern sidewalk of Water Street from about 6:52am to 3:52pm.
- CAMP station WZ-3 was placed on the eastern sidewalk of Peck Slip from about 6:54am to 4:01pm.
- CAMP station WZ-4 was placed on the northern sidewalk of Pearl Street from about 6:56am to 4:10pm.

Prior to CAMP Shutdown

Prior to discontinuing CAMP, mercury vapor and VOC concentrations were confirmed to return to background conditions at each perimeter station using the handheld Jerome® J505 mercury vapor analyzer and handheld PID, respectively. Perimeter CAMP stations were discontinued sequentially between 3:32pm and 3:41pm.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

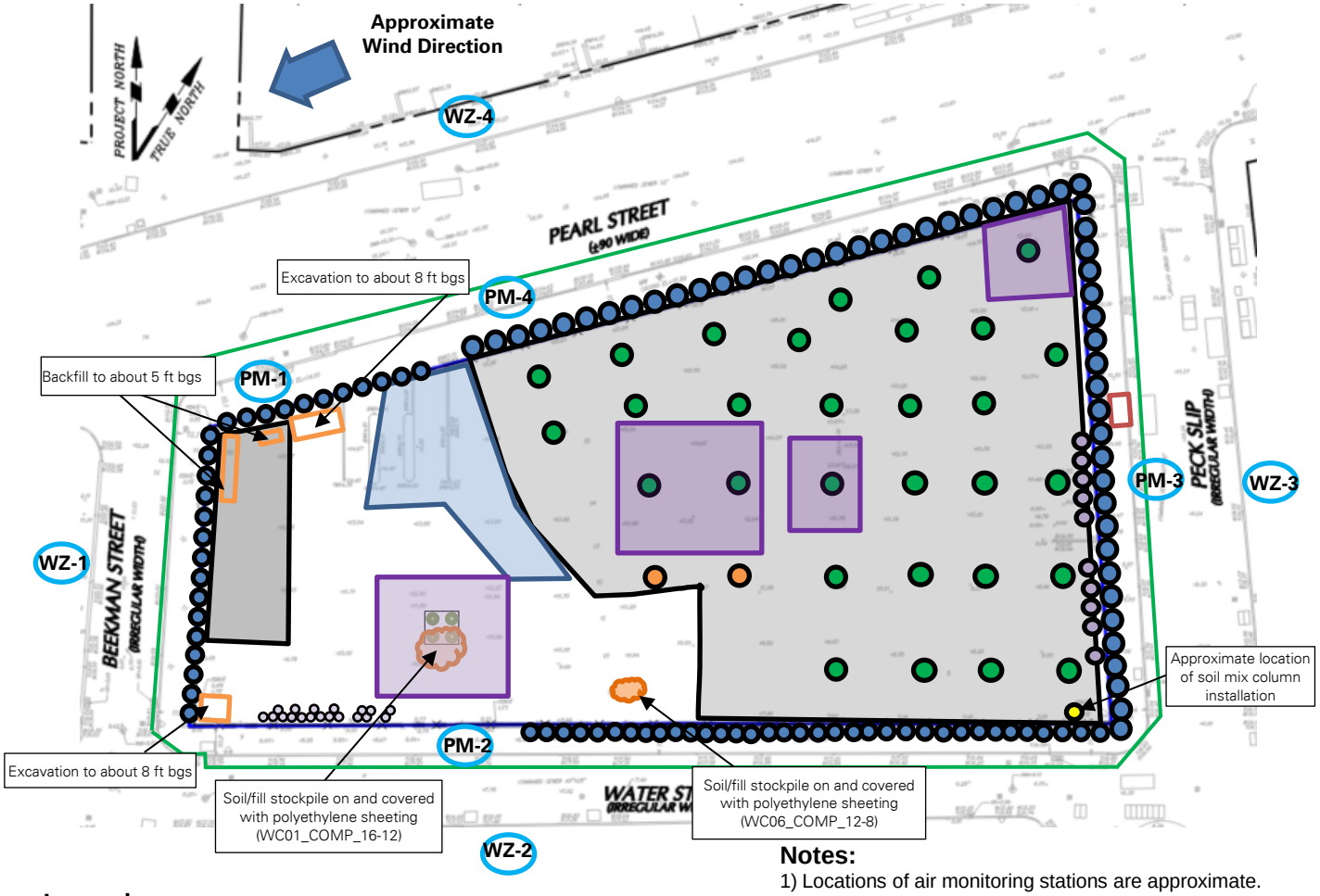
Anticipated Activities

- ECD will continue exporting C&D and soil/fill from the western part of the site for off-site disposal.
- ECD will continue installing soil mix columns and/or soldier piles for SOE installation along Pearl Street and Peck Slip.
- ECD will continue installation of timber lagging for the SOE system in the western part of the site.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Site Map



Legend:

- PM-1 — Approximate Location of Air Monitoring Station
- Approximate Work Area
- Approximate Location of Installed Pile Cap
- Approximate Location of Foundation Piles Completed
- Approximate Location of Truck Tracking Pad
- Approximate Location of Underground Storage Tank
- Approximate Location of C&D Stockpile
- Approximate Location of Soil/Fill Stockpile
- Approximate Location of Soldier Pile
- Approximate Location of Soil Mix Column Installed Today
- Approximate Location of Soil Mix Column Installed Previously
- Approximate Perimeter Construction Fence Location
- Previous Excavation Area
- Approximate Excavation Area
- Approximate Location of Documentation Sample
- Approximate Location of Previously Collected Endpoint Sample
- Approximate Location of Imported Fill/Stone

Notes:

1) Locations of air monitoring stations are approximate.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Select Site Photographs:



Photo 1: General view of the eastern part of the site (facing northeast)



Photo 2: ECD temporarily backfilling previously excavated soil/fill in the western part of the site (facing north)

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

PROJECT No.:	170381202	**CLIENT:** 250 Seaport District, LLC c/o The Howard Hughes Corporation	**DATE:**	Friday, September 1, 2023
PROJECT:	250 Water Street		**WEATHER:**	Partly Sunny, 62 – 72° F Wind: E @ 0.3 – 2.3 mph
LOCATION:	New York, NY		**TIME:**	5:45am – 5:00pm
BCP SITE ID:	C231127		**MONITOR**	Jack Millman

EQUIPMENT:
CAT 335 Excavator
CAT 328 Excavator
Komatsu PC138 Excavator
Delmag Drill Rig
Bauer RTG RG 27S
Bauer BG45 Drill Rig
Jerome J505 Mercury Vapor Analyzer
RKI GX-6000 Photoionization Detector (PID)
Aeroqual ASQ1 Air Monitoring Station

PRESENT AT SITE: **Day 195**
Langan (Environmental/Geotechnical) Jack Millman, Michael Cole, Pepper Greenley, Pradeep Pandey
Suffolk Construction (Suffolk) (General Contractor) Anthony Galu, Wyatt Favia
East Coast Drilling, Inc. (ECD) (Foundation Contractor) Danny Rodgers
New York State Department of Environmental Conservation (NYSDEC) Shawn Roberts

OBSERVATIONS, DISCUSSIONS, TEST RESULTS, ETC.:

Langan was present to document remediation activities in accordance with the NYSDEC-approved November 2021 Remedial Action Work Plan (RAWP) at the 250 Water Street site (NYSDEC Brownfield Cleanup Program [BCP] Site No C231127).

Site Activities

- ECD used a Bauer BG45 drill rig to install one deep soil mix column for support-of-excavation (SOE) installation in the eastern part of the site (along Peck Slip Street). ECD's drill rig advanced a steel rod with two cutter blades at the bottom of the rod, while concurrently injecting grout through the cutting head and spinning and advancing the blades downward to a depth of about 78 feet below grade surface (bgs).
    - No drilling spoils were generated during installation of the soil mix column.
    - Excess grout was contained within a temporary containment area in the eastern part of the site and will be managed as construction and demolition (C&D) debris at a later date.
- ECD excavated an about 5-foot-long by 10-foot-wide area to a maximum depth of about 8 feet bgs in the southwest part of the site (waste characterization cell WC03) to install timber lagging for the SOE system.
    - Excavated soil/fill was screened for odors, staining, organic vapors, and mercury vapor using a handheld photoionization detector (PID) and handheld Jerome® J505 mercury vapor analyzer, respectively. No evidence of impacts was observed and the excavated soil/fill was temporarily backfilled into the original location following installation of timber lagging.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Material Tracking

- No material was exported from the site.
- No material was imported to the site.

Material Import Summary

Facility Name Location Type of Material	Stone Industries, Inc. Haledon, NJ 1.5/2.5-inch Virgin Stone		Stone Industries, Inc. Haledon, NJ 0.75-inch Virgin Stone		Impact Reuse & Recovery Center or Impact Materials Jersey City, Lyndhurst/Jersey City, NJ 1.5-inch Clean Bluestone		Impact Reuse & Recovery Center, Lyndhurst, NJ General Fill	
Quantities	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)
Today	0	0	0	0	0	0	0	0
Project Total	12	283.91	0	0	15	339.65	374	9,157.85
NYSDEC Approved:	1,800 tons*				720 tons*		19,500 tons*	

*0.75-inch, 1.5-inch, and 2.5-inch virgin stone from the Stone Industries, Inc. facility and 1.5-inch clean bluestone from the Impact Reuse & Recovery Center (IRRC) facility were approved for import of 1,000 cubic yards (CY) and 400 CY, respectively. Assuming a conversion factor of 1.8, each quantity was converted to tons in order to accurately compare with import weight tickets. General fill from the IRRC facility was approved for import of 13,000 CY and a conversion factor of 1.5 is applied.

Material Export Summary (1 of 3)

Facility Name Location Type of Material	Allocco Recycling Brooklyn, NY Construction & Demolition (C&D) Debris		IRRC Lyndhurst, NJ C&D Debris		Earth Efficient MSM East Stroudsburg, PA C&D Debris		Clean Earth of North Jersey Kearny, NJ Hazardous Lead-Impacted Soil/Fill	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	0	0	0	0
Project Total	5	85	42	840	28	560	95	1,900

Material Export Summary (2 of 3)

Facility Name Location Type of Material	Middlesex County Landfill East Brunswick, NJ Non-hazardous Soil/Fill		Bayshore Soil Management Keasbey, NJ Petroleum-Impacted Soil/Fill		Clean Earth of Carteret, NJ Carteret, NJ Non-hazardous Soil/Fill	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	0	0
Project Total	273	5,460	267	5,340	66	1,320

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Material Export Summary (3 of 3)		
Facility Name **Location** **Type of Material**	**Clean Earth of North Jersey** **Kearny, NJ** **Non-hazardous Soil/Fill**	
Quantities	No. of Loads	Approx. Volume (CY)
Today	0	0
Project Total	201	4,020

Sampling

- No samples were collected.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

CAMP Activities

Langan performed air monitoring at the perimeter of the site, at the northern sidewalk of Pearl Street, at the western sidewalk of Beekman Street, at the eastern sidewalk of Peck Slip, and at the southern sidewalk of Water Street at eight total locations for mercury vapor, volatile organic compounds (VOCs), and particulate matter less than 10 microns in diameter (PM10) from about 6:53am to 4:07pm. There were no fifteen-minute average concentrations for mercury vapor, VOCs or PM10 that approached or exceeded the action levels established by the CAMP (1.00 µg/m^3, 5.0 ppm, or 0.100 mg/m^3, respectively).

Background Concentrations

Prior to implementation of CAMP, instantaneous background concentrations of mercury vapor and VOCs were recorded using a handheld Jerome® J505 mercury vapor analyzer and a handheld PID, respectively.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

Perimeter and Work Zone Concentrations

Daily Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.004	0.00	0.01
PM-2	0.005	0.01	0.01
PM-3	0.006	0.01	0.00
PM-4	0.003	0.00	0.01
WZ-1	0.003	0.00	0.00
WZ-2	0.003	0.00	0.00
WZ-3	0.003	0.00	0.01
WZ-4	0.003	0.00	0.01

Maximum 15-Minute-Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.015	0.00	0.04
PM-2	0.048	0.10	0.21
PM-3	0.030	0.16	0.01
PM-4	0.005	0.01	0.04
WZ-1	0.007	0.01	0.01
WZ-2	0.005	0.07	0.01
WZ-3	0.005	0.02	0.02
WZ-4	0.005	0.00	0.04

●mg/m^3 = milligrams per cubic meter ●ppm = parts per million ●µg/m^3 = micrograms per cubic meter

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Ambient Air (Handheld Jerome® J505 and Handheld PID)

- The dedicated mobile monitor (Langan) used a handheld Jerome® J505 mercury vapor analyzer to monitor ambient air conditions at various heights throughout the site. Instantaneous mercury vapor concentrations throughout the site ranged from 0.00 µg/m^3 to 0.15 µg/m^3.
- The dedicated mobile monitor (Langan) used a handheld PID to monitor VOC concentrations throughout the site. Instantaneous VOC concentrations were not detected above background concentrations throughout the workday.

Off-site CAMP Stations

- CAMP station WZ-1 was placed on the western sidewalk of Beekman Street from about 6:41am to 4:30pm.
- CAMP station WZ-2 was placed on the southern sidewalk of Water Street from about 6:43am to 4:34pm.
- CAMP station WZ-3 was placed on the eastern sidewalk of Peck Slip from about 6:45am to 4:41pm.
- CAMP station WZ-4 was placed on the northern sidewalk of Pearl Street from about 6:47am to 4:49pm.

Prior to CAMP Shutdown

Prior to discontinuing CAMP, mercury vapor and VOC concentrations were confirmed to return to background conditions at each perimeter station using the handheld Jerome® J505 mercury vapor analyzer and handheld PID, respectively. Perimeter CAMP stations were discontinued sequentially between 4:07pm and 4:19pm.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

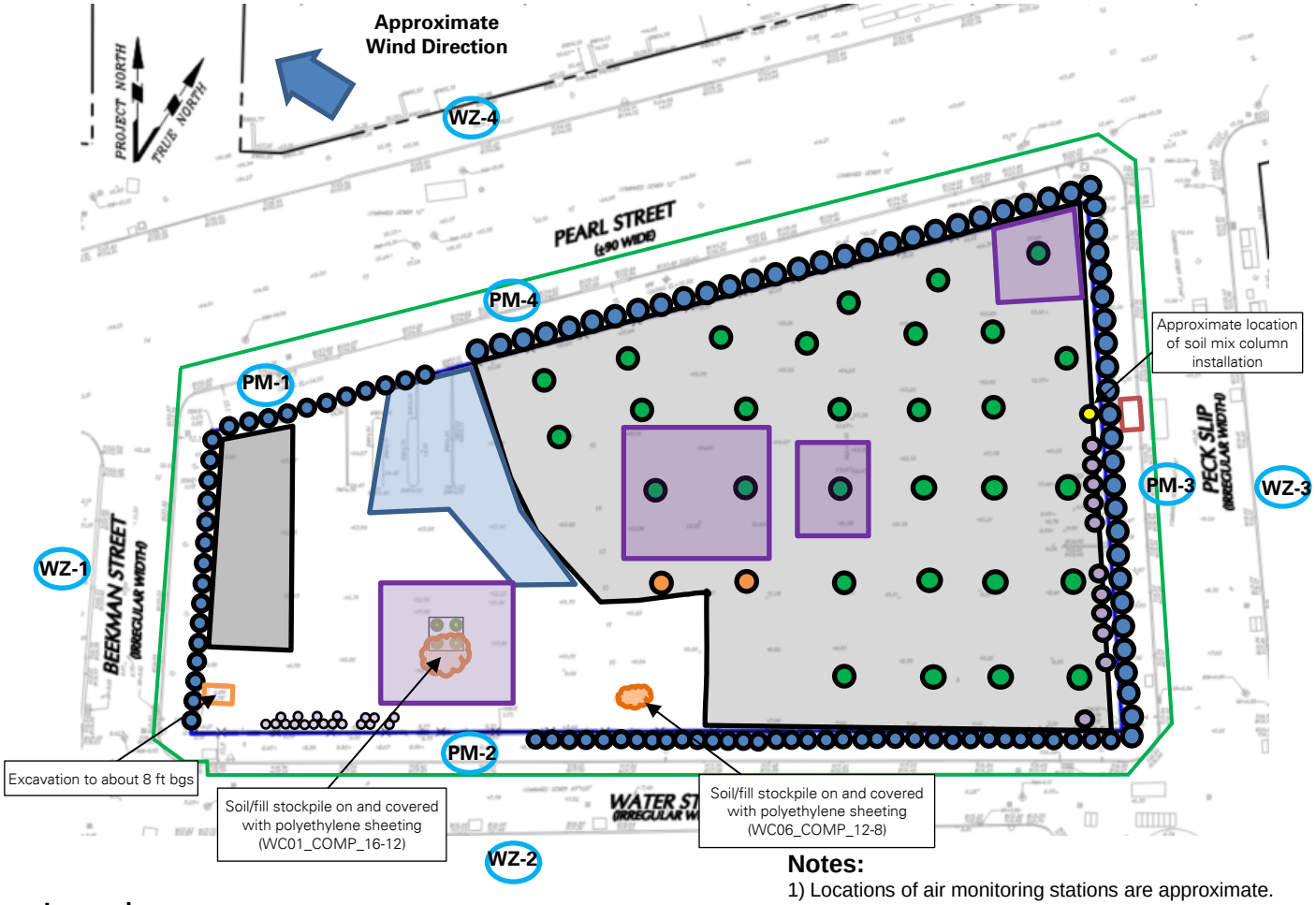
Anticipated Activities

- ECD will continue exporting C&D and soil/fill from the western part of the site for off-site disposal.
- ECD will continue installing soil mix columns and/or soldier piles for SOE installation along Pearl Street and Peck Slip.
- ECD will continue installation of timber lagging for the SOE system in the western part of the site.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Site Map



Notes:
1) Locations of air monitoring stations are approximate.

Legend:

- PM-1 — Approximate Location of Air Monitoring Station
- Approximate Work Area
- Approximate Location of Installed Pile Cap
- Approximate Location of Foundation Piles Completed
- Approximate Location of Truck Tracking Pad
- Approximate Location of Underground Storage Tank
- Approximate Location of C&D Stockpile
- Approximate Location of Soil/Fill Stockpile
- Approximate Location of Soldier Pile
- Approximate Location of Soil Mix Column Installed Today
- Approximate Location of Soil Mix Column Installed Previously
- Approximate Perimeter Construction Fence Location
- Previous Excavation Area
- Approximate Excavation Area
- Approximate Location of Documentation Sample
- Approximate Location of Previously Collected Endpoint Sample
- Approximate Location of Imported Fill/Stone

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Select Site Photographs:

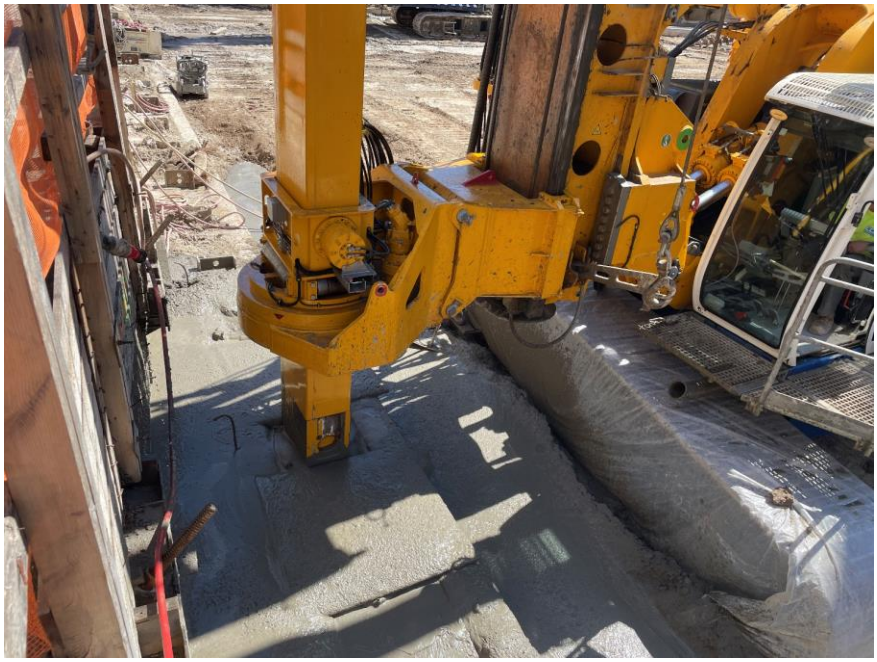


Photo 1: ECD installing a soil mix column in the eastern part of the site (facing southwest)



Photo 2: ECD excavating soil/fill in the western part of the site for timber lagging installation (facing west)

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

PROJECT No.:	170381202	**CLIENT:** 250 Seaport District, LLC c/o The Howard Hughes Corporation	**DATE:**	Tuesday, September 5, 2023
PROJECT:	250 Water Street		**WEATHER:**	Partly Sunny, 80 – 92° F Wind: SE @ 0.2 – 1.7 mph
LOCATION:	New York, NY		**TIME:**	5:45am – 5:15pm
BCP SITE ID:	C231127		**MONITOR**	Jack Millman

EQUIPMENT:
CAT 335 Excavator
CAT 328 Excavator
Komatsu PC138 Excavator
Delmag Drill Rig
Bauer RTG RG 27S
Bauer BG45 Drill Rig
Jerome J505 Mercury Vapor Analyzer
RKI GX-6000 Photoionization Detector (PID)
Aeroqual ASQ1 Air Monitoring Station

PRESENT AT SITE: **Day 196**
Langan (Environmental/Geotechnical) Jack Millman, Michael Cole, Pepper Greenley, Pradeep Pandey
Suffolk Construction (Suffolk) (General Contractor) Anthony Galu, Wyatt Favia
East Coast Drilling, Inc. (ECD) (Foundation Contractor) Danny Rodgers
New York State Department of Environmental Conservation (NYSDEC) Mike Sollecito

OBSERVATIONS, DISCUSSIONS, TEST RESULTS, ETC.:

Langan was present to document remediation activities in accordance with the NYSDEC-approved November 2021 Remedial Action Work Plan (RAWP) at the 250 Water Street site (NYSDEC Brownfield Cleanup Program [BCP] Site No C231127).

Site Activities

- ECD used a Bauer RTG RG 27S drill rig to pre-drill one borehole in the eastern part of the site to loosen the underlying soil in preparation for soil mix column installation.
- ECD used a Bauer BG45 drill rig to install two deep soil mix columns for support-of-excavation (SOE) installation in the eastern part of the site (along Peck Slip Street). ECD's drill rig advanced a steel rod with two cutter blades at the bottom of the rod, while concurrently injecting grout through the cutting head and spinning and advancing the blades downward to a depth of about 79 feet below grade surface (bgs).
    - No drilling spoils were generated during installation of the soil mix column.
    - Excess grout was contained within a temporary containment area in the eastern part of the site and will be managed as construction and demolition (C&D) debris at a later date.
- ECD excavated an about 5-foot-long by 15-foot-wide area to a maximum depth of about 6 feet bgs in the southern part of the site (waste characterization cell WC06) to identify potential obstructions prior to SOE installation.
    - Excavated soil/fill was screened for odors, staining, organic vapors, and mercury vapor using a handheld photoionization detector (PID) and handheld Jerome® J505 mercury vapor analyzer, respectively. No evidence of impacts was observed and the excavated soil/fill was temporarily backfilled into the original location following removal of concrete obstructions.
    - Atmos® AC-645 odor/vapor suppressing foam was actively applied to the soil/fill during excavation as a precautionary measure.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Material Tracking

- No material was exported from the site.
- No material was imported to the site.

Material Import Summary

Facility Name Location Type of Material	Stone Industries, Inc. Haledon, NJ 1.5/2.5-inch Virgin Stone		Stone Industries, Inc. Haledon, NJ 0.75-inch Virgin Stone		Impact Reuse & Recovery Center or Impact Materials Jersey City, Lyndhurst/Jersey City, NJ 1.5-inch Clean Bluestone		Impact Reuse & Recovery Center, Lyndhurst, NJ General Fill	
Quantities	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)
Today	0	0	0	0	0	0	0	0
Project Total	12	283.91	0	0	15	339.65	374	9,157.85
NYSDEC Approved:	1,800 tons*				720 tons*		19,500 tons*	

*0.75-inch, 1.5-inch, and 2.5-inch virgin stone from the Stone Industries, Inc. facility and 1.5-inch clean bluestone from the Impact Reuse & Recovery Center (IRRC) facility were approved for import of 1,000 cubic yards (CY) and 400 CY, respectively. Assuming a conversion factor of 1.8, each quantity was converted to tons in order to accurately compare with import weight tickets. General fill from the IRRC facility was approved for import of 13,000 CY and a conversion factor of 1.5 is applied.

Material Export Summary (1 of 3)

Facility Name Location Type of Material	Allocco Recycling Brooklyn, NY Construction & Demolition (C&D) Debris		IRRC Lyndhurst, NJ C&D Debris		Earth Efficient MSM East Stroudsburg, PA C&D Debris		Clean Earth of North Jersey Kearny, NJ Hazardous Lead-Impacted Soil/Fill	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	0	0	0	0
Project Total	5	85	42	840	28	560	95	1,900

Material Export Summary (2 of 3)

Facility Name Location Type of Material	Middlesex County Landfill East Brunswick, NJ Non-hazardous Soil/Fill		Bayshore Soil Management Keasbey, NJ Petroleum-Impacted Soil/Fill		Clean Earth of Carteret, NJ Carteret, NJ Non-hazardous Soil/Fill	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	0	0
Project Total	273	5,460	267	5,340	66	1,320

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Material Export Summary (3 of 3)		
Facility Name **Location** **Type of Material**	**Clean Earth of North Jersey** **Kearny, NJ** **Non-hazardous Soil/Fill**	
Quantities	No. of Loads	Approx. Volume (CY)
Today	0	0
Project Total	201	4,020

Sampling

- No samples were collected.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

CAMP Activities

Langan performed air monitoring at the perimeter of the site, at the northern sidewalk of Pearl Street, at the western sidewalk of Beekman Street, at the eastern sidewalk of Peck Slip, and at the southern sidewalk of Water Street at eight total locations for mercury vapor, volatile organic compounds (VOCs), and particulate matter less than 10 microns in diameter (PM10) from about 6:52am to 4:12pm. There were no fifteen-minute average concentrations for mercury vapor, VOCs or PM10 that approached or exceeded the action levels established by the CAMP (1.00 µg/m^3, 5.0 ppm, or 0.100 mg/m^3, respectively).

Background Concentrations

Prior to implementation of CAMP, instantaneous background concentrations of mercury vapor and VOCs were recorded using a handheld Jerome® J505 mercury vapor analyzer and a handheld PID, respectively.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

Perimeter and Work Zone Concentrations

Daily Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.012	0.00	0.01
PM-2	0.012	0.00	0.01
PM-3	0.012	0.01	0.01
PM-4	0.011	0.00	0.01
WZ-1	0.012	0.00	0.00
WZ-2	0.011	0.00	0.00
WZ-3	0.011	0.00	0.00
WZ-4	0.011	0.00	0.02

Maximum 15-Minute-Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.032	0.01	0.02
PM-2	0.029	0.00	0.02
PM-3	0.017	0.10	0.02
PM-4	0.014	0.01	0.03
WZ-1	0.015	0.00	0.01
WZ-2	0.015	0.00	0.01
WZ-3	0.014	0.09	0.00
WZ-4	0.013	0.00	0.05

●mg/m^3 = milligrams per cubic meter ●ppm = parts per million ●µg/m^3 = micrograms per cubic meter

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Ambient Air (Handheld Jerome® J505 and Handheld PID)

- The dedicated mobile monitor (Langan) used a handheld Jerome® J505 mercury vapor analyzer to monitor ambient air conditions at various heights throughout the site. Instantaneous mercury vapor concentrations throughout the site ranged from 0.00 µg/m^3 to 0.15 µg/m^3.
- The dedicated mobile monitor (Langan) used a handheld PID to monitor VOC concentrations throughout the site. Instantaneous VOC concentrations were not detected above background concentrations throughout the workday.

Off-site CAMP Stations

- CAMP station WZ-1 was placed on the western sidewalk of Beekman Street from about 6:38am to 4:25pm.
- CAMP station WZ-2 was placed on the southern sidewalk of Water Street from about 6:40am to 4:30pm.
- CAMP station WZ-3 was placed on the eastern sidewalk of Peck Slip from about 6:42am to 4:37pm.
- CAMP station WZ-4 was placed on the northern sidewalk of Pearl Street from about 6:45am to 4:48pm.

Prior to CAMP Shutdown

Prior to discontinuing CAMP, mercury vapor and VOC concentrations were confirmed to return to background conditions at each perimeter station using the handheld Jerome® J505 mercury vapor analyzer and handheld PID, respectively. Perimeter CAMP stations were discontinued sequentially between 4:12pm and 4:18pm.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

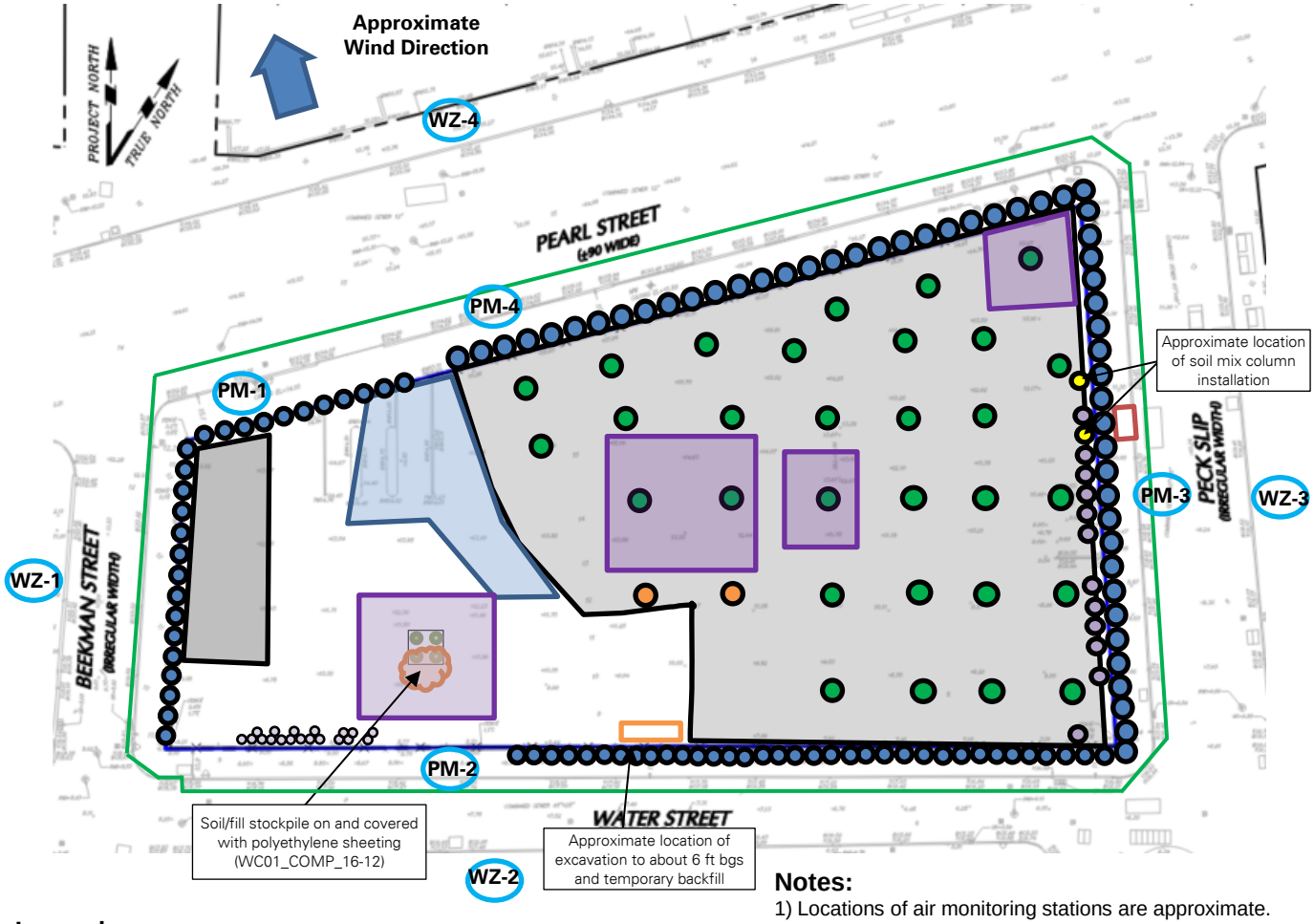
Anticipated Activities

- ECD will continue exporting C&D and soil/fill from the western part of the site for off-site disposal.
- ECD will continue installing soil mix columns and/or soldier piles for SOE installation along Pearl Street and Peck Slip.
- ECD will continue installation of timber lagging for the SOE system in the western part of the site.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Site Map



Notes:
1) Locations of air monitoring stations are approximate.

Legend:

- PM-1 — Approximate Location of Air Monitoring Station
- Approximate Work Area
- Approximate Location of Installed Pile Cap
- Approximate Location of Foundation Piles Completed
- Approximate Location of Truck Tracking Pad
- Approximate Location of Underground Storage Tank
- Approximate Location of C&D Stockpile
- Approximate Location of Soil/Fill Stockpile
- Approximate Location of Soldier Pile
- Approximate Location of Soil Mix Column Installed Today
- Approximate Location of Soil Mix Column Installed Previously
- Approximate Perimeter Construction Fence Location
- Previous Excavation Area
- Approximate Excavation Area
- Approximate Location of Documentation Sample
- Approximate Location of Previously Collected Endpoint Sample
- Approximate Location of Imported Fill/Stone

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Select Site Photographs:

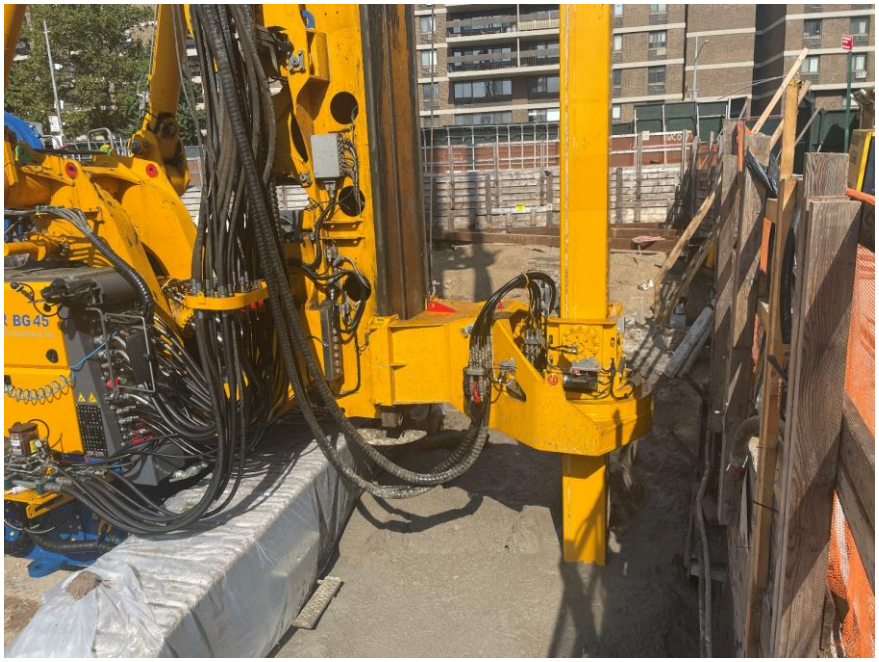


Photo 1: ECD installing a soil mix column in the eastern part of the site (facing north)



Photo 2: Atmos® AC-645 odor/vapor suppressing foam applied to soil/fill in the southern part of the site (facing northwest)

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

PROJECT No.:	170381202	**CLIENT:** 250 Seaport District, LLC c/o The Howard Hughes Corporation	**DATE:**	Wednesday, September 6, 2023
PROJECT:	250 Water Street		**WEATHER:**	Partly Sunny, 80 – 92° F Wind: SE @ 0.1 – 1.4 mph
LOCATION:	New York, NY		**TIME:**	5:45am – 5:45pm
BCP SITE ID:	C231127		**MONITOR**	Jack Millman

EQUIPMENT:
CAT 335 Excavator
CAT 328 Excavator
Komatsu PC138 Excavator
Delmag Drill Rig
Bauer RTG RG 27S
Bauer BG45 Drill Rig
Jerome J505 Mercury Vapor Analyzer
RKI GX-6000 Photoionization Detector (PID)
Aeroqual ASQ1 Air Monitoring Station

PRESENT AT SITE: **Day 197**
Langan (Environmental/Geotechnical) Jack Millman, Michael Cole, Pradeep Pandey
Suffolk Construction (Suffolk) (General Contractor) Anthony Galu, Wyatt Favia
East Coast Drilling, Inc. (ECD) (Foundation Contractor) Danny Rodgers
New York State Department of Environmental Conservation (NYSDEC) Mike Sollecito

OBSERVATIONS, DISCUSSIONS, TEST RESULTS, ETC.:

Langan was present to document remediation activities in accordance with the NYSDEC-approved November 2021 Remedial Action Work Plan (RAWP) at the 250 Water Street site (NYSDEC Brownfield Cleanup Program [BCP] Site No C231127).

Site Activities

- ECD used a Bauer RTG RG 27S drill rig to pre-drill two boreholes in the eastern part of the site to loosen the underlying soil in preparation for soil mix column installation.
- ECD used a Bauer BG45 drill rig to install two deep soil mix columns for support-of-excavation (SOE) installation in the eastern part of the site (along Peck Slip Street). ECD's drill rig advanced a steel rod with two cutter blades at the bottom of the rod, while concurrently injecting grout through the cutting head and spinning and advancing the blades downward to depths of about 77 and 90 feet below grade surface (bgs), respectively.
    - No drilling spoils were generated during installation of the soil mix column; however, a faint petroleum-like odor was observed adjacent to the drilling locations. Handheld photoionization detector (PID) readings in the work zone were recorded below 1.0 parts per million (ppm), and Atmos® AC-645 odor/vapor suppressing foam was applied to the exposed soil/fill following detection of the odors.
    - Excess grout was contained within a temporary containment area in the eastern part of the site and will be managed as construction and demolition (C&D) debris at a later date.
- ECD excavated previously imported fill to a maximum depth of about 3 feet bgs in the northeastern part of the site to facilitate installation of soil mix columns for the SOE system.
- ECD continued installation of the concrete guide wall in the northern and eastern parts of the site (along Pearl Street and Peck Slip, respectively). The concrete guide wall will be used to facilitate installation of SOE along the perimeter of the site.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Material Tracking

- ECD exported two truckloads (about 40 cubic yards [CY]) of construction and demolition (C&D) debris for off-site disposal at the Earth Efficient MSM facility, located in East Stroudsburg, PA.
- No material was imported to the site.

Material Import Summary

Facility Name Location Type of Material	Stone Industries, Inc. Haledon, NJ 1.5/2.5-inch Virgin Stone		Stone Industries, Inc. Haledon, NJ 0.75-inch Virgin Stone		Impact Reuse & Recovery Center or Impact Materials Jersey City, Lyndhurst/Jersey City, NJ 1.5-inch Clean Bluestone		Impact Reuse & Recovery Center, Lyndhurst, NJ General Fill	
Quantities	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)
Today	0	0	0	0	0	0	0	0
Project Total	12	283.91	0	0	15	339.65	374	9,157.85
NYSDEC Approved:	1,800 tons*				720 tons*		19,500 tons*	

*0.75-inch, 1.5-inch, and 2.5-inch virgin stone from the Stone Industries, Inc. facility and 1.5-inch clean bluestone from the Impact Reuse & Recovery Center (IRRC) facility were approved for import of 1,000 cubic yards (CY) and 400 CY, respectively. Assuming a conversion factor of 1.8, each quantity was converted to tons in order to accurately compare with import weight tickets. General fill from the IRRC facility was approved for import of 13,000 CY and a conversion factor of 1.5 is applied.

Material Export Summary (1 of 3)

Facility Name Location Type of Material	Allocco Recycling Brooklyn, NY Construction & Demolition (C&D) Debris		IRRC Lyndhurst, NJ C&D Debris		Earth Efficient MSM East Stroudsburg, PA C&D Debris		Clean Earth of North Jersey Kearny, NJ Hazardous Lead-Impacted Soil/Fill	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	2	40	0	0
Project Total	5	85	42	840	30	600	95	1,900

Material Export Summary (2 of 3)

Facility Name Location Type of Material	Middlesex County Landfill East Brunswick, NJ Non-hazardous Soil/Fill		Bayshore Soil Management Keasbey, NJ Petroleum-Impacted Soil/Fill		Clean Earth of Carteret, NJ Carteret, NJ Non-hazardous Soil/Fill	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	0	0
Project Total	273	5,460	267	5,340	66	1,320

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Material Export Summary (3 of 3)		
Facility Name **Location** **Type of Material**	**Clean Earth of North Jersey** **Kearny, NJ** **Non-hazardous Soil/Fill**	
Quantities	No. of Loads	Approx. Volume (CY)
Today	0	0
Project Total	201	4,020

Sampling

- No samples were collected.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

CAMP Activities

Langan performed air monitoring at the perimeter of the site, at the northern sidewalk of Pearl Street, at the western sidewalk of Beekman Street, at the eastern sidewalk of Peck Slip, and at the southern sidewalk of Water Street at eight total locations for mercury vapor, volatile organic compounds (VOCs), and particulate matter less than 10 microns in diameter (PM10) from about 7:00am to 4:48pm. There were no fifteen-minute average concentrations for mercury vapor, VOCs or PM10 that approached or exceeded the action levels established by the CAMP (1.00 µg/m^3, 5.0 ppm, or 0.100 mg/m^3, respectively).

Background Concentrations

Prior to implementation of CAMP, instantaneous background concentrations of mercury vapor and VOCs were recorded using a handheld Jerome® J505 mercury vapor analyzer and a handheld PID, respectively.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

Perimeter and Work Zone Concentrations

Daily Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.011	0.00	0.01
PM-2	0.012	0.00	0.01
PM-3	0.012	0.02	0.01
PM-4	0.012	0.01	0.02
WZ-1	0.012	0.00	0.00
WZ-2	0.011	0.00	0.00
WZ-3	0.011	0.00	0.01
WZ-4	0.011	0.00	0.03

Maximum 15-Minute-Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.018	0.00	0.04
PM-2	0.018	0.00	0.02
PM-3	0.026	0.16	0.03
PM-4	0.019	0.13	0.05
WZ-1	0.015	0.00	0.01
WZ-2	0.015	0.00	0.01
WZ-3	0.014	0.04	0.02
WZ-4	0.018	0.07	***** 0.57

●mg/m^3 = milligrams per cubic meter ●ppm = parts per million ●µg/m^3 = micrograms per cubic meter

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Equipment Troubleshooting

***** Two consecutive mercury vapor readings were detected at 4.88 µg/m^3 and 3.51 µg/m^3 at off-site CAMP station WZ-4 at 4:46pm and 4:47pm, respectively. No work was ongoing during this time and Langan was in the process of discontinuing CAMP for the day. Mercury vapor readings at perimeter CAMP station PM-4 were recorded at 0.0 µg/m^3 during this time. As a precautionary measure, off-site CAMP station WZ-4 was run for an additional 70 minutes to confirm readings returned to background levels. Mercury vapor readings remained at background concentrations from about 4:48pm to 6:00pm. The filter within the Jerome® J505 will be replaced tomorrow.

Ambient Air (Handheld Jerome® J505 and Handheld PID)

- The dedicated mobile monitor (Langan) used a handheld Jerome® J505 mercury vapor analyzer to monitor ambient air conditions at various heights throughout the site. Instantaneous mercury vapor concentrations throughout the site ranged from 0.00 µg/m^3 to 0.17 µg/m^3.
- The dedicated mobile monitor (Langan) used a handheld PID to monitor VOC concentrations throughout the site. Instantaneous VOC concentrations were not detected above background concentrations throughout the workday.

Off-site CAMP Stations

- CAMP station WZ-1 was placed on the western sidewalk of Beekman Street from about 6:45am to 5:37pm.
- CAMP station WZ-2 was placed on the southern sidewalk of Water Street from about 6:48am to 5:42pm.
- CAMP station WZ-3 was placed on the eastern sidewalk of Peck Slip from about 6:50am to 5:49pm.
- CAMP station WZ-4 was placed on the northern sidewalk of Pearl Street from about 6:53am to 5:59pm.

Prior to CAMP Shutdown

Prior to discontinuing CAMP, mercury vapor and VOC concentrations were confirmed to return to background conditions at each perimeter station using the handheld Jerome® J505 mercury vapor analyzer and handheld PID, respectively. Perimeter CAMP stations were discontinued sequentially between 4:48pm and 4:58pm.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

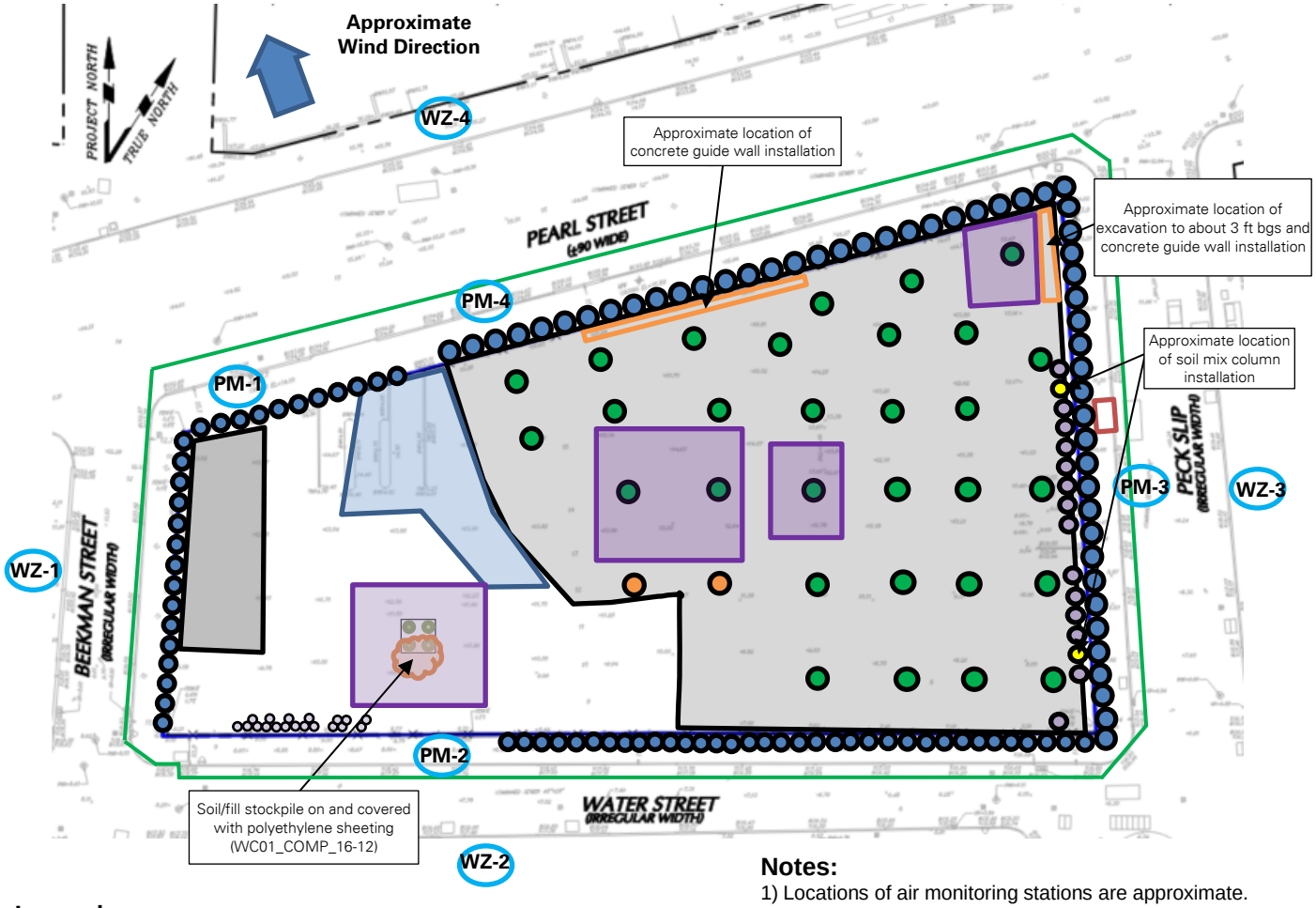
Anticipated Activities

- ECD will continue exporting C&D and soil/fill from the western part of the site for off-site disposal.
- ECD will continue installing soil mix columns and/or soldier piles for SOE installation along Pearl Street and Peck Slip.
- ECD will continue installation of timber lagging for the SOE system in the western part of the site.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Site Map



Legend:

- PM-1 — Approximate Location of Air Monitoring Station
- Approximate Work Area
- Approximate Location of Installed Pile Cap
- Approximate Location of Foundation Piles Completed
- Approximate Location of Truck Tracking Pad
- Approximate Location of Underground Storage Tank
- Approximate Location of C&D Stockpile
- Approximate Location of Soil/Fill Stockpile

Notes:

1) Locations of air monitoring stations are approximate.

