DESIGN-BUILD SERVICES FOR CONSTRUCTION OF A NEW JAMAICA BUS DEPOT AND NEW BUS PARKING LOT AT YORK COLLEGE IN THE BOROUGH OF QUEENS

CONTRACT: C-40355 / CONTRACT: C-40517

Environmental Management Plan

JULY 14, 2023

Revision 02

For:

MTA Construction & Development

Submitted by:

SKANSKA | STV

ACKNOWLEDGEMENT

The Skanska Team consists of Skanska USA Civil Northeast Inc. (Skanska) and STV Incorporated (STV) and is responsible for the implementation and completion of items contained within this Environmental Management Plan (EMP). Firms conducting on-site work associated with the design and construction of the New Jamaica Bus Depot and New Bus Parking Lot at York College in the Borough of Queens (the "Project") shall sign this EMP and acknowledge that they have reviewed this EMP and will comply with Project requirements. Furthermore, each Firm acknowledges that subcontractors and/or suppliers obtained by the Firm's on-site personnel will be required to review this EMP.

This EMP was developed to provide a management plan which ensures the Project is conducted in compliance with the environmental requirements and regulations of the MTA Construction & Development (MTA C&D), New York City Department of Environmental Protection (NYCDEP), New York State Department of Environmental Conservation (NYSDEC), United States Environmental Protection Agency (USEPA), Occupational Safety and Health Administration (OSHA), and other governing agencies, as applicable. Contractors conducting work on this Project must review and familiarize themselves with this EMP and ensure that their personnel and the personnel of their subcontractors have done so as well.

Company Acknowledgement

COMPANY	SIGNATURE	DATE
Skanska		
Skanska		
STV		

REVISION HISTORY

This EMP will be updated as additional information is obtained and as Project conditions require.

Revision	Date	Description:
00	February 15, 2023	Initial Submission to MTA C&D
01	April 27, 2023	Revision 01
02	July 14, 2023	Revision 02

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LIST OF APPENDICES

1.0 GENERAL

This Environmental Management Plan (EMP) describes the environmental policies and procedures relating to environmental requirements and approvals and the management of environmental media (e.g., soil, groundwater), hazardous/regulated materials, and permitting for the Project.

Skanska USA Civil Northeast Inc. (Skanska) is teamed with STV Incorporated (STV) as Lead Designer to provide Design-Build Services for Construction of the New Jamaica Bus Depot in the Borough of Queens for MTA Construction & Development (MTA C&D). Skanska, STV, and subcontractors will collectively be referred to as the "Skanska Team" in this EMP. The Skanska Team is responsible for the final design and construction for the New Jamaica Bus Depot. In addition, Skanska is the Contractor for construction of the 100% designed New Bus Parking Lot at York College (parking lot was designed by AECOM for MTA C&D). The Skanska Team is responsible for the work associated with the design and construction of the New Jamaica Bus Depot and construction of the New Bus Parking Lot at York College (the "Project").

As required by Section 12.2.1 of the Project Requirements and Design Criteria (PRDC), this EMP has been prepared and implemented by the Skanska Team using the services of an Environmental Manager. The Environmental Manager is registered as a Professional Engineer in the State of New York and has demonstrated education and experience in environmental issues/compliance. This EMP includes the following elements:

- Skanska Team's environmental personnel and their resumes (Environmental Manager Resume included in **Appendix A**)
- Environmental compliance tracking and reporting procedures: schedule; meetings; frequency of reporting; methods of reporting emergencies and violations; Environmental quality procedures, etc.
- Environmental submittals (initial and recurring)
- Environmental permits (obtained by MTA C&D and those obtained by the Skanska Team)
- Requirements for bi-weekly (every other week) and monthly progress reports providing a summary of environmental activities performed, and compliance issues identified, and corrective actions taken during construction.

The Skanska Team will comply with relevant environmental regulations, permit conditions, this EMP, as well as those environmental conditions stipulated by the contract. The objectives of the EMP are to:

- Define responsibilities and actions by the Skanska Team needed to maintain compliance with environmental requirements during design and construction; and
- Establish necessary procedures for communication, documentation, and review of environmental compliance activities.

This EMP will be updated as additional information is obtained.

Environmental (E) Designations are referenced in prior Phase I Environmental Site Assessments as summarized in Section 3.0 but not in the PRDC. It is STV's understanding that MTA is not subject to investigation or agency coordination requirements as a result of E-

Designations and the environmental requirements incorporated into this EMP in accordance with the PRDC are the project requirements.

1.1 Site Location and Project Background

This Project consists of two locations as noted below.

- The Jamaica Bus Depot is located in Jamaica, Queens and bound by Merrick Boulevard, 107th Avenue, 165th Street and Tuskegee Airman Way. The Project consists of several phases, which includes the demolition/disposal of the existing Jamaica Bus Depot in its entirety and the construction of a new Leadership in Energy and Environmental Design (LEED) certified Jamaica Bus Depot and administration facilities.

- The New Bus Parking Lot at York College is located in Jamaica, Queens at 164-26 Liberty Avenue. The property is currently an approximately 3.5-acre vacant, vegetated lot that is 100% designed (AECOM designed the parking lot for MTA C&D). The parcel is bounded by Liberty Avenue to the north, 165th Street to the east, Tuskegee Airmen Way to the south, and Guy R. Brewer Boulevard to the west. The Project consists of mass excavation of existing soil/overburden material, new drainage, and storm retention system, forming and placing concrete retaining walls, light and power distribution, asphalt paving and striping, and perimeter security fencing including electrically powered security gates at the entrance and exit.

The land use in the vicinity of the Project is generally mixed use commercial, residential, manufacturing, transportation & utility, public facilities & institutions, and open space. Site location maps are provided in **Appendix B**.

The Skanska Team will be responsible for all aspects of design (for the New Jamaica Bus Depot only), engineering, scheduling, coordination, construction, and timely completion of the Project.

1.2 Environmental Team

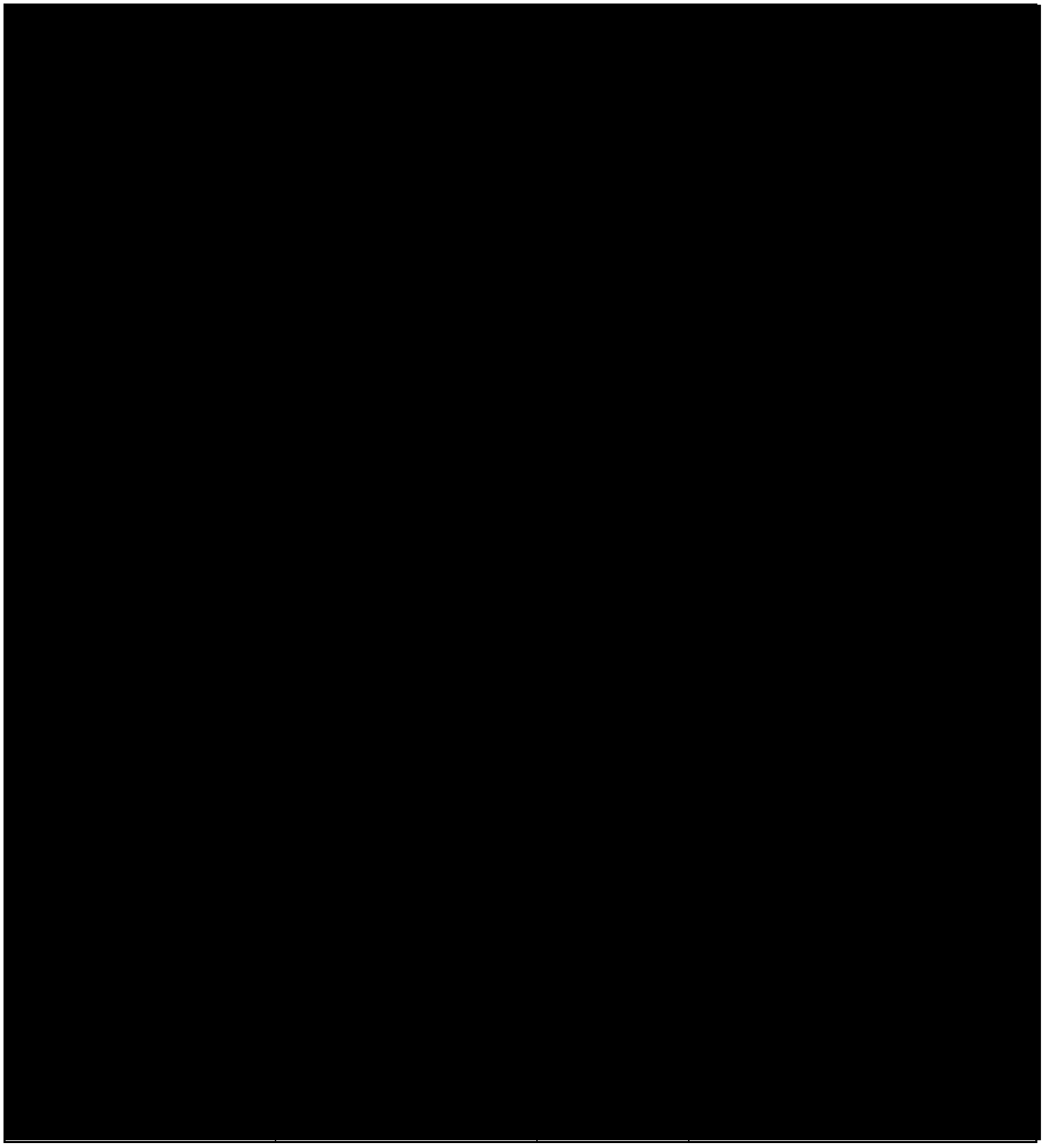
1.2.1 Project Organization and Team Responsibilities

The process of environmental compliance begins prior to construction by identifying, tracking, and integrating environmental requirements into construction documents during design. It also includes effective permitting and construction planning and staging, to incorporate environmental controls and mitigation measures accepted and approved by the responsible agencies during the design phase. It also includes the early identification and adherence to the roles of each respective personnel, and the roles of each organization as it relates to the management of the environmental resources and concerns.

1.2.2 The MTA C&D Environmental Management Team

The MTA C&D Environmental Team will consist of MTA C&D staff with management, engineering, environmental, and construction experience. The various divisions within the MTA organizations have formed an integrated team to manage the Project. Information regarding the MTA C&D Environmental Team has been requested and Table 1 below will be updated upon receipt.

Table 1
MTA C&D Environmental Team Contact List



1.2.3 The Environmental Team

The Skanska Team consists of organizations and firms that make up Skanska as the construction team and STV as the design team (for the New Jamaica Bus Depot only) and the Environmental Manager. The Skanska Team is responsible for conducting final design (for the New Jamaica Bus Depot only) and construction.

The Skanska Team will finalize the designs and obtain the permits to support to the construction of the Project, as applicable. The Skanska Team will confirm that the final design (for the New Jamaica Bus Depot only) reflects compliance with Federal, State and local requirements, and regulatory permit conditions.

Table 2
Skanska Environmental Team Contact List

[redacted]

Environmental Manager

The Environmental Manager [redacted] will oversee the preparation and implementation of the EMP including approvals, plans, and permits to make sure compliance with the applicable environmental federal, state, and municipal approvals and legislation. The Skanska Team will manage this process through detailed documentation and tracking of approvals, plans, and permits, as required. The Environmental Manager will implement, monitor, and report environmental issues to MTA C&D.

The Environmental Manager will work closely with the Project Managers and the Quality Manager and be supported by technical personnel with expertise in the full range of the environmental scope. [redacted] will be supported by the environmental team which consists of subject matter experts to perform environmental investigation(s), manage soil and water, manage hazardous/regulated materials, compliance, dust control, permitting, petroleum bulk storage, stormwater management, noise and vibration, mold control, vector control, abatement of bird droppings, spill prevention and response, and chemical commodity review [redacted] will serve as a senior technical authority for engineering

and construction and is responsible for providing resources to the team, overseeing the implementation of environmental compliance throughout final design and planning, permit execution, and construction of the Project.

1.3 Schedule

The schedule has been split into four stages as shown below with duration and key milestones:

Stage 1 Construction, 8 months duration

- Mobilization
- Construction Work Plans
- Initial Stages of Project Design
- Construct Temporary Parking Lot at York College Site

Stage 2 Construction, 24 months duration

- Six (6) properties store – Demolition & Asbestos/Abatement
- Demolition/Removal-Existing Ground Parking Lot
- Construction of New Bus Depot Maintenance Shop
- Temporary Administration Trailers Facility for Transportation Group
- (Stage 2) New Administration Building-Partial Construction at existing Corner Warehouse
- Occupancy to New Bus Depot Building

Stage 3 Construction, 6 months duration

- Remediation and Demolition of Existing Bus Depot and South Lot
- Removal of Temporary Fuel System
- Art Works Installation at the New Bus Depot Building

Stage 4A Construct New Outdoor Parking Lot, 8 months duration

- Occupancy of New Lot with Bus Parking
- Milestone 1 Completion

Stage 4B Administration Building Complete, 13 months duration concurrent with 4A

- Occupancy to New Administration Building
- Substantial Completion Achieved

1.4 Meetings

The Skanska Team will attend the Project Kickoff Meeting, the Design Kickoff Meeting, the Construction Kickoff Meeting, the Environmental Kickoff Meeting, toolbox Construction Phase meetings, and quarterly Progress Meetings throughout the project lifecycle.

1.5 Frequency of reporting

The Skanska Team will submit bi-weekly (every other week) and monthly progress reports providing a summary of environmental activities performed, and compliance issues identified, and corrective actions taken during construction.

1.6 Methods of Reporting Emergencies and Violations

The Skanska Team will report emergencies and violations according to company standards, MTA C&D requirements and regulations. All incidents and near misses will be immediately reported to MTA C&D Project Construction Management (PCM) Team. Timely notification of incidents to the appropriate Skanska Team personnel ensures that important decisions are promptly made based on the nature of the event. The Skanska Team incident reporting requirements are included as **Appendix C.**

1.7 QA/QC Procedures

The Skanska Team Project Quality Management Plan (QMP) covers the full range of project management, engineering, procurement, and construction services for transit projects.

Quality Manager [redacted] will lead the Skanska quality team and develop and document the project's QMP which will address required responsibilities and include instructions and procedures necessary to fulfill the contract quality requirements. These procedures will include standard work methods, quality enforcement activities, interfacing between the quality team and design / construction teams, distribution of the QMP, and quality document control. The plan will also account for design inputs / outputs and reviews and will delineate procedures for control / verification / validation of design, as well as issuance, approval and revisions of documents. The QMP will also detail procedures for verification, storage and maintenance of materials and equipment, as well as for design and construction documentation. Procedures for inspections, materials sampling/testing and equipment calibration will be described, as will those for handling non-conformances and corrective / preventive actions. In addition, the QMP will detail our understanding of how MTA C&D will participate in quality activities, and outline our procedures for training, quality auditing and management reviews. Revisions / updates of the QMP will be presented promptly to MTA C&D for review and approval.

The QMP will include plans, procedures and the personnel or staff organization necessary to assure adequate control and assurance of quality for design, materials, equipment, testing, start-up, coordination, workmanship, fabrication and operations for both, on-site and off-site work by the Skanska team and its subcontractors, suppliers, laboratories and consultants. The QMP will describe each quality team member's responsibilities, indicating the personnel who have the authority to identify, report /document and resolve nonconformities, as well as to stop work if necessary. Quality Manager [redacted] will serve as MTA C&D's direct contact for quality matters and will assure that design and construction personnel, including subconsultants and subcontractors, are aware of the quality requirements that govern their respective work. The quality staff will be trained to address the complexity, needs, shifts and composition of QA/QC activities consistent with the work in progress.