- Approximate Location of Soldier Pile
- Approximate Location of Soil Mix Column Installed Today
- Approximate Location of Soil Mix Column Installed Previously
- Approximate Perimeter Construction Fence Location
- Previous Excavation Area
- Approximate Excavation Area
- Approximate Location of Documentation Sample
- Approximate Location of Previously Collected Endpoint Sample
- Approximate Location of Imported Fill/Stone

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Select Site Photographs:



Photo 1: Atmos® AC-645 odor/vapor suppressing foam applied to soil/fill during soil mix column installation in the eastern part of the site (facing south)

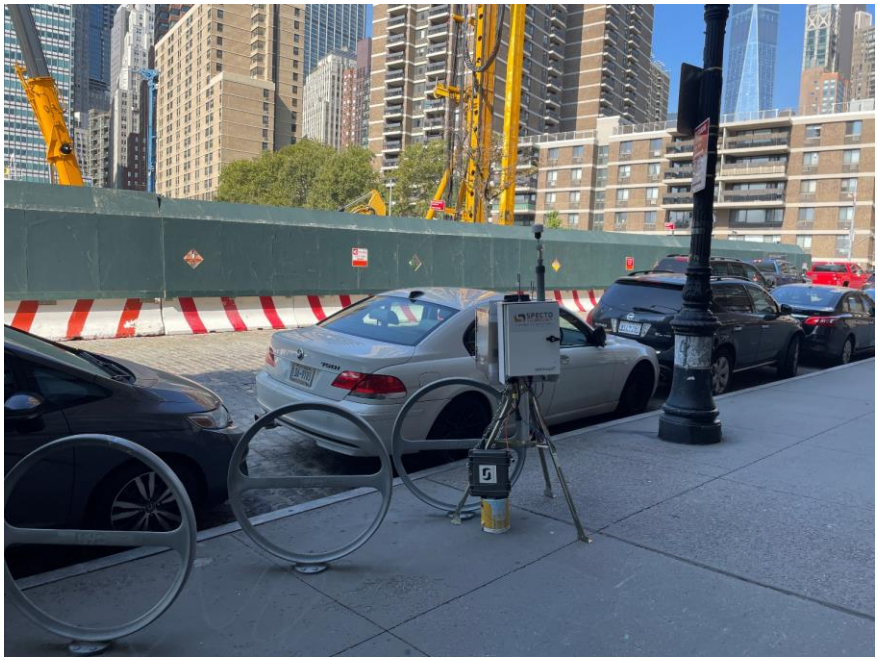


Photo 2: CAMP station WZ-3 on the eastern sidewalk of Peck Slip (facing northwest)

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

PROJECT No.: 170381202	**CLIENT:** 250 Seaport District, LLC c/o The Howard Hughes Corporation	**DATE:**	Thursday, September 7, 2023
PROJECT: 250 Water Street		**WEATHER:**	Sunny, 82 – 92° F Wind: ESE @ 0.1 – 1.7 mph
LOCATION: New York, NY		**TIME:**	5:45am – 4:30pm
BCP SITE ID: C231127		**MONITOR**	Jack Millman

EQUIPMENT:
CAT 335 Excavator
CAT 328 Excavator
Komatsu PC138 Excavator
Delmag Drill Rig
Bauer RTG RG 27S
Bauer BG45 Drill Rig
Jerome J505 Mercury Vapor Analyzer
RKI GX-6000 Photoionization Detector (PID)
Aeroqual ASQ1 Air Monitoring Station

PRESENT AT SITE: **Day 198**
Langan (Environmental/Geotechnical) Jack Millman, Michael Cole, Jack Frey, Pradeep Pandey
Suffolk Construction (Suffolk) (General Contractor) Anthony Galu, Wyatt Favia
East Coast Drilling, Inc. (ECD) (Foundation Contractor) Danny Rodgers
New York State Department of Environmental Conservation (NYSDEC) Meghan Medwig

OBSERVATIONS, DISCUSSIONS, TEST RESULTS, ETC.:

Langan was present to document remediation activities in accordance with the NYSDEC-approved November 2021 Remedial Action Work Plan (RAWP) at the 250 Water Street site (NYSDEC Brownfield Cleanup Program [BCP] Site No C231127).

Site Activities

- ECD excavated an about 35-foot-long by 20-foot-wide area to a maximum depth of about 7 feet below grade surface (bgs) in the western part of the site (waste characterization cells WC02 and WC03) to install timber lagging for the SOE system.
    - Excavated soil/fill was screened for odors, staining, organic vapors, and mercury vapor using a handheld photoionization detector (PID) and handheld Jerome® J505 mercury vapor analyzer, respectively. No evidence of impacts was observed and the excavated soil/fill was live-loaded into securely covered tri-axle dump trucks for off-site disposal.
- ECD continued installation of the concrete guide wall in the northern and eastern parts of the site (along Pearl Street and Peck Slip, respectively). The concrete guide wall will be used to facilitate installation of support-of-excavation (SOE) along the perimeter of the site.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Material Tracking

- ECD exported ten truckloads (about 200 cubic yards [CY]) of hazardous lead-impacted soil/fill for off-site disposal at the Cycle Chem, Inc. facility, located in Elizabeth, NJ.
- No material was imported to the site.

Material Import Summary

Facility Name Location Type of Material	Stone Industries, Inc. Haledon, NJ 1.5/2.5-inch Virgin Stone		Stone Industries, Inc. Haledon, NJ 0.75-inch Virgin Stone		Impact Reuse & Recovery Center or Impact Materials Jersey City, Lyndhurst/Jersey City, NJ 1.5-inch Clean Bluestone		Impact Reuse & Recovery Center, Lyndhurst, NJ General Fill	
Quantities	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)
Today	0	0	0	0	0	0	0	0
Project Total	12	283.91	0	0	15	339.65	374	9,157.85
NYSDEC Approved:	1,800 tons*				720 tons*		19,500 tons*	

*0.75-inch, 1.5-inch, and 2.5-inch virgin stone from the Stone Industries, Inc. facility and 1.5-inch clean bluestone from the Impact Reuse & Recovery Center (IRRC) facility were approved for import of 1,000 cubic yards (CY) and 400 CY, respectively. Assuming a conversion factor of 1.8, each quantity was converted to tons in order to accurately compare with import weight tickets. General fill from the IRRC facility was approved for import of 13,000 CY and a conversion factor of 1.5 is applied.

Material Export Summary (1 of 3)

Facility Name Location Type of Material	Allocco Recycling Brooklyn, NY Construction & Demolition (C&D) Debris		IRRC Lyndhurst, NJ C&D Debris		Earth Efficient MSM East Stroudsburg, PA C&D Debris		Clean Earth of North Jersey Kearny, NJ Hazardous Lead-Impacted Soil/Fill	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	0	0	0	0
Project Total	5	85	42	840	30	600	95	1,900

Material Export Summary (2 of 3)

Facility Name Location Type of Material	Middlesex County Landfill East Brunswick, NJ Non-hazardous Soil/Fill		Bayshore Soil Management Keasbey, NJ Petroleum-Impacted Soil/Fill		Clean Earth of Carteret, NJ Carteret, NJ Non-hazardous Soil/Fill	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	0	0
Project Total	273	5,460	267	5,340	66	1,320

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Material Export Summary (3 of 3)				
Facility Name Location Type of Material	**Clean Earth of North Jersey Kearny, NJ Non-hazardous Soil/Fill**		**Cycle Chem, Inc. Elizabeth, NJ Hazardous Lead -Impacted Soil/Fill**	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	10	200
Project Total	201	4,020	10	200

Sampling

- No samples were collected.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

CAMP Activities

Langan performed air monitoring at the perimeter of the site, at the northern sidewalk of Pearl Street, at the western sidewalk of Beekman Street, at the eastern sidewalk of Peck Slip, and at the southern sidewalk of Water Street at eight total locations for mercury vapor, volatile organic compounds (VOCs), and particulate matter less than 10 microns in diameter (PM10) from about 6:52am to 3:22pm. There were no fifteen-minute average concentrations for mercury vapor, VOCs or PM10 that approached or exceeded the action levels established by the CAMP (1.00 µg/m^3, 5.0 ppm, or 0.100 mg/m^3, respectively).

Background Concentrations

Prior to implementation of CAMP, instantaneous background concentrations of mercury vapor and VOCs were recorded using a handheld Jerome® J505 mercury vapor analyzer and a handheld PID, respectively.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

Perimeter and Work Zone Concentrations

Daily Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.016	0.06	0.01
PM-2	0.013	0.03	0.01
PM-3	0.015	0.05	0.01
PM-4	0.014	0.04	0.02
WZ-1	0.013	0.04	0.00
WZ-2	0.012	0.03	0.00
WZ-3	0.012	0.04	0.01
WZ-4	0.013	0.05	0.02

Maximum 15-Minute-Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.038	0.25	0.03
PM-2	0.019	0.13	0.02
PM-3	0.028	0.16	0.03
PM-4	0.031	0.15	0.04
WZ-1	0.021	0.14	0.00
WZ-2	0.025	0.16	0.01
WZ-3	0.018	0.18	0.02
WZ-4	0.020	0.22	0.04

●mg/m^3 = milligrams per cubic meter ●ppm = parts per million ●µg/m^3 = micrograms per cubic meter

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Ambient Air (Handheld Jerome® J505 and Handheld PID)

- The dedicated mobile monitor (Langan) used a handheld Jerome® J505 mercury vapor analyzer to monitor ambient air conditions at various heights throughout the site. Instantaneous mercury vapor concentrations throughout the site ranged from 0.00 µg/m^3 to 0.15 µg/m^3.
- The dedicated mobile monitor (Langan) used a handheld PID to monitor VOC concentrations throughout the site. Instantaneous VOC concentrations were not detected above background concentrations throughout the workday.

Off-site CAMP Stations

- CAMP station WZ-1 was placed on the western sidewalk of Beekman Street from about 6:37am to 3:39pm.
- CAMP station WZ-2 was placed on the southern sidewalk of Water Street from about 6:39am to 3:43pm.
- CAMP station WZ-3 was placed on the eastern sidewalk of Peck Slip from about 6:42am to 3:42pm.
- CAMP station WZ-4 was placed on the northern sidewalk of Pearl Street from about 6:44am to 4:01pm.

Prior to CAMP Shutdown

Prior to discontinuing CAMP, mercury vapor and VOC concentrations were confirmed to return to background conditions at each perimeter station using the handheld Jerome® J505 mercury vapor analyzer and handheld PID, respectively. Perimeter CAMP stations were discontinued sequentially between 3:22pm and 3:33pm.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

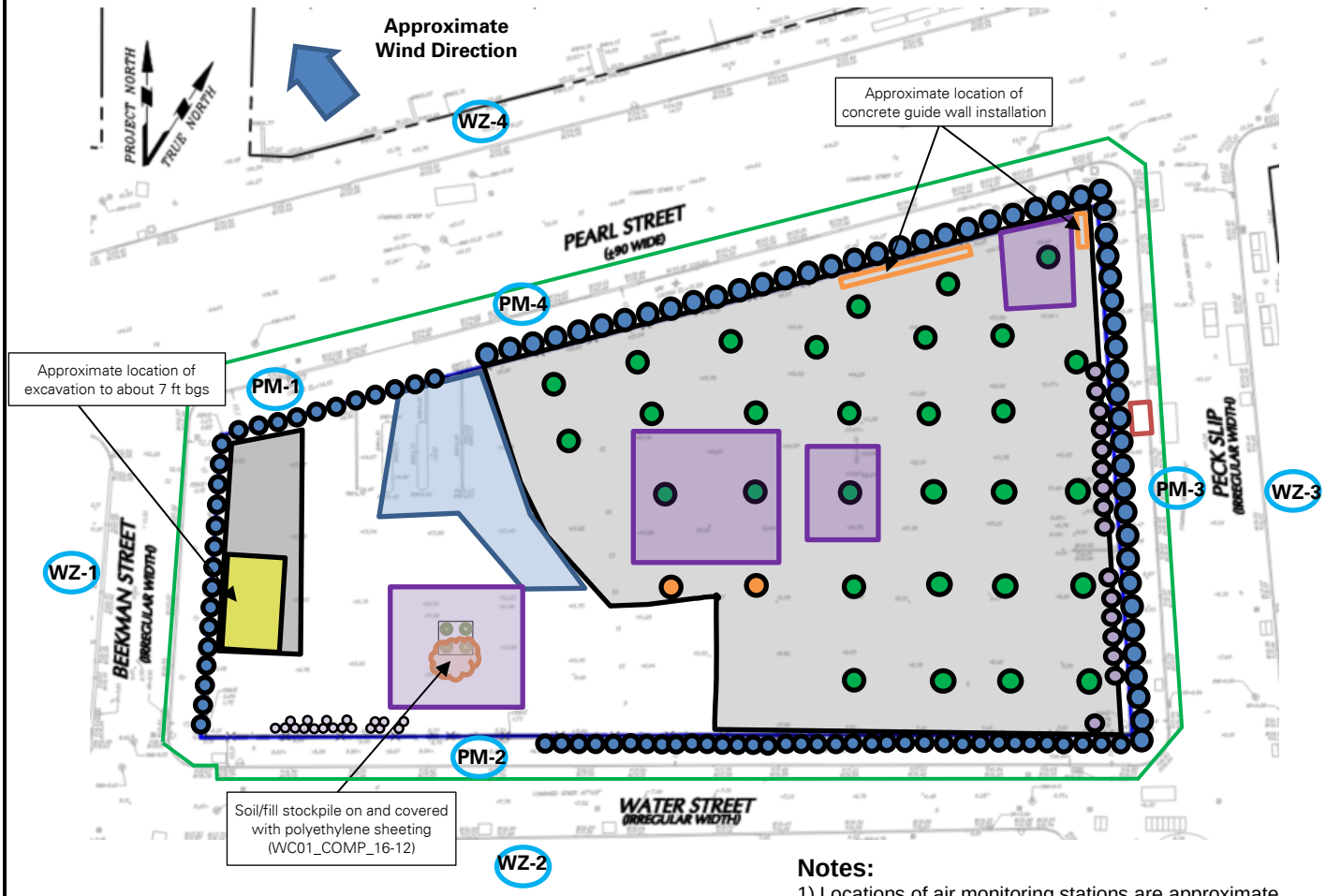
Anticipated Activities

- ECD will continue exporting C&D and soil/fill from the western part of the site for off-site disposal.
- ECD will continue installing soil mix columns and/or soldier piles for SOE installation along Pearl Street and Peck Slip.
- ECD will continue installation of timber lagging for the SOE system in the western part of the site.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Site Map



Legend:

- PM-1 — Approximate Location of Air Monitoring Station
- Approximate Work Area
- Approximate Location of Installed Pile Cap
- Approximate Location of Foundation Piles Completed
- Approximate Location of Truck Tracking Pad
- Approximate Location of Underground Storage Tank
- Approximate Location of C&D Stockpile
- Approximate Location of Soil/Fill Stockpile
- Approximate Location of Soldier Pile
- Approximate Location of Soil Mix Column Installed Today
- Approximate Location of Soil Mix Column Installed Previously
- Approximate Perimeter Construction Fence Location
- Previous Excavation Area
- Approximate Excavation Area
- Approximate Location of Documentation Sample
- Approximate Location of Previously Collected Endpoint Sample
- Approximate Location of Imported Fill/Stone

Notes:
1) Locations of air monitoring stations are approximate.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Select Site Photographs:



Photo 1: ECD loading a dump truck with soil/fill from the western part of the site for off-site disposal (facing northeast)

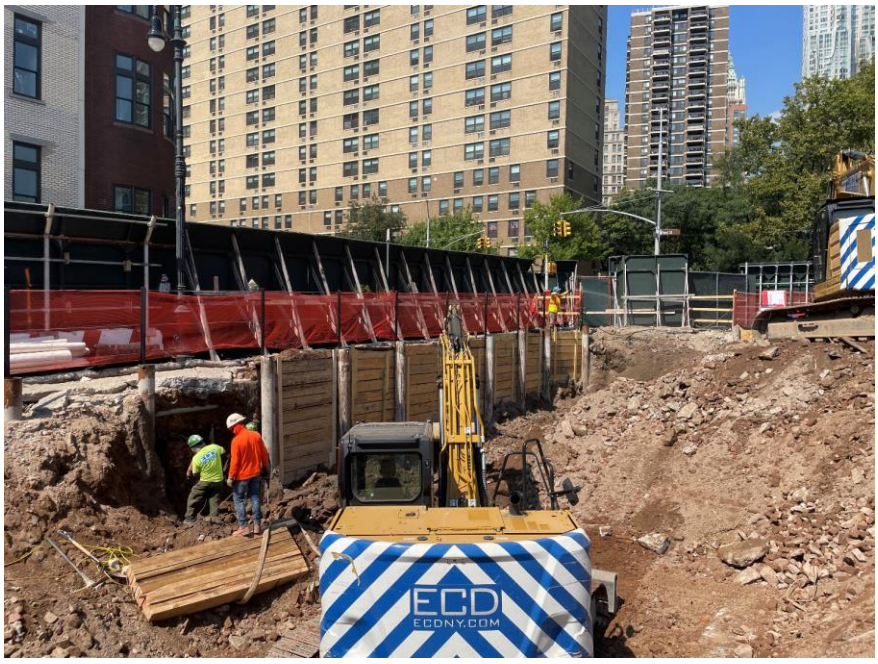


Photo 2: ECD installing timber lagging along the western boundary of the site (facing northwest)

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

PROJECT No.:	170381202	**CLIENT:** 250 Seaport District, LLC c/o The Howard Hughes Corporation	**DATE:**	Friday, September 8, 2023
PROJECT:	250 Water Street		**WEATHER:**	Sunny, 78 – 88° F Wind: ESE @ 0.1 – 1.9 mph
LOCATION:	New York, NY		**TIME:**	5:45am – 4:0-0pm
BCP SITE ID:	C231127		**MONITOR**	Jack Millman

EQUIPMENT:
CAT 335 Excavator
CAT 328 Excavator
Komatsu PC138 Excavator
Delmag Drill Rig
Bauer RTG RG 27S
Bauer BG45 Drill Rig
Jerome J505 Mercury Vapor Analyzer
RKI GX-6000 Photoionization Detector (PID)
Aeroqual ASQ1 Air Monitoring Station

PRESENT AT SITE: **Day 199**
Langan (Environmental/Geotechnical) Jack Millman, Michael Cole, Pradeep Pandey
Suffolk Construction (Suffolk) (General Contractor) Anthony Galu, Wyatt Favia
East Coast Drilling, Inc. (ECD) (Foundation Contractor) Danny Rodgers
New York State Department of Environmental Conservation (NYSDEC) Meghan Medwig

OBSERVATIONS, DISCUSSIONS, TEST RESULTS, ETC.:

Langan was present to document remediation activities in accordance with the NYSDEC-approved November 2021 Remedial Action Work Plan (RAWP) at the 250 Water Street site (NYSDEC Brownfield Cleanup Program [BCP] Site No C231127).

Site Activities

- ECD excavated an about 15-foot-long by 1-foot-wide area to a maximum depth of about 7 feet below grade surface (bgs) in the western part of the site (waste characterization cells WC02 and WC03) to install timber lagging for the support-of-excavation (SOE) system.
    - Excavated soil/fill was screened for odors, staining, organic vapors, and mercury vapor using a handheld photoionization detector (PID) and handheld Jerome® J505 mercury vapor analyzer, respectively. No evidence of impacts was observed and the excavated soil/fill was temporarily graded into the adjacent area in preparation for off-site disposal.
- ECD excavated an about 20-foot-long by 30-foot-wide area to a maximum depth of about 5 feet bgs in the northwest part of the site (waste characterization cell WC01) to install timber lagging for the SOE system.
    - Excavated soil/fill was screened for odors, staining, organic vapors, and mercury vapor using a handheld photoionization detector (PID) and handheld Jerome® J505 mercury vapor analyzer, respectively. No evidence of impacts was observed and the excavated soil/fill was temporarily graded into the adjacent area in preparation for off-site disposal.
    - Construction and demolition (C&D) debris was separated from the soil/fill and was live-loaded into securely covered tri-axle dump trucks for off-site disposal.
- ECD continued installation of the concrete guide wall in the northern and eastern parts of the site (along Pearl Street and Peck Slip, respectively). The concrete guide wall will be used to facilitate installation of SOE along the perimeter of the site.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Material Tracking

- ECD exported eight truckloads (about 160 cubic yards [CY]) of C&D debris for off-site disposal at the Earth Efficient MSM facility, located in East Stroudsburg, PA.
- No material was imported to the site.

Material Import Summary

Facility Name Location Type of Material	Stone Industries, Inc. Haledon, NJ 1.5/2.5-inch Virgin Stone		Stone Industries, Inc. Haledon, NJ 0.75-inch Virgin Stone		Impact Reuse & Recovery Center or Impact Materials Jersey City, Lyndhurst/Jersey City, NJ 1.5-inch Clean Bluestone		Impact Reuse & Recovery Center, Lyndhurst, NJ General Fill	
Quantities	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)
Today	0	0	0	0	0	0	0	0
Project Total	12	283.91	0	0	15	339.65	374	9,157.85
NYSDEC Approved:	1,800 tons*				720 tons*		19,500 tons*	

*0.75-inch, 1.5-inch, and 2.5-inch virgin stone from the Stone Industries, Inc. facility and 1.5-inch clean bluestone from the Impact Reuse & Recovery Center (IRRC) facility were approved for import of 1,000 cubic yards (CY) and 400 CY, respectively. Assuming a conversion factor of 1.8, each quantity was converted to tons in order to accurately compare with import weight tickets. General fill from the IRRC facility was approved for import of 13,000 CY and a conversion factor of 1.5 is applied.

Material Export Summary (1 of 3)

Facility Name Location Type of Material	Allocco Recycling Brooklyn, NY Construction & Demolition (C&D) Debris		IRRC Lyndhurst, NJ C&D Debris		Earth Efficient MSM East Stroudsburg, PA C&D Debris		Clean Earth of North Jersey Kearny, NJ Hazardous Lead-Impacted Soil/Fill	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	8	160	0	0
Project Total	5	85	42	840	38	760	95	1,900

Material Export Summary (2 of 3)

Facility Name Location Type of Material	Middlesex County Landfill East Brunswick, NJ Non-hazardous Soil/Fill		Bayshore Soil Management Keasbey, NJ Petroleum-Impacted Soil/Fill		Clean Earth of Carteret, NJ Carteret, NJ Non-hazardous Soil/Fill	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	0	0
Project Total	273	5,460	267	5,340	66	1,320

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Material Export Summary (3 of 3)				
Facility Name Location Type of Material	**Clean Earth of North Jersey Kearny, NJ Non-hazardous Soil/Fill**		**Cycle Chem, Inc. Elizabeth, NJ Hazardous Lead - Impacted Soil/Fill**	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0
Project Total	201	4,020	10	200

Sampling

- No samples were collected.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

CAMP Activities

Langan performed air monitoring at the perimeter of the site, at the northern sidewalk of Pearl Street, at the western sidewalk of Beekman Street, at the eastern sidewalk of Peck Slip, and at the southern sidewalk of Water Street at eight total locations for mercury vapor, volatile organic compounds (VOCs), and particulate matter less than 10 microns in diameter (PM10) from about 6:57am to 2:58pm. There were no fifteen-minute average concentrations for mercury vapor, VOCs or PM10 that approached or exceeded the action levels established by the CAMP (1.00 µg/m^3, 5.0 ppm, or 0.100 mg/m^3, respectively).

Background Concentrations

Prior to implementation of CAMP, instantaneous background concentrations of mercury vapor and VOCs were recorded using a handheld Jerome® J505 mercury vapor analyzer and a handheld PID, respectively.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

Perimeter and Work Zone Concentrations

Daily Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.019	0.00	0.01
PM-2	0.020	0.00	0.01
PM-3	0.022	0.00	0.02
PM-4	0.020	0.00	0.02
WZ-1	0.020	0.00	0.00
WZ-2	0.019	0.00	0.00
WZ-3	0.019	0.00	0.00
WZ-4	0.019	0.00	0.03

Maximum 15-Minute-Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.029	0.02	0.09
PM-2	0.025	0.04	0.05
PM-3	0.038	0.03	0.12
PM-4	0.028	0.07	0.05
WZ-1	0.024	0.00	0.01
WZ-2	0.027	0.01	0.01
WZ-3	0.026	0.00	0.01
WZ-4	0.035	0.02	***** 0.56

●mg/m^3 = milligrams per cubic meter ●ppm = parts per million ●µg/m^3 = micrograms per cubic meter

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Equipment Troubleshooting

***** Two consecutive mercury vapor readings were detected at 4.73 µg/m^3 and 3.43 µg/m^3 at off-site CAMP station WZ-4 at 9:00am and 9:01am, respectively. The 15-minute time-weighted-average (TWA) concentrations of mercury vapor did not exceed the action level established by the CAMP (1.00 µg/m^3) as a result of the detections. Mercury vapor readings at perimeter CAMP station PM-4 were recorded at 0.00 and 0.02 µg/m^3, respectively, during this time, and mercury vapor readings returned to background conditions at 9:02am. The filter within the Jerome® J505 unit at off-site CAMP station WZ-4 was replaced and the equipment rental vendor was contacted to replace the unit.

Ambient Air (Handheld Jerome® J505 and Handheld PID)

- The dedicated mobile monitor (Langan) used a handheld Jerome® J505 mercury vapor analyzer to monitor ambient air conditions at various heights throughout the site. Instantaneous mercury vapor concentrations throughout the site ranged from 0.00 µg/m^3 to 0.15 µg/m^3.
- The dedicated mobile monitor (Langan) used a handheld PID to monitor VOC concentrations throughout the site. Instantaneous VOC concentrations were not detected above background concentrations throughout the workday.

Off-site CAMP Stations

- CAMP station WZ-1 was placed on the western sidewalk of Beekman Street from about 6:42am to 3:11pm.
- CAMP station WZ-2 was placed on the southern sidewalk of Water Street from about 6:45am to 3:15pm.
- CAMP station WZ-3 was placed on the eastern sidewalk of Peck Slip from about 6:46am to 3:23pm.
- CAMP station WZ-4 was placed on the northern sidewalk of Pearl Street from about 6:49am to 3:30pm.

Prior to CAMP Shutdown

Prior to discontinuing CAMP, mercury vapor and VOC concentrations were confirmed to return to background conditions at each perimeter station using the handheld Jerome® J505 mercury vapor analyzer and handheld PID, respectively. Perimeter CAMP stations were discontinued sequentially between 3:11pm and 3:30pm.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

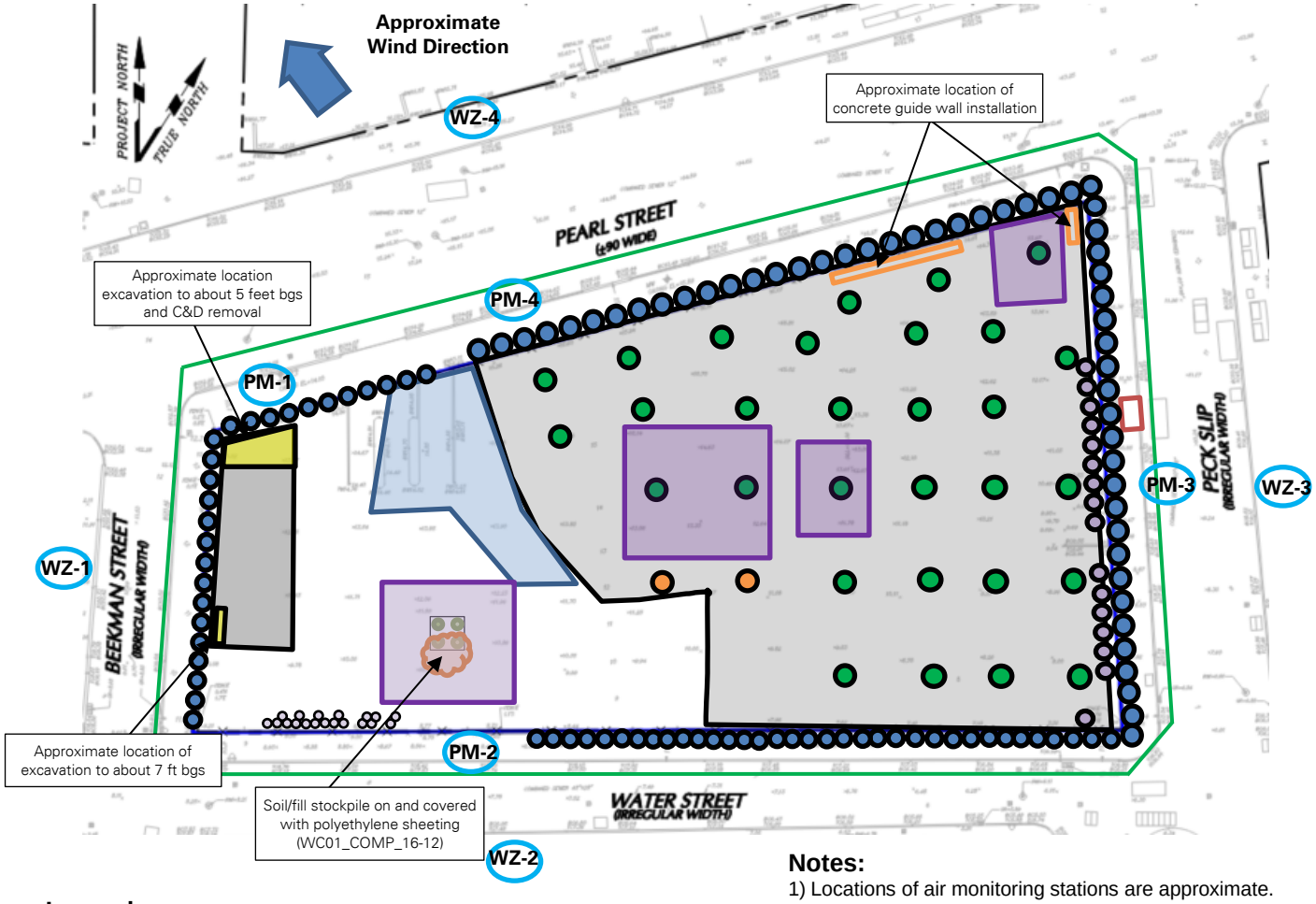
Anticipated Activities

- ECD will continue exporting C&D and soil/fill from the western part of the site for off-site disposal.
- ECD will continue installing soil mix columns and/or soldier piles for SOE installation along Pearl Street and Peck Slip.
- ECD will continue installation of timber lagging for the SOE system in the western part of the site.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Site Map



Legend:

- PM-1 — Approximate Location of Air Monitoring Station
- Approximate Work Area
- Approximate Location of Installed Pile Cap
- Approximate Location of Foundation Piles Completed
- Approximate Location of Truck Tracking Pad
- Approximate Location of Underground Storage Tank
- Approximate Location of C&D Stockpile
- Approximate Location of Soil/Fill Stockpile
- Approximate Location of Soldier Pile
- Approximate Location of Soil Mix Column Installed Today
- Approximate Location of Soil Mix Column Installed Previously
- Approximate Perimeter Construction Fence Location
- Previous Excavation Area
- Approximate Excavation Area
- Approximate Location of Documentation Sample
- Approximate Location of Previously Collected Endpoint Sample
- Approximate Location of Imported Fill/Stone

Notes:
1) Locations of air monitoring stations are approximate.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Select Site Photographs:



Photo 1: General view of site (facing south)



Photo 2: ECD excavating soil/fill in the western part of the site (facing west)

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

PROJECT No.:	170381202	**CLIENT:** 250 Seaport District, LLC c/o The Howard Hughes Corporation	**DATE:**	Monday, September 11, 2023
PROJECT:	250 Water Street		**WEATHER:**	Partly Cloudy, 72 – 80° F Wind: E @ 0.2 – 1.7 mph
LOCATION:	New York, NY		**TIME:**	5:45am – 5:00pm
BCP SITE ID:	C231127		**MONITOR**	Jack Millman

EQUIPMENT:
CAT 335 Excavator
CAT 328 Excavator
Komatsu PC138 Excavator
Delmag Drill Rig
Bauer RTG RG 27S
Bauer BG45 Drill Rig
Jerome J505 Mercury Vapor Analyzer
RKI GX-6000 Photoionization Detector (PID)
Aeroqual ASQ1 Air Monitoring Station

PRESENT AT SITE: **Day 200**
Langan (Environmental/Geotechnical) Jack Millman, Michael Cole, Pradeep Pandey
Suffolk Construction (Suffolk) (General Contractor) Anthony Galu, Wyatt Favia
East Coast Drilling, Inc. (ECD) (Foundation Contractor) Danny Rodgers
New York State Department of Environmental Conservation (NYSDEC) Meghan Medwig

OBSERVATIONS, DISCUSSIONS, TEST RESULTS, ETC.:

Langan was present to document remediation activities in accordance with the NYSDEC-approved November 2021 Remedial Action Work Plan (RAWP) at the 250 Water Street site (NYSDEC Brownfield Cleanup Program [BCP] Site No C231127).

Site Activities

- ECD excavated previously imported fill to a maximum depth of about 3 feet below grade surface (bgs) in the northeast part of the site to facilitate installation of soil mix columns for the support-of-excavation (SOE) system.
- ECD continued installation of the concrete guide wall in the northeast part of the site (along Pearl Street). The concrete guide wall will be used to facilitate installation of SOE along the perimeter of the site.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Material Tracking

- No material was exported from the site.
- No material was imported to the site.

Material Import Summary

Facility Name Location Type of Material	Stone Industries, Inc. Haledon, NJ 1.5/2.5-inch Virgin Stone		Stone Industries, Inc. Haledon, NJ 0.75-inch Virgin Stone		Impact Reuse & Recovery Center or Impact Materials Jersey City, Lyndhurst/Jersey City, NJ 1.5-inch Clean Bluestone		Impact Reuse & Recovery Center, Lyndhurst, NJ General Fill	
Quantities	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)
Today	0	0	0	0	0	0	0	0
Project Total	12	283.91	0	0	15	339.65	374	9,157.85
NYSDEC Approved:	1,800 tons*				720 tons*		19,500 tons*	

*0.75-inch, 1.5-inch, and 2.5-inch virgin stone from the Stone Industries, Inc. facility and 1.5-inch clean bluestone from the Impact Reuse & Recovery Center (IRRC) facility were approved for import of 1,000 cubic yards (CY) and 400 CY, respectively. Assuming a conversion factor of 1.8, each quantity was converted to tons in order to accurately compare with import weight tickets. General fill from the IRRC facility was approved for import of 13,000 CY and a conversion factor of 1.5 is applied.

Material Export Summary (1 of 3)

Facility Name Location Type of Material	Allocco Recycling Brooklyn, NY Construction & Demolition (C&D) Debris		IRRC Lyndhurst, NJ C&D Debris		Earth Efficient MSM East Stroudsburg, PA C&D Debris		Clean Earth of North Jersey Kearny, NJ Hazardous Lead-Impacted Soil/Fill	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	0	0	0	0
Project Total	5	85	42	840	38	760	95	1,900

Material Export Summary (2 of 3)

Facility Name Location Type of Material	Middlesex County Landfill East Brunswick, NJ Non-hazardous Soil/Fill		Bayshore Soil Management Keasbey, NJ Petroleum-Impacted Soil/Fill		Clean Earth of Carteret, NJ Carteret, NJ Non-hazardous Soil/Fill	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	0	0
Project Total	273	5,460	267	5,340	66	1,320

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Material Export Summary (3 of 3)				
Facility Name Location Type of Material	**Clean Earth of North Jersey Kearny, NJ Non-hazardous Soil/Fill**		**Cycle Chem, Inc. Elizabeth, NJ Hazardous Lead - Impacted Soil/Fill**	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0
Project Total	201	4,020	10	200

Sampling

- No samples were collected.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

CAMP Activities

Langan performed air monitoring at the perimeter of the site, at the northern sidewalk of Pearl Street, at the western sidewalk of Beekman Street, at the eastern sidewalk of Peck Slip, and at the southern sidewalk of Water Street at eight total locations for mercury vapor, volatile organic compounds (VOCs), and particulate matter less than 10 microns in diameter (PM10) from about 6:39am to 4:06pm. There were no fifteen-minute average concentrations for mercury vapor, VOCs or PM10 that approached or exceeded the action levels established by the CAMP (1.00 µg/m^3, 5.0 ppm, or 0.100 mg/m^3, respectively).

Background Concentrations

Prior to implementation of CAMP, instantaneous background concentrations of mercury vapor and VOCs were recorded using a handheld Jerome® J505 mercury vapor analyzer and a handheld PID, respectively.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

Perimeter and Work Zone Concentrations

Daily Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.007	0.00	0.03
PM-2	0.008	0.00	0.01
PM-3	0.011	0.00	0.03
PM-4	0.008	0.00	0.02
WZ-1	0.007	0.00	0.00
WZ-2	0.007	0.00	0.00
WZ-3	0.008	0.00	0.00
WZ-4	0.007	0.00	0.02

Maximum 15-Minute-Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.021	0.05	***** 0.60
PM-2	0.026	0.04	***** 0.30
PM-3	0.033	0.04	***** 0.47
PM-4	0.017	0.08	***** 0.16
WZ-1	0.010	0.00	0.01
WZ-2	0.014	0.13	0.01
WZ-3	0.015	0.02	0.01
WZ-4	0.014	0.00	0.04

●mg/m^3 = milligrams per cubic meter ●ppm = parts per million ●µg/m^3 = micrograms per cubic meter

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Equipment Troubleshooting

***** Mercury vapor unit readings above background (maximum reading of 0.60 ug/m3) were recorded prior to the start of work (before 7:00am), and are attributed to instrument equilibration to ambient conditions. As stated in the Jerome 505 manual, "moving the instrument from an air-conditioned environment to one of higher temperature and humidity may cause condensation on some of the optical surfaces. For best results, it is recommended to allow the instrument to equilibrate to ambient conditions before testing." CAMP was setup about 40 minutes prior to the start of work to allow the units to equilibrate to ambient air conditions, however, humidity above 90% resulted in longer equilibration time for some units.

Ambient Air (Handheld Jerome® J505 and Handheld PID)

- The dedicated mobile monitor (Langan) used a handheld Jerome® J505 mercury vapor analyzer to monitor ambient air conditions at various heights throughout the site. Instantaneous mercury vapor concentrations throughout the site ranged from 0.00 µg/m^3 to 0.16 µg/m^3.
- The dedicated mobile monitor (Langan) used a handheld PID to monitor VOC concentrations throughout the site. Instantaneous VOC concentrations were not detected above background concentrations throughout the workday.

Off-site CAMP Stations

- CAMP station WZ-1 was placed on the western sidewalk of Beekman Street from about 6:18am to 4:19pm.
- CAMP station WZ-2 was placed on the southern sidewalk of Water Street from about 6:19am to 4:24pm.
- CAMP station WZ-3 was placed on the eastern sidewalk of Peck Slip from about 6:22am to 4:33pm.
- CAMP station WZ-4 was placed on the northern sidewalk of Pearl Street from about 6:25am to 4:47pm.

Prior to CAMP Shutdown

Prior to discontinuing CAMP, mercury vapor and VOC concentrations were confirmed to return to background conditions at each perimeter station using the handheld Jerome® J505 mercury vapor analyzer and handheld PID, respectively. Perimeter CAMP stations were discontinued sequentially between 4:06pm and 4:12pm.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

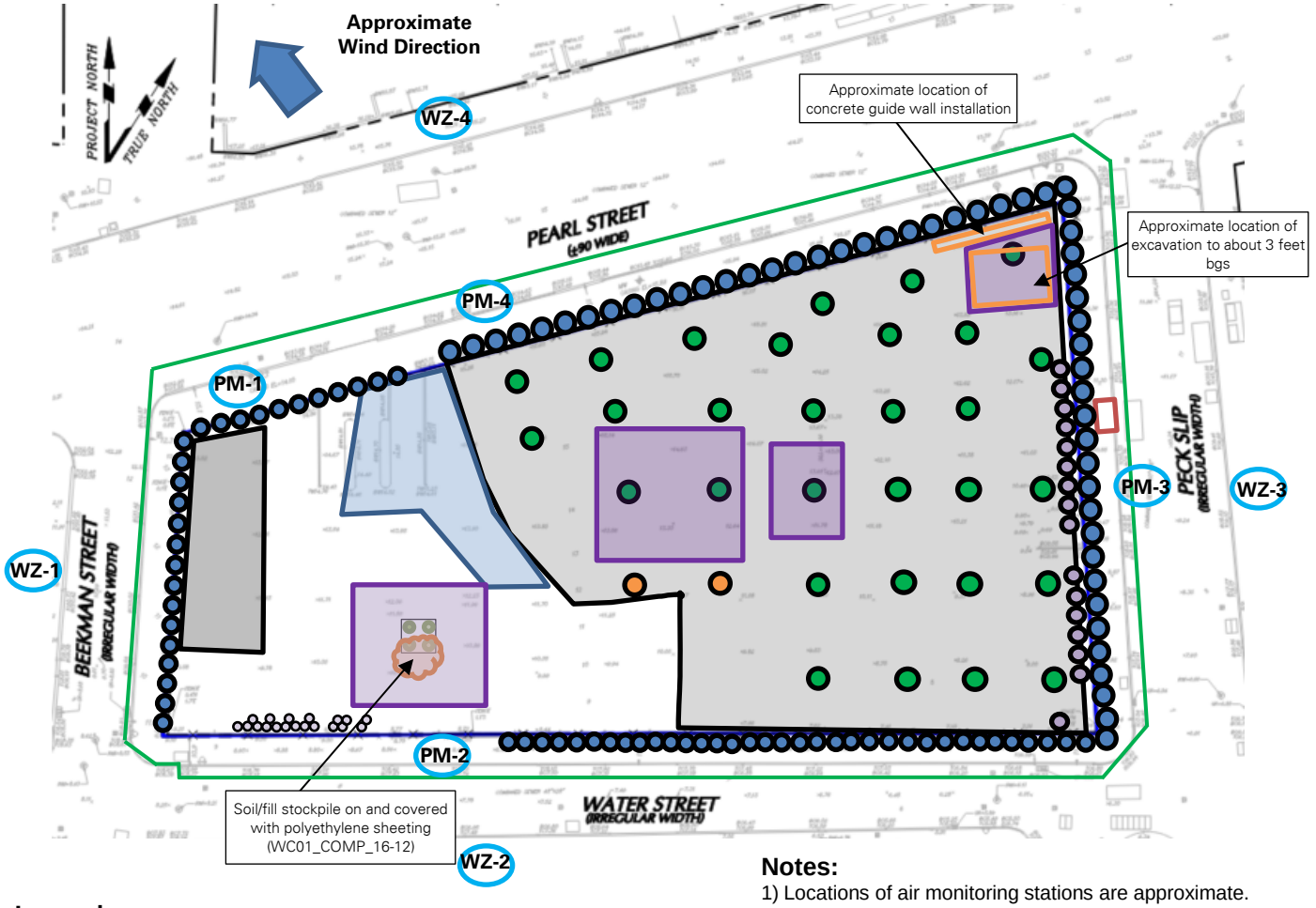
Anticipated Activities

- ECD will continue exporting C&D and soil/fill from the western part of the site for off-site disposal.
- ECD will continue installing soil mix columns and/or soldier piles for SOE installation along Pearl Street and Peck Slip.
- ECD will continue installation of timber lagging for the SOE system in the western part of the site.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Site Map



Legend:

- PM-1 — Approximate Location of Air Monitoring Station
- Approximate Work Area
- Approximate Location of Installed Pile Cap
- Approximate Location of Foundation Piles Completed
- Approximate Location of Truck Tracking Pad
- Approximate Location of Underground Storage Tank
- Approximate Location of C&D Stockpile
- Approximate Location of Soil/Fill Stockpile
- Approximate Location of Soldier Pile
- Approximate Location of Soil Mix Column Installed Today
- Approximate Location of Soil Mix Column Installed Previously
- Approximate Perimeter Construction Fence Location
- Previous Excavation Area
- Approximate Excavation Area
- Approximate Location of Documentation Sample
- Approximate Location of Previously Collected Endpoint Sample
- Approximate Location of Imported Fill/Stone

Notes:
1) Locations of air monitoring stations are approximate.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Select Site Photographs:



Photo 1: ECD excavating previously imported fill in the northeast part of the site (facing east)

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

PROJECT No.:	170381202	**CLIENT:** 250 Seaport District, LLC c/o The Howard Hughes Corporation	**DATE:**	Tuesday, September 12, 2023
PROJECT:	250 Water Street		**WEATHER:**	Partly Sunny, 70 – 82° F Wind: SE @ 0.1 – 1.5 mph
LOCATION:	New York, NY		**TIME:**	5:45am – 5:30pm
BCP SITE ID:	C231127		**MONITOR**	Jack Millman

EQUIPMENT:
CAT 335 Excavator
CAT 328 Excavator
Komatsu PC138 Excavator
Delmag Drill Rig
Bauer RTG RG 27S
Bauer BG45 Drill Rig
Jerome J505 Mercury Vapor Analyzer
RKI GX-6000 Photoionization Detector (PID)
Aeroqual ASQ1 Air Monitoring Station

PRESENT AT SITE: **Day 201**
Langan (Environmental/Geotechnical) Jack Millman, JN Stanley, Pradeep Pandey
Suffolk Construction (Suffolk) (General Contractor) Anthony Galu, Wyatt Favia
East Coast Drilling, Inc. (ECD) (Foundation Contractor) Danny Rodgers
New York State Department of Environmental Conservation (NYSDEC) Meghan Medwig

OBSERVATIONS, DISCUSSIONS, TEST RESULTS, ETC.:

Langan was present to document remediation activities in accordance with the NYSDEC-approved November 2021 Remedial Action Work Plan (RAWP) at the 250 Water Street site (NYSDEC Brownfield Cleanup Program [BCP] Site No C231127).

Site Activities

- ECD used a Bauer RTG RG 27S drill rig to install two soil mix columns to about 35 feet below grade surface (bgs) for support-of-excavation (SOE) installation in the southwest part of the site (Water Street). ECD's drill rig advanced steel rods with a soil mixing paddle at the bottom of the rods, while concurrently injecting grout through the top of the paddle and spinning and advancing the paddle downward.
    - No drilling spoils were generated during installation of the soil mix columns.
    - Excess grout was contained within a temporary trench adjacent to the drilling area and will be managed as construction and demolition (C&D) debris at a later date.
- ECD continued installation of the concrete guide wall in the northeast part of the site (along Pearl Street). The concrete guide wall will be used to facilitate installation of SOE along the perimeter of the site.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Material Tracking

- No material was exported from the site.
- No material was imported to the site.

Material Import Summary								
Facility Name Location Type of Material	**Stone Industries, Inc. Haledon, NJ 1.5/2.5-inch Virgin Stone**		**Stone Industries, Inc. Haledon, NJ 0.75-inch Virgin Stone**		**Impact Reuse & Recovery Center or Impact Materials Jersey City, Lyndhurst/Jersey City, NJ 1.5-inch Clean Bluestone**		**Impact Reuse & Recovery Center, Lyndhurst, NJ General Fill**	
Quantities	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)
Today	0	0	0	0	0	0	0	0
Project Total	12	283.91	0	0	15	339.65	374	9,157.85
NYSDEC Approved:	1,800 tons*				720 tons*		19,500 tons*	

*0.75-inch, 1.5-inch, and 2.5-inch virgin stone from the Stone Industries, Inc. facility and 1.5-inch clean bluestone from the Impact Reuse & Recovery Center (IRRC) facility were approved for import of 1,000 cubic yards (CY) and 400 CY, respectively. Assuming a conversion factor of 1.8, each quantity was converted to tons in order to accurately compare with import weight tickets. General fill from the IRRC facility was approved for import of 13,000 CY and a conversion factor of 1.5 is applied.

Material Export Summary (1 of 3)								
Facility Name Location Type of Material	**Allocco Recycling Brooklyn, NY Construction & Demolition (C&D) Debris**		**IRRC Lyndhurst, NJ C&D Debris**		**Earth Efficient MSM East Stroudsburg, PA C&D Debris**		**Clean Earth of North Jersey Kearny, NJ Hazardous Lead-Impacted Soil/Fill**	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	0	0	0	0
Project Total	5	85	42	840	38	760	95	1,900

Material Export Summary (2 of 3)						
Facility Name Location Type of Material	**Middlesex County Landfill East Brunswick, NJ Non-hazardous Soil/Fill**		**Bayshore Soil Management Keasbey, NJ Petroleum-Impacted Soil/Fill**		**Clean Earth of Carteret, NJ Carteret, NJ Non-hazardous Soil/Fill**	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	0	0
Project Total	273	5,460	267	5,340	66	1,320

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Material Export Summary (3 of 3)				
Facility Name Location Type of Material	**Clean Earth of North Jersey Kearny, NJ Non-hazardous Soil/Fill**		**Cycle Chem, Inc. Elizabeth, NJ Hazardous Lead - Impacted Soil/Fill**	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0
Project Total	201	4,020	10	200

Sampling

- No samples were collected.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

CAMP Activities

Langan performed air monitoring at the perimeter of the site, at the northern sidewalk of Pearl Street, at the western sidewalk of Beekman Street, at the eastern sidewalk of Peck Slip, and at the southern sidewalk of Water Street at eight total locations for mercury vapor, volatile organic compounds (VOCs), and particulate matter less than 10 microns in diameter (PM10) from about 6:47am to 4:17pm. There were no fifteen-minute average concentrations for mercury vapor, VOCs or PM10 that approached or exceeded the action levels established by the CAMP (1.00 µg/m^3, 5.0 ppm, or 0.100 mg/m^3, respectively).

Background Concentrations

Prior to implementation of CAMP, instantaneous background concentrations of mercury vapor and VOCs were recorded using a handheld Jerome® J505 mercury vapor analyzer and a handheld PID, respectively.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

Perimeter and Work Zone Concentrations

Daily Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.005	0.00	0.02
PM-2	0.006	0.00	0.01
PM-3	0.010	0.01	0.00
PM-4	0.005	0.00	0.02
WZ-1	0.005	0.00	0.00
WZ-2	0.005	0.00	0.00
WZ-3	0.004	0.00	0.01
WZ-4	0.004	0.00	0.01

Maximum 15-Minute-Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.009	0.06	0.04
PM-2	0.014	0.06	0.05
PM-3	0.058	0.14	0.01
PM-4	0.011	0.04	0.08
WZ-1	0.006	0.01	0.00
WZ-2	0.007	0.09	0.01
WZ-3	0.006	0.03	0.02
WZ-4	0.006	0.04	0.05

●mg/m^3 = milligrams per cubic meter ●ppm = parts per million ●µg/m^3 = micrograms per cubic meter

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Ambient Air (Handheld Jerome® J505 and Handheld PID)

- The dedicated mobile monitor (Langan) used a handheld Jerome® J505 mercury vapor analyzer to monitor ambient air conditions at various heights throughout the site. Instantaneous mercury vapor concentrations throughout the site ranged from 0.00 µg/m^3 to 0.11 µg/m^3.
- The dedicated mobile monitor (Langan) used a handheld PID to monitor VOC concentrations throughout the site. Instantaneous VOC concentrations were not detected above background concentrations throughout the workday.

Off-site CAMP Stations

- CAMP station WZ-1 was placed on the western sidewalk of Beekman Street from about 6:36am to 4:40pm.
- CAMP station WZ-2 was placed on the southern sidewalk of Water Street from about 6:37am to 4:47pm.
- CAMP station WZ-3 was placed on the eastern sidewalk of Peck Slip from about 6:40am to 4:57pm.
- CAMP station WZ-4 was placed on the northern sidewalk of Pearl Street from about 6:42am to 5:07pm.