Every subcontractor working on the Project will be required to submit their quality programs for review or comply with the project-specific quality program. Each subcontractor's quality compliance will be routinely monitored through field oversight and internal audits. Additionally, regular meetings will be scheduled to plan the work and identify areas of improvement.

STV prepared a Design Project Quality Management Plan (DPQMP) to establish, implement, and maintain the methods and procedures used to control quality of design for the Design and Construction of the New Jamaica Bus Depot. In addition to the DPQMP, STV utilizes company-wide Standard Procedures and project specific Project Management Plans (PMPs).

The STV Design Quality Manager[redacted], will perform scheduled audits on the QC activities of each Submittal. This process is generally considered a "Review of QC Documentation" and also is known as "Submittal Reviews". The DQAM will perform a sampling of QC documentation to confirm the checking and review processes detailed in the QA/QC procedures are effectively implemented. The intent of these submittal reviews is to verify through objective evidence that the applicable QA/QC procedures were followed in the production of the deliverable.

1.8 Codes and Standards for Environmental Reviews

The Skanska Team will comply with the latest version of the following codes and standards for the work, as applicable.

1. NYSDEC Commissioner Policy 29, Environmental Justice and Permitting of 2003
2. Section 14.09 of the New York State Historic Preservation Act of 1980
3. 19 New York Codes, Rules and Regulations (NYCRR) Part 600-603 – Local Waterfront Revitalization Program (LWRP) (Coastal Zone Consistency)
4. The New York State Freshwater Wetlands Act of 1975
5. The New York State Tidal Wetland Act in 1973
6. 6 NYCRR Part 617 State Environmental Quality Review Act (SEQRA) of 2019
7. New York Executive Order (E.O.) 88 of 2012
8. 6 NYCRR Part 201 Permits and Registrations
9. 6 NYCRR Part 502.4 - Floodplain management criteria for State Projects in flood hazard areas
10. New York City Environmental Quality Review (CEQR) Technical Manual (Chapter 16 – Transportation)
11. National Environmental Policy Act of 1969
12. 40 CFR Part 70 State Operating Permits Program
13. Section 404 of the Clean Water Act (CWA) of 1977
14. Section 401 of the Clean Water Act (CWA) of 1977
15. Section 402 Clean Water Act, Section 402: National Pollutant Discharge Elimination System
16. Section 10 of the Rivers and Harbors Act of 1899
17. Section 1424 (e) of the Safe Drinking Water Act (SDWA) of 1974
18. Section 7 of the Endangered Species Act (ESA) of 1973
19. Section 4(f) of the Department of Transportation (USDOT) Act of 1966
20. Section 106 of the National Historic Preservation Act of 1966
21. Section 6(f) of the Land and Water Conservation Fund (LWCF) Act of 1965
22. Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment (May 2006)
23. Essential Fish Habitat (EFH) of the Magnuson-Stevens Fishery Conservation and Management Act of 1976
24. Executive Order 11988: Floodplain Management of 1977
25. Executive Order 12898: Environmental Justice (EJ) for Low Income & Minority Populations, 1994
26. New York Executive Order (E.O.) 4
27. ISO 14001 Standard

1.9 Environmental Submittals

The Skanska Team will provide the content of each submittal as referenced below with headings for each numbered submittal requirement (i.e., A–1. Noise Control, Monitoring, and Mitigation Plan and updates). Table 3 located at the end of this section contains a schedule of submittals as well as notes the specific requirements for the Jamaica Bus Depot and York College Parking Lot site as outlined in the PRDC and Specifications.

A – Noise and Vibration

1. Noise Control, Monitoring, and Mitigation Plan and updates
2. Laboratory Calibration Conformance Certificates
3. Weekly and Monthly Noise Measurement Reports
4. Equipment Noise Report

B – Chemical Commodity Review

1. Chemical Review Package which will consist of:
    a. Office of System Safety Chemical Review Request Form (refer to **Appendix D** for template) Safety Data Sheets (SDS) (clear, non-faxed copy, non-stamped copy)
    b. Product/Technical Data Sheet (clear, non-faxed copy, non-stamped copy)
    c. As applicable, Confirmation of Compliance with Limits for Volatile Organic Compounds (VOCs) in Architectural Paints and Coatings in accordance with 6 NYCRR Part 205 (refer **to Appendix E** for template)

C – Dust Control

1. Dust Control Work Plan, which will include elements of the written Exposure Control Plan (ECP)
2. Silica Air Sampling Plan and Associated Testing Laboratory Certification
3. Air Sampling Report
4. Water sampling and testing in accordance with NYCDEP and NYSDEC disposal requirements, where applicable
5. Discharge approvals by NYCDEP and NYSDEC, as applicable

D – Waste Handling and Removal

1. Waste Management Plan (WMP)
2. Quarterly Reports
3. Final Report
4. Emergency Response and Contingency Plan

E – Spill Prevention and Response

1. Spill Prevention and Response Plan (SPRP)
2. Weekly Inspection Reports of Material Storage Areas
3. Valid Transporter(s) and TSDF(s) permit(s)
4. Post Spill Reports
5. Certificates of Disposal or Recycling
6. Manifests

F – Removal of Batteries

1. Battery Removal and Handling Plan
    a. Detailed Work Plan
    b. Emergency/Spill Response and Notification Plan
    c. Valid State Transporter Permit(s)

   d. Valid State/Federal Recycling/Reclamation Facility Certification/Permit
   e. Certificates of Training for Supervisor and Workers
2. Weekly Inspection Reports of Storage Areas
3. Non-Hazardous Manifests, Bills of Lading or Hazardous Waste Manifests
4. Certificates of Recycling

G – Mercury Containing Lamp and Equipment

1. Mercury Containing Lamp/Equipment (MCL/E) Removal and Handling Plan
   a. Detailed Work Plan
   b. Emergency/Spill Response and Notification Plan
   c. Valid State Transporter Permit(s)
   d. Valid State/Federal Recycling/Reclamation Facility Certification/Permit
   e. Certificates of Training for Supervisor and Workers
2. Weekly Inspection Reports of Storage Areas
3. Non-Hazardous Manifests, Bills of Lading or Hazardous Waste Manifests
4. Certificates of Recycling

H – Removal/Disturbance & Disposal of Lead Containing Materials

1. Lead Disturbance Placard Package
2. Weekly inspection reports of Storage Areas
3. Laboratory analysis of lead content in paint
4. Waste testing results
5. NYCDEP Written Authorization to Discharge Wastewater in City Sewer System
6. Manifests
7. Certificate of Disposal

I – PCB Containing Fluorescent Light Fixture Ballast Removal

1. PCB Containing Fluorescent Light Fixture Ballast Removal Package
2. Weekly Inspection Reports of Storage Areas
3. Manifests
4. Certificates of Disposal

J – Removal and Disposal of Water and Debris from Structures

1. Water and Debris Removal and Disposal Package
2. Manifest
3. LDR
4. Certificates of Disposal

K – Vector Control

1. Vector Control Plan
2. Weekly Inspection Reports
3. Monthly Service Logs
4. Written certification at conclusion of construction activities

L – Abatement of Bird Droppings

1. Product Data Sheets and Safety Data Sheets (SDS)

M – Asbestos Removal

1. Asbestos Survey & Abatement Planning Plan

N – Stormwater Management

1. Stormwater Pollution Prevention Plan (SWPPP)

O – Removal and Disposal of Contaminated and Hazardous Soil and Water
1. Environmental Anticipatory Boring Program (EABP)
    a. Environmental Boring Plan
    b. Health and Safety Plan
    c. Emergency Response and Contingency Plan
    d. Waste Management Plan
    e. Safe Work Plans per activity
    f. Valid permits for transporters
    g. Valid permits for TSDFs
2. Data Interpretation Report (DIR)
3. Acceptance letters from TSDFs
4. Non-hazardous and hazardous waste manifests
5. Records of treatment and disposal (on-site and off-site)
6. NYS Department of Environmental Conservation (NYSDEC) discharge permit
7. NYC Department of Environmental Protection (NYCDEP) discharge permit

P – Petroleum Bulk Storage
1. NYS PBS Pre-work notification form (to be filed with NYS DEC 30 days prior to start of Work)
2. Work Plan
3. Site Safety and Health Plan
4. Emergency Action Plan
5. Field Testing and Laboratory Testing Plan
6. Tank and Piping Removal and Disposal Plan
7. Spill and Discharge Control Plan
8. Worker Qualifications
9. Laboratory Services (and Certifications)
10. Valid Permits for Transporters and Treatment, Storage and Disposal Facilities
11. Tank Closure Report
12. Manifests
13. Certificate(s) of Disposal

Q – Air Permitting
1. Air Permitting Calculations and NYSDEC Application

R – Site Management Plan (**for the New Jamaica Bus Depot only**)
1. NYSDEC Notification for Excavation Work Plan – At least 15 days prior to the start of any activity that is anticipated to encounter remaining contamination, the Site owner or their representative will notify the NYSDEC. Notification will include:
    a. A detailed description of the work to be performed, including the location and areal extent of excavation, plans/drawings for site re-grading, intrusive elements or utilizes to be installed below grade, estimated volumes of contaminated soil to be excavated and any work that may impact an engineering control;
    b. A summary of environmental conditions anticipated to be encountered in the work areas, including the nature and concentration levels of contaminants of concern, potential presence of grossly contaminated media, and plans for any pre-construction sampling;
    c. A schedule for the work, detailing the start and completion of all intrusive work; a summary of the applicable components of the Excavation Work Plan (EWP);

   d. A statement that the work will be performed in compliance with the EWP and 29 CFR 1910.120;
   e. A copy of the contractor's health and safety plan, in electronic format;
   f. Identification of disposal facilities for potential waste streams; and
   g. Identification of sources of anticipated backfill, along with all required chemical testing results.
2. Community Air Monitoring Plan (CAMP) – Exceedances of action levels listed in the CAMP will be reported to NYSDEC and NYSDOH Project Managers.
3. Odor Control Plan – NYSDEC and NYSDOH will be notified of all odor events and of any other complaints about the project.
4. Dust Control Plan – A dust suppression plan that addresses dust management during invasive on-site work.
5. Rodent Control Plan – A plan for rodent control will be developed and utilized by the contractor prior to and during site clearing and site grubbing, and during all remedial work.
6. Noise Control Plan – A plan will be developed and utilized by the contractor for all remedial work to ensure compliance with local noise control ordinances.

Table 3
Environmental Submittals

Environmental Task	Name of Submittal	Submission	Jamaica Bus Depot PRDC Requirement	York College Bus Parking Specification Requirement	Type (i.e., approval, information, etc.)	York College Submittal	Jamaica Bus Depot Submittal
Noise and Vibration	Noise Control, Monitoring, and Mitigation Plan (NCMMP)	Prior to operating noise generating equipment.	12.8	12NV	Approval	Approved	July 2023
Chemical Commodity Review	Chemical Review Package	90 days in advance of purchase and/or use on site.	12.1	12CM	Approval	Submitted and ongoing as needed	July 2023
Dust Control	Dust Control Plan (DCP)	30 days prior to the start of demolition and construction.	12.11	12D	Approval	Approved	
	Silica Air Sampling Plan	30 days prior to the start of demolition and construction.	12.11	12D	Approval	Approved	
Waste Handling and Removal	Waste Management Plan (WMP)	60 days prior to the start of any construction activities.	12.13	12W	Approval	Submitted, in revision	

Environmental Task	Name of Submittal	Submission	Jamaica Bus Depot PRDC Requirement	York College Bus Parking Specification Requirement	Type (i.e., approval, information, etc.)	York College Submittal	Jamaica Bus Depot Submittal
Spill Prevention and Response	Spill Prevention and Response Plan (SPRP)	30 days prior to start of construction activities.	12.14	12SP	Approval	Submitted, in revision	
Removal of Batteries	Battery Removal and Handling Plan	30 days prior to battery removal.	12.16	Not Required	Approval	N/A	September 2023
Mercury Containing Lamp and Equipment	MCL/MCE Removal and Handling Plan	30 days prior to the start of removal of MCL and/or MCE from their current locations.	12.17	Not Required	Approval	N/A	September 2023
Removal/ Disturbance & Disposal of Lead Containing Materials	Lead Disturbance Placard Package	30 days prior to the start of Work activities that disturb lead.	12.18	12L	Approval	Approved as Noted	
PCB Containing Fluorescent Light Fixture Ballast Removal	PCB Containing Fluorescent Light Fixture Ballast Removal Package	30 days prior to the start the of removal of light fixtures that contain PCB containing ballasts.	12.21	Not Required	Approval	N/A	September 2023
Removal and Disposal of Water and Debris from Structures	Water and Debris Removal and Disposal Package	30 days prior to the start of Work related to the removal and disposal of water and debris.	12.24	Not Required	Approval	N/A	September 2023
Vector Control	Vector Control Plan	30 days prior to the start of demolition and construction.	12.25	12X	Approval	Approved as Noted	
Abatement of Bird Droppings	Abatement of Bird Droppings	If encountered, corrective actions to be implemented.	12.26	12Y	Approval	To be submitted as required	
Asbestos Removal	Asbestos Documentation Package	45 days prior to the intended start date of the asbestos abatement work.	12.28	Not Required	Approval	N/A	Abatement by MTA

Environmental Task	Name of Submittal	Submission	Jamaica Bus Depot PRDC Requirement	York College Bus Parking Specification Requirement	Type (i.e., approval, information, etc.)	York College Submittal	Jamaica Bus Depot Submittal
Stormwater Management	Stormwater Pollution Prevention Plan (SWPPP)	30 days prior to start of Work that may result in wastewater being discharged.	12.12	12S	Approval	Submitted to DEP	July 2023 submission to DEP
Removal and Disposal of Contaminated and Hazardous Soil and Water	Environmental Anticipatory Boring Plan (EABP)	45 days prior to excavation.	12.15	12R	Approval	Approved as Noted	Submitted 3/14/23, pending response
	Data Interpretation Report	14 days after sampling.	12.15	12R	Approval	Approved as Noted	Following sampling
Petroleum Bulk Storage	NYS PBS Pre-work notification form	30 days prior to start of work.	12.9	Not Required	Approval	N/A	August 2023
	Tank Closure Work Plan	Prior to the start of work to remove, decontaminate, or dispose of PBS tanks.	12.9	Not Required	Approval	N/A	August 2023
Air Permitting	Air Permitting Calculations and NYSDEC Application	During the design of the Work.	12.6	Not Required	Approval	N/A	TBD
Site Management Plan	NYSDEC Notification for Excavation Work Plan	15 days prior to the start of any activity that is anticipated to encounter remaining contamination.	Volume 10	Not Required	Approval	N/A	September 2023
Site Management Plan	Community Air Monitoring Plan (CAMP)	To be performed during removal and management of contaminated soil and water at the facility.	Volume 10	Not Required	Information	N/A	September 2023

Environmental Task	Name of Submittal	Submission	Jamaica Bus Depot PRDC Requirement	York College Bus Parking Specification Requirement	Type (i.e., approval, information, etc.)	York College Submittal	Jamaica Bus Depot Submittal
Site Management Plan	Odor Control Plan	To be performed during removal and management of contaminated soil and water at the facility.	Volume 10	Not Required	Information	N/A	September 2023
Site Management Plan	Dust Control Plan	To be performed during removal and management of contaminated soil and water at the facility.	Volume 10	Not Required	Information	N/A	See above
Site Management Plan	Rodent Control Plan	To be performed during removal and management of contaminated soil and water at the facility.	Volume 10	Not Required	Information	N/A	See above
Site Management Plan	Noise Control Plan	To be performed during removal and management of contaminated soil and water at the facility.	Volume 10	Not Required	Information	N/A	See above

2.0 PROPOSED WORK

2.1 Project Description

This Project consists of the design and construction of the new Jamaica Bus Depot and new Bus Parking Lot at York College in the borough of Queens.