Prior to CAMP Shutdown

Prior to discontinuing CAMP, mercury vapor and VOC concentrations were confirmed to return to background conditions at each perimeter station using the handheld Jerome® J505 mercury vapor analyzer and handheld PID, respectively. Perimeter CAMP stations were discontinued sequentially between 4:17pm and 4:25pm.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

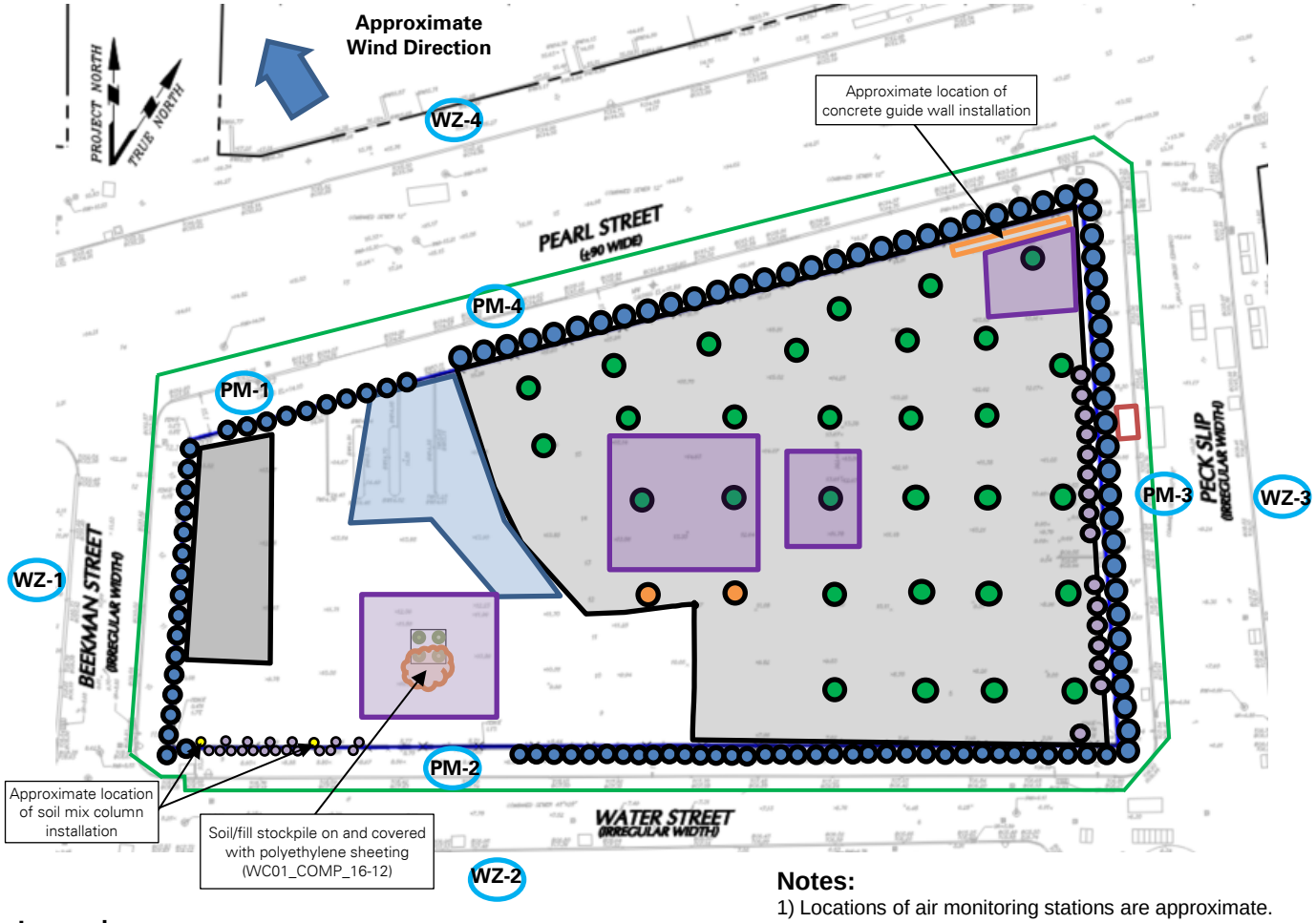
Anticipated Activities

- ECD will continue exporting C&D and soil/fill from the western part of the site for off-site disposal.
- ECD will continue installing soil mix columns and/or soldier piles for SOE installation along Pearl Street, Water Street, and Peck Slip.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Site Map



Legend:

- PM-1 — Approximate Location of Air Monitoring Station
- Approximate Work Area
- Approximate Location of Installed Pile Cap
- Approximate Location of Foundation Piles Completed
- Approximate Location of Truck Tracking Pad
- Approximate Location of Underground Storage Tank
- Approximate Location of C&D Stockpile
- Approximate Location of Soil/Fill Stockpile
- Approximate Location of Soldier Pile
- Approximate Location of Soil Mix Column Installed Today
- Approximate Location of Soil Mix Column Installed Previously
- Approximate Perimeter Construction Fence Location
- Previous Excavation Area
- Approximate Excavation Area
- Approximate Location of Documentation Sample
- Approximate Location of Previously Collected Endpoint Sample
- Approximate Location of Imported Fill/Stone

Notes:

1) Locations of air monitoring stations are approximate.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Select Site Photographs:

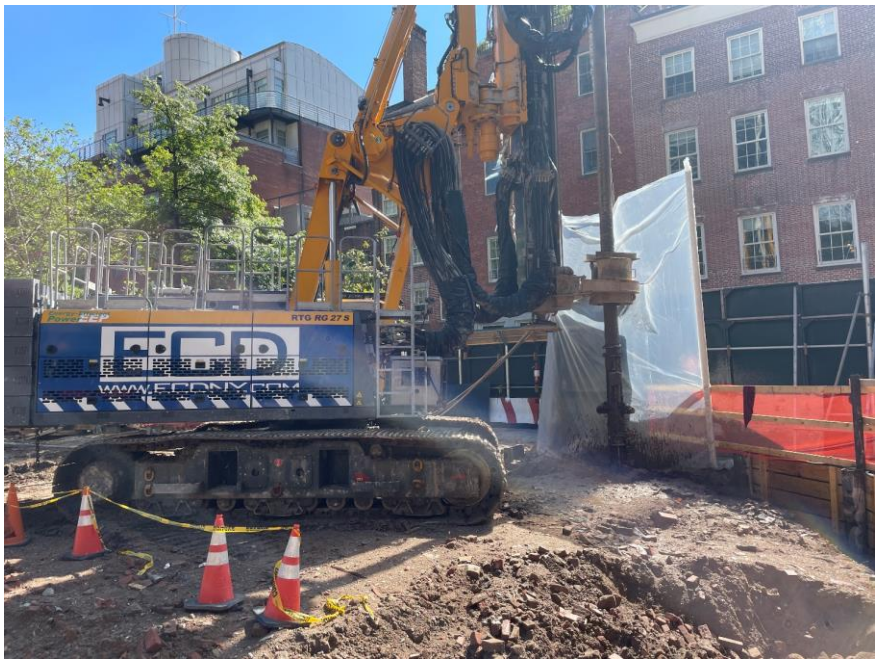


Photo 1: ECD advancing a soil mix column in the southwest part of the site (facing south)



Photo 2: CAMP station WZ-2 on the southern sidewalk of Water Street (facing northwest)

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

PROJECT No.:	170381202	**CLIENT:** 250 Seaport District, LLC c/o The Howard Hughes Corporation	**DATE:**	Wednesday, September 13, 2023
PROJECT:	250 Water Street		**WEATHER:**	Partly Cloudy/Rain, 74 – 80° F Wind: E @ 0.2 – 1.8 mph
LOCATION:	New York, NY		**TIME:**	5:45am – 5:15pm
BCP SITE ID:	C231127		**MONITOR**	Jack Millman

EQUIPMENT:
CAT 335 Excavator
CAT 328 Excavator
Komatsu PC138 Excavator
Delmag Drill Rig
Bauer RTG RG 27S
Bauer BG45 Drill Rig
Jerome J505 Mercury Vapor Analyzer
RKI GX-6000 Photoionization Detector (PID)
Aeroqual ASQ1 Air Monitoring Station

PRESENT AT SITE: **Day 202**
Langan (Environmental/Geotechnical) Jack Millman, JN Stanley, Pradeep Pandey
Suffolk Construction (Suffolk) (General Contractor) Anthony Galu, Wyatt Favia
East Coast Drilling, Inc. (ECD) (Foundation Contractor) Danny Rodgers
New York State Department of Environmental Conservation (NYSDEC) Meghan Medwig
AKRF, Inc. (Archaeology Consultant) Theresa Imbriolo

OBSERVATIONS, DISCUSSIONS, TEST RESULTS, ETC.:

Langan was present to document remediation activities in accordance with the NYSDEC-approved November 2021 Remedial Action Work Plan (RAWP) at the 250 Water Street site (NYSDEC Brownfield Cleanup Program [BCP] Site No C231127).

Site Activities

- ECD used a Bauer RTG RG 27S drill rig to install two soil mix columns to about 35 feet below grade surface (bgs) for support-of-excavation (SOE) installation in the southwest part of the site (Water Street). ECD's drill rig advanced steel rods with a soil mixing paddle at the bottom of the rods, while concurrently injecting grout through the top of the paddle and spinning and advancing the paddle downward.
    - No drilling spoils were generated during installation of the soil mix columns.
    - Excess grout was contained within a temporary trench adjacent to the drilling area and will be managed as construction and demolition (C&D) debris at a later date.
- ECD excavated an about 10-foot-long by 30-foot-wide area to a maximum depth of about 8 feet bgs in the southern part of the site (waste characterization cell WC06) to facilitate installation of the concrete guide wall for the SOE system.
    - Excavated soil/fill was screened for odors, staining, organic vapors, and mercury vapor using a handheld photoionization detector (PID) and handheld Jerome® J505 mercury vapor analyzer, respectively. Petroleum-like odors and a maximum PID reading of 1.6 parts per million (ppm) were observed and the excavated soil/fill was temporarily stockpiled and covered with polyethylene sheeting adjacent to the work area for future off-site disposal.
    - Atmos® AC-645 odor/vapor suppressing foam was actively applied to the soil/fill during excavation and was applied to the exposed soil/fill following completion of excavation activities.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

- ECD excavated an about 15-foot-long by 5-foot-wide area to a maximum depth of about 8 feet bgs in the southwest part of the site (waste characterization cell WC03) to install timber lagging for the SOE system.
    - Excavated soil/fill was screened for odors, staining, organic vapors, and mercury vapor using a handheld PID and handheld Jerome® J505 mercury vapor analyzer, respectively. Evidence of impacts was not observed and the excavated soil/fill was temporarily graded into the adjacent area for future off-site disposal.

Material Tracking

- No material was exported from the site.
- No material was imported to the site.

Material Import Summary

Facility Name Location Type of Material	Stone Industries, Inc. Haledon, NJ 1.5/2.5-inch Virgin Stone		Stone Industries, Inc. Haledon, NJ 0.75-inch Virgin Stone		Impact Reuse & Recovery Center or Impact Materials Jersey City, Lyndhurst/Jersey City, NJ 1.5-inch Clean Bluestone		Impact Reuse & Recovery Center, Lyndhurst, NJ General Fill	
Quantities	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)
Today	0	0	0	0	0	0	0	0
Project Total	12	283.91	0	0	15	339.65	374	9,157.85
NYSDEC Approved:	1,800 tons*				720 tons*		19,500 tons*	

*0.75-inch, 1.5-inch, and 2.5-inch virgin stone from the Stone Industries, Inc. facility and 1.5-inch clean bluestone from the Impact Reuse & Recovery Center (IRRC) facility were approved for import of 1,000 cubic yards (CY) and 400 CY, respectively. Assuming a conversion factor of 1.8, each quantity was converted to tons in order to accurately compare with import weight tickets. General fill from the IRRC facility was approved for import of 13,000 CY and a conversion factor of 1.5 is applied.

Material Export Summary (1 of 3)

Facility Name Location Type of Material	Allocco Recycling Brooklyn, NY Construction & Demolition (C&D) Debris		IRRC Lyndhurst, NJ C&D Debris		Earth Efficient MSM East Stroudsburg, PA C&D Debris		Clean Earth of North Jersey Kearny, NJ Hazardous Lead-Impacted Soil/Fill	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	0	0	0	0
Project Total	5	85	42	840	38	760	95	1,900

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Material Export Summary (2 of 3)						
Facility Name Location Type of Material	**Middlesex County Landfill East Brunswick, NJ Non-hazardous Soil/Fill**		**Bayshore Soil Management Keasbey, NJ Petroleum-Impacted Soil/Fill**		**Clean Earth of Carteret, NJ Carteret, NJ Non-hazardous Soil/Fill**	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	0	0
Project Total	273	5,460	267	5,340	66	1,320

Material Export Summary (3 of 3)				
Facility Name Location Type of Material	**Clean Earth of North Jersey Kearny, NJ Non-hazardous Soil/Fill**		**Cycle Chem, Inc. Elizabeth, NJ Hazardous Lead - Impacted Soil/Fill**	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0
Project Total	201	4,020	10	200

Sampling

- No samples were collected.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

CAMP Activities

Langan performed air monitoring at the perimeter of the site, at the northern sidewalk of Pearl Street, at the western sidewalk of Beekman Street, at the eastern sidewalk of Peck Slip, and at the southern sidewalk of Water Street at eight total locations for mercury vapor, volatile organic compounds (VOCs), and particulate matter less than 10 microns in diameter (PM10) from about 6:23am to 4:13pm. There were no fifteen-minute average concentrations for mercury vapor, VOCs or PM10 that approached or exceeded the action levels established by the CAMP (1.00 µg/m^3, 5.0 ppm, or 0.100 mg/m^3, respectively).

Background Concentrations

Prior to implementation of CAMP, instantaneous background concentrations of mercury vapor and VOCs were recorded using a handheld Jerome® J505 mercury vapor analyzer and a handheld PID, respectively.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

Perimeter and Work Zone Concentrations

Daily Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.006	0.01	0.02
PM-2	0.008	0.01	0.01
PM-3	0.005	0.01	0.00
PM-4	0.005	0.00	0.02
WZ-1	0.005	0.00	0.00
WZ-2	0.005	0.01	0.00
WZ-3	0.005	0.00	0.00
WZ-4	0.005	0.00	0.02

Maximum 15-Minute-Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.012	0.06	0.05
PM-2	0.032	0.06	0.08
PM-3	0.007	0.17	0.01
PM-4	0.008	0.01	0.09
WZ-1	0.006	0.00	0.00
WZ-2	0.007	0.10	0.01
WZ-3	0.006	0.01	0.01
WZ-4	0.007	0.01	0.04

●mg/m^3 = milligrams per cubic meter ●ppm = parts per million ●µg/m^3 = micrograms per cubic meter

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Ambient Air (Handheld Jerome® J505 and Handheld PID)

- The dedicated mobile monitor (Langan) used a handheld Jerome® J505 mercury vapor analyzer to monitor ambient air conditions at various heights throughout the site. Instantaneous mercury vapor concentrations throughout the site ranged from 0.00 µg/m^3 to 0.08 µg/m^3.
- The dedicated mobile monitor (Langan) used a handheld PID to monitor VOC concentrations throughout the site. Instantaneous VOC concentrations were not detected above background concentrations throughout the workday.

Off-site CAMP Stations

- CAMP station WZ-1 was placed on the western sidewalk of Beekman Street from about 7:18am to 4:37pm.
- CAMP station WZ-2 was placed on the southern sidewalk of Water Street from about 7:17am to 4:43pm.
- CAMP station WZ-3 was placed on the eastern sidewalk of Peck Slip from about 7:15am to 4:50pm.
- CAMP station WZ-4 was placed on the northern sidewalk of Pearl Street from about 7:13am to 4:58pm.

Prior to CAMP Shutdown

Prior to discontinuing CAMP, mercury vapor and VOC concentrations were confirmed to return to background conditions at each perimeter station using the handheld Jerome® J505 mercury vapor analyzer and handheld PID, respectively. Perimeter CAMP stations were discontinued sequentially between 4:13pm and 4:23pm.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

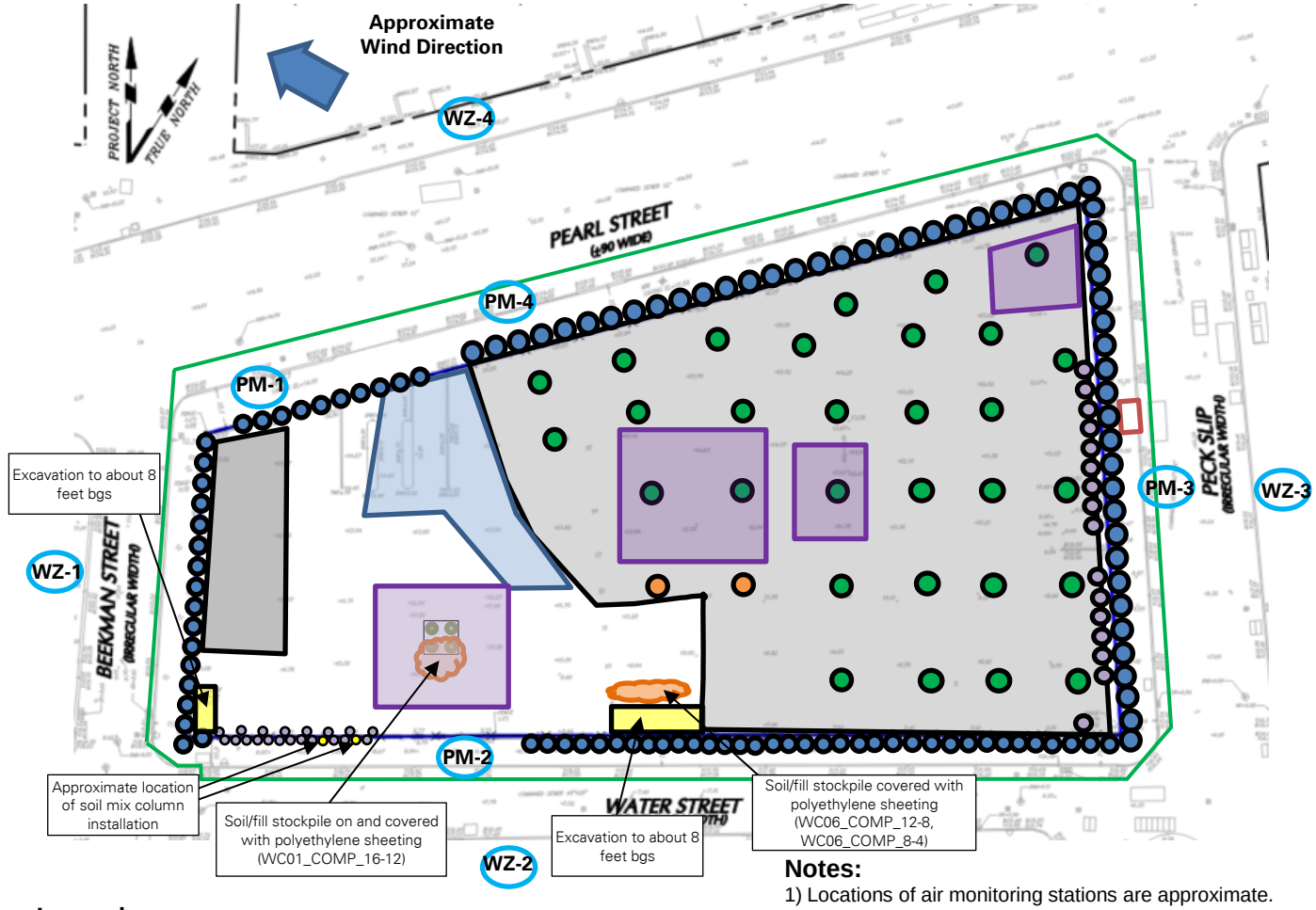
Anticipated Activities

- ECD will continue exporting C&D and soil/fill from the western part of the site for off-site disposal.
- ECD will continue installing soil mix columns and/or soldier piles for SOE installation along Pearl Street, Water Street, and Peck Slip.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Site Map



Notes:
1) Locations of air monitoring stations are approximate.

Legend:

- PM-1 — Approximate Location of Air Monitoring Station
- Approximate Work Area
- Approximate Location of Installed Pile Cap
- Approximate Location of Foundation Piles Completed
- Approximate Location of Truck Tracking Pad
- Approximate Location of Underground Storage Tank
- Approximate Location of C&D Stockpile
- Approximate Location of Soil/Fill Stockpile
- Approximate Location of Soldier Pile
- Approximate Location of Soil Mix Column Installed Today
- Approximate Location of Soil Mix Column Installed Previously
- Approximate Perimeter Construction Fence Location
- Previous Excavation Area
- Approximate Excavation Area
- Approximate Location of Documentation Sample
- Approximate Location of Previously Collected Endpoint Sample
- Approximate Location of Imported Fill/Stone

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Select Site Photographs:



Photo 1: ECD actively applying Atmos® AC-645 odor/vapor suppressing foam to soil/fill during excavation in the southern part of the site (facing northwest)



Photo 2: Soil/fill stockpile covered with polyethylene sheeting in the southern part of the site (facing south)

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

PROJECT No.:	170381202	**CLIENT:** 250 Seaport District, LLC c/o The Howard Hughes Corporation	**DATE:**	Thursday, September 14, 2023
PROJECT:	250 Water Street		**WEATHER:**	Partly Sunny, 70 – 76° F Wind: SE @ 0.2 – 1.5 mph
LOCATION:	New York, NY		**TIME:**	5:45am – 6:15pm
BCP SITE ID:	C231127		**MONITOR**	Jack Millman

EQUIPMENT:
CAT 335 Excavator
CAT 328 Excavator
Komatsu PC138 Excavator
Delmag Drill Rig
Bauer RTG RG 27S
Bauer BG45 Drill Rig
Jerome J505 Mercury Vapor Analyzer
RKI GX-6000 Photoionization Detector (PID)
Aeroqual ASQ1 Air Monitoring Station

PRESENT AT SITE: **Day 203**
Langan (Environmental/Geotechnical) Jack Millman, JN Stanley, Pradeep Pandey
Suffolk Construction (Suffolk) (General Contractor) Anthony Galu, Wyatt Favia
East Coast Drilling, Inc. (ECD) (Foundation Contractor) Danny Rodgers
New York State Department of Environmental Conservation (NYSDEC) Meghan Medwig
AKRF, Inc. (Archaeologist) Theresa Imbriolo

OBSERVATIONS, DISCUSSIONS, TEST RESULTS, ETC.:

Langan was present to document remediation activities in accordance with the NYSDEC-approved November 2021 Remedial Action Work Plan (RAWP) at the 250 Water Street site (NYSDEC Brownfield Cleanup Program [BCP] Site No C231127).

Site Activities

- ECD excavated an about 10-foot-long by 35-foot-wide area to a maximum depth of about 8 feet below grade surface (bgs) in the southern part of the site (waste characterization cell WC06) to facilitate installation of the concrete guide wall as part of the support-of-excavation (SOE) system.
    - Excavated soil/fill was screened for odors, staining, organic vapors, and mercury vapor using a handheld photoionization detector (PID) and handheld Jerome® J505 mercury vapor analyzer, respectively. Evidence of impacts was not observed and the excavated soil/fill was live-loaded into securely covered tri-axle dump trucks for off-site disposal.
    - Atmos® AC-645 odor/vapor suppressing foam was actively applied to the soil/fill during excavation and loading.
- ECD identified a previously unknown about 550-gallon underground storage tank (UST) during remedial excavation in the southern part of the site. The UST appeared to be empty and the interior of the tank was screened for organic vapors using a PID. A faint petroleum-like odor and a maximum PID reading of 8.7 parts per million (ppm) were observed. The UST was placed on and covered with polyethylene sheeting in the southern part of the site in preparation for future decommissioning and off-site disposal.
    - Following removal of the UST, the excavation area was screened for odors, staining, organic vapors, and mercury vapor using a PID and handheld Jerome® J505 mercury vapor analyzer, respectively. Evidence of impacts was not observed during screening of the soil/fill surrounding the tank.
- ECD removed previously imported 1.5-inch virgin stone from an about 30-foot-long by 15-foot-wide area in the central part of the site and stockpiled it in the southern part of the site.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

- ECD excavated previously imported fill to a maximum depth of about 3 feet bgs in the northeastern part of the site to facilitate installation of soil mix columns for the SOE system.

Material Tracking

- ECD exported five truckloads (about 100 cubic yards [CY]) of non-hazardous soil/fill for off-site disposal at the Middlesex County Landfill, located in East Brunswick, NJ.
- ECD exported three truckloads (about 60 CY) of construction and demolition (C&D) debris for off-site disposal at the Earth Efficient MSM facility, located in East Stroudsburg, PA.
- No material was imported to the site.

Material Import Summary

Facility Name Location Type of Material	**Stone Industries, Inc. Haledon, NJ 1.5/2.5-inch Virgin Stone**		**Stone Industries, Inc. Haledon, NJ 0.75-inch Virgin Stone**		**Impact Reuse & Recovery Center or Impact Materials Jersey City, Lyndhurst/Jersey City, NJ 1.5-inch Clean Bluestone**		**Impact Reuse & Recovery Center, Lyndhurst, NJ General Fill**	
Quantities	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)
Today	0	0	0	0	0	0	0	0
Project Total	12	283.91	0	0	15	339.65	374	9,157.85
NYSDEC Approved:	1,800 tons*				720 tons*		19,500 tons*	

*0.75-inch, 1.5-inch, and 2.5-inch virgin stone from the Stone Industries, Inc. facility and 1.5-inch clean bluestone from the Impact Reuse & Recovery Center (IRRC) facility were approved for import of 1,000 cubic yards (CY) and 400 CY, respectively. Assuming a conversion factor of 1.8, each quantity was converted to tons in order to accurately compare with import weight tickets. General fill from the IRRC facility was approved for import of 13,000 CY and a conversion factor of 1.5 is applied.

Material Export Summary (1 of 3)

Facility Name Location Type of Material	**Allocco Recycling Brooklyn, NY Construction & Demolition (C&D) Debris**		**IRRC Lyndhurst, NJ C&D Debris**		**Earth Efficient MSM East Stroudsburg, PA C&D Debris**		**Clean Earth of North Jersey Kearny, NJ Hazardous Lead-Impacted Soil/Fill**	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	3	60	0	0
Project Total	5	85	42	840	41	820	95	1,900

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Material Export Summary (2 of 3)						
Facility Name Location Type of Material	**Middlesex County Landfill East Brunswick, NJ Non-hazardous Soil/Fill**		**Bayshore Soil Management Keasbey, NJ Petroleum-Impacted Soil/Fill**		**Clean Earth of Carteret, NJ Carteret, NJ Non-hazardous Soil/Fill**	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	5	100	0	0	0	0
Project Total	278	5,560	267	5,340	66	1,320

Material Export Summary (3 of 3)				
Facility Name Location Type of Material	**Clean Earth of North Jersey Kearny, NJ Non-hazardous Soil/Fill**		**Cycle Chem, Inc. Elizabeth, NJ Hazardous Lead - Impacted Soil/Fill**	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0
Project Total	201	4,020	10	200

Sampling

- No samples were collected.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

CAMP Activities

Langan performed air monitoring at the perimeter of the site, at the northern sidewalk of Pearl Street, at the western sidewalk of Beekman Street, at the eastern sidewalk of Peck Slip, and at the southern sidewalk of Water Street at eight total locations for mercury vapor, volatile organic compounds (VOCs), and particulate matter less than 10 microns in diameter (PM10) from about 6:51am to 4:38pm. There were no fifteen-minute average concentrations for mercury vapor, VOCs or PM10 that approached or exceeded the action levels established by the CAMP (1.00 µg/m^3, 5.0 ppm, or 0.100 mg/m^3, respectively).

Background Concentrations

Prior to implementation of CAMP, instantaneous background concentrations of mercury vapor and VOCs were recorded using a handheld Jerome® J505 mercury vapor analyzer and a handheld PID, respectively.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

Perimeter and Work Zone Concentrations

Daily Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.004	0.00	0.03
PM-2	0.003	0.00	0.01
PM-3	0.003	0.01	0.00
PM-4	0.003	0.00	0.01
WZ-1	0.003	0.00	0.00
WZ-2	0.002	0.00	0.00
WZ-3	0.002	0.00	0.00
WZ-4	0.003	0.00	0.01

Maximum 15-Minute-Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.009	0.04	0.41
PM-2	0.006	0.09	0.02
PM-3	0.007	0.23	0.01
PM-4	0.004	0.13	0.02
WZ-1	0.010	0.00	0.00
WZ-2	0.003	0.04	0.00
WZ-3	0.003	0.05	0.01
WZ-4	0.008	0.01	0.03

●mg/m^3 = milligrams per cubic meter ●ppm = parts per million ●µg/m^3 = micrograms per cubic meter

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Ambient Air (Handheld Jerome® J505 and Handheld PID)

- The dedicated mobile monitor (Langan) used a handheld Jerome® J505 mercury vapor analyzer to monitor ambient air conditions at various heights throughout the site. Instantaneous mercury vapor concentrations throughout the site ranged from 0.00 µg/m^3 to 0.09 µg/m^3.
- The dedicated mobile monitor (Langan) used a handheld PID to monitor VOC concentrations throughout the site. Instantaneous VOC concentrations were not detected above background concentrations throughout the workday.

Off-site CAMP Stations

- CAMP station WZ-1 was placed on the western sidewalk of Beekman Street from about 6:40am to 5:20pm.
- CAMP station WZ-2 was placed on the southern sidewalk of Water Street from about 6:41am to 5:23pm.
- CAMP station WZ-3 was placed on the eastern sidewalk of Peck Slip from about 6:45am to 5:32pm.
- CAMP station WZ-4 was placed on the northern sidewalk of Pearl Street from about 6:46am to 5:57pm.

Prior to CAMP Shutdown

Prior to discontinuing CAMP, mercury vapor and VOC concentrations were confirmed to return to background conditions at each perimeter station using the handheld Jerome® J505 mercury vapor analyzer and handheld PID, respectively. Perimeter CAMP stations were discontinued sequentially between 4:38pm and 5:08pm.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

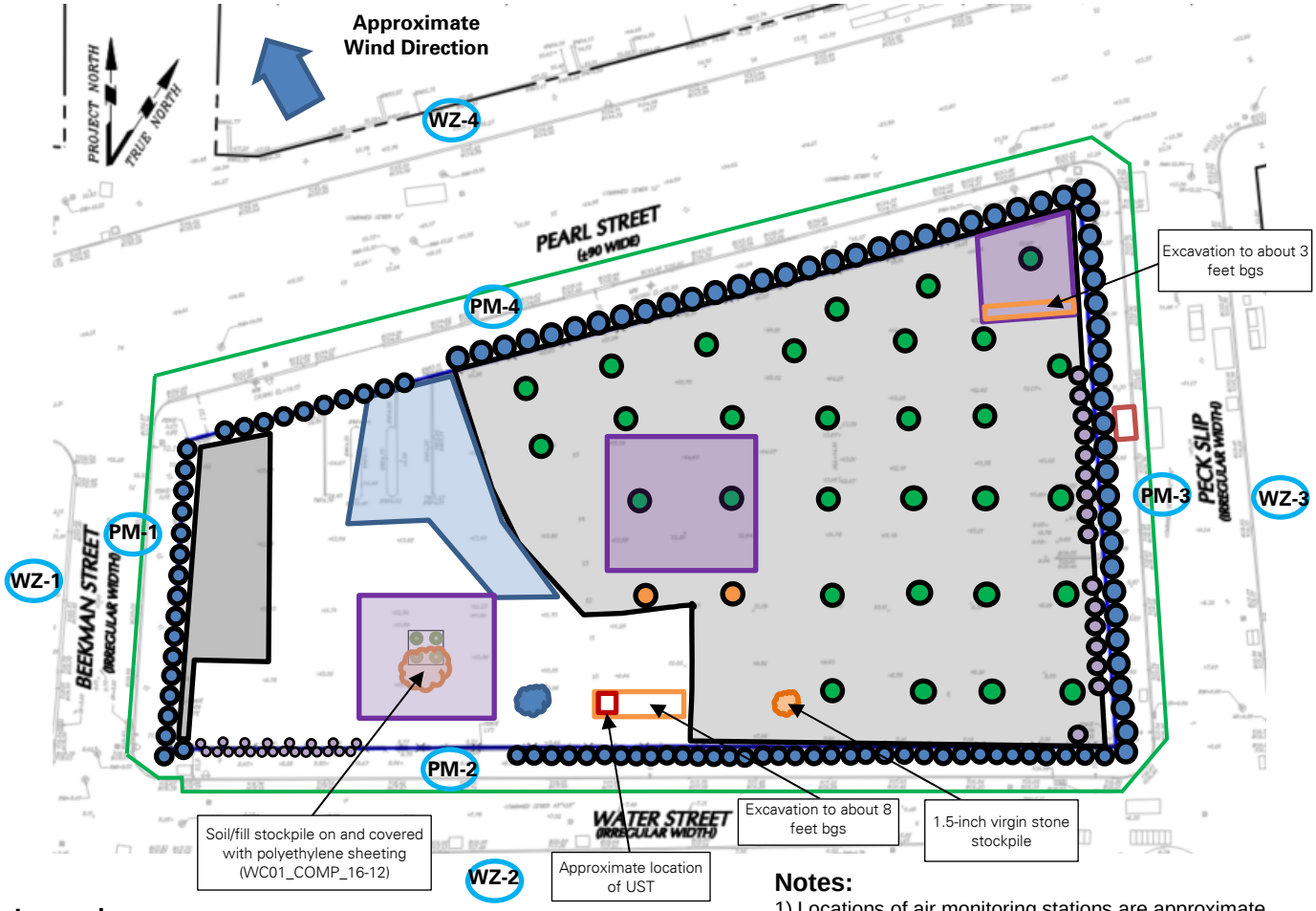
Anticipated Activities

- ECD will continue exporting C&D and soil/fill from the western part of the site for off-site disposal.
- ECD will continue installing soil mix columns and/or soldier piles for SOE installation along Pearl Street, Water Street, and Peck Slip.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Site Map



Legend:

- PM-1 — Approximate Location of Air Monitoring Station
- Approximate Work Area
- Approximate Location of Installed Pile Cap
- Approximate Location of Foundation Piles Completed
- Approximate Location of Truck Tracking Pad
- Approximate Location of Underground Storage Tank
- Approximate Location of C&D Stockpile
- Approximate Location of Soil/Fill Stockpile
- Approximate Location of Soldier Pile
- Approximate Location of Soil Mix Column Installed Today
- Approximate Location of Soil Mix Column Installed Previously
- Approximate Perimeter Construction Fence Location
- Previous Excavation Area
- Approximate Excavation Area
- Approximate Location of Documentation Sample
- Approximate Location of Previously Collected Endpoint Sample
- Approximate Location of Imported Fill/Stone

Notes:
1) Locations of air monitoring stations are approximate.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Select Site Photographs:



Photo 1: ECD washing a tri-axle dump truck prior to exiting the site (facing southwest)



Photo 2: UST staged on and covered with polyethylene sheeting (facing southeast)

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

PROJECT No.:	170381202	**CLIENT:** 250 Seaport District, LLC c/o The Howard Hughes Corporation	**DATE:**	Friday, September 15, 2023
PROJECT:	250 Water Street		**WEATHER:**	Partly Sunny, 58 – 68° F Wind: NNE @ 0.2 – 2.6 mph
LOCATION:	New York, NY		**TIME:**	5:45am – 6:15pm
BCP SITE ID:	C231127		**MONITOR**	Michael Cole

EQUIPMENT:
CAT 335 Excavator
CAT 328 Excavator
Komatsu PC138 Excavator
Delmag Drill Rig
Bauer RTG RG 27S
Bauer BG45 Drill Rig
Jerome J505 Mercury Vapor Analyzer
RKI GX-6000 Photoionization Detector (PID)
Aeroqual ASQ1 Air Monitoring Station

PRESENT AT SITE: **Day 204**
Langan (Environmental/Geotechnical) Michael Cole, Roswell Lo, Pradeep Pandey
Suffolk Construction (Suffolk) (General Contractor) Anthony Galu, Wyatt Favia
East Coast Drilling, Inc. (ECD) (Foundation Contractor) Danny Rodgers
New York State Department of Environmental Conservation (NYSDEC) Meghan Medwig
AKRF, Inc. (Archaeologist) Theresa Imbriolo

OBSERVATIONS, DISCUSSIONS, TEST RESULTS, ETC.:

Langan was present to document remediation activities in accordance with the NYSDEC-approved November 2021 Remedial Action Work Plan (RAWP) at the 250 Water Street site (NYSDEC Brownfield Cleanup Program [BCP] Site No C231127).

Site Activities

- ECD excavated an about 50-foot-long by 25-foot-wide area to a maximum depth of about 5 feet below grade surface (bgs) in the western part of the site (waste characterization cells WC02 and WC03) to facilitate installation of tiebacks as part of the support-of-excavation (SOE) system.
    - Excavated soil/fill was screened for odors, staining, organic vapors, and mercury vapor using a handheld photoionization detector (PID) and handheld Jerome® J505 mercury vapor analyzer, respectively. Evidence of impacts was not observed and the excavated soil/fill was live-loaded into securely covered tri-axle dump trucks for off-site disposal.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Material Tracking

- ECD exported two truckloads (about 40 cubic yards [CY]) of non-hazardous soil/fill for off-site disposal at the Middlesex County Landfill, located in East Brunswick, NJ.
- ECD exported six truckloads (about 120 CY) of construction and demolition (C&D) debris for off-site disposal at the Earth Efficient MSM facility located in East Stroudsburg, PA.
- No material was imported to the site.

Material Import Summary

Facility Name Location Type of Material	Stone Industries, Inc. Haledon, NJ 1.5/2.5-inch Virgin Stone		Stone Industries, Inc. Haledon, NJ 0.75-inch Virgin Stone		Impact Reuse & Recovery Center or Impact Materials Jersey City, Lyndhurst/Jersey City, NJ 1.5-inch Clean Bluestone		Impact Reuse & Recovery Center, Lyndhurst, NJ General Fill	
Quantities	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)
Today	0	0	0	0	0	0	0	0
Project Total	12	283.91	0	0	15	339.65	374	9,157.85
NYSDEC Approved:	1,800 tons*				720 tons*		19,500 tons*	

*0.75-inch, 1.5-inch, and 2.5-inch virgin stone from the Stone Industries, Inc. facility and 1.5-inch clean bluestone from the Impact Reuse & Recovery Center (IRRC) facility were approved for import of 1,000 cubic yards (CY) and 400 CY, respectively. Assuming a conversion factor of 1.8, each quantity was converted to tons in order to accurately compare with import weight tickets. General fill from the IRRC facility was approved for import of 13,000 CY and a conversion factor of 1.5 is applied.

Material Export Summary (1 of 3)

Facility Name Location Type of Material	Allocco Recycling Brooklyn, NY Construction & Demolition (C&D) Debris		IRRC Lyndhurst, NJ C&D Debris		Earth Efficient MSM East Stroudsburg, PA C&D Debris		Clean Earth of North Jersey Kearny, NJ Hazardous Lead-Impacted Soil/Fill	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	6	120	0	0
Project Total	5	85	42	840	47	940	95	1,900

Material Export Summary (2 of 3)

Facility Name Location Type of Material	Middlesex County Landfill East Brunswick, NJ Non-hazardous Soil/Fill		Bayshore Soil Management Keasbey, NJ Petroleum-Impacted Soil/Fill		Clean Earth of Carteret, NJ Carteret, NJ Non-hazardous Soil/Fill	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	2	40	0	0	0	0
Project Total	280	5,600	267	5,340	66	1,320

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Material Export Summary (3 of 3)				
Facility Name Location Type of Material	**Clean Earth of North Jersey Kearny, NJ Non-hazardous Soil/Fill**		**Cycle Chem, Inc. Elizabeth, NJ Hazardous Lead - Impacted Soil/Fill**	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0
Project Total	201	4,020	10	200

Sampling

- No samples were collected.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

CAMP Activities

Langan performed air monitoring at the perimeter of the site, at the northern sidewalk of Pearl Street, at the western sidewalk of Beekman Street, at the eastern sidewalk of Peck Slip, and at the southern sidewalk of Water Street at eight total locations for mercury vapor, volatile organic compounds (VOCs), and particulate matter less than 10 microns in diameter (PM10) from about 7:05 am to 3:31 pm. There were no fifteen-minute average concentrations for mercury vapor, VOCs or PM10 that approached or exceeded the action levels established by the CAMP (1.00 µg/m^3, 5.0 ppm, or 0.100 mg/m^3, respectively).

Background Concentrations

Prior to implementation of CAMP, instantaneous background concentrations of mercury vapor and VOCs were recorded using a handheld Jerome® J505 mercury vapor analyzer and a handheld PID, respectively.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

Perimeter and Work Zone Concentrations

Daily Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.004	0.00	0.01
PM-2	0.003	0.00	0.01
PM-3	0.004	0.01	0.01
PM-4	0.004	0.01	0.01
WZ-1	0.003	0.00	0.00
WZ-2	0.003	0.00	0.00
WZ-3	0.003	0.01	0.00
WZ-4	0.005	0.00	0.01

Maximum 15-Minute-Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.005	0.02	0.04
PM-2	0.004	0.00	0.02
PM-3	0.004	0.09	0.20
PM-4	0.004	0.08	0.03
WZ-1	0.009	0.00	0.01
WZ-2	0.003	0.01	0.02
WZ-3	0.006	0.05	0.00
WZ-4	0.016	0.07	0.04

●mg/m^3 = milligrams per cubic meter ●ppm = parts per million ●µg/m^3 = micrograms per cubic meter

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Equipment Troubleshooting

- Air monitoring data was not recorded between 8:25am and 8:43am at perimeter CAMP station PM-3 due to a depleted battery. Mercury vapor, VOCs, and PM10 were not observed at concentrations above background conditions at off-site CAMP station WZ-3 during this time and fugitive dust or odors were not observed migrating off-site during replacement of the battery. The battery was replaced and datalogging at perimeter CAMP station PM-3 resumed at 8:44am.

Ambient Air (Handheld Jerome® J505 and Handheld PID)

- The dedicated mobile monitor (Langan) used a handheld Jerome® J505 mercury vapor analyzer to monitor ambient air conditions at various heights throughout the site. Instantaneous mercury vapor concentrations throughout the site ranged from 0.00 µg/m^3 to 0.08 µg/m^3.
- The dedicated mobile monitor (Langan) used a handheld PID to monitor VOC concentrations throughout the site. Instantaneous VOC concentrations were not detected above background concentrations throughout the workday.

Off-site CAMP Stations

- CAMP station WZ-1 was placed on the western sidewalk of Beekman Street from about 6:18am to 3:51pm.
- CAMP station WZ-2 was placed on the southern sidewalk of Water Street from about 6:40am to 3:59pm.
- CAMP station WZ-3 was placed on the eastern sidewalk of Peck Slip from about 7:03am to 4:12pm.
- CAMP station WZ-4 was placed on the northern sidewalk of Pearl Street from about 6:27am to 4:23pm.

Prior to CAMP Shutdown

Prior to discontinuing CAMP, mercury vapor and VOC concentrations were confirmed to return to background conditions at each perimeter station using the handheld Jerome® J505 mercury vapor analyzer and handheld PID, respectively. Perimeter CAMP stations were discontinued sequentially between 3:31pm and 4:23pm.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

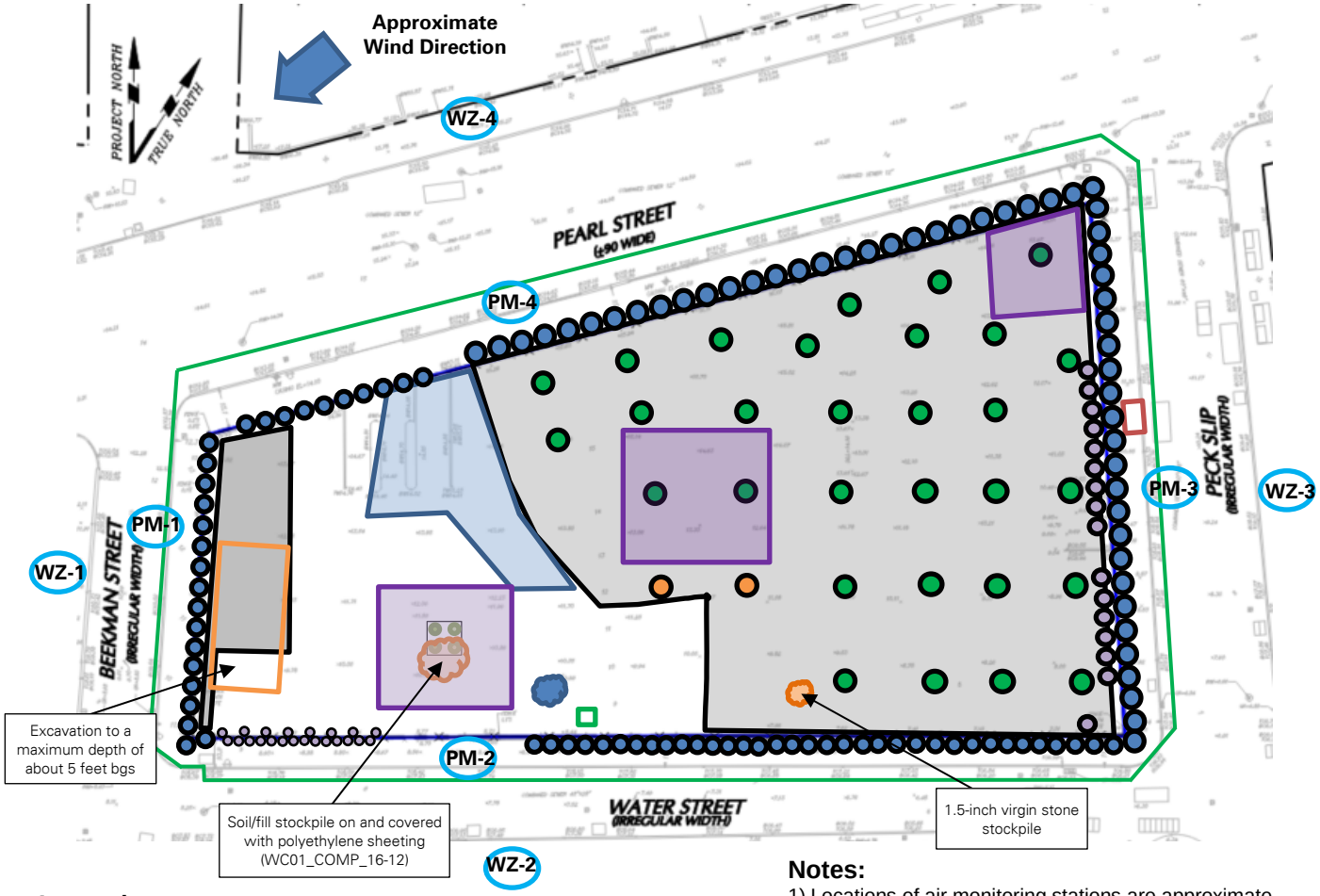
Anticipated Activities

- ECD will continue exporting C&D and soil/fill from the western part of the site for off-site disposal.
- ECD will continue installing soil mix columns and/or soldier piles for SOE installation along Pearl Street, Water Street, and Peck Slip.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Site Map



Legend:

- PM-1 — Approximate Location of Air Monitoring Station
- Approximate Work Area
- Approximate Location of Installed Pile Cap
- Approximate Location of Foundation Piles Completed
- Approximate Location of Truck Tracking Pad
- Approximate Location of Underground Storage Tank
- Approximate Location of C&D Stockpile
- Approximate Location of Soil/Fill Stockpile
- Approximate Location of Staged UST

Notes:

1) Locations of air monitoring stations are approximate.

- Approximate Location of Soldier Pile
- Approximate Location of Soil Mix Column Installed Today
- Approximate Location of Soil Mix Column Installed Previously
- Approximate Perimeter Construction Fence Location
- Previous Excavation Area
- Approximate Excavation Area
- Approximate Location of Documentation Sample
- Approximate Location of Previously Collected Endpoint Sample
- Approximate Location of Imported Fill/Stone

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Select Site Photographs:



Photo 1: ECD excavating soil/fill in the western part of the site (facing north)

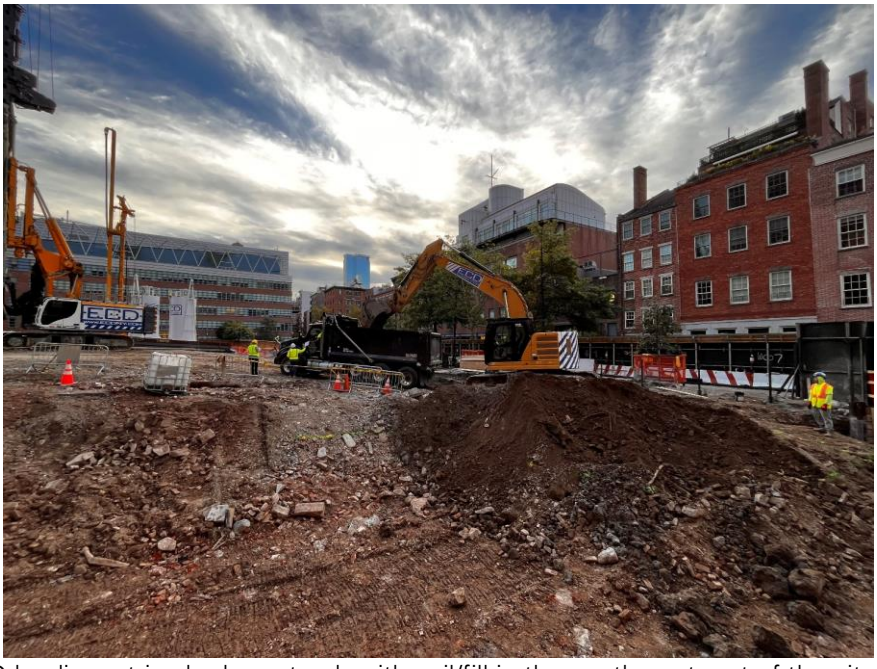


Photo 2: ECD loading a tri-axle dump truck with soil/fill in the southwest part of the site (facing east)

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

PROJECT No.:	170381202	**CLIENT:** 250 Seaport District, LLC c/o The Howard Hughes Corporation	**DATE:**	Monday, September 18, 2023
PROJECT:	250 Water Street		**WEATHER:**	Rain, 65 – 68° F Wind: N @ 0.1 – 1.6 mph
LOCATION:	New York, NY		**TIME:**	5:45am – 5:30pm
BCP SITE ID:	C231127		**MONITOR**	Jack Millman

EQUIPMENT:
CAT 335 Excavator
CAT 328 Excavator
Komatsu PC138 Excavator
Delmag Drill Rig
Bauer RTG RG 27S
Bauer BG45 Drill Rig
Jerome J505 Mercury Vapor Analyzer
RKI GX-6000 Photoionization Detector (PID)
Aeroqual ASQ1 Air Monitoring Station

PRESENT AT SITE: **Day 205**
Langan (Environmental/Geotechnical) Jack Millman, Michael Cole, Pradeep Pandey
Suffolk Construction (Suffolk) (General Contractor) Anthony Galu, Wyatt Favia
East Coast Drilling, Inc. (ECD) (Foundation Contractor) Danny Rodgers
New York State Department of Environmental Conservation (NYSDEC) Marnie Chancey, Sydney Sobol
AKRF, Inc. (Archaeologist) Theresa Imbriolo
Innovative Recycling Technologies, Inc. (UST Cleaning/Removal Contractor Contractor)

OBSERVATIONS, DISCUSSIONS, TEST RESULTS, ETC.:

Langan was present to document remediation activities in accordance with the NYSDEC-approved November 2021 Remedial Action Work Plan (RAWP) at the 250 Water Street site (NYSDEC Brownfield Cleanup Program [BCP] Site No C231127).