The components of the Project consist of:

- Stage 1 – Excavate and Construct Temporary Parking Lot at York College Site
- Stage 2 - Demolition, Site Clearing and Temporary Fueling (North side of site) – Design Unit 1
- Stage 2 - Underground Utilities, Bus Depot Foundations, and Floor Slab – Design Unit 2
- Stage 2 - Bus Depot Superstructure, Exterior Envelope, Fit Out, Noise Wall along 107th Street, and Site Finishes – Design Unit 3
- Stage 2 - Demolition, Noise Wall, Site Clearing and Temporary Transportation Facilities (selective demolition of 27 residential properties and demolition of existing bus depot) – Design Unit 4
- Stage 2 - Underground Utilities, Administration Building, Platform and Charging Infrastructure, Outdoor Bus Parking, and Finishes – Design Unit 5

2.2 Key Project Documents

The key project documents include:

1. MTA C&D RFP C40355_Volume 4 Project Requirements and Design Criteria (PRDC)_Division 01 General Requirements
   a. PRDC 01 – Scope of Work – 1.12 Environmental Scope of Work
   b. PRDC 12 – Environmental
2. MTA C&D Contract C-40517 Volume 6B – New Pus Parking Lot at York College Jamaica, Queens, NY Construction Bid Specifications
3. MTA C&D Contract C-40517 Volume 6D – Reference Documents
   a. Geotechnical Data Report, dated September 2019
   b. Geotechnical Interpretive Report, dated December 2019
   c. Phase II ESA, dated June 22, 2018
4. Volume 10 – Environmental Information
   a. Site Management Plan, dated June 2020
   b. Phase I ESA – Jamaica Bus Depot, dated August 24, 2016
   c. Phase I ESA – 166-15 107th Avenue, dated August 24, 2016

d. Phase I ESA –104-28 Merrick Boulevard, dated August 24, 2016
e. Phase I ESA – 104-32 Merrick Boulevard, dated August 24, 2016
f. Phase I ESA – 105-02 Merrick Boulevard, dated August 24, 2016
g. Phase I ESA – 105-22 Merrick Boulevard, dated August 24, 2016
h. Phase I ESA – 106-04 Merrick Boulevard, dated August 24, 2016

Note: The PRDC 12 indicates that MTA C&D conducted 14 Phase I ESAs for adjoining properties. Six (6) of the Phase I ESAs were included as part of Volume 10 – Environmental Information, as noted in Items 2.c through 2.h above.

3.0 AREAS OF ENVIRONMENTAL CONCERN

Introduction

This section discusses areas of environmental concern based on the findings of environmental reports/investigations provided as part of the Contract Documents. Review of project documents included a Site Management Plan (SMP) and Phase I ESA for the Jamaica Bus Depot, and six (6) Phase I ESAs for adjoining residential/commercial properties. Additionally, review for the York College property included a Phase I ESA and a Phase II ESA.

Jamaica Bus Depot

The SMP is a required element of the remedial program for the Jamaica Bus Depot and NYSDEC spill number 9010039 that was issued in 1990. New York City Transit (NYCT) entered into an Order on Consent on May 2, 2001 with the NYSDEC to remediate the site. Spill No. 9010039 was assigned to the site following the 1990 discovery of leaking diesel fuel and heating oil underground storage tanks. Subsequent remedial actions resulted in the recovery of approximately 34,117 gallons of petroleum. As of January 2018, no petroleum product has been detected at the site. However, after completion of the remedial work, some contamination was left at this site. Under current site conditions, the remaining contamination does not pose a threat to human health or the environment. The remaining contamination, based on review of Appendix E of the SMP, is associated with some select soil sample exceedances at depth intervals of 15-17 feet bgs, 20-22 feet bgs, 21-23 feet bgs, 25.5-27.5 feet bgs, 26-28 feet bgs, and 27-29 feet bgs. This SMP was prepared to manage remaining contamination at the site and may only be revised with the approval of the NYSDEC. Further details are provided as follows.

Review of the SMP indicated NYCT's consultant at that time, URS Corporation (URS), now an AECOM company, completed Remedial Investigations (RIs) at the site during which floating petroleum beneath the site was identified. It was determined that the free product plume extended across most of the depot property and onto residential properties immediately to the west and commercial properties immediately to the east. Between 1995 and 2002 a groundwater depression/recovery system was installed throughout the Site and approximately 34,000 gallons of product was recovered from the Site.

In late 2002, there was a stoppage in use of Jamaica Water Supply Station 6, which resulted in the regional groundwater levels to rise as much as 7 feet, which trapped petroleum contamination below the groundwater interface. Between 2002 and 2011 there were attempts to increase groundwater remediation pumping in order to keep up with increasing water levels to recover free-product, as well as installation of a new product recovery system. Since 2011, when present, free-phase petroleum at the site has been recovered manually.

Groundwater sampling at the Jamaica Bus Depot identified dissolved-phase groundwater contamination, with the highest concentrations on the north, upgradient side of the depot. The SMP reported that further investigation revealed that the dissolved-phase impacts were from an off-site gasoline release at a former Amoco station north of the depot. The remediation system at the Jamaica Bus Depot was designed to address treatment of the impacted groundwater. As a result, dissolved-phase groundwater concentrations were significantly reduced. Ongoing groundwater sampling shows that the dissolved-phase plume is stable and not migrating and that residual levels continue to reduce as a result of natural degradation processes.

In 2015, on behalf of NYCT, D&B Architects and Engineers (D&B), performed a subsurface investigation to evaluate the soil contamination concentrations at and adjacent to the depot. The investigation consisted of advancing 60 soil borings to depths of 50 feet bgs. Soil samples collected various depths were analyzed for petroleum-related volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs), and select samples were analyzed for diesel range organics (DROs). One or more of a limited number of VOCs (e.g., 1,2,4-trimethylbenzene, isopropylbenzene, naphthalene, n-butylbenzene, n-propylbenzene and sec-butylbenzene were) were detected at concentrations slightly exceeding their respective CP-51 SCOs in 10 of the 120 soil samples analyzed. The majority of these samples were from soil borings in the vicinity of the property line between the residences on 165th Street and the depot. The comparison with the Part 375 Restricted Use SCOs shows that none of the VOCs exceeded the most conservative restricted use SCOs, namely Residential use. SVOCs were either not detected or detected at concentrations below their respective CP-51 SCOs. DRO was identified in eight of 19 soil samples analyzed with the greatest concentration immediate north of the former UST area on the northern portion of the depot.

Based on the findings of the investigation and remedial actions implemented at the site and considering that current site conditions are protective of human health, NYCT CPM and NYSDEC agreed that Spill Number 9010039 could be closed while managing remaining contamination through the SMP. For continued monitoring, the SMP identifies the proposed monitoring well network. It defines which existing monitoring wells will be decommissioned, which existing wells will be maintained, and new wells to be installed following construction of the new depot.

As noted in the PRDC and discussed in greater detail in Section 12.5, monitoring wells associated with the spill case which are not part of the approved SMP will be properly closed by the Skanska Team in accordance with NYSDEC guidance document “Groundwater Monitoring Well Decommissioning Procedures.” Any network monitoring well(s) to remain that are otherwise damaged or removed during the Work shall be replaced to the exact location and with the same size and depth well(s). The Skanska Team will refer to USEPA/SESD Guidance for Design and Installation of Monitoring Wells.

The Phase I ESA for the Jamaica Bus Depot identified on-Site RECs pertaining to an open petroleum spill case, which has subsequently been closed; potential buried structures from former buildings that could contain underground storage tanks and/or historic fill materials of unknown origin; the historic use of a portion of the Site as a gasoline filling station; and the current and historical use of the Site as bus service station and maintenance garage. The Phase I ESA summarized petroleum bulk storage at the property: five (5) 4,000-gallon diesel USTs and five (5) 4,000-gallon biodiesel UST. There are two (2) 15,000-gallon #6 fuel oil USTs and twelve (12) 2,000-gallon diesel USTs that are closed-in-place. There are two (2) 15,000-gallon #2 fuel oil USTs that are temporarily out-of-service.