Site Activities

- ECD used a Bauer RTG RG 27S drill rig to install five soldier piles to a depth of about 35 feet below grade surface (bgs) for support-of-excavation (SOE) installation in the northern part of the site (Pearl Street). ECD's drill rig advanced a steel rod with a soil mixing paddle at the bottom of the rod, while concurrently injecting grout through the top of the paddle and spinning and advancing the paddle downward.
    - No drilling spoils were generated during installation of the soldier piles.
    - Excess grout was contained within a temporary trench adjacent to the drilling area and will be managed as C&D debris at a later date.
- ECD demolished existing asphalt and concrete in the northern part of the site. The construction and demolition (C&D) debris was temporarily stockpiled and covered with polyethylene sheeting adjacent to the work area pending future off-site disposal.
- IRT decommissioned the empty 550-gallon underground storage tank (UST) staged in the southern part of the site. Decommissioning activities included cutting a hole in the UST to render it unusable and cleaning the interior of the tank using absorbent pads. The absorbent pads were containerized in a United Nations /Department of Transportation (UN/DOT)-approved 55-gallon steel drum for off-site disposal. No odors or PID readings were observed during decommissioning of the UST.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Material Tracking

- IRT exported the about 550-gallon UST carcass for off-site disposal as scrap metal at the Gershow Recycling facility, located in Brooklyn, New York.
- IRT exported one UN/DOT-approved 55-gallon drum containing spent absorbent pads for off-site disposal at the Republic Environmental Systems facility, located in Hatfield, Pennsylvania.
- No material was imported to the site.

Material Import Summary

Facility Name Location Type of Material	Stone Industries, Inc. Haledon, NJ 1.5/2.5-inch Virgin Stone		Stone Industries, Inc. Haledon, NJ 0.75-inch Virgin Stone		Impact Reuse & Recovery Center or Impact Materials Jersey City, Lyndhurst/Jersey City, NJ 1.5-inch Clean Bluestone		Impact Reuse & Recovery Center, Lyndhurst, NJ General Fill	
Quantities	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)
Today	0	0	0	0	0	0	0	0
Project Total	12	283.91	0	0	15	339.65	374	9,157.85
NYSDEC Approved:	1,800 tons*				720 tons*		19,500 tons*	

*0.75-inch, 1.5-inch, and 2.5-inch virgin stone from the Stone Industries, Inc. facility and 1.5-inch clean bluestone from the Impact Reuse & Recovery Center (IRRC) facility were approved for import of 1,000 cubic yards (CY) and 400 CY, respectively. Assuming a conversion factor of 1.8, each quantity was converted to tons in order to accurately compare with import weight tickets. General fill from the IRRC facility was approved for import of 13,000 CY and a conversion factor of 1.5 is applied.

Material Export Summary (1 of 3)

Facility Name Location Type of Material	Allocco Recycling Brooklyn, NY Construction & Demolition (C&D) Debris		IRRC Lyndhurst, NJ C&D Debris		Earth Efficient MSM East Stroudsburg, PA C&D Debris		Clean Earth of North Jersey Kearny, NJ Hazardous Lead-Impacted Soil/Fill	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	0	0	0	0
Project Total	5	85	42	840	47	940	95	1,900

Material Export Summary (2 of 3)

Facility Name Location Type of Material	Middlesex County Landfill East Brunswick, NJ Non-hazardous Soil/Fill		Bayshore Soil Management Keasbey, NJ Petroleum-Impacted Soil/Fill		Clean Earth of Carteret, NJ Carteret, NJ Non-hazardous Soil/Fill	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	0	0
Project Total	280	5,600	267	5,340	66	1,320

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Material Export Summary (3 of 3)				
Facility Name Location Type of Material	**Clean Earth of North Jersey Kearny, NJ Non-hazardous Soil/Fill**		**Cycle Chem, Inc. Elizabeth, NJ Hazardous Lead - Impacted Soil/Fill**	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0
Project Total	201	4,020	10	200

Sampling

- No samples were collected.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

CAMP Activities

Langan performed air monitoring at the perimeter of the site, at the northern sidewalk of Pearl Street, at the western sidewalk of Beekman Street, at the eastern sidewalk of Peck Slip, and at the southern sidewalk of Water Street at eight total locations for mercury vapor, volatile organic compounds (VOCs), and particulate matter less than 10 microns in diameter (PM10) from about 7:00am to 4:29pm. There were no fifteen-minute average concentrations for mercury vapor, VOCs or PM10 that approached or exceeded the action levels established by the CAMP (1.00 µg/m^3, 5.0 ppm, or 0.100 mg/m^3, respectively).

Background Concentrations

Prior to implementation of CAMP, instantaneous background concentrations of mercury vapor and VOCs were recorded using a handheld Jerome® J505 mercury vapor analyzer and a handheld PID, respectively.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

Perimeter and Work Zone Concentrations

Daily Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.005	0.00	0.01
PM-2	0.005	0.00	0.01
PM-3	0.006	0.00	0.00
PM-4	0.005	0.00	0.01
WZ-1	0.005	0.00	0.00
WZ-2	0.005	0.00	0.00
WZ-3	0.005	0.00	0.01
WZ-4	0.006	0.00	0.01

Maximum 15-Minute-Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.020	0.00	0.04
PM-2	0.016	0.01	0.07
PM-3	0.017	0.04	0.03
PM-4	0.014	0.06	0.03
WZ-1	0.012	0.00	0.01
WZ-2	0.013	0.01	0.01
WZ-3	0.016	0.02	0.02
WZ-4	0.018	0.01	0.04

●mg/m^3 = milligrams per cubic meter ●ppm = parts per million ●µg/m^3 = micrograms per cubic meter

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Equipment Troubleshooting

- VOC and PM10 data were not recorded until 8:33am at perimeter CAMP station PM-4 due to a connection issue between the battery and the CAMP station. VOC and PM10 data were not recorded at concentrations above background conditions at off-site CAMP station WZ-4 during this time and fugitive dust or odors were not observed migrating off-site during CAMP station troubleshooting. The connection was secured using a spare battery and datalogging at perimeter CAMP station PM-4 resumed at 8:34am. Mercury vapor data was manually downloaded from the Jerome® J505 unit at PM-4, and mercury vapor concentrations ranged from 0.00 µg/m^3 to 0.19 µg/m^3 from 7:00am to 8:33am.

Ambient Air (Handheld Jerome® J505 and Handheld PID)

- The dedicated mobile monitor (Langan) used a handheld Jerome® J505 mercury vapor analyzer to monitor ambient air conditions at various heights throughout the site. Instantaneous mercury vapor concentrations throughout the site ranged from 0.00 µg/m^3 to 0.08 µg/m^3.
- The dedicated mobile monitor (Langan) used a handheld PID to monitor VOC concentrations throughout the site. Instantaneous VOC concentrations were not detected above background concentrations throughout the workday.

Off-site CAMP Stations

- CAMP station WZ-1 was placed on the western sidewalk of Beekman Street from about 6:23am to 4:42pm.
- CAMP station WZ-2 was placed on the southern sidewalk of Water Street from about 6:24am to 4:46pm.
- CAMP station WZ-3 was placed on the eastern sidewalk of Peck Slip from about 6:27am to 4:53pm.
- CAMP station WZ-4 was placed on the northern sidewalk of Pearl Street from about 6:30am to 5:02pm.

Prior to CAMP Shutdown

Prior to discontinuing CAMP, mercury vapor and VOC concentrations were confirmed to return to background conditions at each perimeter station using the handheld Jerome® J505 mercury vapor analyzer and handheld PID, respectively. Perimeter CAMP stations were discontinued sequentially between 4:29pm and 4:35pm.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

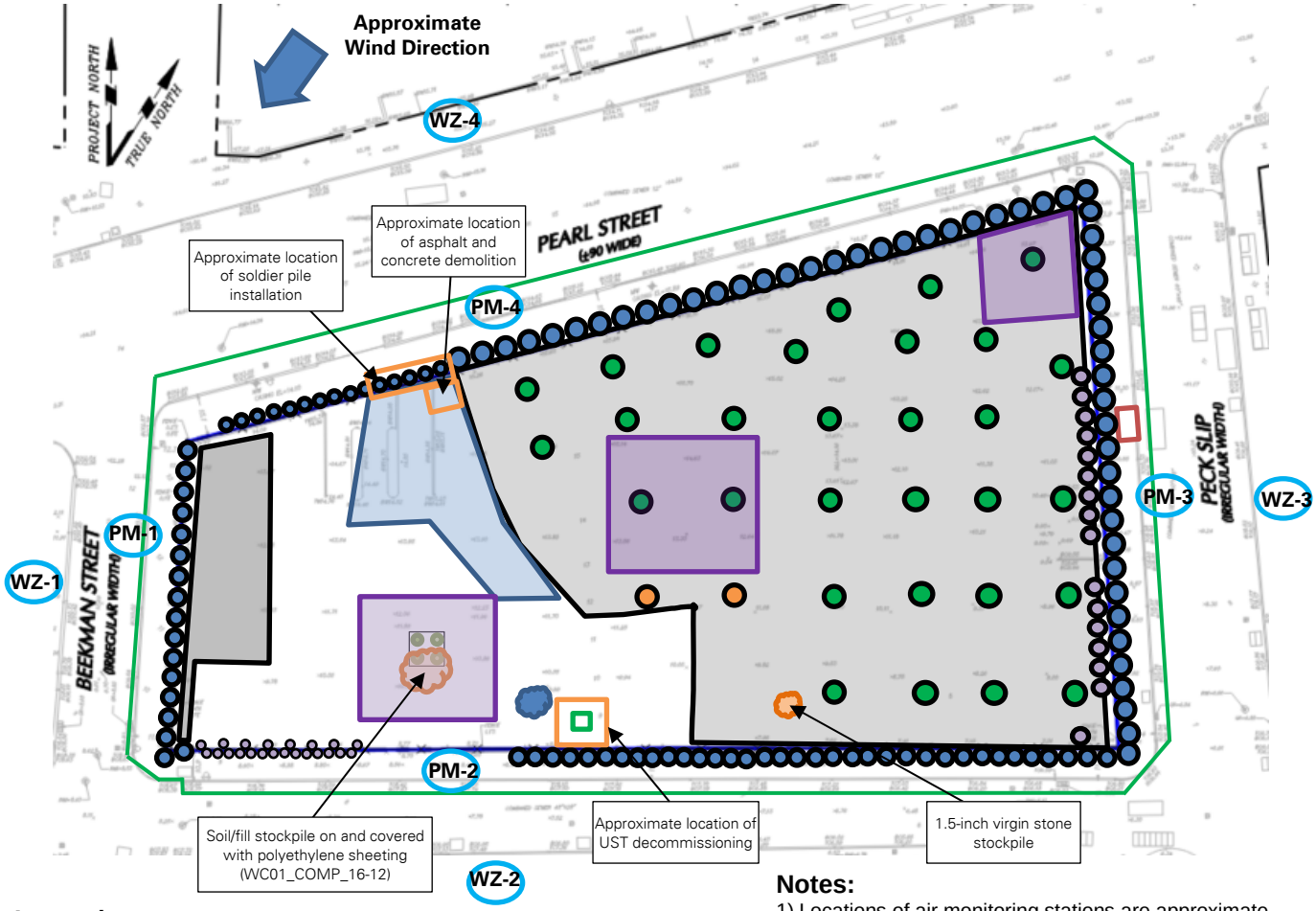
Anticipated Activities

- ECD will continue exporting C&D and soil/fill from the western part of the site for off-site disposal.
- ECD will continue installing soil mix columns and/or soldier piles for SOE installation along Pearl Street, Water Street, and Peck Slip.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Site Map



Legend:

- PM-1 — Approximate Location of Air Monitoring Station
- Approximate Work Area
- Approximate Location of Installed Pile Cap
- Approximate Location of Foundation Piles Completed
- Approximate Location of Truck Tracking Pad
- Approximate Location of Underground Storage Tank
- Approximate Location of C&D Stockpile
- Approximate Location of Soil/Fill Stockpile
- Approximate Location of Staged UST
- Approximate Location of Soldier Pile
- Approximate Location of Soil Mix Column Installed Today
- Approximate Location of Soil Mix Column Installed Previously
- Approximate Perimeter Construction Fence Location
- Previous Excavation Area
- Approximate Excavation Area
- Approximate Location of Documentation Sample
- Approximate Location of Previously Collected Endpoint Sample
- Approximate Location of Imported Fill/Stone

Notes:
1) Locations of air monitoring stations are approximate.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Select Site Photographs:



Photo 1: ECD demolishing existing asphalt and concrete in the northern part of the site (facing northwest)



Photo 2: Decommissioned UST in the southern part of the site prior to off-site disposal (facing southeast)

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

PROJECT No.:	170381202	**CLIENT:** 250 Seaport District, LLC c/o The Howard Hughes Corporation	**DATE:**	Tuesday, September 19, 2023
PROJECT:	250 Water Street		**WEATHER:**	Sunny, 58 – 72° F Wind: NNE @ 0.1 – 1.9 mph
LOCATION:	New York, NY		**TIME:**	5:45am – 5:00pm
BCP SITE ID:	C231127		**MONITOR**	Jack Millman

EQUIPMENT:
CAT 335 Excavator
CAT 328 Excavator
Komatsu PC138 Excavator
Delmag Drill Rig
Bauer RTG RG 27S
Bauer BG45 Drill Rig
Jerome J505 Mercury Vapor Analyzer
RKI GX-6000 Photoionization Detector (PID)
Aeroqual ASQ1 Air Monitoring Station

PRESENT AT SITE: **Day 206**
Langan (Environmental/Geotechnical) Jack Millman, Michael Cole, Olivia O'Donnell, Pradeep Pandey
Suffolk Construction (Suffolk) (General Contractor) Anthony Galu, Wyatt Favia
East Coast Drilling, Inc. (ECD) (Foundation Contractor) Danny Rodgers
New York State Department of Environmental Conservation (NYSDEC) Marnie Chancey, Sydney Sobol
AKRF, Inc. (Archaeologist) Theresa Imbriolo

OBSERVATIONS, DISCUSSIONS, TEST RESULTS, ETC.:

Langan was present to document remediation activities in accordance with the NYSDEC-approved November 2021 Remedial Action Work Plan (RAWP) at the 250 Water Street site (NYSDEC Brownfield Cleanup Program [BCP] Site No C231127).

Site Activities

- ECD excavated two about 15-foot-long by 30-foot-wide areas to a maximum depth of about 6 feet below grade surface (bgs) in the western part of the site (waste characterization cells WC01 and WC03, respectively) to facilitate installation of tiebacks as part of the support-of-excavation (SOE) system.
    - Excavated soil/fill was screened for odors, staining, organic vapors, and mercury vapor using a handheld photoionization detector (PID) and handheld Jerome® J505 mercury vapor analyzer, respectively. Evidence of impacts was not observed and the excavated soil/fill was live-loaded into securely covered tri-axle dump trucks for off-site disposal.
- ECD used a Bauer BG45 drill rig to install one deep soil mix column for SOE installation in the eastern part of the site (along Peck Slip). ECD's drill rig advanced a steel rod with two cutter blades at the bottom of the rod, while concurrently injecting grout through the cutting head and spinning and advancing the blades downward to a depth of about 78 feet bgs.
    - No drilling spoils were generated during installation of the soil mix column.
    - Atmos® AC-645 odor/vapor suppressing foam was actively applied to the drilling area as a precautionary measure.
    - Excess grout was contained within a temporary containment area in the eastern part of the site and will be managed as construction and demolition (C&D) debris at a later date.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Material Tracking

- ECD exported two truckloads (about 40 cubic yards [CY]) of non-hazardous soil/fill for off-site disposal at the Middlesex County Landfill, located in East Brunswick, NJ.
- ECD exported six truckloads (about 120 CY) of C&D debris for off-site disposal at the Earth Efficient MSM facility located in East Stroudsburg, PA.
- No material was imported to the site.

Material Import Summary

Facility Name Location Type of Material	Stone Industries, Inc. Haledon, NJ 1.5/2.5-inch Virgin Stone		Stone Industries, Inc. Haledon, NJ 0.75-inch Virgin Stone		Impact Reuse & Recovery Center or Impact Materials Jersey City, Lyndhurst/Jersey City, NJ 1.5-inch Clean Bluestone		Impact Reuse & Recovery Center, Lyndhurst, NJ General Fill	
Quantities	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)
Today	0	0	0	0	0	0	0	0
Project Total	12	283.91	0	0	15	339.65	374	9,157.85
NYSDEC Approved:	1,800 tons*				720 tons*		19,500 tons*	

*0.75-inch, 1.5-inch, and 2.5-inch virgin stone from the Stone Industries, Inc. facility and 1.5-inch clean bluestone from the Impact Reuse & Recovery Center (IRRC) facility were approved for import of 1,000 cubic yards (CY) and 400 CY, respectively. Assuming a conversion factor of 1.8, each quantity was converted to tons in order to accurately compare with import weight tickets. General fill from the IRRC facility was approved for import of 13,000 CY and a conversion factor of 1.5 is applied.

Material Export Summary (1 of 3)

Facility Name Location Type of Material	Allocco Recycling Brooklyn, NY Construction & Demolition (C&D) Debris		IRRC Lyndhurst, NJ C&D Debris		Earth Efficient MSM East Stroudsburg, PA C&D Debris		Clean Earth of North Jersey Kearny, NJ Hazardous Lead-Impacted Soil/Fill	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	6	120	0	0
Project Total	5	85	42	840	53	1,060	95	1,900

Material Export Summary (2 of 3)

Facility Name Location Type of Material	Middlesex County Landfill East Brunswick, NJ Non-hazardous Soil/Fill		Bayshore Soil Management Keasbey, NJ Petroleum-Impacted Soil/Fill		Clean Earth of Carteret, NJ Carteret, NJ Non-hazardous Soil/Fill	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	2	40	0	0	0	0
Project Total	282	5,640	267	5,340	66	1,320

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Material Export Summary (3 of 3)				
Facility Name Location Type of Material	**Clean Earth of North Jersey Kearny, NJ Non-hazardous Soil/Fill**		**Cycle Chem, Inc. Elizabeth, NJ Hazardous Lead - Impacted Soil/Fill**	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0
Project Total	201	4,020	10	200

Sampling

- No samples were collected.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

CAMP Activities

Langan performed air monitoring at the perimeter of the site, at the northern sidewalk of Pearl Street, at the western sidewalk of Beekman Street, at the eastern sidewalk of Peck Slip, and at the southern sidewalk of Water Street at eight total locations for mercury vapor, volatile organic compounds (VOCs), and particulate matter less than 10 microns in diameter (PM10) from about 6:59am to 3:56pm. There were no fifteen-minute average concentrations for mercury vapor, or VOCs that approached or exceeded the action levels established by the CAMP (1.00 µg/m^3, 5.0 ppm, or 0.100 mg/m^3, respectively).

Background Concentrations

Prior to implementation of CAMP, instantaneous background concentrations of mercury vapor and VOCs were recorded using a handheld Jerome® J505 mercury vapor analyzer and a handheld PID, respectively.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

Perimeter and Work Zone Concentrations

Daily Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.007	0.00	0.02
PM-2	0.006	0.03	0.00
PM-3	0.012	0.00	0.00
PM-4	0.006	0.00	0.02
WZ-1	0.006	0.00	0.00
WZ-2	0.005	0.00	0.00
WZ-3	0.005	0.00	0.00
WZ-4	0.006	0.00	0.02

Maximum 15-Minute-Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.011	0.04	0.07
PM-2	0.016	0.75	0.01
PM-3	***** 0.117	0.00	0.01
PM-4	0.014	0.00	0.06
WZ-1	0.009	0.03	0.01
WZ-2	0.008	0.00	0.01
WZ-3	0.008	0.00	0.02
WZ-4	0.008	0.00	0.04

●mg/m^3 = milligrams per cubic meter ●ppm = parts per million ●µg/m^3 = micrograms per cubic meter

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

***** PM10 concentrations at perimeter CAMP station PM-3 exceeded the 15-minute time-weighted average (TWA) action level established in the CAMP (0.100 mg/m^3) at about 1:00pm due to exhaust from a nearby active compressor. The exceedance was not the result of ground-intrusive activities associated with soil/fill at the site and fugitive dust was not observed migrating from the site during this time. The area surrounding the CAMP station was sprayed with water as a precautionary measure. PM10 concentrations were not recorded above background conditions at off-site CAMP station WZ-3 during this time.

Ambient Air (Handheld Jerome® J505 and Handheld PID)

- The dedicated mobile monitor (Langan) used a handheld Jerome® J505 mercury vapor analyzer to monitor ambient air conditions at various heights throughout the site. Instantaneous mercury vapor concentrations throughout the site ranged from 0.00 µg/m^3 to 0.09 µg/m^3.
- The dedicated mobile monitor (Langan) used a handheld PID to monitor VOC concentrations throughout the site. Instantaneous VOC concentrations were not detected above background concentrations throughout the workday.

Off-site CAMP Stations

- CAMP station WZ-1 was placed on the western sidewalk of Beekman Street from about 6:41am to 4:08pm.
- CAMP station WZ-2 was placed on the southern sidewalk of Water Street from about 6:42am to 4:14pm.
- CAMP station WZ-3 was placed on the eastern sidewalk of Peck Slip from about 6:45am to 4:21pm.
- CAMP station WZ-4 was placed on the northern sidewalk of Pearl Street from about 6:46am to 4:29pm.

Prior to CAMP Shutdown

Prior to discontinuing CAMP, mercury vapor and VOC concentrations were confirmed to return to background conditions at each perimeter station using the handheld Jerome® J505 mercury vapor analyzer and handheld PID, respectively. Perimeter CAMP stations were discontinued sequentially between 3:55pm and 4:01pm.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

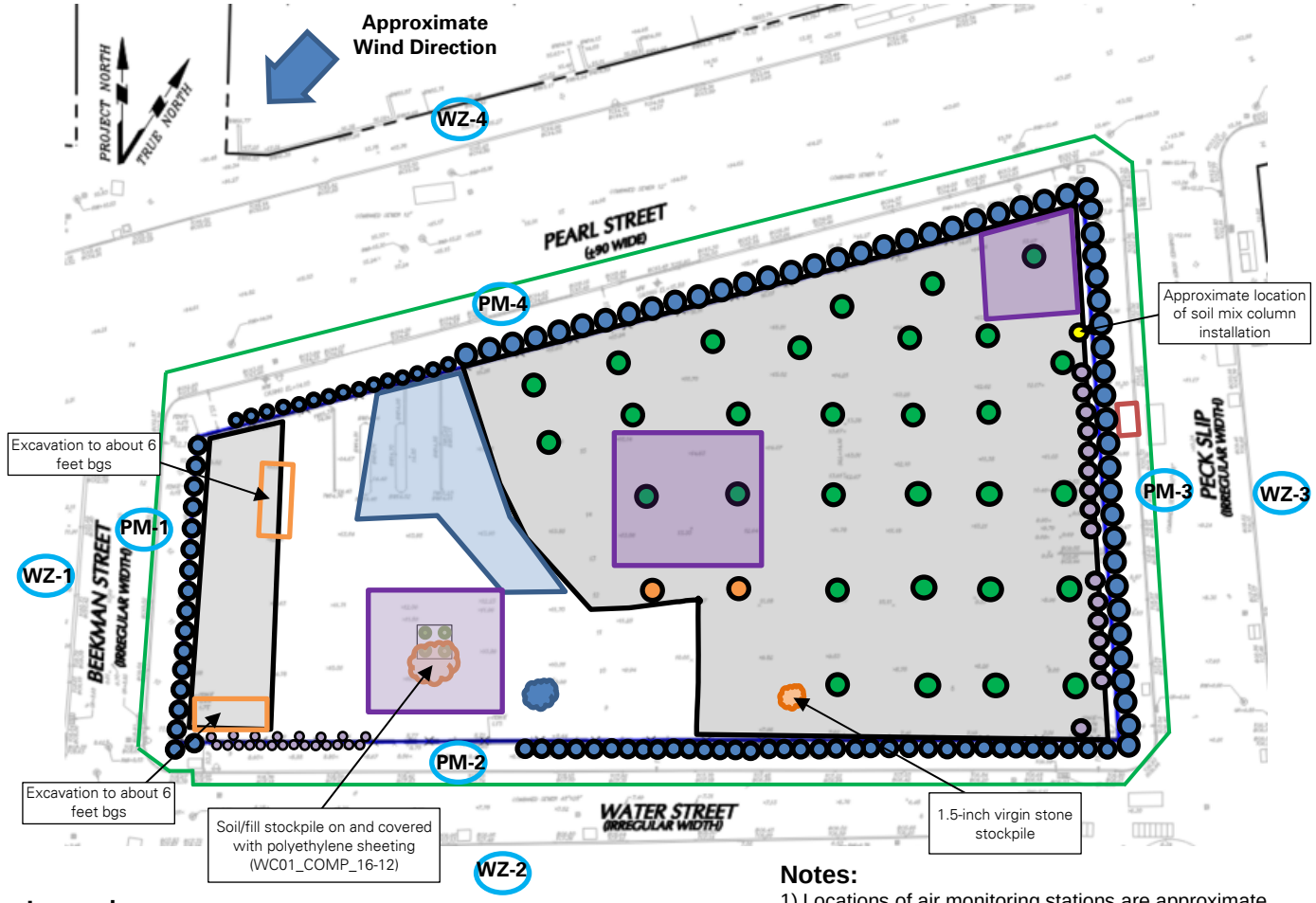
Anticipated Activities

- ECD will continue exporting C&D and soil/fill from the western part of the site for off-site disposal.
- ECD will continue installing soil mix columns and/or soldier piles for SOE installation along Pearl Street, Water Street, and Peck Slip.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Site Map



Legend:

- PM-1 — Approximate Location of Air Monitoring Station
- Approximate Work Area
- Approximate Location of Installed Pile Cap
- Approximate Location of Foundation Piles Completed
- Approximate Location of Truck Tracking Pad
- Approximate Location of Underground Storage Tank
- Approximate Location of C&D Stockpile
- Approximate Location of Soil/Fill Stockpile
- Approximate Location of Staged UST
- Approximate Location of Soldier Pile
- Approximate Location of Soil Mix Column Installed Today
- Approximate Location of Soil Mix Column Installed Previously
- Approximate Perimeter Construction Fence Location
- Previous Excavation Area
- Approximate Excavation Area
- Approximate Location of Documentation Sample
- Approximate Location of Previously Collected Endpoint Sample
- Approximate Location of Imported Fill/Stone

Notes:
1) Locations of air monitoring stations are approximate.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Select Site Photographs:

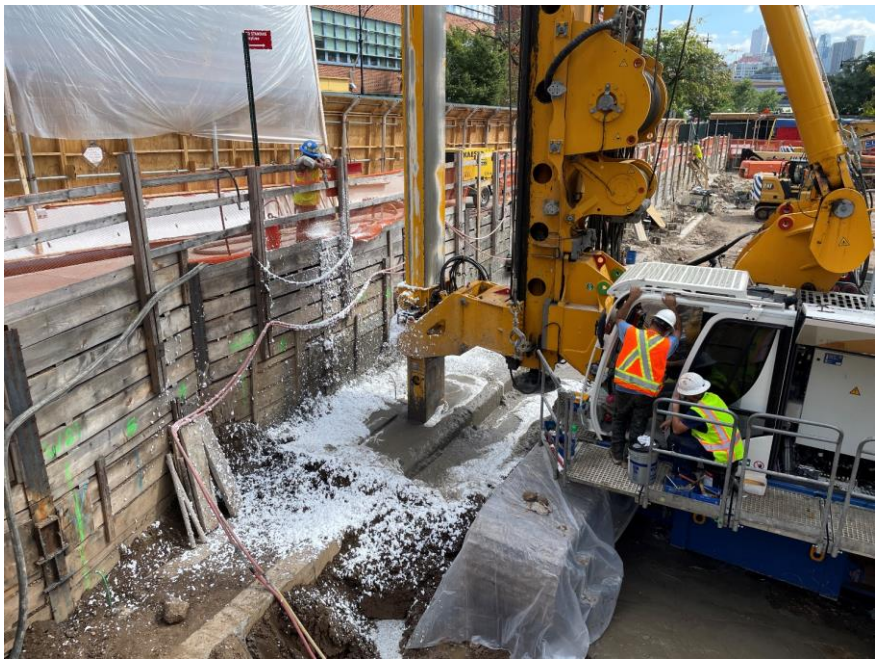


Photo 1: Atmos® AC-645 odor/vapor suppressing foam applied during soil mix column installation in the eastern part of the site (facing southeast)



Photo 2: ECD excavating soil/fill in the western part of the site (facing southwest)

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

PROJECT No.:	170381202	**CLIENT:** 250 Seaport District, LLC c/o The Howard Hughes Corporation	**DATE:**	Wednesday, September 20, 2023
PROJECT:	250 Water Street		**WEATHER:**	Sunny, 58 – 74° F Wind: NE @ 0.1 – 2.0 mph
LOCATION:	New York, NY		**TIME:**	5:45am – 9:45pm
BCP SITE ID:	C231127		**MONITOR**	Jack Millman

EQUIPMENT:
CAT 335 Excavator
CAT 328 Excavator
Komatsu PC138 Excavator
Delmag Drill Rig
Bauer RTG RG 27S
Bauer BG45 Drill Rig
Jerome J505 Mercury Vapor Analyzer
RKI GX-6000 Photoionization Detector (PID)
Aeroqual ASQ1 Air Monitoring Station

PRESENT AT SITE: **Day 207**
Langan (Environmental/Geotechnical) Jack Millman, Michael Cole, Olivia O'Donnell, Pradeep Pandey
Suffolk Construction (Suffolk) (General Contractor) Anthony Galu, Wyatt Favia
East Coast Drilling, Inc. (ECD) (Foundation Contractor) Danny Rodgers
New York State Department of Environmental Conservation (NYSDEC) Marnie Chancey
AKRF, Inc. (Archaeologist) Theresa Imbriolo

OBSERVATIONS, DISCUSSIONS, TEST RESULTS, ETC.:

Langan was present to document remediation activities in accordance with the NYSDEC-approved November 2021 Remedial Action Work Plan (RAWP) at the 250 Water Street site (NYSDEC Brownfield Cleanup Program [BCP] Site No C231127).

Site Activities

- ECD excavated an about 15-foot-long by 30-foot-wide area to a maximum depth of about 8 feet below grade surface (bgs) in the southwest part of the site (waste characterization cell WC03) to facilitate installation of tiebacks as part of the support-of-excavation (SOE) system.
    - Excavated soil/fill was screened for odors, staining, organic vapors, and mercury vapor using a handheld photoionization detector (PID) and handheld Jerome® J505 mercury vapor analyzer, respectively. Evidence of impacts was not observed and the excavated soil/fill was live-loaded into securely covered tri-axle dump trucks for off-site disposal.
- ECD excavated an about 25-foot-long by 25-foot-wide area to a maximum depth of about 8 feet bgs in the southwest part of the site (waste characterization cell WC03) to locate the suspected underground storage tank (UST) identified during a prior geophysical survey.
    - A UST was not identified within the excavation area. Additional exploratory excavation will be completed following removal and off-site disposal of soil/fill at a later date.
    - Excavated soil/fill was screened for odors, staining, organic vapors, and mercury vapor using a handheld photoionization detector (PID) and handheld Jerome® J505 mercury vapor analyzer, respectively. Evidence of impacts was not observed and the excavated soil/fill was temporarily backfilled into the original location for future off-site disposal.
- ECD attempted to install one deep soil mix column for SOE installation in the southeast part of the site (along Water Street). ECD's drill rig advanced a steel rod with two cutter blades at the bottom of the rod, while concurrently injecting grout through the cutting head and spinning and advancing the blades downward. The

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

soil mix column was partially drilled to a depth of about 60 feet bgs before the drill head became lodged in the borehole due to an apparent obstruction.

- No drilling spoils were generated during installation of the soil mix column.
- Excess grout was contained within a temporary containment area in the eastern part of the site and will be managed as construction and demolition (C&D) debris at a later date.
- Hydrant water was continuously pumped through the cutting head and additional boreholes were advanced adjacent to the soil mix column to dislodge the drill rig.

Material Tracking

- ECD exported two truckloads (about 40 cubic yards [CY]) of non-hazardous soil/fill for off-site disposal at the Middlesex County Landfill, located in East Brunswick, NJ.
- ECD exported six truckloads (about 120 CY) of C&D debris for off-site disposal at the Earth Efficient MSM facility located in East Stroudsburg, PA.
- No material was imported to the site.

Material Import Summary

Facility Name Location Type of Material	Stone Industries, Inc. Haledon, NJ 1.5/2.5-inch Virgin Stone		Stone Industries, Inc. Haledon, NJ 0.75-inch Virgin Stone		Impact Reuse & Recovery Center or Impact Materials Jersey City, Lyndhurst/Jersey City, NJ 1.5-inch Clean Bluestone		Impact Reuse & Recovery Center, Lyndhurst, NJ General Fill	
Quantities	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)
Today	0	0	0	0	0	0	0	0
Project Total	12	283.91	0	0	15	339.65	374	9,157.85
NYSDEC Approved:	1,800 tons*				720 tons*		19,500 tons*	

*0.75-inch, 1.5-inch, and 2.5-inch virgin stone from the Stone Industries, Inc. facility and 1.5-inch clean bluestone from the Impact Reuse & Recovery Center (IRRC) facility were approved for import of 1,000 cubic yards (CY) and 400 CY, respectively. Assuming a conversion factor of 1.8, each quantity was converted to tons in order to accurately compare with import weight tickets. General fill from the IRRC facility was approved for import of 13,000 CY and a conversion factor of 1.5 is applied.

Material Export Summary (1 of 3)

Facility Name Location Type of Material	Allocco Recycling Brooklyn, NY Construction & Demolition (C&D) Debris		IRRC Lyndhurst, NJ C&D Debris		Earth Efficient MSM East Stroudsburg, PA C&D Debris		Clean Earth of North Jersey Kearny, NJ Hazardous Lead-Impacted Soil/Fill	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	6	120	0	0
Project Total	5	85	42	840	59	1,180	95	1,900

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Material Export Summary (2 of 3)						
Facility Name Location Type of Material	**Middlesex County Landfill East Brunswick, NJ Non-hazardous Soil/Fill**		**Bayshore Soil Management Keasbey, NJ Petroleum-Impacted Soil/Fill**		**Clean Earth of Carteret, NJ Carteret, NJ Non-hazardous Soil/Fill**	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	2	40	0	0	0	0
Project Total	284	5,680	267	5,340	66	1,320

Material Export Summary (3 of 3)				
Facility Name Location Type of Material	**Clean Earth of North Jersey Kearny, NJ Non-hazardous Soil/Fill**		**Cycle Chem, Inc. Elizabeth, NJ Hazardous Lead - Impacted Soil/Fill**	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0
Project Total	201	4,020	10	200

Sampling

- No samples were collected.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

CAMP Activities

Langan performed air monitoring at the perimeter of the site, at the northern sidewalk of Pearl Street, at the western sidewalk of Beekman Street, at the eastern sidewalk of Peck Slip, and at the southern sidewalk of Water Street at eight total locations for mercury vapor, volatile organic compounds (VOCs), and particulate matter less than 10 microns in diameter (PM10) from about 7:05am to 9:11pm. There were no fifteen-minute average concentrations for mercury vapor, VOCs or PM10 that approached or exceeded the action levels established by the CAMP (1.00 µg/m^3, 5.0 ppm, or 0.100 mg/m^3, respectively).

Background Concentrations

Prior to implementation of CAMP, instantaneous background concentrations of mercury vapor and VOCs were recorded using a handheld Jerome® J505 mercury vapor analyzer and a handheld PID, respectively.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

Perimeter and Work Zone Concentrations

Daily Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.005	0.00	0.02
PM-2	0.005	0.00	0.01
PM-3	0.006	0.00	0.00
PM-4	0.005	0.00	0.01
WZ-1	0.005	0.00	0.00
WZ-2	0.005	0.00	0.00
WZ-3	0.004	0.00	0.00
WZ-4	0.005	0.00	0.01

Maximum 15-Minute-Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.011	0.01	0.04
PM-2	0.011	0.00	0.02
PM-3	0.012	0.16	0.00
PM-4	0.012	0.06	0.03
WZ-1	0.012	0.00	0.01
WZ-2	0.011	0.00	0.01
WZ-3	0.010	0.01	0.02
WZ-4	0.013	0.00	0.02

●mg/m^3 = milligrams per cubic meter ●ppm = parts per million ●µg/m^3 = micrograms per cubic meter

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

CAMP Implementation

- CAMP implementation continued at all eight perimeter and off-site stations until about 7:15pm. Following concurrence with NYSDEC's on-site personnel, select CAMP stations were discontinued to conserve battery power and focus on the work area during removal of the drill head. Perimeter/off-site CAMP stations PM-2, PM-3, WZ-2, and WZ-3 continued collecting data between about 7:15pm and 9:07pm, with brief pauses required to swap the depleted batteries. PM10, VOC and mercury vapor concentrations were not recorded above background conditions during this time.

Ambient Air (Handheld Jerome® J505 and Handheld PID)

- The dedicated mobile monitor (Langan) used a handheld Jerome® J505 mercury vapor analyzer to monitor ambient air conditions at various heights throughout the site. Instantaneous mercury vapor concentrations throughout the site ranged from 0.00 µg/m^3 to 0.09 µg/m^3.
- The dedicated mobile monitor (Langan) used a handheld PID to monitor VOC concentrations throughout the site. Instantaneous VOC concentrations were not detected above background concentrations throughout the workday.

Off-site CAMP Stations

- CAMP station WZ-1 was placed on the western sidewalk of Beekman Street from about 6:44am to 7:15pm.
- CAMP station WZ-2 was placed on the southern sidewalk of Water Street from about 6:45am to 9:18pm.
- CAMP station WZ-3 was placed on the eastern sidewalk of Peck Slip from about 6:47am to 9:25pm.
- CAMP station WZ-4 was placed on the northern sidewalk of Pearl Street from about 6:50am to 7:25pm.

Prior to CAMP Shutdown

Prior to discontinuing CAMP, mercury vapor and VOC concentrations were confirmed to return to background conditions at each perimeter station using the handheld Jerome® J505 mercury vapor analyzer and handheld PID, respectively. Perimeter CAMP stations PM-1 and PM-4 were discontinued between 7:49pm and 7:59pm and stations PM-2 and PM-3 were discontinued between 9:08pm and 9:11pm.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

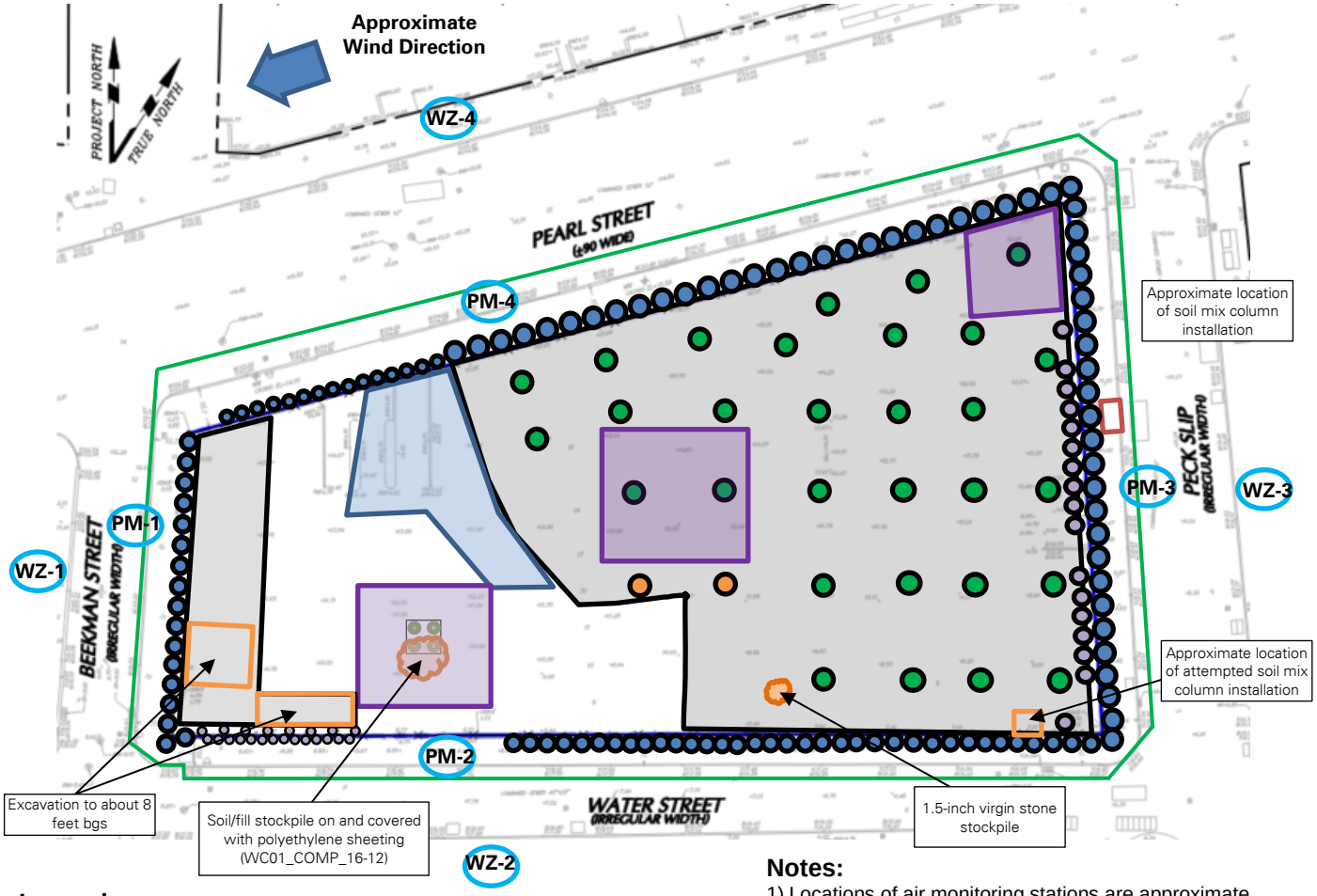
Anticipated Activities

- ECD will continue exporting C&D and soil/fill from the western part of the site for off-site disposal.
- ECD will continue installing soil mix columns and/or soldier piles for SOE installation along Pearl Street, Water Street, and Peck Slip.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Site Map



Legend:

- PM-1 — Approximate Location of Air Monitoring Station
- Approximate Work Area
- Approximate Location of Installed Pile Cap
- Approximate Location of Foundation Piles Completed
- Approximate Location of Truck Tracking Pad
- Approximate Location of Underground Storage Tank
- Approximate Location of C&D Stockpile
- Approximate Location of Soil/Fill Stockpile
- Approximate Location of Staged UST

Notes:

1) Locations of air monitoring stations are approximate.

- Approximate Location of Soldier Pile
- Approximate Location of Soil Mix Column Installed Today
- Approximate Location of Soil Mix Column Installed Previously
- Approximate Perimeter Construction Fence Location
- Previous Excavation Area
- Approximate Excavation Area
- Approximate Location of Documentation Sample
- Approximate Location of Previously Collected Endpoint Sample
- Approximate Location of Imported Fill/Stone

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Select Site Photographs:



Photo 1: ECD attempting to install a soil mix column in the southeast part of the site (facing east)



Photo 2: ECD excavating soil/fill in the southwest part of the site (facing south)

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

PROJECT No.:	170381202	**CLIENT:** 250 Seaport District, LLC c/o The Howard Hughes Corporation	**DATE:**	Thursday, September 21, 2023
PROJECT:	250 Water Street		**WEATHER:**	Sunny, 58 – 70° F Wind: NNE @ 0.2 – 2.0 mph
LOCATION:	New York, NY		**TIME:**	5:45am – 6:00pm
BCP SITE ID:	C231127		**MONITOR**	Jack Millman

EQUIPMENT:
CAT 335 Excavator
CAT 328 Excavator
Komatsu PC138 Excavator
Delmag Drill Rig
Bauer RTG RG 27S
Bauer BG45 Drill Rig
Jerome J505 Mercury Vapor Analyzer
RKI GX-6000 Photoionization Detector (PID)
Aeroqual ASQ1 Air Monitoring Station

PRESENT AT SITE: **Day 208**
Langan (Environmental/Geotechnical) Jack Millman, Michael Cole, Olivia O'Donnell, Pradeep Pandey
Suffolk Construction (Suffolk) (General Contractor) Anthony Galu, Wyatt Favia
East Coast Drilling, Inc. (ECD) (Foundation Contractor) Danny Rodgers
New York State Department of Environmental Conservation (NYSDEC) Marnie Chancey

OBSERVATIONS, DISCUSSIONS, TEST RESULTS, ETC.:

Langan was present to document remediation activities in accordance with the NYSDEC-approved November 2021 Remedial Action Work Plan (RAWP) at the 250 Water Street site (NYSDEC Brownfield Cleanup Program [BCP] Site No C231127).

Site Activities

- ECD excavated an about 10-foot-long by 15-foot-wide area to a maximum depth of about 8 feet below grade surface (bgs) in the northern part of the site (waste characterization cell WC01) to install timber lagging for the support-of-excavation (SOE) system.
    - Excavated soil/fill was screened for odors, staining, organic vapors, and mercury vapor using a handheld photoionization detector (PID) and handheld Jerome® J505 mercury vapor analyzer, respectively. Evidence of impacts was not observed and the excavated soil/fill was temporarily backfilled into the original location for future off-site disposal.
    - Mercon-X® mercury vapor suppressant was actively applied to the soil/fill during excavation as a precautionary measure.
- ECD used a Bauer BG45 drill rig to install one deep soil mix column for SOE system installation in the eastern part of the site (along Peck Slip). ECD's drill rig advanced a steel rod with two cutter blades at the bottom of the rod, while concurrently injecting grout through the cutting head and spinning and advancing the blades downward to a depth of about 78 feet bgs.
    - No drilling spoils were generated during installation of the soil mix column.
    - Atmos® AC-645 odor/vapor suppressing foam was actively applied to the drilling area as a precautionary measure.
    - Excess grout was contained within a temporary containment area in the eastern part of the site and will be managed as construction and demolition (C&D) debris at a later date.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Material Tracking

- No material was exported from the site.
- No material was imported to the site.

Material Import Summary								
Facility Name Location Type of Material	**Stone Industries, Inc. Haledon, NJ 1.5/2.5-inch Virgin Stone**		**Stone Industries, Inc. Haledon, NJ 0.75-inch Virgin Stone**		**Impact Reuse & Recovery Center or Impact Materials Jersey City, Lyndhurst/Jersey City, NJ 1.5-inch Clean Bluestone**		**Impact Reuse & Recovery Center, Lyndhurst, NJ General Fill**	
Quantities	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)
Today	0	0	0	0	0	0	0	0
Project Total	12	283.91	0	0	15	339.65	374	9,157.85
NYSDEC Approved:	1,800 tons*				720 tons*		19,500 tons*	

*0.75-inch, 1.5-inch, and 2.5-inch virgin stone from the Stone Industries, Inc. facility and 1.5-inch clean bluestone from the Impact Reuse & Recovery Center (IRRC) facility were approved for import of 1,000 cubic yards (CY) and 400 CY, respectively. Assuming a conversion factor of 1.8, each quantity was converted to tons in order to accurately compare with import weight tickets. General fill from the IRRC facility was approved for import of 13,000 CY and a conversion factor of 1.5 is applied.

Material Export Summary (1 of 3)								
Facility Name Location Type of Material	**Allocco Recycling Brooklyn, NY Construction & Demolition (C&D) Debris**		**IRRC Lyndhurst, NJ C&D Debris**		**Earth Efficient MSM East Stroudsburg, PA C&D Debris**		**Clean Earth of North Jersey Kearny, NJ Hazardous Lead-Impacted Soil/Fill**	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	0	0	0	0
Project Total	5	85	42	840	59	1,180	95	1,900

Material Export Summary (2 of 3)						
Facility Name Location Type of Material	**Middlesex County Landfill East Brunswick, NJ Non-hazardous Soil/Fill**		**Bayshore Soil Management Keasbey, NJ Petroleum-Impacted Soil/Fill**		**Clean Earth of Carteret, NJ Carteret, NJ Non-hazardous Soil/Fill**	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	0	0
Project Total	284	5,680	267	5,340	66	1,320

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Material Export Summary (3 of 3)				
Facility Name Location Type of Material	**Clean Earth of North Jersey Kearny, NJ Non-hazardous Soil/Fill**		**Cycle Chem, Inc. Elizabeth, NJ Hazardous Lead - Impacted Soil/Fill**	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0
Project Total	201	4,020	10	200

Sampling

- No samples were collected.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

CAMP Activities

Langan performed air monitoring at the perimeter of the site, at the northern sidewalk of Pearl Street, at the western sidewalk of Beekman Street, at the eastern sidewalk of Peck Slip, and at the southern sidewalk of Water Street at eight total locations for mercury vapor, volatile organic compounds (VOCs), and particulate matter less than 10 microns in diameter (PM10) from about 6:52am to 4:52pm. There were no fifteen-minute average concentrations for mercury vapor, VOCs or PM10 that approached or exceeded the action levels established by the CAMP (1.00 µg/m^3, 5.0 ppm, or 0.100 mg/m^3, respectively).