Off-site RECs include three solid waste management facilities; a nearby facility with an open spill; two facilities that currently generate spent halogenated solvents; one facility that historically generated cadmium, lead, and waste oils; an active gas station; several historical and current auto repair facilities; one historic dry cleaner; several nearby properties with E-Designation listings for underground storage tanks testing protocol; and the historical presence of a blacksmith, a sign painters shop, auto painting shops, iron works, auto and truck repair facilities, carpet cleaners, paint shops, a junk yard, and gasoline filling stations with USTs in close proximity to the Site.

Adjoining Properties

Phase I ESAs were performed for adjoining properties and a summary of the RECs identified is provided below.

104-28 Merrick Boulevard

The Phase I ESA identified on-Site RECs pertaining to potential buried structures from former buildings that could contain underground storage tanks and/or historic fill materials of unknown origin; the historical use of the Site as an auto repair facility and auto parts manufacturing facility; and the Site's listing with an E-Designation for underground storage tanks testing protocol.

104-32 Merrick Boulevard

The Phase I ESA identified on-Site RECs pertaining to potential buried structures from former buildings that could contain underground storage tanks and/or historic fill materials of unknown origin; the historical use of the Site as a paint supply company; and the Site's listing with an E-Designation for underground storage tanks testing protocol.

105-02 Merrick Boulevard

The Phase I ESA identified on-Site RECs pertaining to potential buried structures from former buildings that could contain underground storage tanks and/or historic fill materials of unknown origin; the historic use of a portion of the Site as an auto repair facility; and the Site's listing with an E-Designation for underground storage tanks testing protocol.

105-22 Merrick Boulevard

The Phase I ESA identified on-Site RECs pertaining to the historic use of the Site as an upholstery shop and the Site's listing with an E-Designation for underground storage tanks testing protocol.

106-04 Merrick Boulevard

The Phase I ESA identified on-Site RECs pertaining to potential buried structures from former buildings that could contain underground storage tanks and/or historic fill materials of unknown origin; the historic use of the Site as an auto repair facility; the historic use of the Site as a woodworking finishing facility; and the Site's listing with an E-Designation for underground storage tanks testing protocol.

166-15 107th Avenue

The Phase I ESA identified on-Site RECs pertaining to potential buried structures from former buildings that could contain underground storage tanks and/or historic fill materials of unknown origin and the Site's listing with an E-Designation for underground storage tanks testing protocol.

Furthermore, these six (6) Phase I ESAs for adjoining residential/commercial properties provided in the Contract Documents included a summary of the Phase I ESAs for eight (8) other properties near Jamaica Bus Depot. Of these properties, Recognized Environmental Conditions (RECs) were identified at 103-16 Merrick Boulevard and 103-30 Merrick Boulevard. These properties historically including an auto repair shop and filling stations with gasoline storage tanks.

The Phase I ESAs identified off-site RECs for the six (6) residential/commercial properties that may have impacted soil and/or groundwater. These RECs include three solid waste management facilities; a nearby facility with an open spill; one facility that currently generates

spent halogenated solvents; one facility that historically generated cadmium, lead, and waste oils; an active gas station; several historical and current auto repair facilities; one historic dry cleaner; several nearby properties with E-Designation listings for underground storage tanks testing protocol; and the historical presence of a blacksmith, a sign painters shop, auto painting shops, iron works, auto and truck repair facilities, carpet cleaners, paint shops, parking lots, a junk yard, and gasoline filling stations with USTs in close proximity to the Site.

York College

The Phase I ESA revealed the following recognized environmental conditions (RECs) associated with the Site:

On-Site RECs:

- Based on the review of historical documentation, fill was placed throughout the Site sometime between the late-1960s through the late-1980s/early 1990s. In addition, structures were present on the Site and were demolished. Historic fill of unknown origin and suspect buried structures have the potential to impact the Site.

- Historic Site uses as:
  - Auto Sales and Service Facility from 1951-1970 (Lot 1).
  - Auto Repair Shop from 1951-1957 (Lot 1).
  - Lumber Yard and Wagon Works in 1912 (Lot 1).
  - Long Island Drug Co. Warehouse 1942-1967 (Lot 3).
  - Jamaica Hospital from 1901-1912 (Lot 3).
  - Saltser & Weinsier Inc. Plumbing / Drug Warehouse and Storage buildings from 1934-1970 (Lot 3).
  - Undertaker from 1942-1951 (Lot 3).
  - Historic fuel oil tank and gasoline tanks associated with former uses as Long Island Drug Co. and Saltser & Weinsier Inc. (Lot 3).
  - Auto Repair works in 1934 (Lot 3).

Off-Site RECs:

- The review of the regulatory agency database identified adjacent and nearby listings as Resource Conservation and Recovery Information System Generators/Transporters (RCRIS Gen/Trans) facilities, solid waste management facilities, Petroleum Bulk Storage (PBS) Underground Storage Tank (UST) sites, spills, and an E-Designated site.

- The review of historical records identified surrounding property usage as automobile related (i.e., auto repair shops; garages, service stations, filling stations, and gasoline stations with gasoline storage tanks; tire sales and service; auto painting), a woodworking plant, a lumber yard, a cemetery, a cleaners and dyers site, electronic parts manufacturing, an oil burner warehouse, a radio sales and service shop, a paint company, a petroleum supplier, fur storage, roofing materials warehouse, and manufacturing facilities.

- Groundwater monitoring wells were observed during the Site reconnaissance along Guy R. Brewer Boulevard to the northwest of the Site and along Liberty Avenue and Merrick Boulevard to the east of the Site.

The findings of the Phase II ESA for the Site indicated the following:

- The geophysical survey did not identify anomalies consistent with underground storage tanks (USTs). The results of the geophysical survey identified several anomalies throughout the Site that were indicative of subsurface metallic features and metallic debris, reinforced concrete slab, void spacing, and/or non-metallic area of fill material.

- The Site is underlain by fill material consisting of sand, silt, gravel, and fragments of brick, concrete, metal, plastic material, and debris throughout the Site. The maximum depth of historic fill was observed at approximately 25 feet below ground surface (bgs). Native material consisting of fine to medium sand with gravel was observed to a terminal depth of approximately 25 feet bgs.

- Groundwater at the Site was encountered at depths ranging from approximately 18 to 30 feet bgs. The review of groundwater elevations indicates groundwater flow is to the southeast.

- Soils in the vicinity of test pit TP-06 at depths between 3 and 13 feet bgs are Resource Conservation and Recovery Act (RCRA) hazardous waste for the toxicity characteristic of lead.

- Tetrachloroethene (PCE) was detected in groundwater samples at temporary monitoring well TWP-03 marginally below the New York State Department of Environmental Conservation (NYSDEC) Division of Water Technical and Operational Guidance Series (TOGS) Class GA Value.

- Semi-volatile organic compounds (SVOCs), metals, and polychlorinated biphenyls (PCBs) were detected in soil samples at concentrations that exceed the Commercial Use Soil Cleanup objectives (SCOs) found in 6 New York Codes, Rules and Regulations (NYCRR) 375-6, Remedial Program Soil Cleanup Objectives.

- Manganese and sodium were detected in groundwater samples at concentrations above the NYSDEC TOGS Class GA Values in the filtered samples.

Based on the results of the Phase II ESA, STV recommended the following:

- Environmental conditions should be considered and incorporated into the bus parking design. Specification 12R should be implemented during construction.

- Soil excavated during development of the bus parking lot should be characterized to identify appropriate material handling, reuse, and/or disposal requirements (including collection and analysis of additional samples if required by the contractor-selected disposal facility). Excavated material should be managed in accordance with applicable federal, state, and local laws and regulations. Based on the analysis of soil samples collected during the Phase II ESA, material excavated from the Site is expected to be the following:
    - Hazardous waste for the toxicity characteristic of lead in the vicinity of TP-06.
    - Non-Hazardous Excavated Material.