Background Concentrations

Prior to implementation of CAMP, instantaneous background concentrations of mercury vapor and VOCs were recorded using a handheld Jerome® J505 mercury vapor analyzer and a handheld PID, respectively.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

Perimeter and Work Zone Concentrations

Daily Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.005	0.00	0.02
PM-2	0.004	0.00	0.01
PM-3	0.008	0.00	0.00
PM-4	0.007	0.00	0.01
WZ-1	0.004	0.00	0.00
WZ-2	0.004	0.00	0.00
WZ-3	0.004	0.00	0.00
WZ-4	0.004	0.00	0.01

Maximum 15-Minute-Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.007	0.09	0.05
PM-2	0.005	0.07	0.01
PM-3	*0.137	0.01	0.01
PM-4	0.052	0.04	0.03
WZ-1	0.005	0.00	0.01
WZ-2	0.006	0.01	0.01
WZ-3	0.005	0.00	0.02
WZ-4	0.006	0.00	0.02

●mg/m^3 = milligrams per cubic meter ●ppm = parts per million ●µg/m^3 = micrograms per cubic meter

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

***** PM10 concentrations at perimeter CAMP station PM-3 exceeded the 15-minute time-weighted average (TWA) action level established in the CAMP (0.100 mg/m^3) at about 12:30pm due to exhaust from a nearby active compressor. The exceedance was not the result of ground-intrusive activities associated with soil/fill at the site and fugitive dust was not observed migrating from the site during this time. The air compressor was relocated from the sidewalk along Peck Slip into the Phase 1 excavation area to mitigate interference with the perimeter CAMP station. PM10 concentrations were not recorded above background conditions at off-site CAMP station WZ-3 during this time.

Ambient Air (Handheld Jerome® J505 and Handheld PID)

- The dedicated mobile monitor (Langan) used a handheld Jerome® J505 mercury vapor analyzer to monitor ambient air conditions at various heights throughout the site. Instantaneous mercury vapor concentrations throughout the site ranged from 0.00 µg/m^3 to 0.10 µg/m^3.
- The dedicated mobile monitor (Langan) used a handheld PID to monitor VOC concentrations throughout the site. Instantaneous VOC concentrations were not detected above background concentrations throughout the workday.

Off-site CAMP Stations

- CAMP station WZ-1 was placed on the western sidewalk of Beekman Street from about 6:33am to 5:31pm.
- CAMP station WZ-2 was placed on the southern sidewalk of Water Street from about 6:33am to 5:35pm.
- CAMP station WZ-3 was placed on the eastern sidewalk of Peck Slip from about 6:35am to 5:44pm.
- CAMP station WZ-4 was placed on the northern sidewalk of Pearl Street from about 6:36am to 5:53pm.

Prior to CAMP Shutdown

Prior to discontinuing CAMP, mercury vapor and VOC concentrations were confirmed to return to background conditions at each perimeter station using the handheld Jerome® J505 mercury vapor analyzer and handheld PID, respectively. Perimeter CAMP stations were discontinued sequentially between 4:52pm and 5:09pm.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

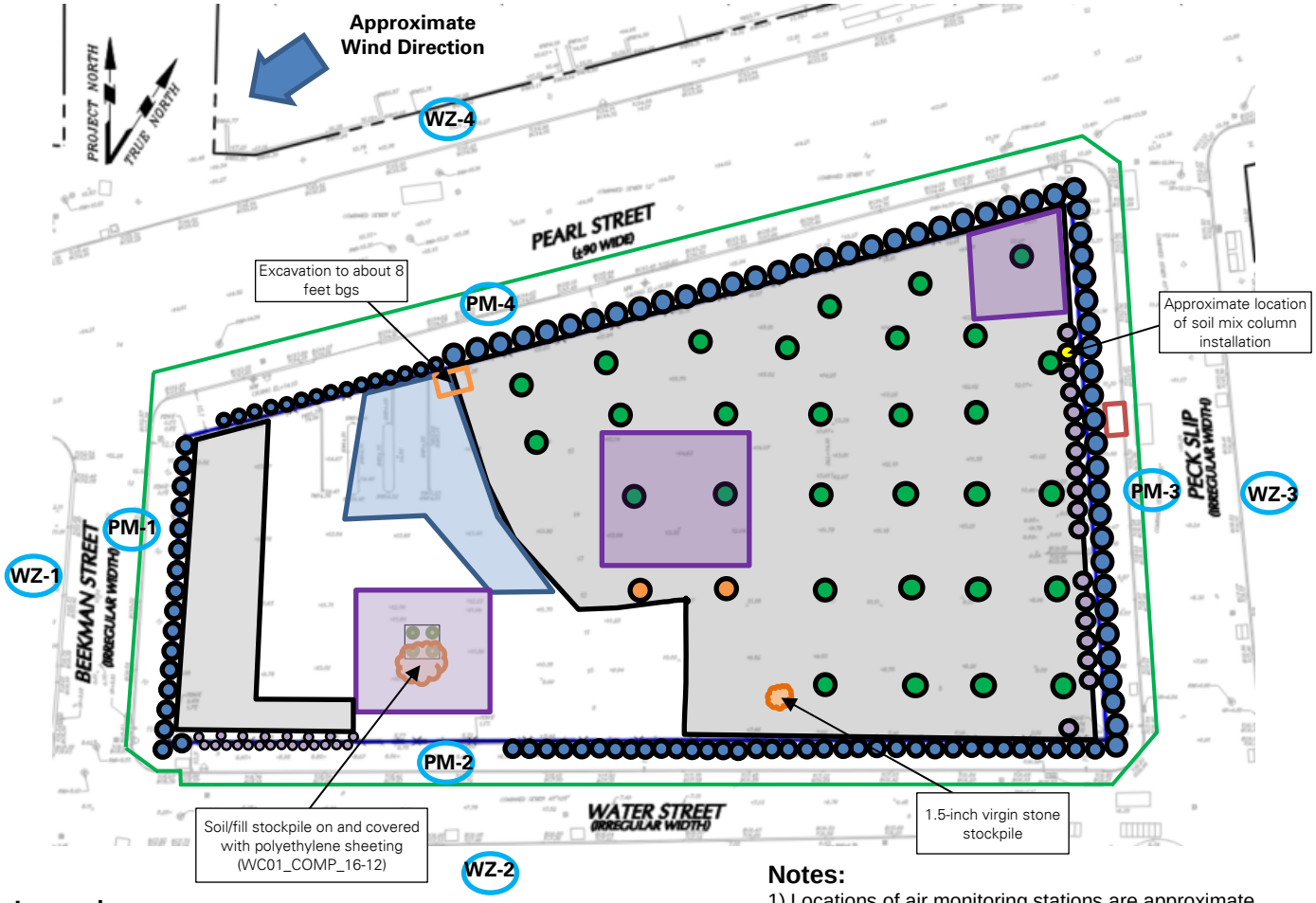
Anticipated Activities

- ECD will continue exporting C&D and soil/fill from the western part of the site for off-site disposal.
- ECD will continue installing soil mix columns and/or soldier piles for SOE installation along Pearl Street, Water Street, and Peck Slip.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Site Map



Legend:

- PM-1 — Approximate Location of Air Monitoring Station
- Approximate Work Area
- Approximate Location of Installed Pile Cap
- Approximate Location of Foundation Piles Completed
- Approximate Location of Truck Tracking Pad
- Approximate Location of Underground Storage Tank
- Approximate Location of C&D Stockpile
- Approximate Location of Soil/Fill Stockpile
- Approximate Location of Staged UST
- Approximate Location of Soldier Pile
- Approximate Location of Soil Mix Column Installed Today
- Approximate Location of Soil Mix Column Installed Previously
- Approximate Perimeter Construction Fence Location
- Previous Excavation Area
- Approximate Excavation Area
- Approximate Location of Documentation Sample
- Approximate Location of Previously Collected Endpoint Sample
- Approximate Location of Imported Fill/Stone

Notes:
1) Locations of air monitoring stations are approximate.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Select Site Photographs:



Photo 1: Atmos® AC-645 odor/vapor suppressing foam applied during soil mix column installation in the eastern part of the site (facing south)

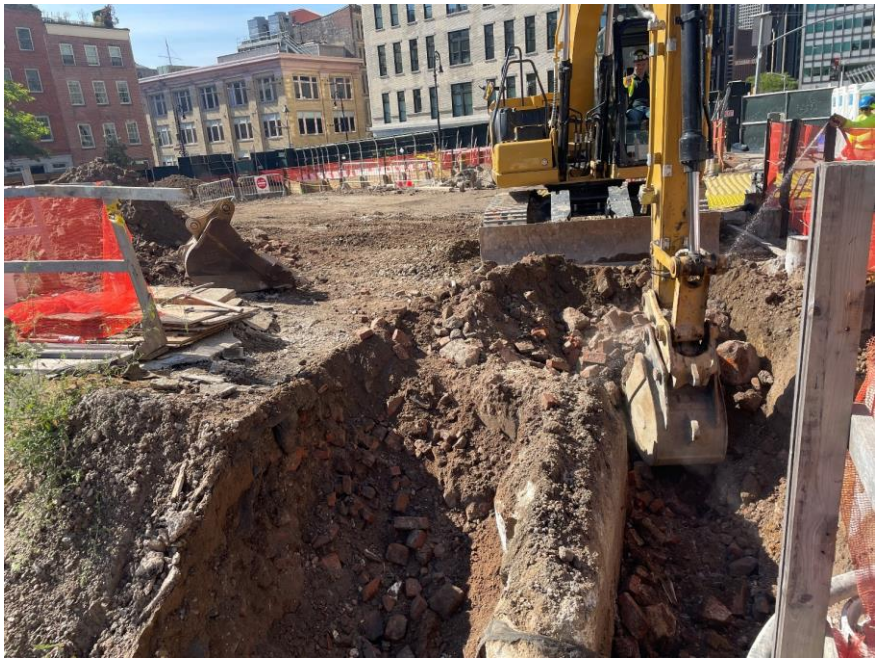


Photo 2: Mercon-X® mercury vapor suppressant applied during excavation in the northern part of the site (facing west)

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

PROJECT No.:	170381202	**CLIENT:** 250 Seaport District, LLC c/o The Howard Hughes Corporation	**DATE:**	Friday, September 22, 2023
PROJECT:	250 Water Street		**WEATHER:**	Overcast, 55 – 71° F Wind: NW @ 0.3 – 2.2 mph
LOCATION:	New York, NY		**TIME:**	5:45am – 6:00pm
BCP SITE ID:	C231127		**MONITOR**	Seyena Simpson

EQUIPMENT:
CAT 335 Excavator
CAT 328 Excavator
Komatsu PC138 Excavator
Delmag Drill Rig
Bauer RTG RG 27S
Bauer BG45 Drill Rig
Jerome J505 Mercury Vapor Analyzer
RKI GX-6000 Photoionization Detector (PID)
Aeroqual ASQ1 Air Monitoring Station

PRESENT AT SITE: **Day 209**
Langan (Environmental/Geotechnical) Seyena Simpson, Michael Cole, Pradeep Pandey
Suffolk Construction (Suffolk) (General Contractor) Anthony Galu, Wyatt Favia
East Coast Drilling, Inc. (ECD) (Foundation Contractor) Danny Rodgers
New York State Department of Environmental Conservation (NYSDEC) Marnie Chancey
The Howard Hughes Corporation (Developer)

OBSERVATIONS, DISCUSSIONS, TEST RESULTS, ETC.:

Langan was present to document remediation activities in accordance with the NYSDEC-approved November 2021 Remedial Action Work Plan (RAWP) at the 250 Water Street site (NYSDEC Brownfield Cleanup Program [BCP] Site No C231127).

Site Activities

- ECD used a Bauer BG45 drill rig to install three deep soil mix columns for support-of-excavation (SOE) system installation in the northern and eastern parts of the site (along Pearl Street and Peck Slip, respectively). ECD's drill rig advanced a steel rod with two cutter blades at the bottom of the rod, while concurrently injecting grout through the cutting head and spinning and advancing the blades downward to depths of about 84 and 95 feet below grade surface (bgs), respectively.
    - No drilling spoils were generated during installation of the soil mix column.
    - Atmos® AC-645 odor/vapor suppressing foam was actively applied to the drilling area as a precautionary measure.
    - Excess grout was contained within a temporary containment area in the eastern part of the site and will be managed as construction and demolition (C&D) debris at a later date.
- ECD excavated an about 20-foot-long by 10-foot-wide area to a maximum depth of about 6 feet bgs in the northern part of the site (waste characterization cell WC01) to install timber lagging for the SOE system.
    - Excavated soil/fill was screened for odors, staining, organic vapors, and mercury vapor using a handheld photoionization detector (PID) and handheld Jerome® J505 mercury vapor analyzer, respectively. Evidence of impacts was not observed and the excavated soil/fill was temporarily backfilled into the original location for future off-site disposal.
    - Mercon-X® mercury vapor suppressant was actively applied to the soil/fill during excavation as a precautionary measure.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Seyena Simpson **LANGAN**

SITE OBSERVATION REPORT

- ECD excavated an about 20-foot-long by 10-foot-wide area to a maximum depth of about 7 feet below the existing grade (about 12 feet below sidewalk grade [bsg]) in the southern part of the site (waste characterization cell WC06) in preparation for future off-site disposal of the soil/fill.
    - Excavated soil/fill was screened for odors, staining, organic vapors, and mercury vapor using a handheld PID and handheld Jerome® J505 mercury vapor analyzer, respectively. Evidence of impacts was not observed and the excavated soil/fill was temporarily stockpiled adjacent to the excavation area in preparation for future off-site disposal.
    - Atmos® AC-645 odor/vapor suppressing foam was actively applied to the soil/fill during excavation as a precautionary measure.
- ECD excavated an about 40-foot-long by 40-foot-wide area to a maximum depth of about 2 feet below the existing grade (about 15 feet bsg) in the northeastern part of the site to facilitate installation of timber mats for future drilling operations.
    - Excavated soil/fill was temporarily stockpiled adjacent to the work area and was screened for odors, staining, organic vapors, and mercury vapor using a handheld PID and handheld Jerome® J505 mercury vapor analyzer, respectively. Evidence of impacts was not observed and the excavated soil/fill was graded into the adjacent area.
- ECD excavated three about 7-foot-long by 3-foot-wide areas to a maximum depth of about 2 feet below the existing grade (about 11 feet bsg) in the western part of the site (waste characterization cell WC03) to install walers for the SOE system (along Beekman Street).
    - Excavated soil/fill was temporarily stockpiled adjacent to the work area and was screened for odors, staining, organic vapors, and mercury vapor using a handheld PID and handheld Jerome® J505 mercury vapor analyzer, respectively. Evidence of impacts was not observed and the excavated soil/fill was temporarily graded into the adjacent area in preparation for off-site disposal.
- ECD excavated three about 10-foot-long by 10-foot-wide areas to a maximum depth of about 2 feet below the existing grade (about 17 feet bsg) in the eastern part of the site to create temporary containment areas for excess grout generated from SOE installation along the eastern and northern boundaries of the site (along Peck Slip and Pearl Street, respectively).
    - Excavated soil/fill was temporarily stockpiled adjacent to the work area and was screened for odors, staining, organic vapors, and mercury vapor using a handheld PID and handheld Jerome® J505 mercury vapor analyzer, respectively. Evidence of impacts was not observed and the excavated soil/fill was temporarily graded into the adjacent area.
- ECD secured the site in preparation for an anticipated storm event. Storm preparation activities included securely anchoring all stockpile covers and installing additional hay bales around the perimeter of the site.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Seyena Simpson **LANGAN**

SITE OBSERVATION REPORT

Material Tracking

- No material was exported from the site.
- No material was imported to the site.

Material Import Summary

Facility Name Location Type of Material	Stone Industries, Inc. Haledon, NJ 1.5/2.5-inch Virgin Stone		Stone Industries, Inc. Haledon, NJ 0.75-inch Virgin Stone		Impact Reuse & Recovery Center or Impact Materials Jersey City, Lyndhurst/Jersey City, NJ 1.5-inch Clean Bluestone		Impact Reuse & Recovery Center, Lyndhurst, NJ General Fill	
Quantities	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)
Today	0	0	0	0	0	0	0	0
Project Total	12	283.91	0	0	15	339.65	374	9,157.85
NYSDEC Approved:	1,800 tons*				720 tons*		19,500 tons*	

*0.75-inch, 1.5-inch, and 2.5-inch virgin stone from the Stone Industries, Inc. facility and 1.5-inch clean bluestone from the Impact Reuse & Recovery Center (IRRC) facility were approved for import of 1,000 cubic yards (CY) and 400 CY, respectively. Assuming a conversion factor of 1.8, each quantity was converted to tons in order to accurately compare with import weight tickets. General fill from the IRRC facility was approved for import of 13,000 CY and a conversion factor of 1.5 is applied.

Material Export Summary (1 of 3)

Facility Name Location Type of Material	Allocco Recycling Brooklyn, NY Construction & Demolition (C&D) Debris		IRRC Lyndhurst, NJ C&D Debris		Earth Efficient MSM East Stroudsburg, PA C&D Debris		Clean Earth of North Jersey Kearny, NJ Hazardous Lead-Impacted Soil/Fill	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	0	0	0	0
Project Total	5	85	42	840	59	1,180	95	1,900

Material Export Summary (2 of 3)

Facility Name Location Type of Material	Middlesex County Landfill East Brunswick, NJ Non-hazardous Soil/Fill		Bayshore Soil Management Keasbey, NJ Petroleum-Impacted Soil/Fill		Clean Earth of Carteret, NJ Carteret, NJ Non-hazardous Soil/Fill	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	0	0
Project Total	284	5,680	267	5,340	66	1,320

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Seyena Simpson **LANGAN**

SITE OBSERVATION REPORT

Material Export Summary (3 of 3)				
Facility Name Location Type of Material	**Clean Earth of North Jersey Kearny, NJ Non-hazardous Soil/Fill**		**Cycle Chem, Inc. Elizabeth, NJ Hazardous Lead - Impacted Soil/Fill**	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0
Project Total	201	4,020	10	200

Sampling

- No samples were collected.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Seyena Simpson **LANGAN**

SITE OBSERVATION REPORT

CAMP Activities

Langan performed air monitoring at the perimeter of the site, at the northern sidewalk of Pearl Street, at the western sidewalk of Beekman Street, at the eastern sidewalk of Peck Slip, and at the southern sidewalk of Water Street at eight total locations for mercury vapor, volatile organic compounds (VOCs), and particulate matter less than 10 microns in diameter (PM10) from about 7:09am to 5:30pm. There were no fifteen-minute average concentrations for mercury vapor, VOCs or PM10 that approached or exceeded the action levels established by the CAMP (1.00 µg/m^3, 5.0 ppm, or 0.100 mg/m^3, respectively).

Background Concentrations

Prior to implementation of CAMP, instantaneous background concentrations of mercury vapor and VOCs were recorded using a handheld Jerome® J505 mercury vapor analyzer and a handheld PID, respectively.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

Perimeter and Work Zone Concentrations

Daily Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.005	0.00	0.01
PM-2	0.005	0.00	0.01
PM-3	0.005	0.00	0.00
PM-4	0.005	0.00	0.02
WZ-1	0.004	0.00	0.01
WZ-2	0.005	0.00	0.00
WZ-3	0.005	0.00	0.01
WZ-4	0.005	0.00	* 0.01

Maximum 15-Minute-Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.007	0.03	0.03
PM-2	0.009	0.01	0.05
PM-3	0.013	0.02	0.01
PM-4	0.008	0.02	0.07
WZ-1	0.006	0.00	0.25
WZ-2	0.007	0.00	0.01
WZ-3	0.007	0.01	0.02
WZ-4	0.015	0.01	* 0.02

●mg/m^3 = milligrams per cubic meter ●ppm = parts per million ●µg/m^3 = micrograms per cubic meter

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Seyena Simpson **LANGAN**

SITE OBSERVATION REPORT

Equipment Troubleshooting

***** Mercury vapor data from off-site CAMP station WZ-4 was manually downloaded from the Jerome® J505 unit due to a datalogging issue which resulted in mercury vapor data not being transmitted to the remote telemetry system. The daily average and maximum 15-minute average concentrations of mercury vapor are reflected in the above table and in the daily air monitoring report. Raw data from the Jerome® J505 unit within off-site CAMP station WZ-4 is provided as a separate attachment to this daily field report. Concentrations of mercury vapor at this station ranged from 0.00 µg/m^3 to 0.08 µg/m^3 throughout the workday.

Ambient Air (Handheld Jerome® J505 and Handheld PID)

- The dedicated mobile monitor (Langan) used a handheld Jerome® J505 mercury vapor analyzer to monitor ambient air conditions at various heights throughout the site. Instantaneous mercury vapor concentrations throughout the site ranged from 0.00 µg/m^3 to 0.09 µg/m^3.
- The dedicated mobile monitor (Langan) used a handheld PID to monitor VOC concentrations throughout the site. Instantaneous VOC concentrations were not detected above background concentrations throughout the workday.

Off-site CAMP Stations

- CAMP station WZ-1 was placed on the western sidewalk of Beekman Street from about 7:35am to 4:55pm.
- CAMP station WZ-2 was placed on the southern sidewalk of Water Street from about 7:13am to 5:15pm.
- CAMP station WZ-3 was placed on the eastern sidewalk of Peck Slip from about 7:28am to 5:04pm.
- CAMP station WZ-4 was placed on the northern sidewalk of Pearl Street from about 6:55am to 4:14pm.

Prior to CAMP Shutdown

Prior to discontinuing CAMP, mercury vapor and VOC concentrations were confirmed to return to background conditions at each perimeter station using the handheld Jerome® J505 mercury vapor analyzer and handheld PID, respectively. Perimeter CAMP stations were discontinued sequentially between 5:30pm and 5:40pm.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

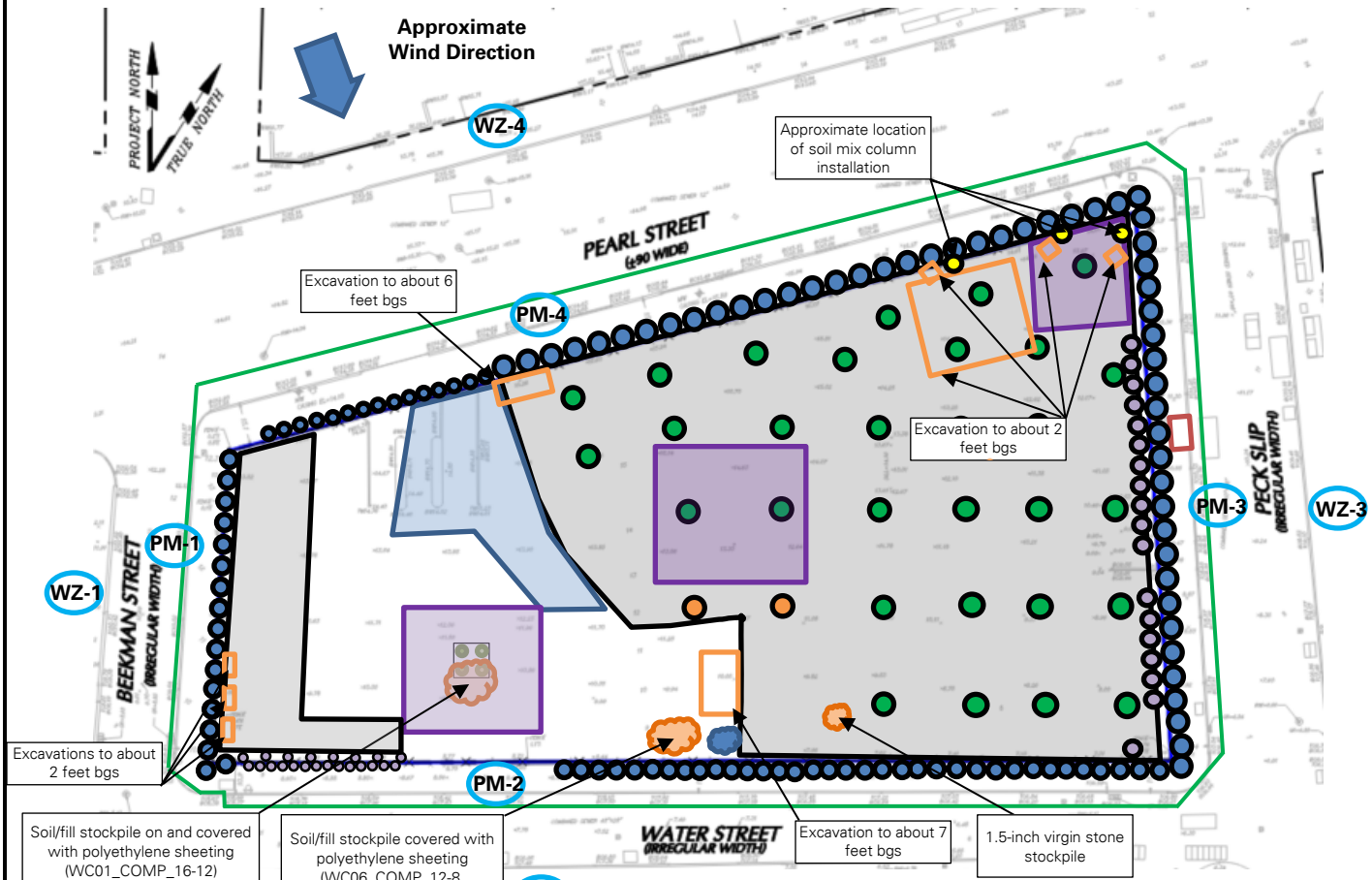
Anticipated Activities

- ECD will continue exporting C&D and soil/fill from the western part of the site for off-site disposal.
- ECD will continue installing soil mix columns and/or soldier piles for SOE installation along Pearl Street, Water Street, and Peck Slip.
- ECD will continue installing lagging for the SOE installation along Pearl Street.
- ECD will continue installing walers for the SOE installation along Beekman Street.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Seyena Simpson **LANGAN**

SITE OBSERVATION REPORT

Site Map



Legend:

- PM-1 — Approximate Location of Air Monitoring Station
- Approximate Work Area
- Approximate Location of Installed Pile Cap
- Approximate Location of Foundation Piles Completed
- Approximate Location of Truck Tracking Pad
- Approximate Location of Underground Storage Tank
- Approximate Location of C&D Stockpile
- Approximate Location of Soil/Fill Stockpile
- Approximate Location of Staged UST

Notes:

1) Locations of air monitoring stations are approximate.

- Approximate Location of Soldier Pile
- Approximate Location of Soil Mix Column Installed Today
- Approximate Location of Soil Mix Column Installed Previously
- Approximate Perimeter Construction Fence Location
- Previous Excavation Area
- Approximate Excavation Area
- Approximate Location of Documentation Sample
- Approximate Location of Previously Collected Endpoint Sample
- Approximate Location of Imported Fill/Stone

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Seyena Simpson **LANGAN**

SITE OBSERVATION REPORT

Select Site Photographs:



Photo 1: Mercon-X® mercury vapor suppressant proactively applied during excavation in the northern part of the site (facing west)



Photo 2: ECD securing stockpiles covers in preparation for the upcoming storm event (facing southeast)

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Seyena Simpson **LANGAN**

SITE OBSERVATION REPORT

PROJECT No.:	170381202	**CLIENT:** 250 Seaport District, LLC c/o The Howard Hughes Corporation	**DATE:**	Monday, September 25, 2023
PROJECT:	250 Water Street		**WEATHER:**	Rain, 58 – 66° F Wind: NW @ 0.4 – 3.3 mph
LOCATION:	New York, NY		**TIME:**	5:45am – 5:00pm
BCP SITE ID:	C231127		**MONITOR**	Jack Millman

EQUIPMENT:
CAT 335 Excavator
CAT 328 Excavator
Komatsu PC138 Excavator
Delmag Drill Rig
Bauer RTG RG 27S
Bauer BG45 Drill Rig
Jerome J505 Mercury Vapor Analyzer
RKI GX-6000 Photoionization Detector (PID)
Aeroqual ASQ1 Air Monitoring Station

PRESENT AT SITE: **Day 210**
Langan (Environmental/Geotechnical) Jack Millman, Michael Cole, Pradeep Pandey
Suffolk Construction (Suffolk) (General Contractor) Anthony Galu, Wyatt Favia
East Coast Drilling, Inc. (ECD) (Foundation Contractor) Danny Rodgers
New York State Department of Environmental Conservation (NYSDEC) Rafi Alam

OBSERVATIONS, DISCUSSIONS, TEST RESULTS, ETC.:

Langan was present to document remediation activities in accordance with the NYSDEC-approved November 2021 Remedial Action Work Plan (RAWP) at the 250 Water Street site (NYSDEC Brownfield Cleanup Program [BCP] Site No C231127).

Site Activities

- ECD used a Bauer BG45 drill rig to install two deep soil mix columns for support-of-excavation (SOE) system installation in the northeast part of the site (along Pearl Street). ECD's drill rig advanced a steel rod with two cutter blades at the bottom of the rod, while concurrently injecting grout through the cutting head and spinning and advancing the blades downward to depths of about 86 and 93 feet below grade surface (bgs), respectively.
    - No drilling spoils were generated during installation of the soil mix columns.
    - Atmos® AC-645 odor/vapor suppressing foam was actively applied to the drilling area as a precautionary measure.
    - Excess grout was contained within a temporary containment area in the eastern part of the site and will be managed as construction and demolition (C&D) debris at a later date.
- ECD excavated an about 30-foot-long by 25-foot-wide area to a maximum depth of about 7 feet bgs in the southern part of the site (waste characterization cell WC06) for removal and off-site disposal of soil/fill.
    - Excavated soil/fill was screened for odors, staining, organic vapors, and mercury vapor using a handheld photoionization detector (PID) and handheld Jerome® J505 mercury vapor analyzer, respectively. Evidence of impacts was not observed and the excavated soil/fill was live-loaded into securely covered tri-axle dump trucks for off-site disposal.
    - Mercon-X® mercury vapor suppressant was actively applied to the soil/fill during excavation as a precautionary measure.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

- ECD excavated an about 15-foot-long by 5-foot-wide area to a maximum depth of about 2 feet below the existing grade (about 8 feet below sidewalk grade [bsg]) in the northwest part of the site (waste characterization cell WC01) to facilitate installation of walers as part of the SOE system.
    - Excavated soil/fill was temporarily stockpiled adjacent to the work area and was screened for odors, staining, organic vapors, and mercury vapor using a handheld PID and handheld Jerome® J505 mercury vapor analyzer, respectively. Evidence of impacts was not observed and the excavated soil/fill was graded into the adjacent soil in preparation for future off-site disposal.

Material Tracking

- ECD exported three truckloads (about 60 cubic yards [CY]) of non-hazardous soil/fill for off-site disposal at the Middlesex County Landfill, located in East Brunswick, NJ.
- ECD exported nine truckloads (about 180 CY) of C&D debris for off-site disposal at the Earth Efficient MSM facility located in East Stroudsburg, PA.
- No material was imported to the site.

Material Import Summary

Facility Name Location Type of Material	**Stone Industries, Inc. Haledon, NJ 1.5/2.5-inch Virgin Stone**		**Stone Industries, Inc. Haledon, NJ 0.75-inch Virgin Stone**		**Impact Reuse & Recovery Center or Impact Materials Jersey City, Lyndhurst/Jersey City, NJ 1.5-inch Clean Bluestone**		**Impact Reuse & Recovery Center, Lyndhurst, NJ General Fill**	
Quantities	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)
Today	0	0	0	0	0	0	0	0
Project Total	12	283.91	0	0	15	339.65	374	9,157.85
NYSDEC Approved:	1,800 tons*				720 tons*		19,500 tons*	

*0.75-inch, 1.5-inch, and 2.5-inch virgin stone from the Stone Industries, Inc. facility and 1.5-inch clean bluestone from the Impact Reuse & Recovery Center (IRRC) facility were approved for import of 1,000 cubic yards (CY) and 400 CY, respectively. Assuming a conversion factor of 1.8, each quantity was converted to tons in order to accurately compare with import weight tickets. General fill from the IRRC facility was approved for import of 13,000 CY and a conversion factor of 1.5 is applied.

Material Export Summary (1 of 3)

Facility Name Location Type of Material	**Allocco Recycling Brooklyn, NY Construction & Demolition (C&D) Debris**		**IRRC Lyndhurst, NJ C&D Debris**		**Earth Efficient MSM East Stroudsburg, PA C&D Debris**		**Clean Earth of North Jersey Kearny, NJ Hazardous Lead-Impacted Soil/Fill**	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	9	180	0	0
Project Total	5	85	42	840	68	1,360	95	1,900

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Material Export Summary (2 of 3)						
Facility Name Location Type of Material	**Middlesex County Landfill East Brunswick, NJ Non-hazardous Soil/Fill**		**Bayshore Soil Management Keasbey, NJ Petroleum-Impacted Soil/Fill**		**Clean Earth of Carteret, NJ Carteret, NJ Non-hazardous Soil/Fill**	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	3	60	0	0	0	0
Project Total	287	5,740	267	5,340	66	1,320

Material Export Summary (3 of 3)				
Facility Name Location Type of Material	**Clean Earth of North Jersey Kearny, NJ Non-hazardous Soil/Fill**		**Cycle Chem, Inc. Elizabeth, NJ Hazardous Lead - Impacted Soil/Fill**	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0
Project Total	201	4,020	10	200

Sampling

- No samples were collected.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

CAMP Activities

Langan performed air monitoring at the perimeter of the site, at the northern sidewalk of Pearl Street, at the western sidewalk of Beekman Street, at the eastern sidewalk of Peck Slip, and at the southern sidewalk of Water Street at eight total locations for mercury vapor, volatile organic compounds (VOCs), and particulate matter less than 10 microns in diameter (PM10) from about 7:00am to 3:59pm. There were no fifteen-minute average concentrations for mercury vapor, VOCs or PM10 that approached or exceeded the action levels established by the CAMP (1.00 µg/m^3, 5.0 ppm, or 0.100 mg/m^3, respectively).

Background Concentrations

Prior to implementation of CAMP, instantaneous background concentrations of mercury vapor and VOCs were recorded using a handheld Jerome® J505 mercury vapor analyzer and a handheld PID, respectively.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

Perimeter and Work Zone Concentrations

Daily Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.011	0.00	0.03
PM-2	0.005	0.00	0.01
PM-3	0.006	0.00	0.00
PM-4	0.005	0.00	0.02
WZ-1	0.005	0.00	0.01
WZ-2	0.004	0.00	0.00
WZ-3	0.004	0.00	0.01
WZ-4	0.004	0.00	0.01

Maximum 15-Minute-Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.034	0.09	0.45
PM-2	0.019	0.01	0.04
PM-3	0.017	0.02	0.05
PM-4	0.017	0.02	0.10
WZ-1	0.015	0.04	0.27
WZ-2	0.016	0.00	0.01
WZ-3	0.016	0.01	0.01
WZ-4	0.015	0.01	0.01

●mg/m^3 = milligrams per cubic meter ●ppm = parts per million ●µg/m^3 = micrograms per cubic meter

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Ambient Air (Handheld Jerome® J505 and Handheld PID)

- The dedicated mobile monitor (Langan) used a handheld Jerome® J505 mercury vapor analyzer to monitor ambient air conditions at various heights throughout the site. Instantaneous mercury vapor concentrations throughout the site ranged from 0.00 µg/m^3 to 0.09 µg/m^3.
- The dedicated mobile monitor (Langan) used a handheld PID to monitor VOC concentrations throughout the site. Instantaneous VOC concentrations were not detected above background concentrations throughout the workday.

Off-site CAMP Stations

- CAMP station WZ-1 was placed on the western sidewalk of Beekman Street from about 6:20am to 4:12pm.
- CAMP station WZ-2 was placed on the southern sidewalk of Water Street from about 6:20am to 4:18pm.
- CAMP station WZ-3 was placed on the eastern sidewalk of Peck Slip from about 6:22am to 4:27pm.
- CAMP station WZ-4 was placed on the northern sidewalk of Pearl Street from about 6:24am to 4:25pm.

Prior to CAMP Shutdown

Prior to discontinuing CAMP, mercury vapor and VOC concentrations were confirmed to return to background conditions at each perimeter station using the handheld Jerome® J505 mercury vapor analyzer and handheld PID, respectively. Perimeter CAMP stations were discontinued sequentially between 3:59pm and 4:06pm.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

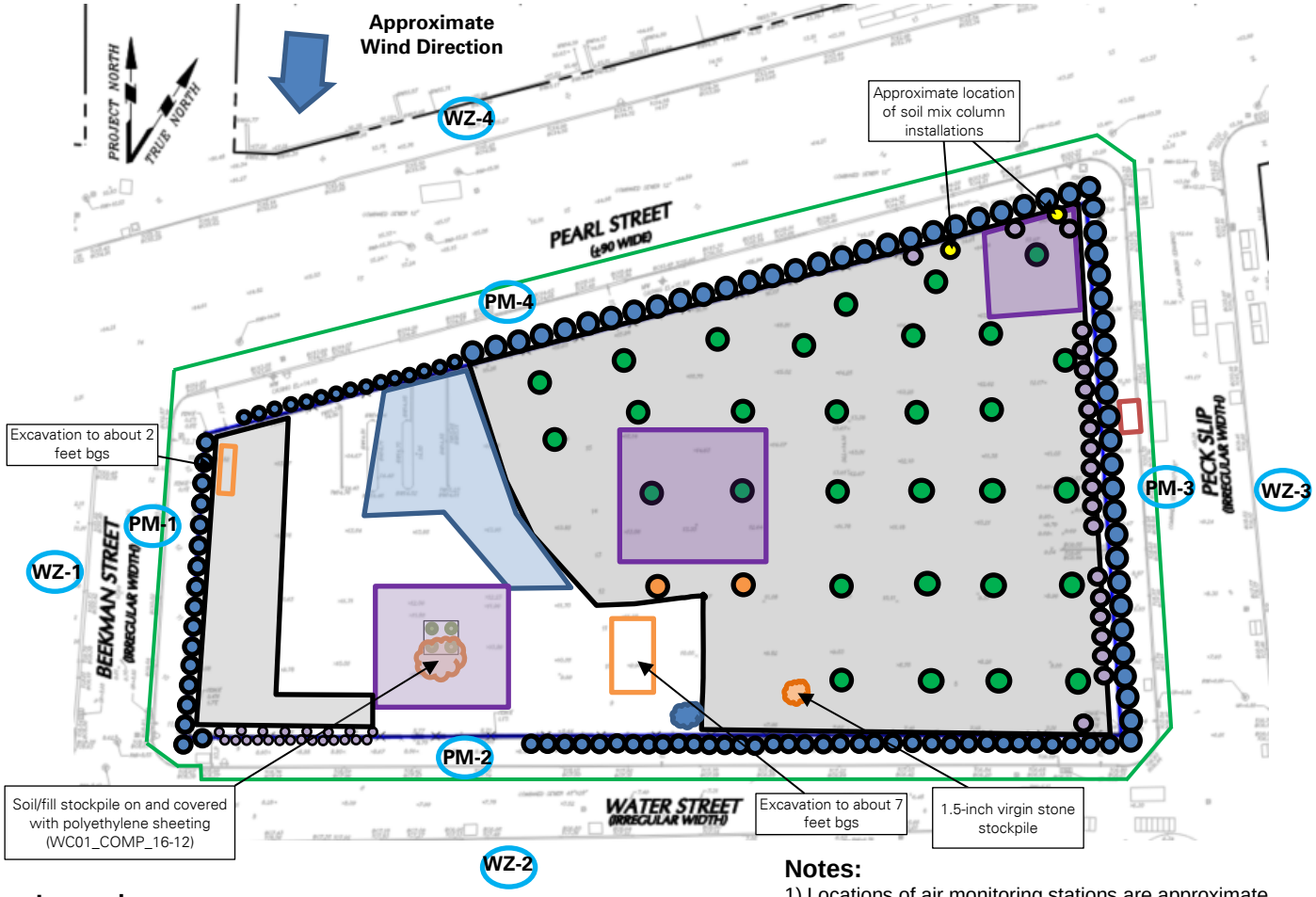
Anticipated Activities

- ECD will continue exporting C&D and soil/fill from the western part of the site for off-site disposal.
- ECD will continue installing soil mix columns and/or soldier piles for SOE installation along Pearl Street, Water Street, and Peck Slip.
- ECD will continue installing lagging for the SOE installation along Pearl Street.
- ECD will continue installing walers for the SOE installation along Beekman Street.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Site Map



Legend:

- PM-1 — Approximate Location of Air Monitoring Station
- Approximate Work Area
- Approximate Location of Installed Pile Cap
- Approximate Location of Foundation Piles Completed
- Approximate Location of Truck Tracking Pad
- Approximate Location of Underground Storage Tank
- Approximate Location of C&D Stockpile
- Approximate Location of Soil/Fill Stockpile
- Approximate Location of Staged UST

Notes:

1) Locations of air monitoring stations are approximate.

- Approximate Location of Soldier Pile
- Approximate Location of Soil Mix Column Installed Today
- Approximate Location of Soil Mix Column Installed Previously
- Approximate Perimeter Construction Fence Location
- Previous Excavation Area
- Approximate Excavation Area
- Approximate Location of Documentation Sample
- Approximate Location of Previously Collected Endpoint Sample
- Approximate Location of Imported Fill/Stone

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Select Site Photographs:



Photo 1: Mercon-X® mercury vapor suppressant proactively applied to soil/fill in the southern part of the site (facing east)



Photo 2: Securely covered tri-axle dump truck being washed prior to exiting the site (facing north)

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

PROJECT No.:	170381202	**CLIENT:** 250 Seaport District, LLC c/o The Howard Hughes Corporation	**DATE:**	Tuesday, September 26, 2023
PROJECT:	250 Water Street		**WEATHER:**	Overcast/Rain, 54 – 60° F Wind: NW @ 0.2 – 2.2 mph
LOCATION:	New York, NY		**TIME:**	5:45am – 6:00pm
BCP SITE ID:	C231127		**MONITOR**	Jack Millman

EQUIPMENT:
CAT 335 Excavator
CAT 328 Excavator
Komatsu PC138 Excavator
Delmag Drill Rig
Bauer RTG RG 27S
Bauer BG45 Drill Rig
Casagrande M6A-1 Tieback Drill Rig
Jerome J505 Mercury Vapor Analyzer
RKI GX-6000 Photoionization Detector (PID)
Aeroqual ASQ1 Air Monitoring Station

PRESENT AT SITE: **Day 211**
Langan (Environmental/Geotechnical) Jack Millman, Michael Cole, Pradeep Pandey
Suffolk Construction (Suffolk) (General Contractor) Anthony Galu, Wyatt Favia
East Coast Drilling, Inc. (ECD) (Foundation Contractor) Danny Rodgers
New York State Department of Environmental Conservation (NYSDEC) Rafi Alam

OBSERVATIONS, DISCUSSIONS, TEST RESULTS, ETC.:

Langan was present to document remediation activities in accordance with the NYSDEC-approved November 2021 Remedial Action Work Plan (RAWP) at the 250 Water Street site (NYSDEC Brownfield Cleanup Program [BCP] Site No C231127).

Site Activities

- ECD used a Bauer BG45 drill rig to install two deep soil mix columns for support-of-excavation (SOE) system installation in the northeast part of the site (along Pearl Street). ECD's drill rig advanced a steel rod with two cutter blades at the bottom of the rod, while concurrently injecting grout through the cutting head and spinning and advancing the blades downward to depths of about 84 and 93 feet below grade surface (bgs), respectively.
    - No drilling spoils were generated during installation of the soil mix columns.
    - Atmos® AC-645 odor/vapor suppressing foam was actively applied to the drilling area as a precautionary measure.
    - Excess grout was contained within a temporary containment area in the eastern part of the site and will be managed as construction and demolition (C&D) debris at a later date.
- ECD excavated an about 5-foot-long by 10-foot-wide area to a maximum depth of about 6 feet bgs in the northern part of the site (waste characterization cell WC01) to install timber lagging for the SOE system.
    - Excavated soil/fill was screened for odors, staining, organic vapors, and mercury vapor using a handheld photoionization detector (PID) and handheld Jerome® J505 mercury vapor analyzer, respectively. Evidence of impacts was not observed and the excavated soil/fill was temporarily backfilled into the original location for future off-site disposal.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

- ECD graded an about 65-foot-long by 120-foot-wide area to stabilize the grade surface for SOE installation in the northern part of the site (along Pearl Street).
    - Graded soil/fill was screened for odors, staining, organic vapors, and mercury vapor using a handheld PID and handheld Jerome® J505 mercury vapor analyzer, respectively. Evidence of impacts was not observed and excess soil/fill generated from grading was stockpiled in the central part of the site for future off-site disposal.

Material Tracking

- No material was exported from the site.
- No material was imported to the site.

Material Import Summary

Facility Name Location Type of Material	Stone Industries, Inc. Haledon, NJ 1.5/2.5-inch Virgin Stone		Stone Industries, Inc. Haledon, NJ 0.75-inch Virgin Stone		Impact Reuse & Recovery Center or Impact Materials Jersey City, Lyndhurst/Jersey City, NJ 1.5-inch Clean Bluestone		Impact Reuse & Recovery Center, Lyndhurst, NJ General Fill	
Quantities	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)
Today	0	0	0	0	0	0	0	0
Project Total	12	283.91	0	0	15	339.65	374	9,157.85
NYSDEC Approved:	1,800 tons*				720 tons*		19,500 tons*	

*0.75-inch, 1.5-inch, and 2.5-inch virgin stone from the Stone Industries, Inc. facility and 1.5-inch clean bluestone from the Impact Reuse & Recovery Center (IRRC) facility were approved for import of 1,000 cubic yards (CY) and 400 CY, respectively. Assuming a conversion factor of 1.8, each quantity was converted to tons in order to accurately compare with import weight tickets. General fill from the IRRC facility was approved for import of 13,000 CY and a conversion factor of 1.5 is applied.

Material Export Summary (1 of 3)

Facility Name Location Type of Material	Allocco Recycling Brooklyn, NY Construction & Demolition (C&D) Debris		IRRC Lyndhurst, NJ C&D Debris		Earth Efficient MSM East Stroudsburg, PA C&D Debris		Clean Earth of North Jersey Kearny, NJ Hazardous Lead-Impacted Soil/Fill	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	0	0	0	0
Project Total	5	85	42	840	68	1,360	95	1,900

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Material Export Summary (2 of 3)						
Facility Name Location Type of Material	**Middlesex County Landfill East Brunswick, NJ Non-hazardous Soil/Fill**		**Bayshore Soil Management Keasbey, NJ Petroleum-Impacted Soil/Fill**		**Clean Earth of Carteret, NJ Carteret, NJ Non-hazardous Soil/Fill**	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	0	0
Project Total	287	5,740	267	5,340	66	1,320

Material Export Summary (3 of 3)				
Facility Name Location Type of Material	**Clean Earth of North Jersey Kearny, NJ Non-hazardous Soil/Fill**		**Cycle Chem, Inc. Elizabeth, NJ Hazardous Lead - Impacted Soil/Fill**	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0
Project Total	201	4,020	10	200

Sampling

- No samples were collected.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

CAMP Activities

Langan performed air monitoring at the perimeter of the site, at the northern sidewalk of Pearl Street, at the western sidewalk of Beekman Street, at the eastern sidewalk of Peck Slip, and at the southern sidewalk of Water Street at eight total locations for mercury vapor, volatile organic compounds (VOCs), and particulate matter less than 10 microns in diameter (PM10) from about 6:56am to 4:44pm. There were no fifteen-minute average concentrations for mercury vapor, VOCs or PM10 that approached or exceeded the action levels established by the CAMP (1.00 µg/m^3, 5.0 ppm, or 0.100 mg/m^3, respectively).

Background Concentrations

Prior to implementation of CAMP, instantaneous background concentrations of mercury vapor and VOCs were recorded using a handheld Jerome® J505 mercury vapor analyzer and a handheld PID, respectively.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

Perimeter and Work Zone Concentrations

Daily Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.021	0.00	0.01
PM-2	0.014	0.00	0.01
PM-3	0.018	0.01	0.00
PM-4	0.014	0.00	0.02
WZ-1	0.013	0.00	0.00
WZ-2	0.013	0.00	0.00
WZ-3	0.014	0.00	0.01
WZ-4	0.014	0.00	0.01

Maximum 15-Minute-Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.074	0.05	0.03
PM-2	0.016	0.01	0.02
PM-3	0.054	0.13	0.01
PM-4	0.018	0.03	0.05
WZ-1	0.015	0.05	0.01
WZ-2	0.015	0.01	0.01
WZ-3	0.015	0.02	0.01
WZ-4	0.028	0.02	0.02

●mg/m^3 = milligrams per cubic meter ●ppm = parts per million ●µg/m^3 = micrograms per cubic meter

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Ambient Air (Handheld Jerome® J505 and Handheld PID)

- The dedicated mobile monitor (Langan) used a handheld Jerome® J505 mercury vapor analyzer to monitor ambient air conditions at various heights throughout the site. Instantaneous mercury vapor concentrations throughout the site ranged from 0.00 µg/m^3 to 0.10 µg/m^3.
- The dedicated mobile monitor (Langan) used a handheld PID to monitor VOC concentrations throughout the site. Instantaneous VOC concentrations were not detected above background concentrations throughout the workday.

Off-site CAMP Stations

- CAMP station WZ-1 was placed on the western sidewalk of Beekman Street from about 6:39am to 5:05pm.
- CAMP station WZ-2 was placed on the southern sidewalk of Water Street from about 6:40am to 5:11pm.
- CAMP station WZ-3 was placed on the eastern sidewalk of Peck Slip from about 6:42am to 5:20pm.
- CAMP station WZ-4 was placed on the northern sidewalk of Pearl Street from about 6:45am to 5:28pm.