- If possible, planned construction/excavation activities should avoid the area of hazardous waste. If subsurface work is required in this area, a supplemental investigation should be conducted to further delineate the horizontal limits of hazardous waste for the toxicity characteristic of lead.

- Appropriate Health and Safety Provisions should be employed in accordance with the laws and regulations of the Occupational Safety and Health Administration (OSHA).

- Based on soil sampling results, a Community Air Monitoring Program (CAMP) should be conducted during excavation activities as part of construction activities.

- If landscaped areas are incorporated into the development of the Site, exposed soil should be covered by a minimum 2-foot thick layer of environmentally clean fill.

- Although not anticipated, if dewatering is necessary during construction activities, dewatering should be minimized to mitigate potential influx of contaminated water from off-site sources toward the Site.

The following sections identify environmental concerns associated with the Jamaica Bus Depot property and the York College property, as well as the noted adjoining residential/commercial properties.

3.1.1 Petroleum Bulk Storage

Jamaica Bus Depot
As noted above, the Phase I ESA included a summary of the USTs at the Jamaica Bus Depot in 2016 and the following table is a summary from NYSDEC PBS online database for the current status of the Petroleum Bulk Storage tanks at the depot:

Tank Type	Storage Capacity (Gallons)	Product Stored	Number of Tanks	Status
UST	4,000	Diesel	10	In Service
AST	2,000	Motor oil	1	In Service
AST	1,000	Waste oil/ Used oil	1	In Service
AST	1,000	Transmission fluid	1	In Service
UST	15,000	No. 6 fuel oil	2	Closed In-Place
UST	15,000	No. 2 fuel oil	2	Closed In-Place
UST	2,000	Diesel	12	Closed In-Place
AST	1,000	No. 2 fuel oil	2	Closed / Removed
AST	1,000	No. 2 fuel oil	1	Closed In-Place
AST	275	Other	3	Closed In-Place
AST	275	Waste oil/ Used oil	2	Closed / Removed
AST	300	Waste oil/ Used oil	3	Closed / Removed

Residential/Commercial Properties
Properties located at 104-28 Merrick Boulevard, 104-32 Merrick Boulevard, 105-02 Merrick Boulevard, 106-04 Merrick Boulevard, and 166-15 107th Avenue were identified in the Phase I ESAs for former presence of low-rise structures that were razed and a potential for USTs to exist on the properties.

Furthermore, the six (6) Phase I ESAs for adjoining residential/commercial properties provided in the Contract Documents included a summary of the Phase I ESAs for eight (8) properties near Jamaica Bus Depot. Of these properties, RECs were identified at

103-16 Merrick Boulevard and 103-30 Merrick Boulevard. These properties historically including an auto repair shop and filling stations with gasoline storage tanks.

3.1.2 Contaminated Soil and Groundwater

Jamaica Bus Depot

Groundwater at the Jamaica Bus Depot was encountered at depths of approximately 9 to 17 feet below ground surface. Prior investigations have identified a petroleum plume beneath the majority of the site and historic remedial actions have recovered product to the current condition and has allowed for the NYSDEC spill case to be closed. Review of the SMP indicates that ongoing groundwater sampling shows that the dissolved-phase plume beneath the site is stable and not migrating and that residual levels continue to reduce as a result of natural degradation processes. Based on this, the dissolved-phase plume may be encountered during construction and groundwater may contain elevated concentrations of petroleum related VOCs and SVOCs. In addition, as noted in the Phase I ESA, historic site use and the surrounding property usage have the potential to impact groundwater.

The SMP documented a comprehensive soil sampling investigation to assess soil conditions with respect to petroleum related VOCs and SVCOs. The results identified low-level detections and some exceedances of VOCs in 10 of the 120 soil samples analyzed and in the vicinity of the property line between the residences on 165th Street and the depot. In addition, based on the review of the SMP and the Phase I ESAs, there could be impacts to soil from historic site operations, E-Designations, and associated with closed in-place USTs at the Jamaica Bus Deport and the adjoining properties.

York College

The Phase II ESA revealed that soils in the vicinity of test pit TP-06 at depths between 3 and 13 feet bgs are RCRA hazardous waste for the toxicity characteristic of lead. Based on the analysis of soil samples collected during the Phase II ESA, material excavated from the vicinity of TP-06 is expected to be hazardous waste for the toxicity characteristic of lead. In addition, SVOCs, metals, and PCBs were detected in soil samples at concentrations that exceed the Commercial Use NYCRR 375-6, Remedial Program Soil Cleanup Objectives.

Furthermore, manganese and sodium were detected in groundwater samples at concentrations above the NYSDEC TOGS Class GA Values in the filtered samples.

3.1.3 Hazardous and Regulated Materials

The Phase I ESAs revealed environmental concerns associated with suspect asbestos-containing materials (ACM), lead-based paint (LBP), polychlorinated biphenyl (PCB)-containing materials for the Jamaica Bus Depot and the fourteen (14) adjoining residential/commercial properties. Hazardous and regulated building materials including ACM, LBP, and PCBs may be present at the Project.

In addition, the Phase II ESA for York College revealed that soils in the vicinity of test pit TP-06 at depths between 3 and 13 feet bgs are RCRA hazardous waste for the toxicity characteristic of lead. Based on the analysis of soil samples collected during the Phase II ESA, material excavated from the vicinity of TP-06 is expected to be hazardous waste for the toxicity characteristic of lead.

3.1.4 Historic Fill

Jamaica Bus Depot

Based on review of SMP, fill material was reported in subsurface soils from the ground surface to a maximum depth of 6 feet below ground surface (bgs). Fill material consisted of concrete, asphalt, ash, and brick fragments.

Residential/Commercial Properties

The Phase I ESAs for 104-28 Merrick Boulevard, 104-32 Merrick Boulevard, 105-02 Merrick Boulevard, 106-04 Merrick Boulevard, and 166-15 107th Avenue identified potential buried structures from former buildings that could contain historic fill materials of unknown origin.

York College

The Phase II ESA identified fill material consisting of sand, silt, gravel, and fragments of brick, concrete, metal, plastic material, and debris throughout the Site. The maximum depth of historic fill was observed at approximately 25 bgs.

4.0 ENVIRONMENTAL PERMITS/APPROVALS

The anticipated environmental permits and approvals are summarized in the Permit Matrix presented in **Appendix F.**

The Permit Matrix includes a list of regulatory permits and approvals necessary to facilitate construction of the proposed project. Information for each approval is provided and includes:

- Permit or Approval
- Issuing Agency
- Reference
- Estimated Review Period for Permit Approvals
- Comments/Status

The Skanska Team will apply for the necessary regulatory permits and approvals for the Project and will be identified as the applicant and permittee. MTA C&D will be identified as the owner. The Environmental Permitting Manager and/or Environmental Manager will be identified as the Agent, where necessary and appropriate.

Refer to the Permit Matrix for permits and coordination that is required for the proposed project.

The Permit Matrix is intended to be a living document that will be updated with permit progress and permit conditions imposed by the agencies so that compliance can be tracked and achieved.

A Waste Management Plan will be prepared and submitted under separate submission and will include disposal facility and transportation permits.

Copies of authorized permits and approvals for the project are included in **Appendix G.**

5.0 MANAGEMENT OF EXCAVATED SOIL

Project work relating to the on-site and off-site management of excavated soils will be performed in accordance with the requirements outlined in this this EMP, the PRDC, Volume 6B Specifications, and the HASP. Soil is anticipated to be generated as part of excavations for new fuel oil tanks, Con Edison vaults, elevator pits, oil-water separators, foundation work, and utility work.