Prior to CAMP Shutdown

Prior to discontinuing CAMP, mercury vapor and VOC concentrations were confirmed to return to background conditions at each perimeter station using the handheld Jerome® J505 mercury vapor analyzer and handheld PID, respectively. Perimeter CAMP stations were discontinued sequentially between 4:44pm and 4:48pm.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

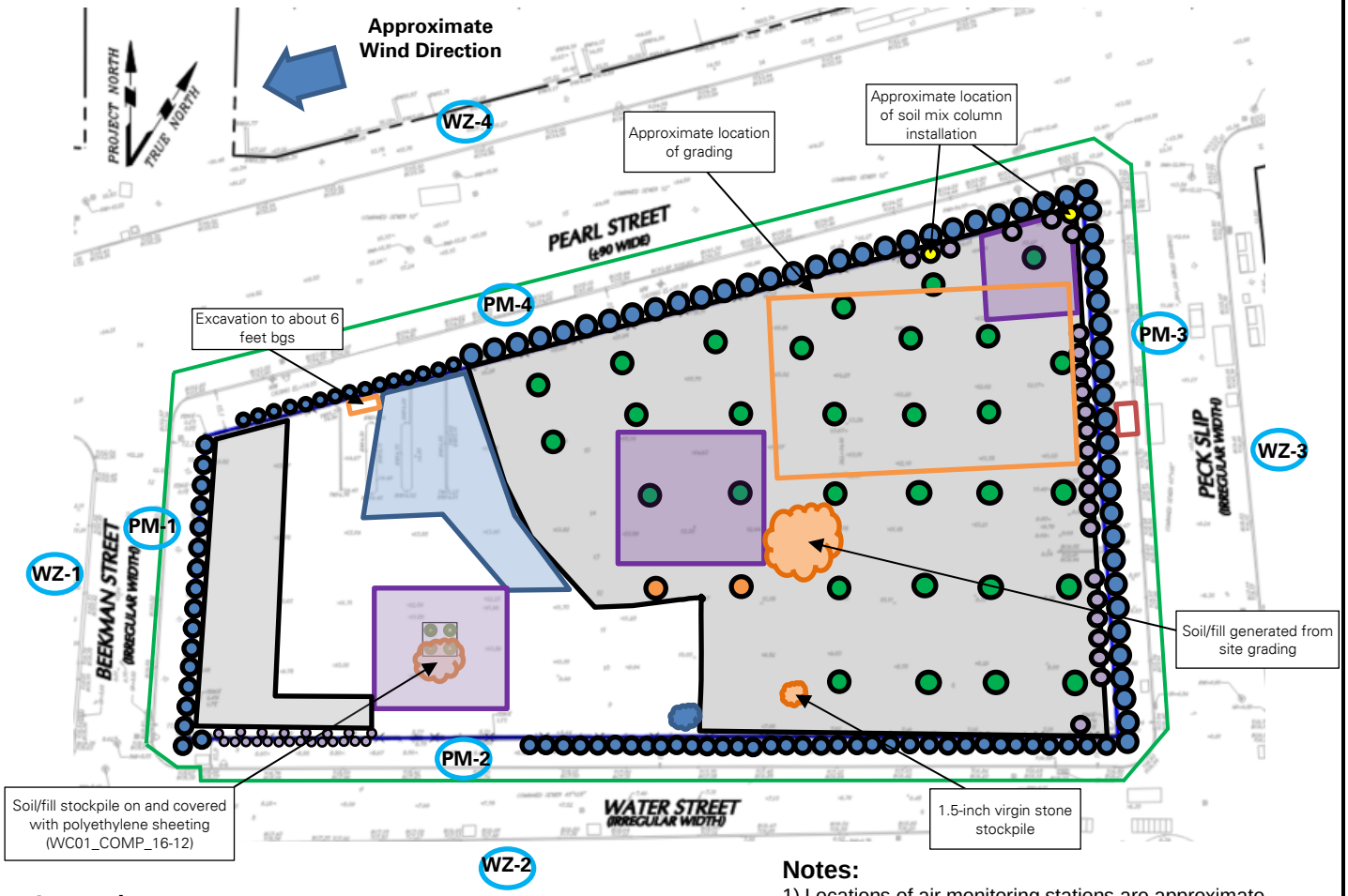
Anticipated Activities

- ECD will continue exporting C&D and soil/fill from the western part of the site for off-site disposal.
- ECD will continue installing soil mix columns and/or soldier piles for SOE installation along Pearl Street, Water Street, and Peck Slip.
- ECD will continue installing lagging for the SOE system along Pearl Street.
- ECD will continue installing walers for the SOE system along Beekman Street.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Site Map



Legend:

- PM-1 — Approximate Location of Air Monitoring Station
- Approximate Work Area
- Approximate Location of Installed Pile Cap
- Approximate Location of Foundation Piles Completed
- Approximate Location of Truck Tracking Pad
- Approximate Location of Underground Storage Tank
- Approximate Location of C&D Stockpile
- Approximate Location of Soil/Fill Stockpile
- Approximate Location of Staged UST

Notes:

1) Locations of air monitoring stations are approximate.

- Approximate Location of Soldier Pile
- Approximate Location of Soil Mix Column Installed Today
- Approximate Location of Soil Mix Column Installed Previously
- Approximate Perimeter Construction Fence Location
- Previous Excavation Area
- Approximate Excavation Area
- Approximate Location of Documentation Sample
- Approximate Location of Previously Collected Endpoint Sample
- Approximate Location of Imported Fill/Stone

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Select Site Photographs:

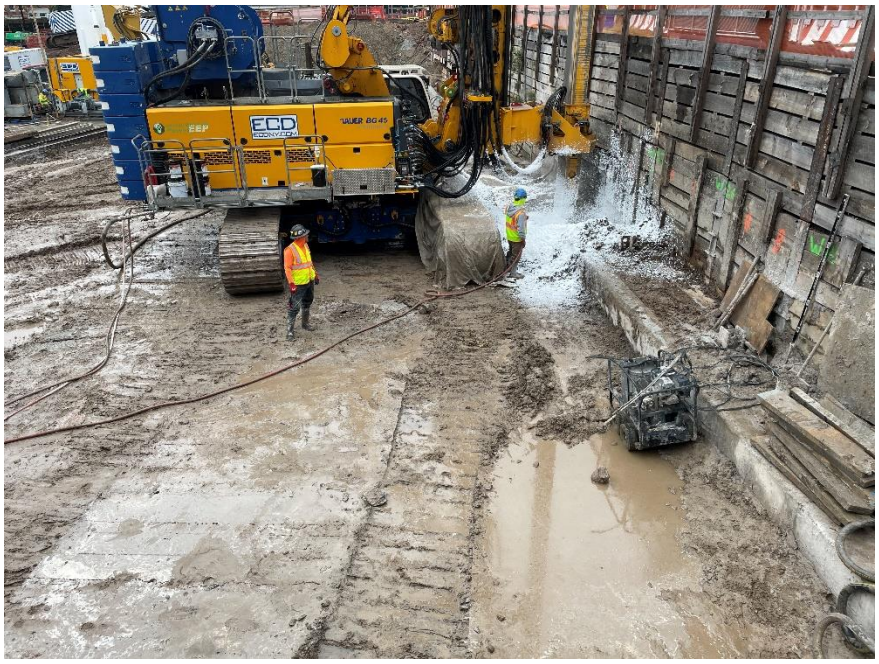


Photo 1 Atmos® AC-645 odor/vapor suppressing foam proactively applied to soil/fill in the northern part of the site (facing west)



Photo 2: ECD excavating soil/fill in the northern part of the site (facing east)

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

PROJECT No.:	170381202	**CLIENT:** 250 Seaport District, LLC c/o The Howard Hughes Corporation	**DATE:**	Wednesday, September 27, 2023
PROJECT:	250 Water Street		**WEATHER:**	Partly Sunny, 50 – 64° F Wind: NW @ 0.3 – 2.7 mph
LOCATION:	New York, NY		**TIME:**	5:45am – 6:30pm
BCP SITE ID:	C231127		**MONITOR**	Jack Millman

EQUIPMENT:
CAT 335 Excavator
CAT 328 Excavator
Komatsu PC138 Excavator
Delmag Drill Rig
Bauer RTG RG 27S
Bauer BG45 Drill Rig
Casagrande M6A-1 Tieback Drill Rig
Jerome J505 Mercury Vapor Analyzer
RKI GX-6000 Photoionization Detector (PID)
Aeroqual ASQ1 Air Monitoring Station

PRESENT AT SITE: **Day 212**
Langan (Environmental/Geotechnical) Jack Millman, Michael Cole, Pradeep Pandey
Suffolk Construction (Suffolk) (General Contractor) Anthony Galu, Wyatt Favia
East Coast Drilling, Inc. (ECD) (Foundation Contractor) Danny Rodgers
New York State Department of Environmental Conservation (NYSDEC) Rafi Alam
Earth Efficient (Soil Broker) Yinette Batista

OBSERVATIONS, DISCUSSIONS, TEST RESULTS, ETC.:

Langan was present to document remediation activities in accordance with the NYSDEC-approved November 2021 Remedial Action Work Plan (RAWP) at the 250 Water Street site (NYSDEC Brownfield Cleanup Program [BCP] Site No C231127).

Site Activities

- ECD used a Bauer BG45 drill rig to install three deep soil mix columns for support-of-excavation (SOE) system installation in the northeast part of the site (along Pearl Street). ECD's drill rig advanced a steel rod with two cutter blades at the bottom of the rod, while concurrently injecting grout through the cutting head and spinning and advancing the blades downward to depths between about 82 and 100 feet below grade surface (bgs).
    - No drilling spoils were generated during installation of the soil mix columns.
    - Excess grout was contained within a temporary containment area in the eastern part of the site and will be managed as construction and demolition (C&D) debris at a later date.
- ECD excavated an about 25-foot-long by 25-foot-wide area to a maximum depth of about 2 feet below the existing grade (about 9 feet below sidewalk grade [bsg]) in the western part of the site (waste characterization cell WC03) to facilitate installation of tiebacks as part of the SOE system.
    - Excavated soil/fill was screened for odors, staining, organic vapors, and mercury vapor using a handheld photoionization detector (PID) and handheld Jerome® J505 mercury vapor analyzer, respectively. Evidence of impacts was not observed and the excavated soil/fill was live-loaded into securely covered tri-axle dump trucks for off-site disposal.
- ECD excavated an about 20-foot-long by 35-foot-wide area to a maximum depth of about 2 feet below the existing grade (about 8 feet bsg) in the northwest part of the site (waste characterization cell WC01) to facilitate installation of tiebacks as part of the SOE system.
    - Excavated soil/fill was screened for odors, staining, organic vapors, and mercury vapor using a handheld PID and handheld Jerome® J505 mercury vapor analyzer, respectively. Evidence of impacts

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

was not observed and the excavated soil/fill was graded into the adjacent area for future off-site disposal.

- ECD excavated an about 10-foot-long by 30-foot-wide area to a maximum depth of about 2 feet below the existing grade (about 10 feet bsg) in the southwest part of the site (waste characterization cell WC03) to facilitate installation of tiebacks as part of the SOE system.
    - Excavated soil/fill was screened for odors, staining, organic vapors, and mercury vapor using a handheld PID and handheld Jerome® J505 mercury vapor analyzer, respectively. Evidence of impacts was not observed and the excavated soil/fill was graded into the adjacent area for future off-site disposal.
- ECD graded an about 40-foot-long by 60-foot-wide and an about 40-foot-wide by 85-foot-wide area to stabilize the grade surface for SOE installation in the northeast part of the site (along Pearl Street and Peck Slip).
    - Graded soil/fill was screened for odors, staining, organic vapors, and mercury vapor using a handheld PID and handheld Jerome® J505 mercury vapor analyzer, respectively. Evidence of impacts was not observed and excess soil/fill generated from grading was stockpiled in the central part of the site for future off-site disposal.

Material Tracking

- ECD exported six truckloads (approximately 120 cubic yards [CY]) of hazardous lead-impacted soil/fill for off-site disposal at the Clean Earth of North Jersey (CENJ) facility, located in Kearney, NJ.
- ECD exported seven truckloads (approximately 140 CY) of non-hazardous soil/fill for off-site disposal at the Harmony Foul Rift facility, located in Belvidere, NJ.
- No material was imported to the site.

Material Import Summary

Facility Name Location Type of Material	**Stone Industries, Inc. Haledon, NJ 1.5/2.5-inch Virgin Stone**		**Stone Industries, Inc. Haledon, NJ 0.75-inch Virgin Stone**		**Impact Reuse & Recovery Center or Impact Materials Jersey City, Lyndhurst/Jersey City, NJ 1.5-inch Clean Bluestone**		**Impact Reuse & Recovery Center, Lyndhurst, NJ General Fill**	
Quantities	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)
Today	0	0	0	0	0	0	0	0
Project Total	12	283.91	0	0	15	339.65	374	9,157.85
NYSDEC Approved:	1,800 tons*				720 tons*		19,500 tons*	

*0.75-inch, 1.5-inch, and 2.5-inch virgin stone from the Stone Industries, Inc. facility and 1.5-inch clean bluestone from the Impact Reuse & Recovery Center (IRRC) facility were approved for import of 1,000 cubic yards (CY) and 400 CY, respectively. Assuming a conversion factor of 1.8, each quantity was converted to tons in order to accurately compare with import weight tickets. General fill from the IRRC facility was approved for import of 13,000 CY and a conversion factor of 1.5 is applied.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Material Export Summary (1 of 3)								
Facility Name Location Type of Material	**Allocco Recycling Brooklyn, NY Construction & Demolition (C&D) Debris**		**IRRC Lyndhurst, NJ C&D Debris**		**Earth Efficient MSM East Stroudsburg, PA C&D Debris**		**Clean Earth of North Jersey Kearny, NJ Hazardous Lead-Impacted Soil/Fill**	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	0	0	6	120
Project Total	5	85	42	840	68	1,360	101	2,020

Material Export Summary (2 of 3)						
Facility Name Location Type of Material	**Middlesex County Landfill East Brunswick, NJ Non-hazardous Soil/Fill**		**Bayshore Soil Management Keasbey, NJ Petroleum-Impacted Soil/Fill**		**Clean Earth of Carteret, NJ Carteret, NJ Non-hazardous Soil/Fill**	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	0	0
Project Total	287	5,740	267	5,340	66	1,320

Material Export Summary (3 of 3)						
Facility Name Location Type of Material	**Clean Earth of North Jersey Kearny, NJ Non-hazardous Soil/Fill**		**Cycle Chem, Inc. Elizabeth, NJ Hazardous Lead - Impacted Soil/Fill**		**Harmony Foul Rift (HFR) Belvidere, NJ Non-hazardous Soil/Fill**	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	7	140
Project Total	201	4,020	10	200	7	140

Sampling

- No samples were collected.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

CAMP Activities

Langan performed air monitoring at the perimeter of the site, at the northern sidewalk of Pearl Street, at the western sidewalk of Beekman Street, at the eastern sidewalk of Peck Slip, and at the southern sidewalk of Water Street at eight total locations for mercury vapor, volatile organic compounds (VOCs), and particulate matter less than 10 microns in diameter (PM10) from about 7:02am to 4:25pm. There were no fifteen-minute average concentrations for mercury vapor, VOCs or PM10 that approached or exceeded the action levels established by the CAMP (1.00 µg/m^3, 5.0 ppm, or 0.100 mg/m^3, respectively).

Background Concentrations

Prior to implementation of CAMP, instantaneous background concentrations of mercury vapor and VOCs were recorded using a handheld Jerome® J505 mercury vapor analyzer and a handheld PID, respectively.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

Perimeter and Work Zone Concentrations

Daily Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.010	0.01	0.02
PM-2	0.007	0.00	0.01
PM-3	0.010	0.01	0.00
PM-4	0.008	0.00	0.01
WZ-1	0.007	0.00	0.00
WZ-2	0.007	0.00	0.00
WZ-3	0.008	0.00	0.00
WZ-4	0.008	0.00	0.01

Maximum 15-Minute-Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.031	0.08	0.06
PM-2	0.009	0.08	0.02
PM-3	0.022	0.15	0.01
PM-4	0.009	0.03	0.03
WZ-1	0.008	0.01	0.00
WZ-2	0.010	0.00	0.01
WZ-3	0.012	0.01	0.02
WZ-4	0.015	0.07	0.02

●mg/m^3 = milligrams per cubic meter ●ppm = parts per million ●µg/m^3 = micrograms per cubic meter

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Ambient Air (Handheld Jerome® J505 and Handheld PID)

- The dedicated mobile monitor (Langan) used a handheld Jerome® J505 mercury vapor analyzer to monitor ambient air conditions at various heights throughout the site. Instantaneous mercury vapor concentrations throughout the site ranged from 0.00 µg/m^3 to 0.13 µg/m^3.
- The dedicated mobile monitor (Langan) used a handheld PID to monitor VOC concentrations throughout the site. Instantaneous VOC concentrations were not detected above background concentrations throughout the workday.

Off-site CAMP Stations

- CAMP station WZ-1 was placed on the western sidewalk of Beekman Street from about 6:51am to 5:44pm.
- CAMP station WZ-2 was placed on the southern sidewalk of Water Street from about 6:51am to 5:46pm.
- CAMP station WZ-3 was placed on the eastern sidewalk of Peck Slip from about 6:53am to 5:54pm.
- CAMP station WZ-4 was placed on the northern sidewalk of Pearl Street from about 6:58am to 6:11pm.

Prior to CAMP Shutdown

Prior to discontinuing CAMP, mercury vapor and VOC concentrations were confirmed to return to background conditions at each perimeter station using the handheld Jerome® J505 mercury vapor analyzer and handheld PID, respectively. Perimeter CAMP stations were discontinued sequentially between 4:25pm and 4:31pm.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

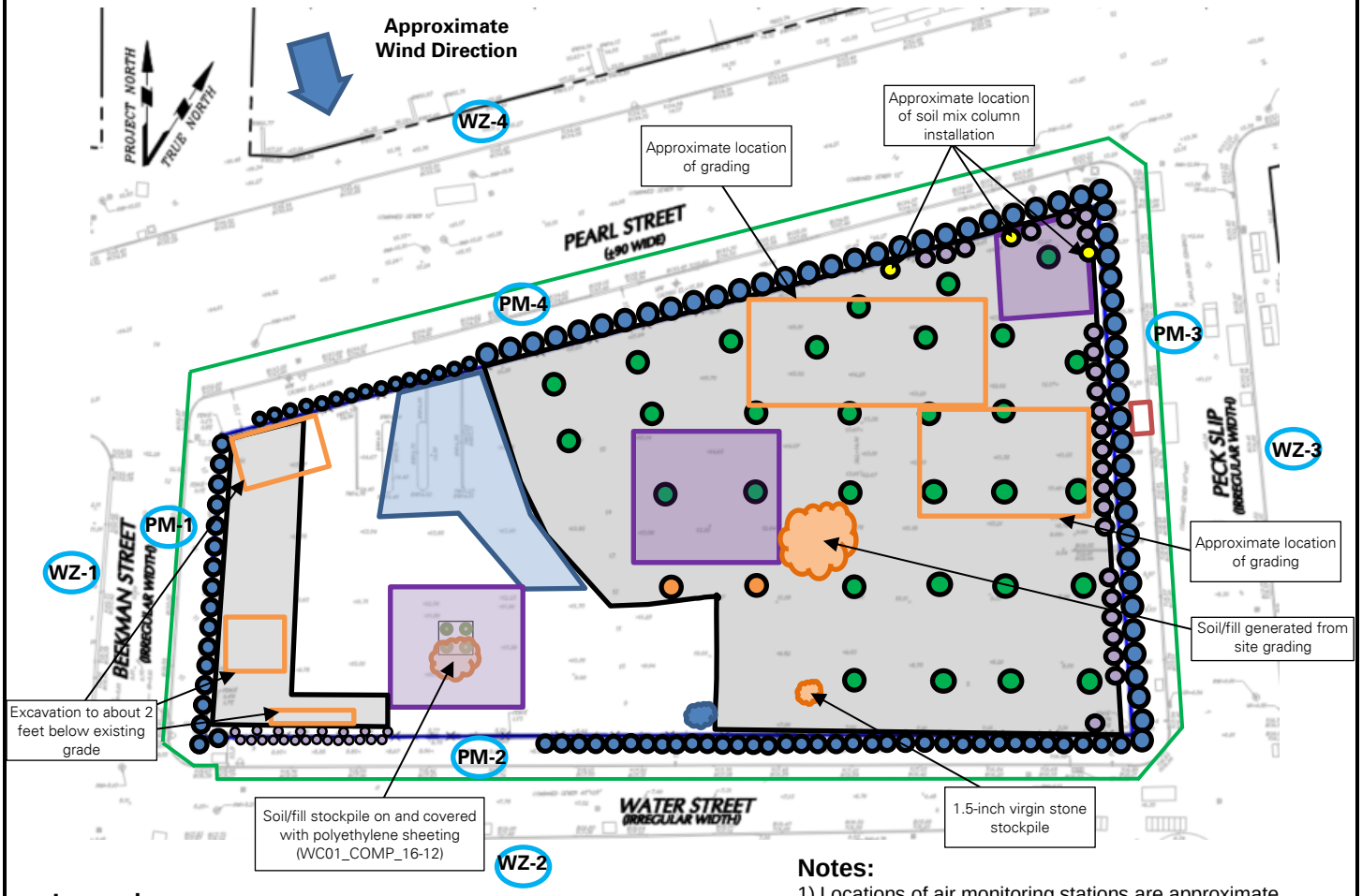
Anticipated Activities

- ECD will continue exporting C&D and soil/fill from the western part of the site for off-site disposal.
- ECD will continue installing soil mix columns and/or soldier piles for SOE installation along Pearl Street, Water Street, and Peck Slip.
- ECD will continue installing lagging for the SOE system along Pearl Street.
- ECD will continue installing walers for the SOE sysetm along Beekman Street.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Site Map



Legend:

- PM-1 — Approximate Location of Air Monitoring Station
- Approximate Work Area
- Approximate Location of Installed Pile Cap
- Approximate Location of Foundation Piles Completed
- Approximate Location of Truck Tracking Pad
- Approximate Location of Underground Storage Tank
- Approximate Location of C&D Stockpile
- Approximate Location of Soil/Fill Stockpile
- Approximate Location of Staged UST
- Approximate Location of Soldier Pile
- Approximate Location of Soil Mix Column Installed Today
- Approximate Location of Soil Mix Column Installed Previously
- Approximate Perimeter Construction Fence Location
- Previous Excavation Area
- Approximate Excavation Area
- Approximate Location of Documentation Sample
- Approximate Location of Previously Collected Endpoint Sample
- Approximate Location of Imported Fill/Stone

Notes:

1) Locations of air monitoring stations are approximate.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Select Site Photographs:



Photo 1: ECD installing a soil mix column in the northeast part of the site (facing west)



Photo 2: ECD excavating soil/fill in the western part of the site (facing north)

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

PROJECT No.:	170381202	**CLIENT:** 250 Seaport District, LLC c/o The Howard Hughes Corporation	**DATE:**	Thursday, September 28, 2023
PROJECT:	250 Water Street		**WEATHER:**	Overcast/Rain, 56 – 65° F Wind: NE @ 0.3 – 2.3 mph
LOCATION:	New York, NY		**TIME:**	5:30am – 6:15pm
BCP SITE ID:	C231127		**MONITOR**	Jack Millman

EQUIPMENT:
CAT 335 Excavator
CAT 328 Excavator
Komatsu PC138 Excavator
Delmag Drill Rig
Bauer RTG RG 27S
Bauer BG45 Drill Rig
Casagrande M6A-1 Tieback Drill Rig
Jerome J505 Mercury Vapor Analyzer
RKI GX-6000 Photoionization Detector (PID)
Aeroqual ASQ1 Air Monitoring Station

PRESENT AT SITE: **Day 213**
Langan (Environmental/Geotechnical) Jack Millman, Michael Cole, Pradeep Pandey
Suffolk Construction (Suffolk) (General Contractor) Anthony Galu, Wyatt Favia
East Coast Drilling, Inc. (ECD) (Foundation Contractor) Danny Rodgers
New York State Department of Environmental Conservation (NYSDEC) Rafi Alam
Earth Efficient (Soil Broker) Yinette Batista

OBSERVATIONS, DISCUSSIONS, TEST RESULTS, ETC.:

Langan was present to document remediation activities in accordance with the NYSDEC-approved November 2021 Remedial Action Work Plan (RAWP) at the 250 Water Street site (NYSDEC Brownfield Cleanup Program [BCP] Site No C231127).

Site Activities

- ECD used a Bauer BG45 drill rig to install one deep soil mix column for support-of-excavation (SOE) system installation in the northeast part of the site (along Pearl Street). ECD's drill rig advanced a steel rod with two cutter blades at the bottom of the rod, while concurrently injecting grout through the cutting head and spinning and advancing the blades downward to a depth of about 104 feet below grade surface (bgs).
    - No drilling spoils were generated during installation of the soil mix columns.
    - Excess grout was contained within a temporary containment area in the eastern part of the site and will be managed as construction and demolition (C&D) debris at a later date.
- ECD excavated an about 30-foot-long by 55-foot-wide area to a maximum depth of about 8 feet below the existing grade (about 8 feet below sidewalk grade [bsg]) in the northwest part of the site (waste characterization cell WC01) to facilitate installation of tiebacks as part of the SOE system.
    - Excavated soil/fill was screened for odors, staining, organic vapors, and mercury vapor using a handheld photoionization detector (PID) and handheld Jerome® J505 mercury vapor analyzer, respectively. Evidence of impacts was not observed and the excavated soil/fill was live-loaded into securely covered tri-axle dump trucks for off-site disposal.
- ECD installed two tie-backs for the SOE system along the western perimeter of the site (Beekman Street).

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

- ECD graded an about 35-foot-long by 100-foot-wide and an about 30-foot-long by 55-foot-wide area to stabilize the grade surface for SOE installation in the eastern part of the site.
    - Graded soil/fill was screened for odors, staining, organic vapors, and mercury vapor using a handheld PID and handheld Jerome® J505 mercury vapor analyzer, respectively. Evidence of impacts was not observed and excess soil/fill generated from grading was stockpiled in the central part of the site for future off-site disposal.

Material Tracking

- ECD exported six truckloads (approximately 120 cubic yards [CY]) of non-hazardous soil/fill for off-site disposal at the Harmony Foul Rift facility, located in Belvidere, NJ.
- ECD exported one truckload (about 20 CY) of non-hazardous soil/fill for off-site disposal at the Middlesex County Landfill, located in East Brunswick, NJ.
- ECD exported seven truckloads (about 140 CY) of C&D debris for off-site disposal at the Earth Efficient MSM facility located in East Stroudsburg, PA.
- No material was imported to the site.

Material Import Summary

Facility Name Location Type of Material	**Stone Industries, Inc. Haledon, NJ 1.5/2.5-inch Virgin Stone**		**Stone Industries, Inc. Haledon, NJ 0.75-inch Virgin Stone**		**Impact Reuse & Recovery Center or Impact Materials Jersey City, Lyndhurst/Jersey City, NJ 1.5-inch Clean Bluestone**		**Impact Reuse & Recovery Center, Lyndhurst, NJ General Fill**	
Quantities	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)
Today	0	0	0	0	0	0	0	0
Project Total	12	283.91	0	0	15	339.65	374	9,157.85
NYSDEC Approved:	1,800 tons*				720 tons*		19,500 tons*	

*0.75-inch, 1.5-inch, and 2.5-inch virgin stone from the Stone Industries, Inc. facility and 1.5-inch clean bluestone from the Impact Reuse & Recovery Center (IRRC) facility were approved for import of 1,000 cubic yards (CY) and 400 CY, respectively. Assuming a conversion factor of 1.8, each quantity was converted to tons in order to accurately compare with import weight tickets. General fill from the IRRC facility was approved for import of 13,000 CY and a conversion factor of 1.5 is applied.

Material Export Summary (1 of 3)

Facility Name Location Type of Material	**Allocco Recycling Brooklyn, NY Construction & Demolition (C&D) Debris**		**IRRC Lyndhurst, NJ C&D Debris**		**Earth Efficient MSM East Stroudsburg, PA C&D Debris**		**Clean Earth of North Jersey Kearny, NJ Hazardous Lead-Impacted Soil/Fill**	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	7	140	0	0
Project Total	5	85	42	840	75	1,500	101	2,020

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Material Export Summary (2 of 3)						
Facility Name Location Type of Material	**Middlesex County Landfill East Brunswick, NJ Non-hazardous Soil/Fill**		**Bayshore Soil Management Keasbey, NJ Petroleum-Impacted Soil/Fill**		**Clean Earth of Carteret, NJ Carteret, NJ Non-hazardous Soil/Fill**	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	1	20	0	0	0	0
Project Total	288	5,760	267	5,340	66	1,320

Material Export Summary (3 of 3)						
Facility Name Location Type of Material	**Clean Earth of North Jersey Kearny, NJ Non-hazardous Soil/Fill**		**Cycle Chem, Inc. Elizabeth, NJ Hazardous Lead - Impacted Soil/Fill**		**Harmony Foul Rift (HFR) Belvidere, NJ Non-hazardous Soil/Fill**	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	6	120
Project Total	201	4,020	10	200	13	260

Sampling

- No samples were collected.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

CAMP Activities

Langan performed air monitoring at the perimeter of the site, at the northern sidewalk of Pearl Street, at the western sidewalk of Beekman Street, at the eastern sidewalk of Peck Slip, and at the southern sidewalk of Water Street at eight total locations for mercury vapor, volatile organic compounds (VOCs), and particulate matter less than 10 microns in diameter (PM10) from about 6:50am to 5:08pm. There were no fifteen-minute average concentrations for mercury vapor, VOCs or PM10 that approached or exceeded the action levels established by the CAMP (1.00 µg/m^3, 5.0 ppm, or 0.100 mg/m^3, respectively).

Background Concentrations

Prior to implementation of CAMP, instantaneous background concentrations of mercury vapor and VOCs were recorded using a handheld Jerome® J505 mercury vapor analyzer and a handheld PID, respectively.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

Perimeter and Work Zone Concentrations

Daily Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.013	0.00	0.02
PM-2	0.011	0.00	0.01
PM-3	0.015	0.01	0.00
PM-4	0.012	0.00	0.02
WZ-1	0.011	0.00	0.00
WZ-2	0.011	0.00	0.00
WZ-3	0.011	0.00	0.00
WZ-4	0.011	0.00	0.01

Maximum 15-Minute-Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.018	0.01	0.05
PM-2	0.013	0.00	0.03
PM-3	0.036	0.34	0.01
PM-4	0.015	0.02	0.05
WZ-1	0.016	0.01	0.01
WZ-2	0.013	0.00	0.01
WZ-3	0.013	0.01	0.01
WZ-4	0.016	0.05	0.02

●mg/m^3 = milligrams per cubic meter ●ppm = parts per million ●µg/m^3 = micrograms per cubic meter

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Ambient Air (Handheld Jerome® J505 and Handheld PID)

- The dedicated mobile monitor (Langan) used a handheld Jerome® J505 mercury vapor analyzer to monitor ambient air conditions at various heights throughout the site. Instantaneous mercury vapor concentrations throughout the site ranged from 0.00 µg/m^3 to 0.09 µg/m^3.
- The dedicated mobile monitor (Langan) used a handheld PID to monitor VOC concentrations throughout the site. Instantaneous VOC concentrations were not detected above background concentrations throughout the workday.

Off-site CAMP Stations

- CAMP station WZ-1 was placed on the western sidewalk of Beekman Street from about 6:36am to 5:29pm.
- CAMP station WZ-2 was placed on the southern sidewalk of Water Street from about 6:37am to 5:33pm.
- CAMP station WZ-3 was placed on the eastern sidewalk of Peck Slip from about 6:39am to 5:42pm.
- CAMP station WZ-4 was placed on the northern sidewalk of Pearl Street from about 6:41am to 5:50pm.

Prior to CAMP Shutdown

Prior to discontinuing CAMP, mercury vapor and VOC concentrations were confirmed to return to background conditions at each perimeter station using the handheld Jerome® J505 mercury vapor analyzer and handheld PID, respectively. Perimeter CAMP stations were discontinued sequentially between 5:08pm and 5:23pm.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

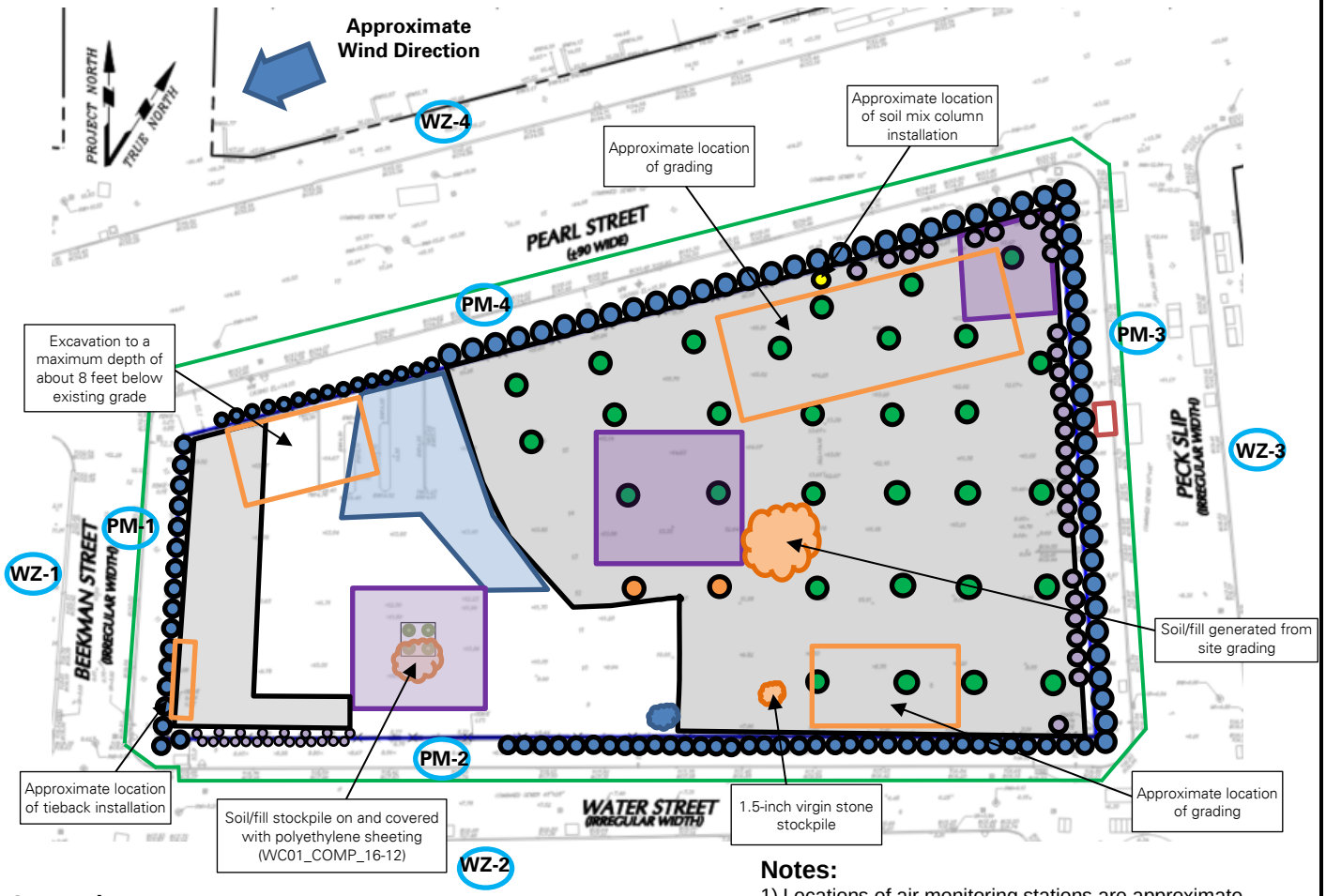
Anticipated Activities

- ECD will continue exporting C&D and soil/fill from the western part of the site for off-site disposal.
- ECD will continue installing soil mix columns and/or soldier piles for SOE installation along Pearl Street, Water Street, and Peck Slip.
- ECD will continue installing lagging for the SOE system along Pearl Street.
- ECD will continue installing walers and tiebacks for the SOE system along Beekman Street.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Site Map



Legend:

- PM-1 — Approximate Location of Air Monitoring Station
- Approximate Work Area
- Approximate Location of Installed Pile Cap
- Approximate Location of Foundation Piles Completed
- Approximate Location of Truck Tracking Pad
- Approximate Location of Underground Storage Tank
- Approximate Location of C&D Stockpile
- Approximate Location of Soil/Fill Stockpile
- Approximate Location of Staged UST
- Approximate Location of Soldier Pile
- Approximate Location of Soil Mix Column Installed Today
- Approximate Location of Soil Mix Column Installed Previously
- Approximate Perimeter Construction Fence Location
- Previous Excavation Area
- Approximate Excavation Area
- Approximate Location of Documentation Sample
- Approximate Location of Previously Collected Endpoint Sample
- Approximate Location of Imported Fill/Stone

Notes:
1) Locations of air monitoring stations are approximate.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Select Site Photographs:



Photo 1: ECD installing a tieback along the western perimeter of the site (facing south)



Photo 2: ECD excavating soil/fill in the northwest part of the site (facing east)

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

PROJECT No.:	170381202	**CLIENT:** 250 Seaport District, LLC c/o The Howard Hughes Corporation	**DATE:**	Friday, September 29, 2023
PROJECT:	250 Water Street		**WEATHER:**	Rain, 58 – 62° F Wind: NE @ 0.3 – 2.0 mph
LOCATION:	New York, NY		**TIME:**	5:30am – 10:30am
BCP SITE ID:	C231127		**MONITOR**	Jack Millman

EQUIPMENT:
CAT 335 Excavator
CAT 328 Excavator
Komatsu PC138 Excavator
Delmag Drill Rig
Bauer RTG RG 27S
Bauer BG45 Drill Rig
Casagrande M6A-1 Tieback Drill Rig
Jerome J505 Mercury Vapor Analyzer
RKI GX-6000 Photoionization Detector (PID)
Aeroqual ASQ1 Air Monitoring Station

PRESENT AT SITE: **Day 214**
Langan (Environmental/Geotechnical) Jack Millman, Michael Cole, Pradeep Pandey
Suffolk Construction (Suffolk) (General Contractor) Anthony Galu, Wyatt Favia
East Coast Drilling, Inc. (ECD) (Foundation Contractor) Danny Rodgers
New York State Department of Environmental Conservation (NYSDEC) Rafi Alam
Earth Efficient (Soil Broker) Henry Batista

OBSERVATIONS, DISCUSSIONS, TEST RESULTS, ETC.:

Langan was present to document remediation activities in accordance with the NYSDEC-approved November 2021 Remedial Action Work Plan (RAWP) at the 250 Water Street site (NYSDEC Brownfield Cleanup Program [BCP] Site No C231127).

Site Activities

- ECD excavated an about 40-foot-long by 10-foot-wide area to a maximum depth of about 8 feet below grade surface (bgs) in the western part of the site (waste characterization cells WC01 and WC02) to facilitate installation of tiebacks as part of the support-of-excavation (SOE) system.
    - Excavated soil/fill was screened for odors, staining, organic vapors, and mercury vapor using a handheld photoionization detector (PID) and handheld Jerome® J505 mercury vapor analyzer, respectively. Evidence of impacts was not observed and the excavated soil/fill was separated from construction and demolition (C&D) debris using a sifting bucket before being temporarily backfilled into the excavation for future off-site disposal. The C&D debris was live-loaded into securely covered tri-axle dump trucks for off-site disposal.
- ECD secured the site in preparation for an anticipated storm event. Storm preparation activities included securely anchoring all stockpile covers and installing additional compost filter socks around the perimeter of the site.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Material Tracking

- ECD exported four truckloads (about 80 cubic yards [CY]) of C&D debris for off-site disposal at the Earth Efficient MSM facility located in East Stroudsburg, PA.
- No material was imported to the site.

Material Import Summary

Facility Name Location Type of Material	Stone Industries, Inc. Haledon, NJ 1.5/2.5-inch Virgin Stone		Stone Industries, Inc. Haledon, NJ 0.75-inch Virgin Stone		Impact Reuse & Recovery Center or Impact Materials Jersey City, Lyndhurst/Jersey City, NJ 1.5-inch Clean Bluestone		Impact Reuse & Recovery Center, Lyndhurst, NJ General Fill	
Quantities	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)
Today	0	0	0	0	0	0	0	0
Project Total	12	283.91	0	0	15	339.65	374	9,157.85
NYSDEC Approved:	1,800 tons*				720 tons*		19,500 tons*	

*0.75-inch, 1.5-inch, and 2.5-inch virgin stone from the Stone Industries, Inc. facility and 1.5-inch clean bluestone from the Impact Reuse & Recovery Center (IRRC) facility were approved for import of 1,000 cubic yards (CY) and 400 CY, respectively. Assuming a conversion factor of 1.8, each quantity was converted to tons in order to accurately compare with import weight tickets. General fill from the IRRC facility was approved for import of 13,000 CY and a conversion factor of 1.5 is applied.

Material Export Summary (1 of 3)

Facility Name Location Type of Material	Allocco Recycling Brooklyn, NY Construction & Demolition (C&D) Debris		IRRC Lyndhurst, NJ C&D Debris		Earth Efficient MSM East Stroudsburg, PA C&D Debris		Clean Earth of North Jersey Kearny, NJ Hazardous Lead-Impacted Soil/Fill	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	4	80	0	0
Project Total	5	85	42	840	79	1,580	101	2,020

Material Export Summary (2 of 3)

Facility Name Location Type of Material	Middlesex County Landfill East Brunswick, NJ Non-hazardous Soil/Fill		Bayshore Soil Management Keasbey, NJ Petroleum-Impacted Soil/Fill		Clean Earth of Carteret, NJ Carteret, NJ Non-hazardous Soil/Fill	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	0	0
Project Total	288	5,760	267	5,340	66	1,320

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Material Export Summary (3 of 3)						
Facility Name Location Type of Material	**Clean Earth of North Jersey Kearny, NJ Non-hazardous Soil/Fill**		**Cycle Chem, Inc. Elizabeth, NJ Hazardous Lead - Impacted Soil/Fill**		**Harmony Foul Rift (HFR) Belvidere, NJ Non-hazardous Soil/Fill**	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	0	0
Project Total	201	4,020	10	200	13	260

Sampling

- No samples were collected.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

CAMP Activities

Langan performed air monitoring at the perimeter of the site, at the northern sidewalk of Pearl Street, at the western sidewalk of Beekman Street, at the eastern sidewalk of Peck Slip, and at the southern sidewalk of Water Street at eight total locations for mercury vapor, volatile organic compounds (VOCs), and particulate matter less than 10 microns in diameter (PM10) from about 7:01am to 8:56am. There were no fifteen-minute average concentrations for mercury vapor, VOCs or PM10 that approached or exceeded the action levels established by the CAMP (1.00 µg/m^3, 5.0 ppm, or 0.100 mg/m^3, respectively).

Background Concentrations

Prior to implementation of CAMP, instantaneous background concentrations of mercury vapor and VOCs were recorded using a handheld Jerome® J505 mercury vapor analyzer and a handheld PID, respectively.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

Perimeter and Work Zone Concentrations

Daily Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.005	0.00	0.02
PM-2	0.004	0.00	0.03
PM-3	0.005	0.00	0.00
PM-4	0.005	0.00	0.04
WZ-1	0.004	0.00	0.00
WZ-2	0.004	0.00	0.01
WZ-3	0.004	0.00	0.01
WZ-4	0.004	0.00	0.01

Maximum 15-Minute-Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.008	0.00	0.04
PM-2	0.006	0.00	0.10
PM-3	0.006	0.03	0.02
PM-4	0.006	0.01	0.09
WZ-1	0.006	0.00	0.00
WZ-2	0.007	0.00	0.02
WZ-3	0.007	0.00	0.02
WZ-4	0.007	0.01	0.03

●mg/m^3 = milligrams per cubic meter ●ppm = parts per million ●µg/m^3 = micrograms per cubic meter

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Ambient Air (Handheld Jerome® J505 and Handheld PID)

- The dedicated mobile monitor (Langan) used a handheld Jerome® J505 mercury vapor analyzer to monitor ambient air conditions at various heights throughout the site. Instantaneous mercury vapor concentrations throughout the site ranged from 0.00 µg/m^3 to 0.08 µg/m^3.
- The dedicated mobile monitor (Langan) used a handheld PID to monitor VOC concentrations throughout the site. Instantaneous VOC concentrations were not detected above background concentrations throughout the workday.

Off-site CAMP Stations

- CAMP station WZ-1 was placed on the western sidewalk of Beekman Street from about 6:25am to 9:42am.
- CAMP station WZ-2 was placed on the southern sidewalk of Water Street from about 6:26am to 9:46am.
- CAMP station WZ-3 was placed on the eastern sidewalk of Peck Slip from about 6:29am to 10:05am.
- CAMP station WZ-4 was placed on the northern sidewalk of Pearl Street from about 6:31am to 10:22am.

Prior to CAMP Shutdown

Prior to discontinuing CAMP, mercury vapor and VOC concentrations were confirmed to return to background conditions at each perimeter station using the handheld Jerome® J505 mercury vapor analyzer and handheld PID, respectively. Perimeter CAMP stations were discontinued sequentially between 8:56pm and 9:12pm.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

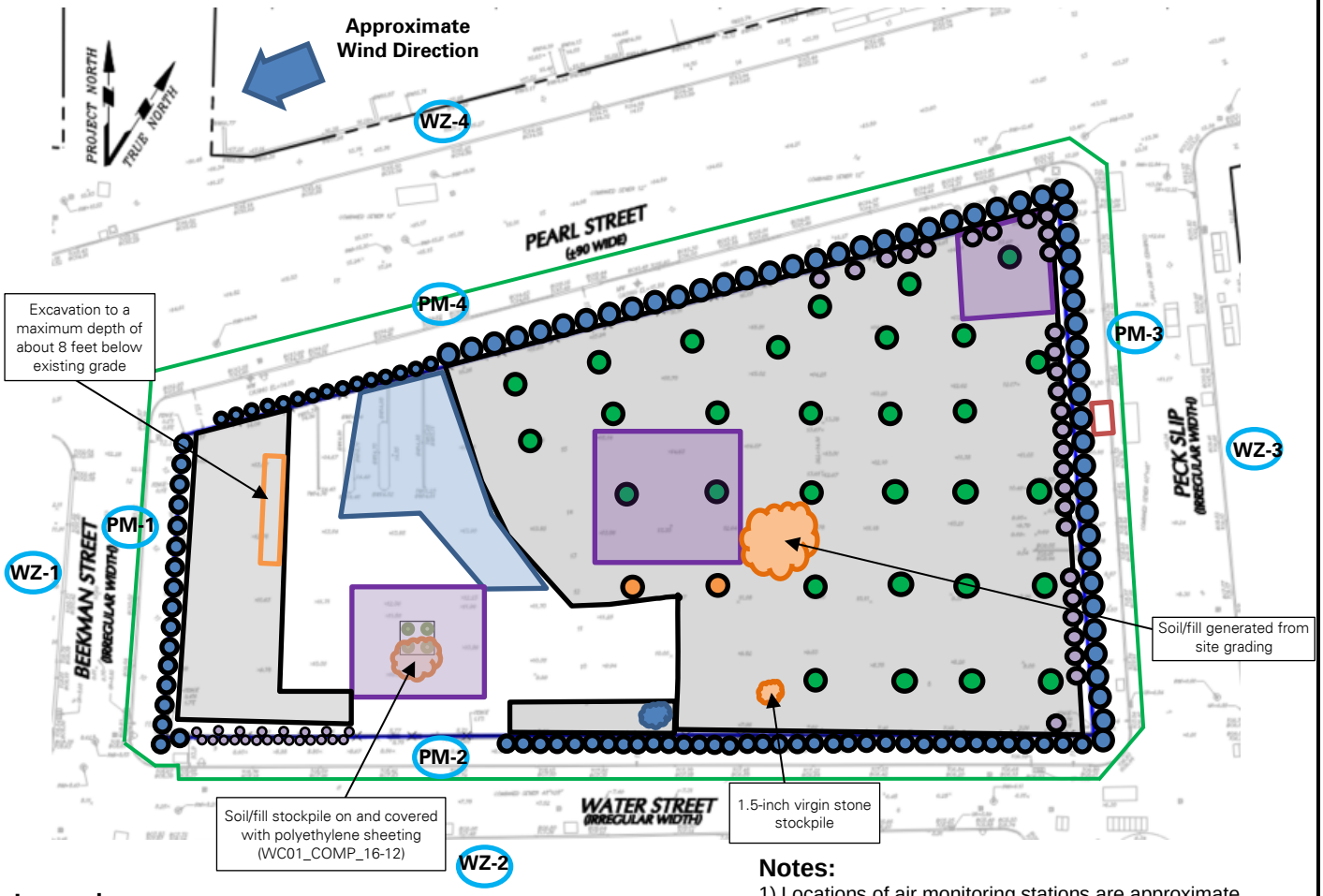
Anticipated Activities

- ECD will continue exporting C&D and soil/fill from the western part of the site for off-site disposal.
- ECD will continue installing soil mix columns and/or soldier piles for SOE installation along Pearl Street, Water Street, and Peck Slip.
- ECD will continue installing lagging for the SOE system along Pearl Street.
- ECD will continue installing walers and tiebacks for the SOE system along Beekman Street.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Site Map



Legend:

- PM-1 — Approximate Location of Air Monitoring Station
- Approximate Work Area
- Approximate Location of Installed Pile Cap
- Approximate Location of Foundation Piles Completed
- Approximate Location of Truck Tracking Pad
- Approximate Location of Underground Storage Tank
- Approximate Location of C&D Stockpile
- Approximate Location of Soil/Fill Stockpile
- Approximate Location of Staged UST
- Approximate Location of Soldier Pile
- Approximate Location of Soil Mix Column Installed Today
- Approximate Location of Soil Mix Column Installed Previously
- Approximate Perimeter Construction Fence Location
- Previous Excavation Area
- Approximate Excavation Area
- Approximate Location of Documentation Sample
- Approximate Location of Previously Collected Endpoint Sample
- Approximate Location of Imported Fill/Stone

Notes:
1) Locations of air monitoring stations are approximate.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Select Site Photographs:



Photo 1: ECD washing a dump truck prior to exiting the site (facing southeast)



Photo 2: Compost filter socks installed along the perimeter of the site (facing southeast)

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

PROJECT No.:	170381202	**CLIENT:** 250 Seaport District, LLC c/o The Howard Hughes Corporation	**DATE:**	Monday, October 2, 2023
PROJECT:	250 Water Street		**WEATHER:**	Sunny, 64 – 76° F Wind: ENE @ 0.2 – 2.2 mph
LOCATION:	New York, NY		**TIME:**	5:45am – 5:30pm
BCP SITE ID:	C231127		**MONITOR**	Jack Millman

EQUIPMENT:
CAT 335 Excavator
CAT 328 Excavator
Komatsu PC138 Excavator
Delmag Drill Rig
Bauer RTG RG 27S
Bauer BG45 Drill Rig
Casagrande M6A-1 Tieback Drill Rig
Jerome J505 Mercury Vapor Analyzer
RKI GX-6000 Photoionization Detector (PID)
Aeroqual ASQ1 Air Monitoring Station

PRESENT AT SITE: **Day 215**
Langan (Environmental/Geotechnical) Jack Millman, Michael Cole, Pradeep Pandey
Suffolk Construction (Suffolk) (General Contractor) Anthony Galu, Wyatt Favia
East Coast Drilling, Inc. (ECD) (Foundation Contractor) Danny Rodgers
New York State Department of Environmental Conservation (NYSDEC) Rafi Alam
Earth Efficient (Soil Broker) Yinette Batista

OBSERVATIONS, DISCUSSIONS, TEST RESULTS, ETC.:

Langan was present to document remediation activities in accordance with the NYSDEC-approved November 2021 Remedial Action Work Plan (RAWP) at the 250 Water Street site (NYSDEC Brownfield Cleanup Program [BCP] Site No C231127).

Site Activities

- ECD used a Bauer BG45 drill rig to install one deep soil mix column for support-of-excavation (SOE) system installation in the northern part of the site (along Pearl Street). ECD's drill rig advanced a steel rod with two cutter blades at the bottom of the rod, while concurrently injecting grout through the cutting head and spinning and advancing the blades downward to a depth of about 86 feet below grade surface (bgs).
    - No drilling spoils were generated during installation of the soil mix columns.
    - Excess grout was contained within a temporary containment area in the eastern part of the site and will be managed as construction and demolition (C&D) debris at a later date.
- ECD used a Bauer RTG RG 27S drill rig to install four soldier piles to a depth of about 35 feet bgs for SOE installation in the southern part of the site (Water Street). ECD's drill rig advanced a steel rod with a soil mixing paddle at the bottom of the rod, while concurrently injecting grout through the top of the paddle and spinning and advancing the paddle downward.
    - No drilling spoils were generated during installation of the soldier piles.
    - Excess grout was contained within a temporary trench adjacent to the drilling area and will be managed as C&D debris at a later date.
- ECD installed three tiebacks for the SOE system along the western perimeter of the site (Beekman Street)
- ECD excavated an about 50-foot-long by 10-foot-wide area to a maximum depth of about 8 feet bgs in the western part of the site (waste characterization cells WC01, WC02, and WC03) for removal and off-site disposal of soil/fill.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

- Excavated soil/fill was screened for odors, staining, organic vapors, and mercury vapor using a handheld photoionization detector (PID) and handheld Jerome® J505 mercury vapor analyzer, respectively. Evidence of impacts was not observed and the excavated soil/fill was separated from construction and demolition (C&D) debris using a sifting bucket before being temporarily backfilled into the excavation for future off-site disposal. The C&D debris was live-loaded into securely covered tri-axle dump trucks for off-site disposal.

- ECD excavated an about 15-foot-long by 15-foot-wide area to a maximum depth of about 9 feet bgs in the central part of the site (waste characterization cell WC06) in preparation for off-site disposal of the excavated soil/fill.
  - Excavated soil/fill was screened for odors, staining, organic vapors, and mercury vapor using a handheld PID and handheld Jerome® J505 mercury vapor analyzer, respectively. Evidence of impacts was not observed and the excavated soil/fill was temporarily stockpiled on and covered with polyethylene sheeting adjacent to the work area for future off-site disposal.
  - Mercon-X® mercury vapor suppressant was actively applied to the soil/fill during excavation and to the stockpiled soil/fill as a precautionary measure.

Material Tracking

- ECD exported ten truckloads (about 200 cubic yards [CY]) of C&D debris for off-site disposal at the Earth Efficient MSM facility located in East Stroudsburg, PA.
- No material was imported to the site.

Material Import Summary

Facility Name Location Type of Material	Stone Industries, Inc. Haledon, NJ 1.5/2.5-inch Virgin Stone		Stone Industries, Inc. Haledon, NJ 0.75-inch Virgin Stone		Impact Reuse & Recovery Center or Impact Materials Jersey City, Lyndhurst/Jersey City, NJ 1.5-inch Clean Bluestone		Impact Reuse & Recovery Center, Lyndhurst, NJ General Fill	
Quantities	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)
Today	0	0	0	0	0	0	0	0
Project Total	12	283.91	0	0	15	339.65	374	9,157.85
NYSDEC Approved:	1,800 tons*				720 tons*		19,500 tons*	

*0.75-inch, 1.5-inch, and 2.5-inch virgin stone from the Stone Industries, Inc. facility and 1.5-inch clean bluestone from the Impact Reuse & Recovery Center (IRRC) facility were approved for import of 1,000 cubic yards (CY) and 400 CY, respectively. Assuming a conversion factor of 1.8, each quantity was converted to tons in order to accurately compare with import weight tickets. General fill from the IRRC facility was approved for import of 13,000 CY and a conversion factor of 1.5 is applied.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Material Export Summary (1 of 3)								
Facility Name Location Type of Material	**Allocco Recycling Brooklyn, NY Construction & Demolition (C&D) Debris**		**IRRC Lyndhurst, NJ C&D Debris**		**Earth Efficient MSM East Stroudsburg, PA C&D Debris**		**Clean Earth of North Jersey Kearny, NJ Hazardous Lead-Impacted Soil/Fill**	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	10	200	0	0
Project Total	5	85	42	840	89	1,780	101	2,020

Material Export Summary (2 of 3)						
Facility Name Location Type of Material	**Middlesex County Landfill East Brunswick, NJ Non-hazardous Soil/Fill**		**Bayshore Soil Management Keasbey, NJ Petroleum-Impacted Soil/Fill**		**Clean Earth of Carteret, NJ Carteret, NJ Non-hazardous Soil/Fill**	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	0	0
Project Total	288	5,760	267	5,340	66	1,320

Material Export Summary (3 of 3)						
Facility Name Location Type of Material	**Clean Earth of North Jersey Kearny, NJ Non-hazardous Soil/Fill**		**Cycle Chem, Inc. Elizabeth, NJ Hazardous Lead - Impacted Soil/Fill**		**Harmony Foul Rift (HFR) Belvidere, NJ Non-hazardous Soil/Fill**	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	0	0
Project Total	201	4,020	10	200	13	260

Sampling

- No samples were collected.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

CAMP Activities

Langan performed air monitoring at the perimeter of the site, at the northern sidewalk of Pearl Street, at the western sidewalk of Beekman Street, at the eastern sidewalk of Peck Slip, and at the southern sidewalk of Water Street at eight total locations for mercury vapor, volatile organic compounds (VOCs), and particulate matter less than 10 microns in diameter (PM10) from about 7:01am to 4:18pm. There were no fifteen-minute average concentrations for mercury vapor, VOCs or PM10 that approached or exceeded the action levels established by the CAMP (1.00 µg/m^3, 5.0 ppm, or 0.100 mg/m^3, respectively).

Background Concentrations

Prior to implementation of CAMP, instantaneous background concentrations of mercury vapor and VOCs were recorded using a handheld Jerome® J505 mercury vapor analyzer and a handheld PID, respectively.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

Perimeter and Work Zone Concentrations

Daily Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.012	0.00	0.02
PM-2	0.011	0.00	0.01
PM-3	0.011	0.00	0.00
PM-4	0.013	0.00	0.02
WZ-1	0.011	0.00	0.00
WZ-2	0.009	0.00	0.00
WZ-3	0.010	0.00	0.01
WZ-4	0.010	0.00	0.01

Maximum 15-Minute-Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.018	0.05	0.06
PM-2	0.016	0.04	0.02
PM-3	0.017	0.06	0.01
PM-4	0.023	0.04	0.03
WZ-1	0.017	0.01	0.00
WZ-2	0.013	0.01	0.01
WZ-3	0.014	0.01	0.02
WZ-4	0.018	0.01	0.02

●mg/m^3 = milligrams per cubic meter ●ppm = parts per million ●µg/m^3 = micrograms per cubic meter

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Ambient Air (Handheld Jerome® J505 and Handheld PID)

- The dedicated mobile monitor (Langan) used a handheld Jerome® J505 mercury vapor analyzer to monitor ambient air conditions at various heights throughout the site. Instantaneous mercury vapor concentrations throughout the site ranged from 0.00 µg/m^3 to 0.09 µg/m^3.
- The dedicated mobile monitor (Langan) used a handheld PID to monitor VOC concentrations throughout the site. Instantaneous VOC concentrations were not detected above background concentrations throughout the workday.

Off-site CAMP Stations

- CAMP station WZ-1 was placed on the western sidewalk of Beekman Street from about 6:40am to 4:47pm.
- CAMP station WZ-2 was placed on the southern sidewalk of Water Street from about 6:44am to 4:51pm.
- CAMP station WZ-3 was placed on the eastern sidewalk of Peck Slip from about 6:46am to 5:00pm.
- CAMP station WZ-4 was placed on the northern sidewalk of Pearl Street from about 6:48am to 5:08pm.

Prior to CAMP Shutdown

Prior to discontinuing CAMP, mercury vapor and VOC concentrations were confirmed to return to background conditions at each perimeter station using the handheld Jerome® J505 mercury vapor analyzer and handheld PID, respectively. Perimeter CAMP stations were discontinued sequentially between 4:18pm and 4:26pm.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

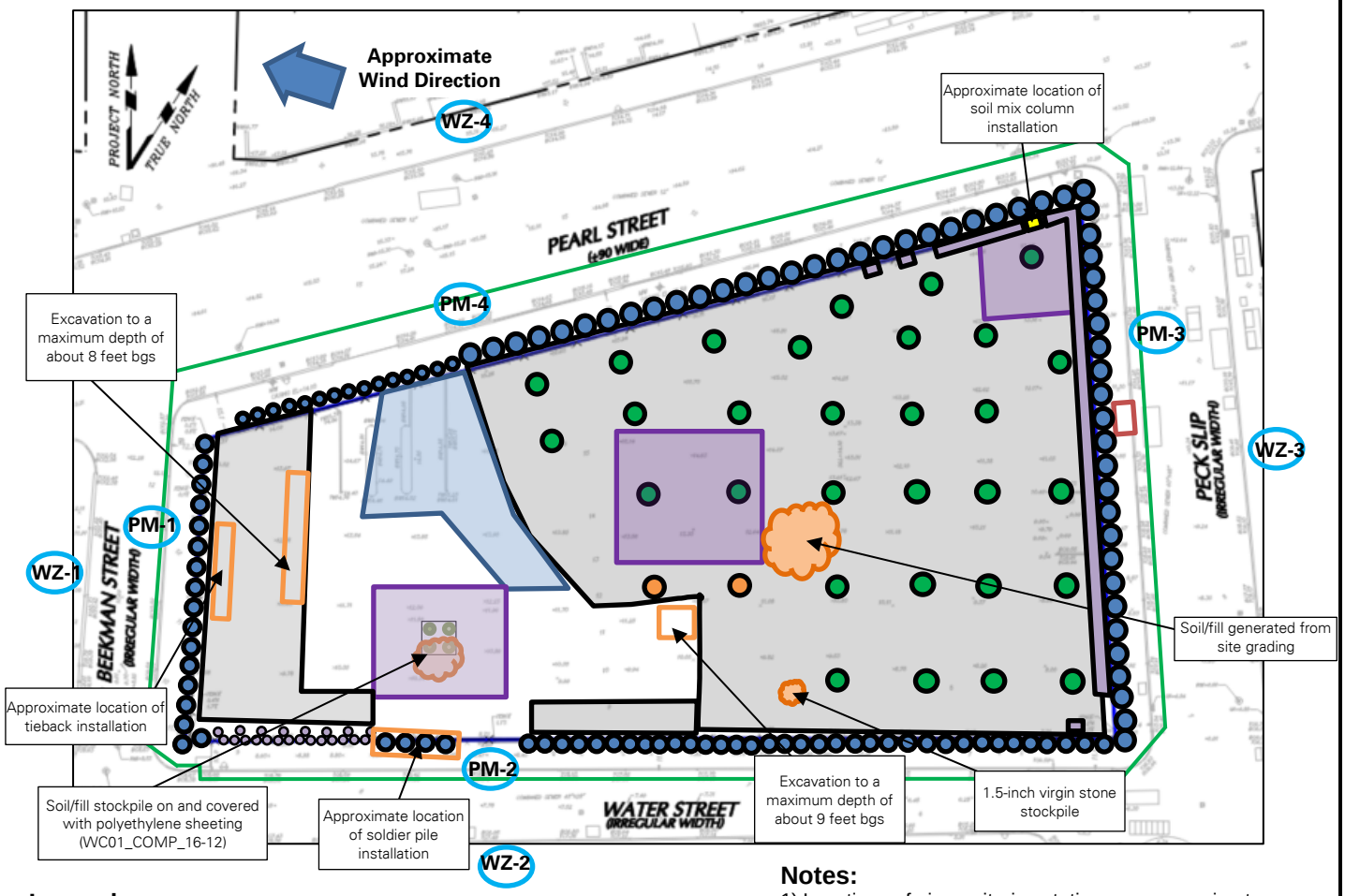
Anticipated Activities

- ECD will continue exporting C&D and soil/fill from the western part of the site for off-site disposal.
- ECD will continue installing soil mix columns and/or soldier piles for SOE installation along Pearl Street, Water Street, and Peck Slip.
- ECD will continue installing lagging for the SOE system along Pearl Street.
- ECD will continue installing walers and tiebacks for the SOE system along Beekman Street.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Site Map



Legend:

- PM-1 — Approximate Location of Air Monitoring Station
- Approximate Work Area
- Approximate Location of Installed Pile Cap
- Approximate Location of Foundation Piles Completed
- Approximate Location of Truck Tracking Pad
- Approximate Location of Underground Storage Tank
- Approximate Location of C&D Stockpile
- Approximate Location of Soil/Fill Stockpile
- Approximate Perimeter Construction Fence Location
- Approximate Location of Soldier Pile
- Approximate Location of Soil Mix Column Installed Today
- Approximate Location of Soil Mix Column Installed Previously
- Previous Excavation Area
- Approximate Excavation Area
- Approximate Location of Documentation Sample
- Approximate Location of Previously Collected Endpoint Sample
- Approximate Location of Imported Fill/Stone

Notes:

1) Locations of air monitoring stations are approximate.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Select Site Photographs:



Photo 1: Mercon-X® mercury vapor suppressant proactively applied to soil/fill prior to being covered with polyethylene sheeting (facing southeast)



Photo 2: ECD installing a soil mix column in the northern part of the site (facing west)

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

PROJECT No.:	170381202	**CLIENT:** 250 Seaport District, LLC c/o The Howard Hughes Corporation	**DATE:**	Tuesday, October 3, 2023
PROJECT:	250 Water Street		**WEATHER:**	Sunny, 62 – 80° F Wind: ENE @ 0.1 – 1.5 mph
LOCATION:	New York, NY		**TIME:**	5:45am – 6:45pm
BCP SITE ID:	C231127		**MONITOR**	Jack Millman

EQUIPMENT:
CAT 335 Excavator
CAT 328 Excavator
Komatsu PC138 Excavator
Delmag Drill Rig
Bauer RTG RG 27S
Bauer BG45 Drill Rig
Casagrande M6A-1 Tieback Drill Rig
Jerome J505 Mercury Vapor Analyzer
RKI GX-6000 Photoionization Detector (PID)
Aeroqual ASQ1 Air Monitoring Station

PRESENT AT SITE: **Day 216**
Langan (Environmental/Geotechnical) Jack Millman, Michael Cole, Mike Pinnella, Pradeep Pandey
Suffolk Construction (Suffolk) (General Contractor) Anthony Galu, Wyatt Favia
East Coast Drilling, Inc. (ECD) (Foundation Contractor) Danny Rodgers
New York State Department of Environmental Conservation (NYSDEC) Rafi Alam
Earth Efficient (Soil Broker) Henry Batista

OBSERVATIONS, DISCUSSIONS, TEST RESULTS, ETC.:

Langan was present to document remediation activities in accordance with the NYSDEC-approved November 2021 Remedial Action Work Plan (RAWP) at the 250 Water Street site (NYSDEC Brownfield Cleanup Program [BCP] Site No C231127).

Site Activities

- ECD used a Bauer RTG RG 27S drill rig to pre-drill a borehole in the northern part of the site to loosen the underlying soil in preparation for soil mix column installation.
- ECD used a Bauer BG45 drill rig to install two deep soil mix columns for support-of-excavation (SOE) system installation in the northern part of the site (along Pearl Street). ECD's drill rig advanced a steel rod with two cutter blades at the bottom of the rod, while concurrently injecting grout through the cutting head and spinning and advancing the blades downward to depths of about 97 and 107 feet below grade surface (bgs), respectively.
    - No drilling spoils were generated during installation of the soil mix columns.
    - Excess grout was contained within a temporary containment area in the eastern part of the site and will be managed as construction and demolition (C&D) debris at a later date.
- ECD installed four tiebacks for the SOE system along the western and northern perimeters of the site (Beekman Street and Pearl Street, respectively).
- ECD excavated an about 20-foot-long by 25-foot-wide area to a maximum depth of about 12 feet bgs in the central part of the site (waste characterization cells WC01, WC02, WC04, and WC0405) for removal and off-site disposal of soil/fill.
    - Excavated soil/fill was screened for odors, staining, organic vapors, and mercury vapor using a handheld PID and handheld Jerome® J505 mercury vapor analyzer, respectively. Evidence of impacts was not observed and the excavated soil/fill was separated from C&D debris using a sifting bucket.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

The soil/fill and C&D debris were separately loaded into securely covered tri-axle dump trucks for off-site disposal.

- Mercon-X® mercury vapor suppressant was actively applied to the soil/fill during excavation as a precautionary measure.

- ECD graded an about 20-foot-long by 60-foot-wide area to stabilize the grade surface for SOE installation in the northern part of the site.
  - Graded soil/fill was screened for odors, staining, organic vapors, and mercury vapor using a handheld PID and handheld Jerome® J505 mercury vapor analyzer, respectively. Evidence of impacts was not observed and the soil/fill generated from grading activities was added to the soil stockpile in the central part of the site for future off-site disposal.

Material Tracking

- ECD exported 13 truckloads (about 260 cubic yards [CY]) of C&D debris for off-site disposal at the Earth Efficient MSM facility located in East Stroudsburg, PA.
- ECD exported one truckload (about 20 CY) of non-hazardous soil/fill for off-site disposal at the Middlesex County Landfill, located in East Brunswick, NJ.
- No material was imported to the site.

Material Import Summary

Facility Name Location Type of Material	**Stone Industries, Inc. Haledon, NJ 1.5/2.5-inch Virgin Stone**		**Stone Industries, Inc. Haledon, NJ 0.75-inch Virgin Stone**		**Impact Reuse & Recovery Center or Impact Materials Jersey City, Lyndhurst/Jersey City, NJ 1.5-inch Clean Bluestone**		**Impact Reuse & Recovery Center, Lyndhurst, NJ General Fill**	
Quantities	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)
Today	0	0	0	0	0	0	0	0
Project Total	12	283.91	0	0	15	339.65	374	9,157.85
NYSDEC Approved:	1,800 tons*				720 tons*		19,500 tons*	

*0.75-inch, 1.5-inch, and 2.5-inch virgin stone from the Stone Industries, Inc. facility and 1.5-inch clean bluestone from the Impact Reuse & Recovery Center (IRRC) facility were approved for import of 1,000 cubic yards (CY) and 400 CY, respectively. Assuming a conversion factor of 1.8, each quantity was converted to tons in order to accurately compare with import weight tickets. General fill from the IRRC facility was approved for import of 13,000 CY and a conversion factor of 1.5 is applied.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Material Export Summary (1 of 3)								
Facility Name Location Type of Material	**Allocco Recycling Brooklyn, NY Construction & Demolition (C&D) Debris**		**IRRC Lyndhurst, NJ C&D Debris**		**Earth Efficient MSM East Stroudsburg, PA C&D Debris**		**Clean Earth of North Jersey Kearny, NJ Hazardous Lead-Impacted Soil/Fill**	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	13	260	0	0
Project Total	5	85	42	840	102	2,040	101	2,020

Material Export Summary (2 of 3)						
Facility Name Location Type of Material	**Middlesex County Landfill East Brunswick, NJ Non-hazardous Soil/Fill**		**Bayshore Soil Management Keasbey, NJ Petroleum-Impacted Soil/Fill**		**Clean Earth of Carteret, NJ Carteret, NJ Non-hazardous Soil/Fill**	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	1	20	0	0	0	0
Project Total	289	5,780	267	5,340	66	1,320

Material Export Summary (3 of 3)						
Facility Name Location Type of Material	**Clean Earth of North Jersey Kearny, NJ Non-hazardous Soil/Fill**		**Cycle Chem, Inc. Elizabeth, NJ Hazardous Lead - Impacted Soil/Fill**		**Harmony Foul Rift (HFR) Belvidere, NJ Non-hazardous Soil/Fill**	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	0	0
Project Total	201	4,020	10	200	13	260

Sampling

- No samples were collected.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

CAMP Activities

Langan performed air monitoring at the perimeter of the site, at the northern sidewalk of Pearl Street, at the western sidewalk of Beekman Street, at the eastern sidewalk of Peck Slip, and at the southern sidewalk of Water Street at eight total locations for mercury vapor, volatile organic compounds (VOCs), and particulate matter less than 10 microns in diameter (PM10) from about 7:08am to 5:40pm. There were no fifteen-minute average concentrations for mercury vapor, VOCs or PM10 that approached or exceeded the action levels established by the CAMP (1.00 µg/m^3, 5.0 ppm, or 0.100 mg/m^3, respectively).

Background Concentrations

Prior to implementation of CAMP, instantaneous background concentrations of mercury vapor and VOCs were recorded using a handheld Jerome® J505 mercury vapor analyzer and a handheld PID, respectively.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

Perimeter and Work Zone Concentrations

Daily Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.017	0.01	0.02
PM-2	0.018	0.00	0.01
PM-3	0.018	0.05	0.00
PM-4	0.018	0.00	0.02
WZ-1	0.017	0.00	0.00
WZ-2	0.017	0.00	0.00
WZ-3	0.018	0.01	0.01
WZ-4	0.017	0.01	0.01

Maximum 15-Minute-Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.028	0.05	0.04
PM-2	0.030	0.01	0.02
PM-3	0.030	1.07	0.01
PM-4	0.029	0.06	0.04
WZ-1	0.027	0.01	0.01
WZ-2	0.032	0.07	0.01
WZ-3	0.029	0.05	0.02
WZ-4	0.029	0.05	0.02

●mg/m^3 = milligrams per cubic meter ●ppm = parts per million ●µg/m^3 = micrograms per cubic meter

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Ambient Air (Handheld Jerome® J505 and Handheld PID)

- The dedicated mobile monitor (Langan) used a handheld Jerome® J505 mercury vapor analyzer to monitor ambient air conditions at various heights throughout the site. Instantaneous mercury vapor concentrations throughout the site ranged from 0.00 µg/m^3 to 0.13 µg/m^3.
- The dedicated mobile monitor (Langan) used a handheld PID to monitor VOC concentrations throughout the site. Instantaneous VOC concentrations were not detected above background concentrations throughout the workday.

Off-site CAMP Stations

- CAMP station WZ-1 was placed on the western sidewalk of Beekman Street from about 6:48am to 5:54pm.
- CAMP station WZ-2 was placed on the southern sidewalk of Water Street from about 6:50am to 5:58pm.
    - Ground-intrusive activities were not conducted within 20 feet of Water Street.
- CAMP station WZ-3 was placed on the eastern sidewalk of Peck Slip from about 8:18am to 6:05pm.
    - Ground-intrusive activities were not conducted within 20 feet of the Peck Slip.
- CAMP station WZ-4 was placed on the northern sidewalk of Pearl Street from about 6:56am to 6:28pm.

Prior to CAMP Shutdown

Prior to discontinuing CAMP, mercury vapor and VOC concentrations were confirmed to return to background conditions at each perimeter station using the handheld Jerome® J505 mercury vapor analyzer and handheld PID, respectively. Perimeter CAMP stations were discontinued sequentially between 5:40pm and 5:45pm.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

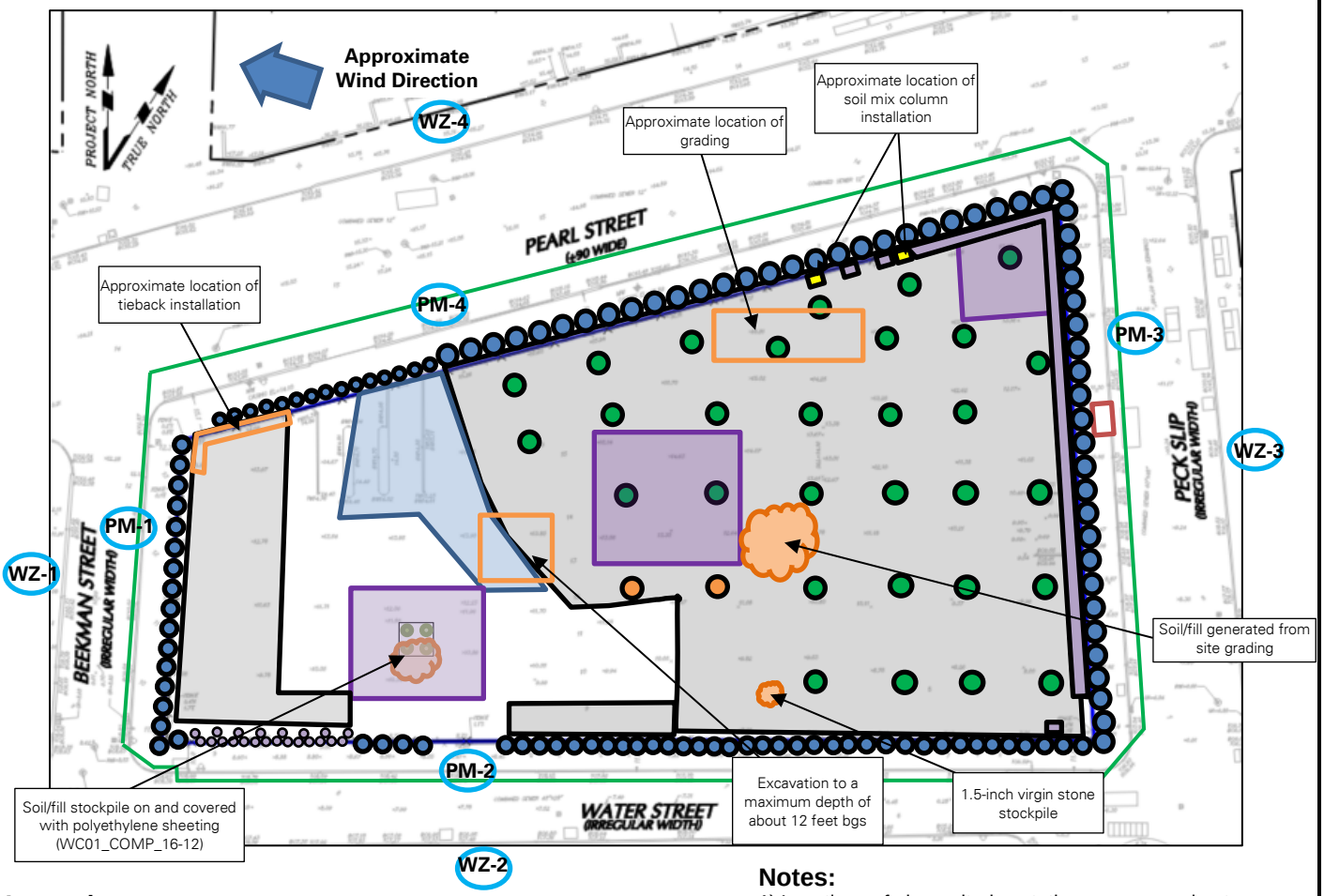
Anticipated Activities

- ECD will continue exporting C&D and soil/fill from the western part of the site for off-site disposal.
- ECD will continue installing soil mix columns and/or soldier piles for SOE installation along Pearl Street, Water Street, and Peck Slip.
- ECD will continue installing tiebacks for the SOE system along Beekman Street and Pearl Street.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Site Map



Legend:

- PM-1 — Approximate Location of Air Monitoring Station
- Approximate Work Area
- Approximate Location of Installed Pile Cap
- Approximate Location of Foundation Piles Completed
- Approximate Location of Truck Tracking Pad
- Approximate Location of Underground Storage Tank
- Approximate Location of C&D Stockpile
- Approximate Location of Soil/Fill Stockpile
- Approximate Perimeter Construction Fence Location
- Approximate Location of Soldier Pile
- Approximate Location of Soil Mix Column Installed Today
- Approximate Location of Soil Mix Column Installed Previously
- Previous Excavation Area
- Approximate Excavation Area
- Approximate Location of Documentation Sample
- Approximate Location of Previously Collected Endpoint Sample
- Approximate Location of Imported Fill/Stone

Notes:

1) Locations of air monitoring stations are approximate.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Select Site Photographs:



Photo 1: Mercon-X® mercury vapor suppressant proactively applied to soil/fill during excavation (facing southwest)



Photo 2: ECD installing a tieback along the northern perimeter of the site (facing east)

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

PROJECT No.:	170381202	**CLIENT:** 250 Seaport District, LLC c/o The Howard Hughes Corporation	**DATE:**	Wednesday, October 4, 2023
PROJECT:	250 Water Street		**WEATHER:**	Sunny, 66 – 82° F Wind: E @ 0.1 – 1.5 mph
LOCATION:	New York, NY		**TIME:**	5:45am – 5:00pm
BCP SITE ID:	C231127		**MONITOR**	Jack Millman

EQUIPMENT:
CAT 335 Excavator
CAT 328 Excavator
Komatsu PC210 Excavator
Delmag Drill Rig
Bauer RTG RG 27S
Bauer BG45 Drill Rig
Casagrande M6A-1 Tieback Drill Rig
Jerome J505 Mercury Vapor Analyzer
RKI GX-6000 Photoionization Detector (PID)
Aeroqual ASQ1 Air Monitoring Station

PRESENT AT SITE: **Day 217**
Langan (Environmental/Geotechnical) Jack Millman, Michael Cole, Pradeep Pandey
Suffolk Construction (Suffolk) (General Contractor) Anthony Galu, Wyatt Favia
East Coast Drilling, Inc. (ECD) (Foundation Contractor) Danny Rodgers
New York State Department of Environmental Conservation (NYSDEC) Rafi Alam
Earth Efficient (Soil Broker) Henry Batista

OBSERVATIONS, DISCUSSIONS, TEST RESULTS, ETC.:

Langan was present to document remediation activities in accordance with the NYSDEC-approved November 2021 Remedial Action Work Plan (RAWP) at the 250 Water Street site (NYSDEC Brownfield Cleanup Program [BCP] Site No C231127).

Site Activities

- ECD used a Bauer RTG RG 27S drill rig to pre-drill two boreholes in the northern part of the site to loosen the underlying soil in preparation for soil mix column installation.
- ECD used a Bauer BG45 drill rig to install two deep soil mix columns for support-of-excavation (SOE) system installation in the northern part of the site (along Pearl Street). ECD's drill rig advanced a steel rod with two cutter blades at the bottom of the rod, while concurrently injecting grout through the cutting head and spinning and advancing the blades downward to depths of about 102 and 108 feet below grade surface (bgs).
    - No drilling spoils were generated during installation of the soil mix columns.
    - Excess grout was contained within a temporary containment area in the eastern part of the site and will be managed as construction and demolition (C&D) debris at a later date.
- ECD excavated an about 50-foot-long by 30-foot-wide area to a maximum depth of about 14 feet bgs in the central part of the site (waste characterization cells WC01, WC02, WC04, and WC05) for removal and off-site disposal of soil/fill.
    - Excavated soil/fill was screened for odors, staining, organic vapors, and mercury vapor using a handheld PID and handheld Jerome® J505 mercury vapor analyzer, respectively. Evidence of impacts was not observed and the excavated soil/fill was separated from C&D debris using a sifting bucket. The soil/fill and C&D debris were separately loaded into securely covered tri-axle dump trucks for off-site disposal.
    - Mercon-X® mercury vapor suppressant was actively applied to the soil/fill during excavation as a precautionary measure.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

- ECD excavated an about 35-foot-long by 35-foot-wide area to a maximum depth of about 8 feet bgs in the southern part of the site (waste characterization cell WC06) for removal and future off-site disposal of soil/fill.
    - Excavated soil/fill was screened for odors, staining, organic vapors, and mercury vapor using a handheld PID and handheld Jerome® J505 mercury vapor analyzer, respectively. Evidence of impacts was not observed and the excavated soil/fill was temporarily graded in the central part of the site for future off-site disposal.
    - Mercon-X® mercury vapor suppressant was actively applied to the soil/fill during excavation as a precautionary measure.
- ECD graded an about 50-foot-long by 50-foot-wide area to stabilize the surface for SOE installation in the central part of the site.
    - Graded soil/fill was screened for odors, staining, organic vapors, and mercury vapor using a handheld PID and handheld Jerome® J505 mercury vapor analyzer, respectively. Evidence of impacts was not observed and the soil/fill generated from grading activities was added to the soil stockpile in the central part of the site for future off-site disposal.

Material Tracking

- ECD exported 17 truckloads (about 340 cubic yards [CY]) of C&D debris for off-site disposal at the Earth Efficient MSM facility located in East Stroudsburg, PA.
- ECD exported three truckload (about 60 CY) of non-hazardous soil/fill for off-site disposal at the Middlesex County Landfill, located in East Brunswick, NJ.
- No material was imported to the site.

Material Import Summary

Facility Name Location Type of Material	**Stone Industries, Inc. Haledon, NJ 1.5/2.5-inch Virgin Stone**		**Stone Industries, Inc. Haledon, NJ 0.75-inch Virgin Stone**		**Impact Reuse & Recovery Center or Impact Materials Jersey City, Lyndhurst/Jersey City, NJ 1.5-inch Clean Bluestone**		**Impact Reuse & Recovery Center, Lyndhurst, NJ General Fill**	
Quantities	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)
Today	0	0	0	0	0	0	0	0
Project Total	12	283.91	0	0	15	339.65	374	9,157.85
NYSDEC Approved:	1,800 tons*				720 tons*		19,500 tons*	

*0.75-inch, 1.5-inch, and 2.5-inch virgin stone from the Stone Industries, Inc. facility and 1.5-inch clean bluestone from the Impact Reuse & Recovery Center (IRRC) facility were approved for import of 1,000 cubic yards (CY) and 400 CY, respectively. Assuming a conversion factor of 1.8, each quantity was converted to tons in order to accurately compare with import weight tickets. General fill from the IRRC facility was approved for import of 13,000 CY and a conversion factor of 1.5 is applied.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Material Export Summary (1 of 3)								
Facility Name Location Type of Material	**Allocco Recycling Brooklyn, NY Construction & Demolition (C&D) Debris**		**IRRC Lyndhurst, NJ C&D Debris**		**Earth Efficient MSM East Stroudsburg, PA C&D Debris**		**Clean Earth of North Jersey Kearny, NJ Hazardous Lead-Impacted Soil/Fill**	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	17	340	0	0
Project Total	5	85	42	840	119	2,380	101	2,020

Material Export Summary (2 of 3)						
Facility Name Location Type of Material	**Middlesex County Landfill East Brunswick, NJ Non-hazardous Soil/Fill**		**Bayshore Soil Management Keasbey, NJ Petroleum-Impacted Soil/Fill**		**Clean Earth of Carteret, NJ Carteret, NJ Non-hazardous Soil/Fill**	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	3	60	0	0	0	0
Project Total	292	5,840	267	5,340	66	1,320

Material Export Summary (3 of 3)						
Facility Name Location Type of Material	**Clean Earth of North Jersey Kearny, NJ Non-hazardous Soil/Fill**		**Cycle Chem, Inc. Elizabeth, NJ Hazardous Lead - Impacted Soil/Fill**		**Harmony Foul Rift (HFR) Belvidere, NJ Non-hazardous Soil/Fill**	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	0	0
Project Total	201	4,020	10	200	13	260

Sampling

- No samples were collected.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

CAMP Activities

Langan performed air monitoring at the perimeter of the site, at the northern sidewalk of Pearl Street, at the western sidewalk of Beekman Street, at the eastern sidewalk of Peck Slip, and at the southern sidewalk of Water Street at eight total locations for mercury vapor, volatile organic compounds (VOCs), and particulate matter less than 10 microns in diameter (PM10) from about 6:50am to 4:24pm. There were no fifteen-minute average concentrations for mercury vapor, VOCs or PM10 that approached or exceeded the action levels established by the CAMP (1.00 µg/m^3, 5.0 ppm, or 0.100 mg/m^3, respectively).

Background Concentrations

Prior to implementation of CAMP, instantaneous background concentrations of mercury vapor and VOCs were recorded using a handheld Jerome® J505 mercury vapor analyzer and a handheld PID, respectively.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

Perimeter and Work Zone Concentrations

Daily Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.018	0.01	0.02
PM-2	0.020	0.01	0.02
PM-3	0.018	0.01	0.00
PM-4	0.019	0.00	0.02
WZ-1	0.017	0.00	0.00
WZ-2	0.017	0.01	0.00
WZ-3	0.017	0.02	0.00
WZ-4	0.017	0.03	0.01

Maximum 15-Minute-Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.031	0.04	0.06
PM-2	0.039	0.09	0.08
PM-3	0.032	0.08	0.01
PM-4	0.030	0.07	0.09
WZ-1	0.032	0.02	0.01
WZ-2	0.029	0.04	0.01
WZ-3	0.031	0.05	0.02
WZ-4	0.030	0.14	0.03

●mg/m^3 = milligrams per cubic meter ●ppm = parts per million ●µg/m^3 = micrograms per cubic meter

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Ambient Air (Handheld Jerome® J505 and Handheld PID)

- The dedicated mobile monitor (Langan) used a handheld Jerome® J505 mercury vapor analyzer to monitor ambient air conditions at various heights throughout the site. Instantaneous mercury vapor concentrations throughout the site ranged from 0.00 µg/m^3 to 0.09 µg/m^3.
- The dedicated mobile monitor (Langan) used a handheld PID to monitor VOC concentrations throughout the site. Instantaneous VOC concentrations were not detected above background concentrations throughout the workday.

Off-site CAMP Stations

- CAMP station WZ-1 was placed on the western sidewalk of Beekman Street from about 6:44am to 4:24pm.
- CAMP station WZ-2 was placed on the southern sidewalk of Water Street from about 6:45am to 4:29pm.
- CAMP station WZ-3 was placed on the eastern sidewalk of Peck Slip from about 6:48am to 4:36pm.
- CAMP station WZ-4 was placed on the northern sidewalk of Pearl Street from about 6:50am to 4:45pm.

Prior to CAMP Shutdown

Prior to discontinuing CAMP, mercury vapor and VOC concentrations were confirmed to return to background conditions at each perimeter station using the handheld Jerome® J505 mercury vapor analyzer and handheld PID, respectively. Perimeter CAMP stations were discontinued sequentially between 4:04pm and 4:09pm.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

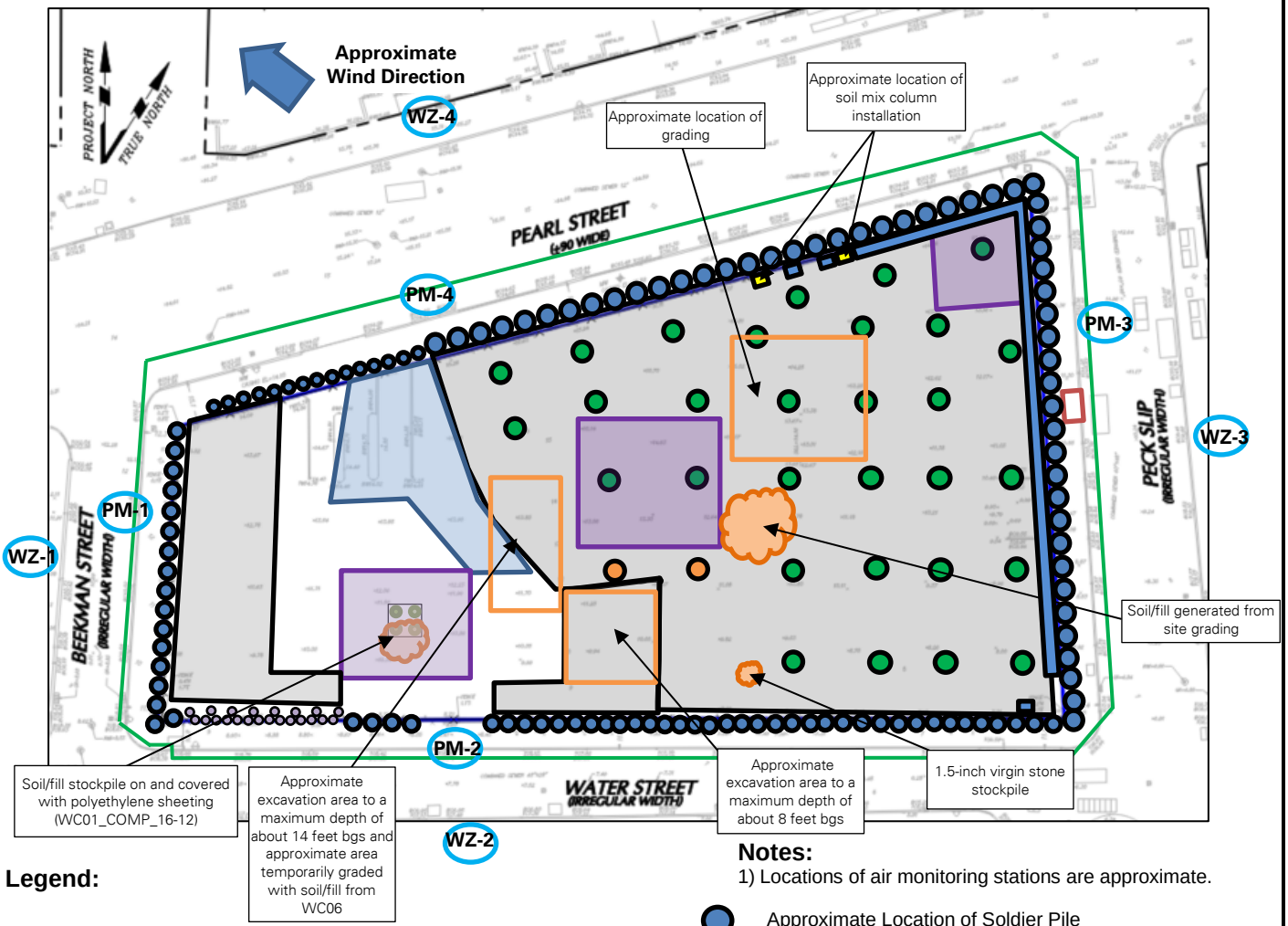
Anticipated Activities

- ECD will continue exporting C&D and soil/fill from the western part of the site for off-site disposal.
- ECD will continue installing soil mix columns and/or soldier piles for SOE installation along Pearl Street, Water Street, and Peck Slip.
- ECD will continue installing tiebacks for the SOE system along Beekman Street and Pearl Street.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Site Map



Legend:

- PM-1 Approximate Location of Air Monitoring Station
- Approximate Work Area
- Approximate Location of Installed Pile Cap
- Approximate Location of Foundation Piles Completed
- Approximate Location of Truck Tracking Pad
- Approximate Location of Underground Storage Tank
- Approximate Location of C&D Stockpile
- Approximate Location of Soil/Fill Stockpile
- Approximate Perimeter Construction Fence Location
- Approximate Location of Soldier Pile
- Approximate Location of Soil Mix Column Installed Today
- Approximate Location of Soil Mix Column Installed Previously
- Approximate Previous Excavation Area
- Approximate Excavation Area
- Approximate Location of Documentation Sample
- Approximate Location of Previously Collected Endpoint Sample
- Approximate Location of Imported Fill/Stone

Notes:

1) Locations of air monitoring stations are approximate.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Select Site Photographs:



Photo 1: Mercon-X® mercury vapor suppressant proactively applied to soil/fill during excavation (facing southwest)



Photo 2: ECD installing a soil mix column in the northern part of the site (facing west)

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

PROJECT No.:	170381202	**CLIENT:** 250 Seaport District, LLC c/o The Howard Hughes Corporation	**DATE:**	Thursday October 5, 2023
PROJECT:	250 Water Street		**WEATHER:**	Sunny, 64 – 76° F Wind: NE @ 0.1 – 1.8 mph
LOCATION:	New York, NY		**TIME:**	5:45am – 7:00pm
BCP SITE ID:	C231127		**MONITOR**	Jack Millman

EQUIPMENT:
CAT 335 Excavator
CAT 328 Excavator
Komatsu PC210 Excavator
Delmag Drill Rig
Bauer RTG RG 27S
Bauer BG45 Drill Rig
Casagrande M6A-1 Tieback Drill Rig
Jerome J505 Mercury Vapor Analyzer
RKI GX-6000 Photoionization Detector (PID)
Aeroqual ASQ1 Air Monitoring Station

PRESENT AT SITE: **Day 218**
Langan (Environmental/Geotechnical) Jack Millman, Michael Cole, Paul McMahon, Pradeep Pandey
Suffolk Construction (Suffolk) (General Contractor) Anthony Galu, Wyatt Favia
East Coast Drilling, Inc. (ECD) (Foundation Contractor) Danny Rodgers
New York State Department of Environmental Conservation (NYSDEC) Rafi Alam
Earth Efficient (Soil Broker) Henry Batista

OBSERVATIONS, DISCUSSIONS, TEST RESULTS, ETC.:

Langan was present to document remediation activities in accordance with the NYSDEC-approved November 2021 Remedial Action Work Plan (RAWP) at the 250 Water Street site (NYSDEC Brownfield Cleanup Program [BCP] Site No C231127).

Site Activities

- ECD used a Bauer RTG RG 27S drill rig to pre-drill two boreholes in the northern part of the site to loosen the underlying soil in preparation for soil mix column installation.
- ECD used a Bauer BG45 drill rig to install two deep soil mix columns for support-of-excavation (SOE) system installation in the northern part of the site (along Pearl Street). ECD's drill rig advanced a steel rod with two cutter blades at the bottom of the rod, while concurrently injecting grout through the cutting head and spinning and advancing the blades downward to depths of about 105 and 110 feet below grade surface (bgs), respectively.
    - No drilling spoils were generated during installation of the soil mix columns.
    - Excess grout was contained within a temporary containment area in the eastern part of the site and will be managed as construction and demolition (C&D) debris at a later date.
- ECD excavated an about 70-foot-long by 15-foot-wide area to a maximum depth of about 14 feet bgs in the central part of the site (waste characterization cells WC01, WC02, WC04, WC0405, and WC06) for removal and off-site disposal of soil/fill.
    - Excavated soil/fill was screened for odors, staining, organic vapors, and mercury vapor using a handheld PID and handheld Jerome® J505 mercury vapor analyzer, respectively. Evidence of impacts was not observed and the excavated soil/fill was separated from C&D debris using a sifting bucket. The soil/fill and C&D debris were separately loaded into securely covered tri-axle dump trucks for off-site disposal.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

  - Mercon-X® mercury vapor suppressant was actively applied to the soil/fill during excavation as a precautionary measure.
- ECD graded soil/fill in an about 75-foot-long by 100-foot-wide area in the central part of the site to stabilize the surface for SOE installation.
  - Graded soil/fill was screened for odors, staining, organic vapors, and mercury vapor using a handheld PID and handheld Jerome® J505 mercury vapor analyzer, respectively. Evidence of impacts was not observed and the soil/fill generated from grading activities was added to the soil stockpile in the central part of the site for future off-site disposal.

Material Tracking

- ECD exported five truckloads (about 100 cubic yards [CY]) of C&D debris for off-site disposal at the Earth Efficient MSM facility located in East Stroudsburg, PA.
- ECD exported nine truckload (about 180 CY) of non-hazardous soil/fill for off-site disposal at the Middlesex County Landfill, located in East Brunswick, NJ.
- No material was imported to the site.

Material Import Summary

Facility Name Location Type of Material	Stone Industries, Inc. Haledon, NJ 1.5/2.5-inch Virgin Stone		Stone Industries, Inc. Haledon, NJ 0.75-inch Virgin Stone		Impact Reuse & Recovery Center or Impact Materials Jersey City, Lyndhurst/Jersey City, NJ 1.5-inch Clean Bluestone		Impact Reuse & Recovery Center, Lyndhurst, NJ General Fill	
Quantities	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)
Today	0	0	0	0	0	0	0	0
Project Total	12	283.91	0	0	15	339.65	374	9,157.85
NYSDEC Approved:	1,800 tons*				720 tons*		19,500 tons*	

*0.75-inch, 1.5-inch, and 2.5-inch virgin stone from the Stone Industries, Inc. facility and 1.5-inch clean bluestone from the Impact Reuse & Recovery Center (IRRC) facility were approved for import of 1,000 cubic yards (CY) and 400 CY, respectively. Assuming a conversion factor of 1.8, each quantity was converted to tons in order to accurately compare with import weight tickets. General fill from the IRRC facility was approved for import of 13,000 CY and a conversion factor of 1.5 is applied.

Material Export Summary (1 of 3)

Facility Name Location Type of Material	Allocco Recycling Brooklyn, NY Construction & Demolition (C&D) Debris		IRRC Lyndhurst, NJ C&D Debris		Earth Efficient MSM East Stroudsburg, PA C&D Debris		Clean Earth of North Jersey Kearny, NJ Hazardous Lead-Impacted Soil/Fill	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	5	100	0	0
Project Total	5	85	42	840	124	2,480	101	2,020

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Material Export Summary (2 of 3)						
Facility Name Location Type of Material	**Middlesex County Landfill East Brunswick, NJ Non-hazardous Soil/Fill**		**Bayshore Soil Management Keasbey, NJ Petroleum-Impacted Soil/Fill**		**Clean Earth of Carteret, NJ Carteret, NJ Non-hazardous Soil/Fill**	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	9	180	0	0	0	0
Project Total	301	6,020	267	5,340	66	1,320

Material Export Summary (3 of 3)						
Facility Name Location Type of Material	**Clean Earth of North Jersey Kearny, NJ Non-hazardous Soil/Fill**		**Cycle Chem, Inc. Elizabeth, NJ Hazardous Lead - Impacted Soil/Fill**		**Harmony Foul Rift (HFR) Belvidere, NJ Non-hazardous Soil/Fill**	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	0	0
Project Total	201	4,020	10	200	13	260

Sampling

- No samples were collected.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

CAMP Activities

Langan performed air monitoring at the perimeter of the site, at the northern sidewalk of Pearl Street, at the western sidewalk of Beekman Street, at the eastern sidewalk of Peck Slip, and at the southern sidewalk of Water Street at eight total locations for mercury vapor, volatile organic compounds (VOCs), and particulate matter less than 10 microns in diameter (PM10) from about 7:02am to 5:57pm. There were no fifteen-minute average concentrations for mercury vapor, VOCs or PM10 that approached or exceeded the action levels established by the CAMP (1.00 µg/m^3, 5.0 ppm, or 0.100 mg/m^3, respectively).

Background Concentrations

Prior to implementation of CAMP, instantaneous background concentrations of mercury vapor and VOCs were recorded using a handheld Jerome® J505 mercury vapor analyzer and a handheld PID, respectively.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

Perimeter and Work Zone Concentrations

Daily Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.008	0.00	0.02
PM-2	0.008	0.00	0.01
PM-3	0.007	0.00	0.00
PM-4	0.009	0.00	0.01
WZ-1	0.007	0.00	0.00
WZ-2	0.007	0.00	0.00
WZ-3	0.007	0.00	0.00
WZ-4	0.007	0.00	0.01

Maximum 15-Minute-Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.026	0.12	0.06
PM-2	0.016	0.00	0.06
PM-3	0.017	0.01	0.01
PM-4	0.051	0.02	0.05
WZ-1	0.014	0.02	0.01
WZ-2	0.013	0.03	0.01
WZ-3	0.013	0.02	0.02
WZ-4	0.015	0.04	0.02

●mg/m^3 = milligrams per cubic meter ●ppm = parts per million ●µg/m^3 = micrograms per cubic meter

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Ambient Air (Handheld Jerome® J505 and Handheld PID)

- The dedicated mobile monitor (Langan) used a handheld Jerome® J505 mercury vapor analyzer to monitor ambient air conditions at various heights throughout the site. Instantaneous mercury vapor concentrations throughout the site ranged from 0.00 µg/m^3 to 0.17 µg/m^3.
- The dedicated mobile monitor (Langan) used a handheld PID to monitor VOC concentrations throughout the site. Instantaneous VOC concentrations were not detected above background concentrations throughout the workday.

Off-site CAMP Stations

- CAMP station WZ-1 was placed on the western sidewalk of Beekman Street from about 6:49am to 6:09pm.
- CAMP station WZ-2 was placed on the southern sidewalk of Water Street from about 6:50am to 6:13pm.
- CAMP station WZ-3 was placed on the eastern sidewalk of Peck Slip from about 6:53am to 4:54pm.
    - Ground-intrusive activities were not conducted within 20 feet of Peck Slip after 4:54pm
- CAMP station WZ-4 was placed on the northern sidewalk of Pearl Street from about 6:55am to 6:32pm.

Prior to CAMP Shutdown

Prior to discontinuing CAMP, mercury vapor and VOC concentrations were confirmed to return to background conditions at each perimeter station using the handheld Jerome® J505 mercury vapor analyzer and handheld PID, respectively. Perimeter CAMP stations were discontinued sequentially between 5:57pm and 6:02pm.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

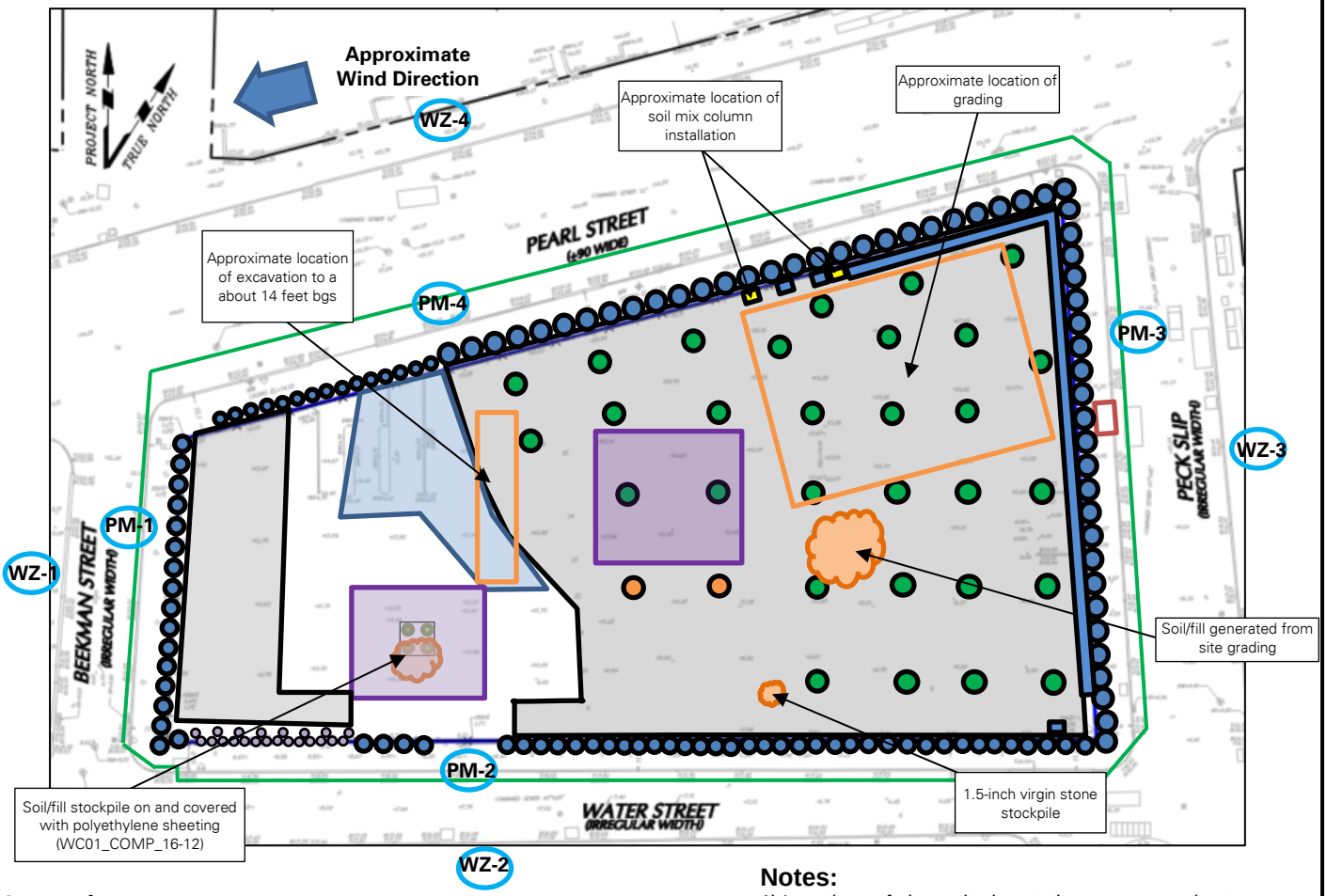
Anticipated Activities

- ECD will continue exporting C&D and soil/fill from the western part of the site for off-site disposal.
- ECD will continue installing soil mix columns and/or soldier piles for SOE installation along Pearl Street, Water Street, and Peck Slip.
- ECD will continue installing tiebacks for the SOE system along Beekman Street and Pearl Street.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Site Map



Legend:

- PM-1 Approximate Location of Air Monitoring Station
- Approximate Work Area
- Approximate Location of Installed Pile Cap
- Approximate Location of Foundation Piles Completed
- Approximate Location of Truck Tracking Pad
- Approximate Location of Underground Storage Tank
- Approximate Location of C&D Stockpile
- Approximate Location of Soil/Fill Stockpile
- Approximate Perimeter Construction Fence Location
- Approximate Location of Soldier Pile
- Approximate Location of Soil Mix Column Installed Today
- Approximate Location of Soil Mix Column Installed Previously
- Approximate Previous Excavation Area
- Approximate Excavation Area
- Approximate Location of Documentation Sample
- Approximate Location of Previously Collected Endpoint Sample
- Approximate Location of Imported Fill/Stone

Notes:
1) Locations of air monitoring stations are approximate.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Select Site Photographs:



Photo 1: Mercon-X® mercury vapor suppressant proactively applied to soil/fill during excavation (facing south)



Photo 2: ECD installing a soil mix column in the northern part of the site (facing west)

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

PROJECT No.:	170381202	**CLIENT:** 250 Seaport District, LLC c/o The Howard Hughes Corporation	**DATE:**	Friday October 6, 2023
PROJECT:	250 Water Street		**WEATHER:**	Overcast/Rain, 66 – 70° F Wind: NNW @ 0.1 – 1.2 mph
LOCATION:	New York, NY		**TIME:**	5:45am – 5:30pm
BCP SITE ID:	C231127		**MONITOR**	Jack Millman

EQUIPMENT:
CAT 335 Excavator
CAT 328 Excavator
Komatsu PC210 Excavator
Delmag Drill Rig
Bauer RTG RG 27S
Bauer BG45 Drill Rig
Casagrande M6A-1 Tieback Drill Rig
Jerome J505 Mercury Vapor Analyzer
RKI GX-6000 Photoionization Detector (PID)
Aeroqual ASQ1 Air Monitoring Station

PRESENT AT SITE: **Day 219**
Langan (Environmental/Geotechnical) Jack Millman, Michael Cole, Pradeep Pandey
Suffolk Construction (Suffolk) (General Contractor) Anthony Galu, Wyatt Favia
East Coast Drilling, Inc. (ECD) (Foundation Contractor) Danny Rodgers
New York State Department of Environmental Conservation (NYSDEC) Rafi Alam
Earth Efficient (Soil Broker) Henry Batista

OBSERVATIONS, DISCUSSIONS, TEST RESULTS, ETC.:

Langan was present to document remediation activities in accordance with the NYSDEC-approved November 2021 Remedial Action Work Plan (RAWP) at the 250 Water Street site (NYSDEC Brownfield Cleanup Program [BCP] Site No C231127).

Site Activities

- ECD used a Bauer RTG RG 27S drill rig to pre-drill two boreholes in the northern part of the site to loosen the underlying soil in preparation for soil mix column installation.
- ECD used a Bauer BG45 drill rig to install two deep soil mix columns for support-of-excavation (SOE) system installation in the northern part of the site (along Pearl Street). ECD's drill rig advanced a steel rod with two cutter blades at the bottom of the rod, while concurrently injecting grout through the cutting head and spinning and advancing the blades downward to depths of about 107 and 110 feet below grade surface (bgs), respectively.
    - No drilling spoils were generated during installation of the soil mix columns.
    - Excess grout was contained within a temporary containment area in the eastern part of the site and will be managed as construction and demolition (C&D) debris at a later date.
- ECD excavated an about 75-foot-long by 20-foot-wide area to a maximum depth of about 14 feet bgs in the central part of the site (waste characterization cells WC01, WC02, WC04, WC0405, and WC06) for removal and off-site disposal of soil/fill.
    - Excavated soil/fill was screened for odors, staining, organic vapors, and mercury vapor using a handheld PID and handheld Jerome® J505 mercury vapor analyzer, respectively. Evidence of impacts was not observed and the excavated soil/fill was separated from C&D debris using a sifting bucket. The soil/fill and C&D debris were separately loaded into securely covered tri-axle dump trucks for off-site disposal.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

- Mercon-X® mercury vapor suppressant was actively applied to the soil/fill during excavation as a precautionary measure.

- ECD graded soi/fill in an about 60-foot-long by 100-foot-wide area and an about 20-foot-long by 60-foot-wide area to stabilize the surface for SOE installation in the southeast and northern parts of the site, respectively.
    - Graded soil/fill was screened for odors, staining, organic vapors, and mercury vapor using a handheld PID and handheld Jerome® J505 mercury vapor analyzer, respectively. Evidence of impacts was not observed and the soil/fill generated from grading activities was added to the soil stockpile in the central part of the site for future off-site disposal.

Material Tracking

- ECD exported seven truckloads (about 140 cubic yards [CY]) of C&D debris for off-site disposal at the Earth Efficient MSM facility located in East Stroudsburg, PA.
- ECD exported ten truckloads (about 200 CY) of non-hazardous soil/fill for off-site disposal at the Middlesex County Landfill, located in East Brunswick, NJ.
- No material was imported to the site.

Material Import Summary

Facility Name Location Type of Material	**Stone Industries, Inc. Haledon, NJ 1.5/2.5-inch Virgin Stone**		**Stone Industries, Inc. Haledon, NJ 0.75-inch Virgin Stone**		**Impact Reuse & Recovery Center or Impact Materials Jersey City, Lyndhurst/Jersey City, NJ 1.5-inch Clean Bluestone**		**Impact Reuse & Recovery Center, Lyndhurst, NJ General Fill**	
Quantities	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)
Today	0	0	0	0	0	0	0	0
Project Total	12	283.91	0	0	15	339.65	374	9,157.85
NYSDEC Approved:	1,800 tons*				720 tons*		19,500 tons*	

*0.75-inch, 1.5-inch, and 2.5-inch virgin stone from the Stone Industries, Inc. facility and 1.5-inch clean bluestone from the Impact Reuse & Recovery Center (IRRC) facility were approved for import of 1,000 cubic yards (CY) and 400 CY, respectively. Assuming a conversion factor of 1.8, each quantity was converted to tons in order to accurately compare with import weight tickets. General fill from the IRRC facility was approved for import of 13,000 CY and a conversion factor of 1.5 is applied.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Material Export Summary (1 of 3)								
Facility Name Location Type of Material	**Allocco Recycling Brooklyn, NY Construction & Demolition (C&D) Debris**		**IRRC Lyndhurst, NJ C&D Debris**		**Earth Efficient MSM East Stroudsburg, PA C&D Debris**		**Clean Earth of North Jersey Kearny, NJ Hazardous Lead-Impacted Soil/Fill**	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	7	140	0	0
Project Total	5	85	42	840	131	2,620	101	2,020

Material Export Summary (2 of 3)						
Facility Name Location Type of Material	**Middlesex County Landfill East Brunswick, NJ Non-hazardous Soil/Fill**		**Bayshore Soil Management Keasbey, NJ Petroleum-Impacted Soil/Fill**		**Clean Earth of Carteret, NJ Carteret, NJ Non-hazardous Soil/Fill**	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	10	200	0	0	0	0
Project Total	311	6,220	267	5,340	66	1,320

Material Export Summary (3 of 3)						
Facility Name Location Type of Material	**Clean Earth of North Jersey Kearny, NJ Non-hazardous Soil/Fill**		**Cycle Chem, Inc. Elizabeth, NJ Hazardous Lead - Impacted Soil/Fill**		**Harmony Foul Rift (HFR) Belvidere, NJ Non-hazardous Soil/Fill**	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	0	0
Project Total	201	4,020	10	200	13	260

Sampling

- No samples were collected.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

CAMP Activities

Langan performed air monitoring at the perimeter of the site, at the northern sidewalk of Pearl Street, at the western sidewalk of Beekman Street, at the eastern sidewalk of Peck Slip, and at the southern sidewalk of Water Street at eight total locations for mercury vapor, volatile organic compounds (VOCs), and particulate matter less than 10 microns in diameter (PM10) from about 7:12am to 4:25pm. There were no fifteen-minute average concentrations for mercury vapor, VOCs or PM10 that approached or exceeded the action levels established by the CAMP (1.00 µg/m^3, 5.0 ppm, or 0.100 mg/m^3, respectively).

Background Concentrations

Prior to implementation of CAMP, instantaneous background concentrations of mercury vapor and VOCs were recorded using a handheld Jerome® J505 mercury vapor analyzer and a handheld PID, respectively.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

Perimeter and Work Zone Concentrations

Daily Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.010	0.00	0.02
PM-2	0.011	0.00	0.01
PM-3	0.010	0.00	0.00
PM-4	0.016	0.00	0.02
WZ-1	0.009	0.00	0.00
WZ-2	0.009	0.00	0.00
WZ-3	0.009	0.00	0.00
WZ-4	0.010	0.00	0.01

Maximum 15-Minute-Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.021	0.01	0.06
PM-2	0.032	0.02	0.08
PM-3	0.028	0.00	0.01
PM-4	0.051	0.08	0.09
WZ-1	0.016	0.00	0.01
WZ-2	0.017	0.00	0.01
WZ-3	0.018	0.00	0.02
WZ-4	0.019	0.01	0.02

●mg/m^3 = milligrams per cubic meter ●ppm = parts per million ●µg/m^3 = micrograms per cubic meter

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Ambient Air (Handheld Jerome® J505 and Handheld PID)

- The dedicated mobile monitor (Langan) used a handheld Jerome® J505 mercury vapor analyzer to monitor ambient air conditions at various heights throughout the site. Instantaneous mercury vapor concentrations throughout the site ranged from 0.00 µg/m^3 to 0.09 µg/m^3.
- The dedicated mobile monitor (Langan) used a handheld PID to monitor VOC concentrations throughout the site. Instantaneous VOC concentrations were not detected above background concentrations throughout the workday.

Off-site CAMP Stations

- CAMP station WZ-1 was placed on the western sidewalk of Beekman Street from about 7:07am to 4:42pm.
- CAMP station WZ-2 was placed on the southern sidewalk of Water Street from about 7:05am to 4:46pm.
- CAMP station WZ-3 was placed on the eastern sidewalk of Peck Slip from about 7:03am to 4:53pm.
- CAMP station WZ-4 was placed on the northern sidewalk of Pearl Street from about 6:59am to 5:01pm.

Prior to CAMP Shutdown

Prior to discontinuing CAMP, mercury vapor and VOC concentrations were confirmed to return to background conditions at each perimeter station using the handheld Jerome® J505 mercury vapor analyzer and handheld PID, respectively. Perimeter CAMP stations were discontinued sequentially between 4:25pm and 4:30pm.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

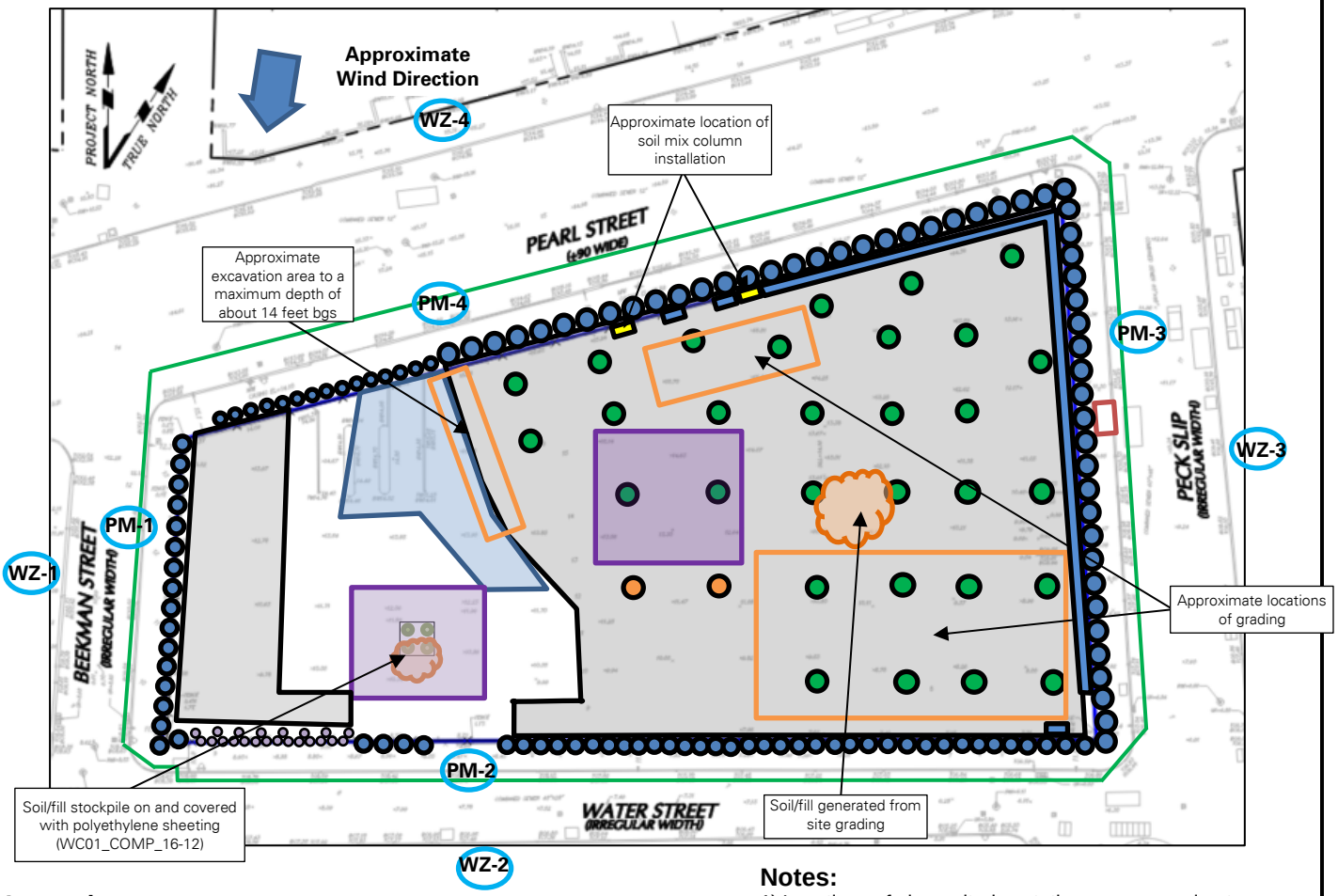
Anticipated Activities

- ECD will continue exporting C&D and soil/fill from the western part of the site for off-site disposal.
- ECD will continue installing soil mix columns and/or soldier piles for SOE installation along Pearl Street, Water Street, and Peck Slip.
- ECD will continue installing tiebacks for the SOE system along Beekman and Pearl Streets.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Site Map



Legend:

- PM-1 Approximate Location of Air Monitoring Station
- Approximate Work Area
- Approximate Location of Installed Pile Cap
- Approximate Location of Foundation Piles Completed
- Approximate Location of Truck Tracking Pad
- Approximate Location of Underground Storage Tank
- Approximate Location of C&D Stockpile
- Approximate Location of Soil/Fill Stockpile
- Approximate Perimeter Construction Fence Location
- Approximate Location of Soldier Pile
- Approximate Location of Soil Mix Column Installed Today
- Approximate Location of Soil Mix Column Installed Previously
- Approximate Previous Excavation Area
- Approximate Excavation Area
- Approximate Location of Documentation Sample
- Approximate Location of Previously Collected Endpoint Sample
- Approximate Location of Imported Fill/Stone

Notes:
1) Locations of air monitoring stations are approximate.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Select Site Photographs:



Photo 1: ECD installing a soil mix column in the northern part of the site (facing west)



Photo 2: ECD loading a truck with soil/fill for off-site disposal (facing northeast)

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

PROJECT No.:	170381202	**CLIENT:** 250 Seaport District, LLC c/o The Howard Hughes Corporation	**DATE:**	Monday, October 9, 2023
PROJECT:	250 Water Street		**WEATHER:**	Sunny, 52 – 64° F Wind: NE @ 0.2 – 2.8 mph
LOCATION:	New York, NY		**TIME:**	5:45am – 5:30pm
BCP SITE ID:	C231127		**MONITOR**	Jack Millman

EQUIPMENT:
CAT 335 Excavator
CAT 328 Excavator
Komatsu PC210 Excavator
Delmag Drill Rig
Bauer RTG RG 27S
Bauer BG45 Drill Rig
Casagrande M6A-1 Tieback Drill Rig
Jerome J505 Mercury Vapor Analyzer
RKI GX-6000 Photoionization Detector (PID)
Aeroqual ASQ1 Air Monitoring Station

PRESENT AT SITE: **Day 220**
Langan (Environmental/Geotechnical) Jack Millman, Michael Cole, Pradeep Pandey
Suffolk Construction (Suffolk) (General Contractor) Anthony Galu, Wyatt Favia
East Coast Drilling, Inc. (ECD) (Foundation Contractor) Danny Rodgers
New York State Department of Environmental Conservation (NYSDEC) Rafi Alam
Earth Efficient (Soil Broker) Henry Batista

OBSERVATIONS, DISCUSSIONS, TEST RESULTS, ETC.:

Langan was present to document remediation activities in accordance with the NYSDEC-approved November 2021 Remedial Action Work Plan (RAWP) at the 250 Water Street site (NYSDEC Brownfield Cleanup Program [BCP] Site No C231127).

Site Activities

- ECD used a Bauer RTG RG 27S drill rig to pre-drill two boreholes in the northern part of the site to loosen the underlying soil in preparation for soil mix column installation.
- ECD used a Bauer BG45 drill rig to install two deep soil mix columns for support-of-excavation (SOE) system installation in the northern part of the site (along Pearl Street). ECD's drill rig advanced a steel rod with two cutter blades at the bottom of the rod, while concurrently injecting grout through the cutting head and spinning and advancing the blades downward to depths of about 109 and 110 feet below grade surface (bgs), respectively.
    - No drilling spoils were generated during installation of the soil mix columns.
    - Excess grout was contained within a temporary containment area in the eastern part of the site and will be managed as construction and demolition (C&D) debris at a later date.
- ECD graded soi/fill in an about 50-foot-long by 90-foot-wide area in the southeast part of the site to stabilize the surface.
    - Graded soil/fill was screened for odors, staining, organic vapors, and mercury vapor using a handheld PID and handheld Jerome® J505 mercury vapor analyzer, respectively. Evidence of impacts was not observed and the soil/fill generated from grading activities was added to the soil stockpile in the central part of the site for future off-site disposal.
- ECD continued installation of the concrete guide wall in the northern part of the site (along Pearl Street). The concrete guide wall will be used to facilitate installation of SOE along the perimeter of the site.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Material Tracking

- ECD exported ten truckloads (about 200 cubic yards [CY]) of non-hazardous soil/fill for off-site disposal at the Harmony Foul Rift, located in Belvidere, NJ.
- No material was imported to the site.

Material Import Summary

Facility Name Location Type of Material	Stone Industries, Inc. Haledon, NJ 1.5/2.5-inch Virgin Stone		Stone Industries, Inc. Haledon, NJ 0.75-inch Virgin Stone		Impact Reuse & Recovery Center or Impact Materials Jersey City, Lyndhurst/Jersey City, NJ 1.5-inch Clean Bluestone		Impact Reuse & Recovery Center, Lyndhurst, NJ General Fill	
Quantities	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)
Today	0	0	0	0	0	0	0	0
Project Total	12	283.91	0	0	15	339.65	374	9,157.85
NYSDEC Approved:	1,800 tons*				720 tons*		19,500 tons*	

*0.75-inch, 1.5-inch, and 2.5-inch virgin stone from the Stone Industries, Inc. facility and 1.5-inch clean bluestone from the Impact Reuse & Recovery Center (IRRC) facility were approved for import of 1,000 cubic yards (CY) and 400 CY, respectively. Assuming a conversion factor of 1.8, each quantity was converted to tons in order to accurately compare with import weight tickets. General fill from the IRRC facility was approved for import of 13,000 CY and a conversion factor of 1.5 is applied.

Material Export Summary (1 of 3)

Facility Name Location Type of Material	Allocco Recycling Brooklyn, NY Construction & Demolition (C&D) Debris		IRRC Lyndhurst, NJ C&D Debris		Earth Efficient MSM East Stroudsburg, PA C&D Debris		Clean Earth of North Jersey Kearny, NJ Hazardous Lead-Impacted Soil/Fill	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	0	0	0	0
Project Total	5	85	42	840	131	2,620	101	2,020

Material Export Summary (2 of 3)

Facility Name Location Type of Material	Middlesex County Landfill East Brunswick, NJ Non-hazardous Soil/Fill		Bayshore Soil Management Keasbey, NJ Petroleum-Impacted Soil/Fill		Clean Earth of Carteret, NJ Carteret, NJ Non-hazardous Soil/Fill	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	0	0
Project Total	311	6,220	267	5,340	66	1,320

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Material Export Summary (3 of 3)						
Facility Name Location Type of Material	**Clean Earth of North Jersey Kearny, NJ Non-hazardous Soil/Fill**		**Cycle Chem, Inc. Elizabeth, NJ Hazardous Lead - Impacted Soil/Fill**		**Harmony Foul Rift (HFR) Belvidere, NJ Non-hazardous Soil/Fill**	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	10	200
Project Total	201	4,020	10	200	23	460

Sampling

- No samples were collected.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

CAMP Activities

Langan performed air monitoring at the perimeter of the site, at the northern sidewalk of Pearl Street, at the western sidewalk of Beekman Street, at the eastern sidewalk of Peck Slip, and at the southern sidewalk of Water Street at eight total locations for mercury vapor, volatile organic compounds (VOCs), and particulate matter less than 10 microns in diameter (PM10) from about 7:05am to 4:15pm. There were no fifteen-minute average concentrations for mercury vapor, VOCs or PM10 that approached or exceeded the action levels established by the CAMP (1.00 µg/m^3, 5.0 ppm, or 0.100 mg/m^3, respectively).

Background Concentrations

Prior to implementation of CAMP, instantaneous background concentrations of mercury vapor and VOCs were recorded using a handheld Jerome® J505 mercury vapor analyzer and a handheld PID, respectively.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

Perimeter and Work Zone Concentrations

Daily Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.004	0.00	0.02
PM-2	0.004	0.00	0.01
PM-3	0.003	0.00	0.00
PM-4	0.014	0.00	0.02
WZ-1	0.003	0.00	0.00
WZ-2	0.003	0.00	0.00
WZ-3	0.002	0.00	0.01
WZ-4	0.004	0.00	0.01

Maximum 15-Minute-Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.016	0.10	0.05
PM-2	0.009	0.01	0.02
PM-3	0.004	0.00	0.01
PM-4	*****0.180	0.03	0.04
WZ-1	0.010	0.00	0.01
WZ-2	0.006	0.03	0.01
WZ-3	0.004	0.00	0.02
WZ-4	0.036	0.03	0.02

●mg/m3 = milligrams per cubic meter ●ppm = parts per million ●µg/m3 = micrograms per cubic meter

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

***** PM10 concentrations at perimeter CAMP station PM-4 exceeded the 15-minute time-weighted average (TWA) action level established in the CAMP (0.100 mg/m^3) at about 9:25am due to a concrete truck driving by the CAMP station. The exceedance was not the result of ground-intrusive activities associated with soil/fill at the site and fugitive dust was not observed migrating from the site during this time. PM10 concentrations returned to background levels at CAMP station PM-4 by 9:30 am.

Ambient Air (Handheld Jerome® J505 and Handheld PID)

- The dedicated mobile monitor (Langan) used a handheld Jerome® J505 mercury vapor analyzer to monitor ambient air conditions at various heights throughout the site. Instantaneous mercury vapor concentrations throughout the site ranged from 0.00 µg/m^3 to 0.10 µg/m^3.
- The dedicated mobile monitor (Langan) used a handheld PID to monitor VOC concentrations throughout the site. Instantaneous VOC concentrations were not detected above background concentrations throughout the workday.

Off-site CAMP Stations

- CAMP station WZ-1 was placed on the western sidewalk of Beekman Street from about 6:47am to 4:35pm.
- CAMP station WZ-2 was placed on the southern sidewalk of Water Street from about 6:50am to 4:44pm.
- CAMP station WZ-3 was placed on the eastern sidewalk of Peck Slip from about 6:53am to 4:21pm.
- CAMP station WZ-4 was placed on the northern sidewalk of Pearl Street from about 6:57am to 4:51pm.

Prior to CAMP Shutdown

Prior to discontinuing CAMP, mercury vapor and VOC concentrations were confirmed to return to background conditions at each perimeter station using the handheld Jerome® J505 mercury vapor analyzer and handheld PID, respectively. Perimeter CAMP stations were discontinued sequentially between 4:15pm and 4:21pm.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

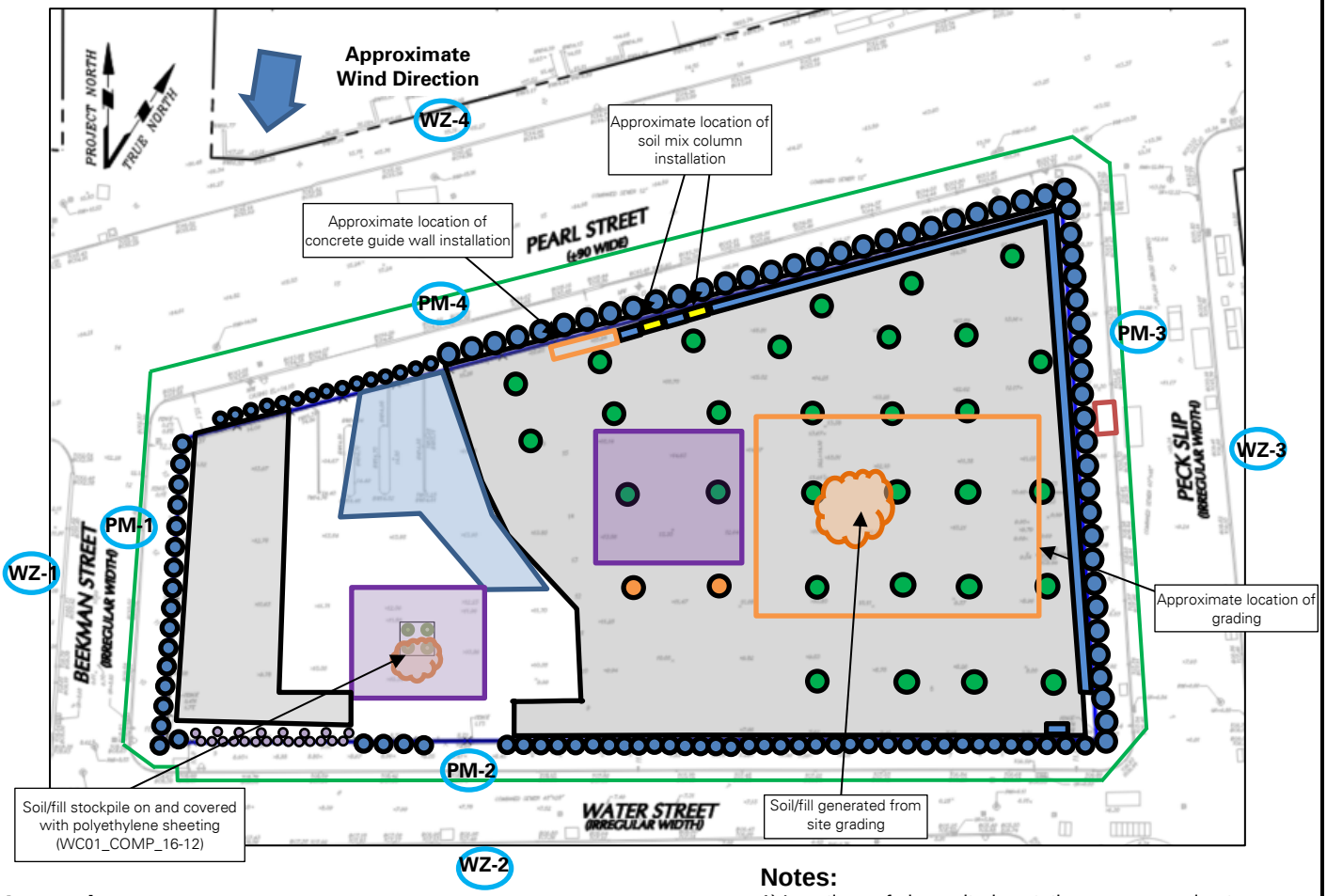
Anticipated Activities

- ECD will continue exporting C&D and soil/fill from the western part of the site for off-site disposal.
- ECD will continue installing soil mix columns and/or soldier piles for SOE installation along Pearl Street, Water Street, and Peck Slip.
- ECD will continue installing tiebacks for the SOE system along Beekman and Pearl Streets.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Site Map



Legend:

- PM-1 — Approximate Location of Air Monitoring Station
- Approximate Work Area
- Approximate Location of Installed Pile Cap
- Approximate Location of Foundation Piles Completed
- Approximate Location of Truck Tracking Pad
- Approximate Location of Underground Storage Tank
- Approximate Location of C&D Stockpile
- Approximate Location of Soil/Fill Stockpile
- Approximate Perimeter Construction Fence Location
- Approximate Location of Soldier Pile
- Approximate Location of Soil Mix Column Installed Today
- Approximate Location of Soil Mix Column Installed Previously
- Approximate Previous Excavation Area
- Approximate Excavation Area
- Approximate Location of Documentation Sample
- Approximate Location of Previously Collected Endpoint Sample
- Approximate Location of Imported Fill/Stone

Notes:

1) Locations of air monitoring stations are approximate.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Select Site Photographs:



Photo 1: General view of the eastern part of the site (facing east)



Photo 2: ECD installing a soil mix column in the northern part of the site (facing east)

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

PROJECT No.:	170381202	**CLIENT:** 250 Seaport District, LLC c/o The Howard Hughes Corporation	**DATE:**	Tuesday, October 10, 2023
PROJECT:	250 Water Street		**WEATHER:**	Sunny, 58 – 63° F Wind: NE @ 0.1 – 1.4 mph
LOCATION:	New York, NY		**TIME:**	5:45am – 6:30pm
BCP SITE ID:	C231127		**MONITOR**	Jack Millman

EQUIPMENT:
CAT 335 Excavator
CAT 328 Excavator
Komatsu PC210 Excavator
Delmag Drill Rig
Bauer RTG RG 27S
Bauer BG45 Drill Rig
Casagrande M6A-1 Tieback Drill Rig
Jerome J505 Mercury Vapor Analyzer
RKI GX-6000 Photoionization Detector (PID)
Aeroqual ASQ1 Air Monitoring Station

PRESENT AT SITE: **Day 221**
Langan (Environmental/Geotechnical) Jack Millman, Michael Cole, Pradeep Pandey
Suffolk Construction (Suffolk) (General Contractor) Anthony Galu, Wyatt Favia
East Coast Drilling, Inc. (ECD) (Foundation Contractor) Danny Rodgers
New York State Department of Environmental Conservation (NYSDEC) Rafi Alam
Earth Efficient (Soil Broker) Henry Batista

OBSERVATIONS, DISCUSSIONS, TEST RESULTS, ETC.:

Langan was present to document remediation activities in accordance with the NYSDEC-approved November 2021 Remedial Action Work Plan (RAWP) at the 250 Water Street site (NYSDEC Brownfield Cleanup Program [BCP] Site No C231127).

Site Activities

- ECD used a Bauer RTG RG 27S drill rig to pre-drill two boreholes in the northern part of the site to loosen the underlying soil in preparation for soil mix column installation.
- ECD used a Bauer BG45 drill rig to install two deep soil mix columns for support-of-excavation (SOE) system installation in the southern part of the site (along Water Street). ECD's drill rig advanced a steel rod with two cutter blades at the bottom of the rod, while concurrently injecting grout through the cutting head and spinning and advancing the blades downward to depths of about 95 and 96 feet below grade surface (bgs), respectively.
    - No drilling spoils were generated during installation of the soil mix columns.
    - Excess grout was contained within a temporary containment area in the eastern part of the site and will be managed as construction and demolition (C&D) debris at a later date.
- ECD excavated an about 80-foot-long by 15-foot-wide area to a maximum depth of about 14 feet bgs in the central part of the site (waste characterization cells WC01, WC02, WC04, and WC06) for removal and off-site disposal of soil/fill.
    - Excavated soil/fill was screened for odors, staining, organic vapors, and mercury vapor using a handheld PID and handheld Jerome® J505 mercury vapor analyzer, respectively. Evidence of impacts was not observed and the excavated soil/fill was separated from C&D debris using a sifting bucket. The soil/fill and C&D debris were separately loaded into securely covered tri-axle dump trucks for off-site disposal.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

- ECD graded soi/fill in an about 40-foot-long by 120-foot-wide area and an about 25-foot-long by 80-foot-wide area in the northern and southeast parts of the site, respectively, to stabilize the surface for SOE system installation.
    - Graded soil/fill was screened for odors, staining, organic vapors, and mercury vapor using a handheld PID and handheld Jerome® J505 mercury vapor analyzer, respectively. Evidence of impacts was not observed and the soil/fill generated from grading activities was added to the soil stockpile in the central part of the site for future off-site disposal.

Material Tracking

- ECD exported thirteen truckloads (about 260 cubic yards [CY]) of C&D debris for off-site disposal at the Earth Efficient MSM facility located in East Stroudsburg, PA.
- ECD exported four truckloads (about 80 CY) of non-hazardous soil/fill for off-site disposal at the Harmony Foul Rift, located in Belvidere, NJ.
- ECD exported one truckload (about 20 CY) of non-hazardous soil/fill for off-site disposal at the Middlesex County Landfill, located in East Brunswick, NJ.
- No material was imported to the site.

Material Import Summary

Facility Name Location Type of Material	Stone Industries, Inc. Haledon, NJ 1.5/2.5-inch Virgin Stone		Stone Industries, Inc. Haledon, NJ 0.75-inch Virgin Stone		Impact Reuse & Recovery Center or Impact Materials Jersey City, Lyndhurst/Jersey City, NJ 1.5-inch Clean Bluestone		Impact Reuse & Recovery Center, Lyndhurst, NJ General Fill	
Quantities	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)	No. of Loads	Approx. Volume (Tons)
Today	0	0	0	0	0	0	0	0
Project Total	12	283.91	0	0	15	339.65	374	9,157.85
NYSDEC Approved:	1,800 tons*				720 tons*		19,500 tons*	

*0.75-inch, 1.5-inch, and 2.5-inch virgin stone from the Stone Industries, Inc. facility and 1.5-inch clean bluestone from the Impact Reuse & Recovery Center (IRRC) facility were approved for import of 1,000 cubic yards (CY) and 400 CY, respectively. Assuming a conversion factor of 1.8, each quantity was converted to tons in order to accurately compare with import weight tickets. General fill from the IRRC facility was approved for import of 13,000 CY and a conversion factor of 1.5 is applied.

Material Export Summary (1 of 3)

Facility Name Location Type of Material	Allocco Recycling Brooklyn, NY Construction & Demolition (C&D) Debris		IRRC Lyndhurst, NJ C&D Debris		Earth Efficient MSM East Stroudsburg, PA C&D Debris		Clean Earth of North Jersey Kearny, NJ Hazardous Lead-Impacted Soil/Fill	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	13	260	0	0
Project Total	5	85	42	840	144	2,880	101	2,020

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Material Export Summary (2 of 3)						
Facility Name Location Type of Material	**Middlesex County Landfill East Brunswick, NJ Non-hazardous Soil/Fill**		**Bayshore Soil Management Keasbey, NJ Petroleum-Impacted Soil/Fill**		**Clean Earth of Carteret, NJ Carteret, NJ Non-hazardous Soil/Fill**	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	1	20	0	0	0	0
Project Total	312	6,240	267	5,340	66	1,320

Material Export Summary (3 of 3)						
Facility Name Location Type of Material	**Clean Earth of North Jersey Kearny, NJ Non-hazardous Soil/Fill**		**Cycle Chem, Inc. Elizabeth, NJ Hazardous Lead - Impacted Soil/Fill**		**Harmony Foul Rift (HFR) Belvidere, NJ Non-hazardous Soil/Fill**	
Quantities	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)	No. of Loads	Approx. Volume (CY)
Today	0	0	0	0	4	80
Project Total	201	4,020	10	200	27	540

Sampling

- No samples were collected.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

CAMP Activities

Langan performed air monitoring at the perimeter of the site, at the northern sidewalk of Pearl Street, at the western sidewalk of Beekman Street, at the eastern sidewalk of Peck Slip, and at the southern sidewalk of Water Street at eight total locations for mercury vapor, volatile organic compounds (VOCs), and particulate matter less than 10 microns in diameter (PM10) from about 6:44am to 5:08pm. There were no fifteen-minute average concentrations for mercury vapor, VOCs or PM10 that approached or exceeded the action levels established by the CAMP (1.00 µg/m^3, 5.0 ppm, or 0.100 mg/m^3, respectively).

Background Concentrations

Prior to implementation of CAMP, instantaneous background concentrations of mercury vapor and VOCs were recorded using a handheld Jerome® J505 mercury vapor analyzer and a handheld PID, respectively.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

Perimeter and Work Zone Concentrations

Daily Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.008	0.01	0.02
PM-2	0.007	0.00	0.01
PM-3	0.006	0.00	0.00
PM-4	0.007	0.01	0.02
WZ-1	0.005	0.00	0.00
WZ-2	0.006	0.01	0.00
WZ-3	0.005	0.01	0.01
WZ-4	0.006	0.01	0.01

Maximum 15-Minute-Average Concentrations

Station ID	Particulate (mg/m^3)	Organic Vapor (ppm)	Mercury Vapor (µg/m^3)
PM-1	0.032	0.04	0.06
PM-2	0.023	0.03	0.05
PM-3	0.016	0.04	0.01
PM-4	0.016	0.06	0.05
WZ-1	0.009	0.03	0.01
WZ-2	0.012	0.04	0.01
WZ-3	0.009	0.06	0.03
WZ-4	0.010	0.07	0.02

●mg/m^3 = milligrams per cubic meter ●ppm = parts per million ●µg/m^3 = micrograms per cubic meter

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Ambient Air (Handheld Jerome® J505 and Handheld PID)

- The dedicated mobile monitor (Langan) used a handheld Jerome® J505 mercury vapor analyzer to monitor ambient air conditions at various heights throughout the site. Instantaneous mercury vapor concentrations throughout the site ranged from 0.00 µg/m^3 to 0.13 µg/m^3.
- The dedicated mobile monitor (Langan) used a handheld PID to monitor VOC concentrations throughout the site. Instantaneous VOC concentrations were not detected above background concentrations throughout the workday.

Off-site CAMP Stations

- CAMP station WZ-1 was placed on the western sidewalk of Beekman Street from about 6:29am to 5:43pm.
- CAMP station WZ-2 was placed on the southern sidewalk of Water Street from about 6:31am to 5:46pm.
- CAMP station WZ-3 was placed on the eastern sidewalk of Peck Slip from about 6:33am to 5:55pm.
- CAMP station WZ-4 was placed on the northern sidewalk of Pearl Street from about 6:35am to 6:05pm.

Prior to CAMP Shutdown

Prior to discontinuing CAMP, mercury vapor and VOC concentrations were confirmed to return to background conditions at each perimeter station using the handheld Jerome® J505 mercury vapor analyzer and handheld PID, respectively. Perimeter CAMP stations were discontinued sequentially between 5:08pm and 5:13pm.

- Background concentrations of mercury vapor at each CAMP station were recorded at 0.00 µg/m^3.
- Background concentrations of VOCs at each CAMP station were recorded at 0.0 ppm.

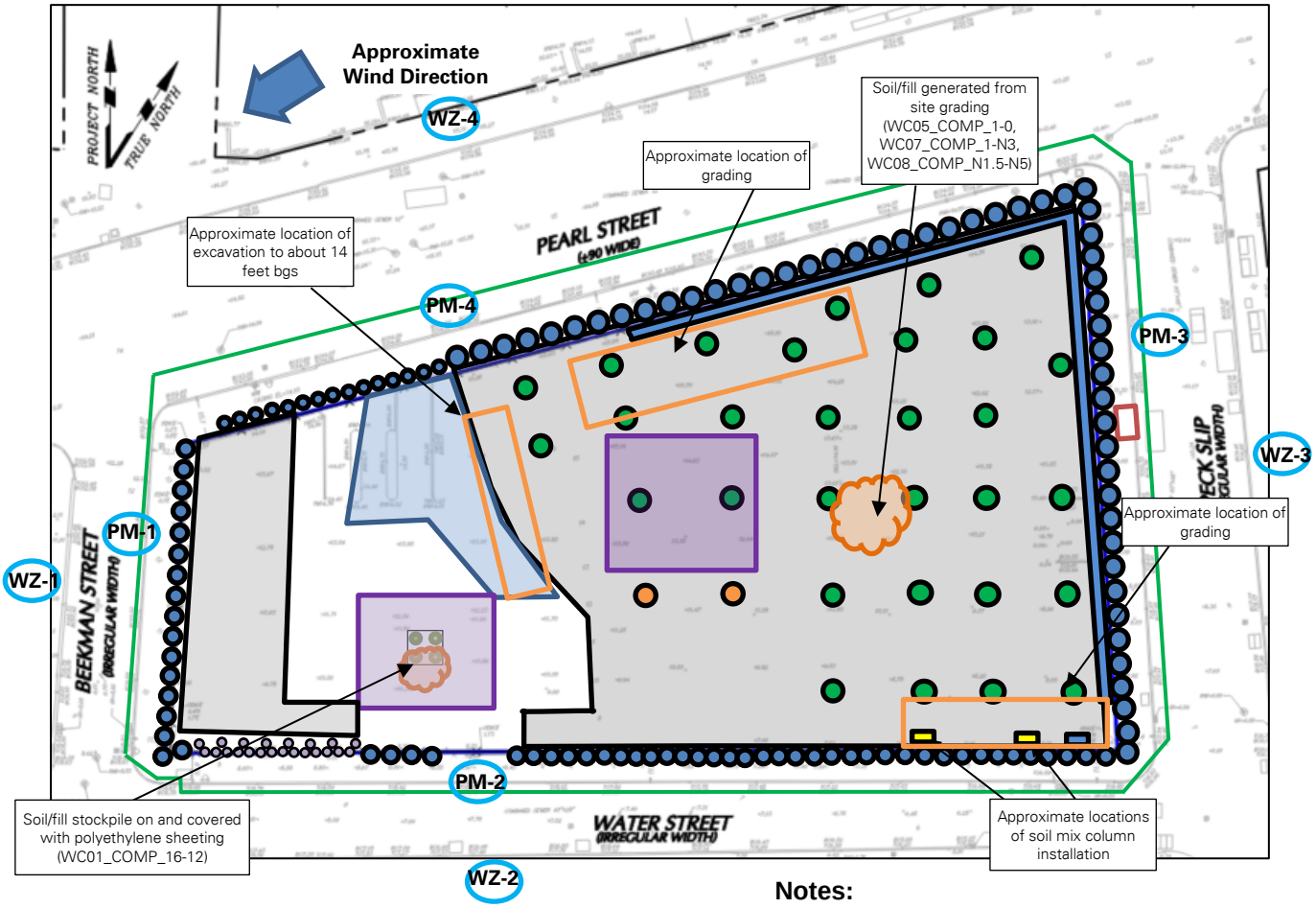
Anticipated Activities

- ECD will continue exporting C&D and soil/fill from the western part of the site for off-site disposal.
- ECD will continue installing soil mix columns and/or soldier piles for SOE installation along Pearl Street, Water Street, and Peck Slip.
- ECD will continue installing tiebacks for the SOE system along Beekman and Pearl Streets.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Site Map



Legend:

- PM-1 — Approximate Location of Air Monitoring Station
- Approximate Work Area
- Approximate Location of Installed Pile Cap
- Approximate Location of Foundation Piles Completed
- Approximate Location of Truck Tracking Pad
- Approximate Location of Underground Storage Tank
- Approximate Location of C&D Stockpile
- Approximate Location of Soil/Fill Stockpile
- Approximate Perimeter Construction Fence Location
- Approximate Location of Soldier Pile
- Approximate Location of Soil Mix Column Installed Today
- Approximate Location of Soil Mix Column Installed Previously
- Approximate Previous Excavation Area
- Approximate Excavation Area
- Approximate Location of Documentation Sample
- Approximate Location of Previously Collected Endpoint Sample
- Approximate Location of Imported Fill/Stone

Notes:
1) Locations of air monitoring stations are approximate.

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**

SITE OBSERVATION REPORT

Select Site Photographs:



Photo 1: Mercon-X® mercury vapor suppressant proactively applied to soil/fill during excavation (facing south)



Photo 2: ECD installing a soil mix column in the southern part of the site (facing west)

Cc:	M. Raygorodetsky, P. McMahon, M. Au, J. Frey, S. Simpson	By:	Jack Millman **LANGAN**