An Environmental Anticipatory Boring Program (EABP) will be prepared and implemented to manage soil and groundwater generated during construction activities associated with the Project. The EABP will:

- Address soil, rock, and groundwater conditions and their management with respect to contaminated and hazardous soil and/or water.
- EABP will include: (1) Environmental Boring Plan, (2) Health and Safety Plan, (3) Emergency Response and Contingency Plan, (4) IDW Waste Management Plan for contaminated and hazardous soils and water.
- Identify the methods, practices, and procedures to be used to develop representative data to characterize soil, rock, and dewatering water to be removed before excavation is planned to occur.
- Include data and information for accurate and complete characterization of the material to be excavated and/or dewatered to prepare City and State manifests (i.e., non-hazardous waste manifests and/or hazardous waste related to soil and/or groundwater), beneficial use determinations and/or permits and utilizing appropriate worker protection, treatment, transportation, disposal of the excavated/dewatering materials.

The EABP will be submitted under separate cover and the procedures outlined in this EMP will be supplemented by the EABP.

Contaminated soil (including intermingled rock, brick and other fill materials) and contaminated groundwater/stormwater removed from the Project Site will be removed and disposed of in accordance with this EMP and PRDC.

5.1 Definitions (from PRDC)

a. Classification – Process of separating spoils, wastes, and groundwater (including liquids) into categories; managing in accordance with applicable regulatory requirements.
b. Construction and demolition debris – As defined in 6 NYCCR Part 360, waste resulting from construction, remodeling, repair and demolition of structures, buildings and roads. Construction and demolition debris includes fill material, demolition wastes, and construction wastes. Materials that are not construction and demolition debris (even if generated from construction, remodeling, repair and demolition activities) include municipal solid waste, friable asbestos-containing waste, corrugated container board, electrical fixtures containing hazardous liquids such as fluorescent light ballasts or transformers, fluorescent lights, batteries, furniture, appliances, tires, drums, fuel tanks, containers greater than 10 gallons in size, and containers having more than one inch of residue remaining on the bottom.
c. Contaminated soil and/or water refers to soil and/or water contaminated by petroleum spill or by the presence of historic fill.

d. Petroleum spill contaminated soil and/or water is defined as soil and/or water exhibiting one or more of the following characteristics:
    - Elevated photo-ionization detector (PID) readings, subsequently confirmed by lab analysis (i.e., Volatile Organic Compounds found in lab results)
    - Visual evidence of contamination, i.e., staining
    - Petroleum and/or chemical odors
    - Soil and/or water that has been documented by the MTA, Skanska Team, or any other party, including a third-party or regulatory agency, as contaminated by spill reporting, or industrial or manufacturing activities. Documentation of contamination will be submitted to MTA C&D for verification and approval.
e. Historic fill defined as non-indigenous or non-native material, historically deposited or disposed in the general area of, or on, a site to create useable land by filling water bodies, wetlands, topographic depressions or to stabilize and drain track bed, which is in no way connected with the subsequent operations at the location of the emplacement. Historic fill may be solid waste including coal ash, wood, municipal solid waste, incinerator ash, construction and demolition debris, dredged sediments, railroad ballast, refuse and land clearing debris. The chemical constituents of historic fill is assumed to be greater than both of the following:
    - the soil cleanup objectives for residential use as defined in 6 NYCRR Part 375-6; and
    - the soil cleanup objectives for groundwater protection as defined in 6 NYCRR Part 375-6.
f. Hazardous soil and/or water – soil and/or water exhibiting the characteristics of a hazardous waste, namely ignitability, corrosivity, reactivity, and/or toxicity as defined in 6 NYCRR part 371 and 40 CFR part 261 or contains 50 ppm PCBs or greater as per 40 CFR 761.
g. Spoils (or Muck) – Materials that consist of soil, fill, gravel, asphalt, concrete, rock, and other accompanying residues, excluding groundwater, generated during the construction process. Spoils are classified as C&D material.
h. Waste Liquids – Contaminated liquid wastes generated during construction which include decontamination liquids, non-aqueous liquids, floating product, etc. which cannot be treated by the on-site groundwater treatment system discussed in the Structural Requirements of the PRDC, as applicable.

The Appendix A: Definitions & Acronyms from the PRDC and Environmental Appendix A – Definitions & Acronyms from the Specifications are included in this EMP as Appendix H.

5.2 Soil Screening Methods / Unanticipated Discovery of Contaminated Soil

Waste characterization of excavated material is further discussed in the EABP. In addition, field screening consisting of visual and olfactory observations (e.g., staining, odors, etc.), will be conducted during excavation work to identify soil for evidence of contamination. As outlined in PRDC, these following procedures will be followed:

a. The Skanska Team will examine excavated spoils, using field screening techniques discussed above, for contamination during excavation activities and prior to removal from the Project Site.

b. If excavated spoils screening indicates potential contamination during excavation work, the Skanska Team will collect samples for laboratory analysis for an expedited Turnaround Time (TAT).
c. The Skanska Team will separate potentially contaminated screened soils from other spoils.
d. The Skanska Team will temporarily store on-site in the same manner (but separate from) contaminated spoils, until classified by analytical results.
e. In the event that unclassified or suspect classified spoils are identified during excavation or Project Site operations (outside the classified areas), the unclassified or suspect classified spoils will be sampled and sent for laboratory analysis for a 5-day TAT.
f. The suspect soils will be clearly identified as unclassified spoils awaiting laboratory results.
g. Where spoils are likely to be stored in excess of 72 hours and classification has not been performed, the unclassified or suspect classified spoils will be sampled after excavation and sent for laboratory analysis for a 5-day TAT.
h. Once actual classification has been established, the spoils will be managed and disposed of accordingly.
i. If unclassified spoils are found to be contaminated, the bin and handling container housing them will be decontaminated after removal of the spoils. The Skanska Team will dispose of decontamination wastes under the same classification as the soils contained within it.

5.3 Soil Excavation

Due to the potential presence of subsurface utilities, prior to excavation work a subsurface utility "one call" mark out will be completed by the Skanska Team/Subcontractor. Soil will be excavated/removed using construction equipment such as excavators and back-hoes. Depth of soil excavation will vary depending upon the type of activity. Excavations greater than 5 feet deep will be appropriately sheeted, shored, sloped, or benched.

5.4 Soil Stockpiling Segregation Criteria

Excavated soil which does not contain visual or olfactory evidence of potential contamination and is deemed structurally or geotechnically suitable will will be stockpiled for on-site reuse in roll-off containers. Soil stockpiling and segregation will be performed in compliance with applicable Federal, State, and local laws and regulations and follow these guidelines:

a. Soil will be field screened.
b. Soil may be stockpiled adjacent to the excavation or may be transported to a soil staging area and stored in a roll-off container.
c. Soil exhibiting evidence of contamination will be stockpiled separately from soils which show no evidence of contamination.
d. Soil exhibiting evidence of contamination will not be used as backfill for this Project.
e. Soil will be segregated and stockpiled separately from concrete, asphalt, and other debris.
f. Soil stockpiles to be disposed off-site will be tested in accordance with disposal facility requirements. Samples of the stockpile will be collected at the frequency

specified by the approved disposal facility and in this EMP. Laboratory analysis will be conducted at a New York State Department of Health (NYSDOH) Environmental Laboratory Approval Program (ELAP)-certified laboratory. If testing identifies hazardous waste, non-permitted transporters will not transport hazardous waste off-site.

g. Soil stockpiles will be located adjacent to excavation areas and/or at approved soil staging areas within project limits/construction staging areas at each station.

5.5 Stockpile Methods

Excavated material will be stockpiled adjacent to the excavation areas in roll-off containers and/or on the ground at approved soil staging areas away from surface drainage features to prevent erosion and sedimentation. Soil stockpiling will be performed in accordance with erosion and sediment control practices which will be designed and constructed in accordance with the technical requirements contained within the New York State Department of Environmental Conservation (NYSDEC) New York State Standards and Specifications for Erosion and Sediment Control, also known as the "Blue Book." The sediment control practices will be outlined in the Project's Stormwater Pollution Prevention Plan (SWPPP) and will be installed prior to major soil disturbances and maintained until permanent protection is established.

5.6 Materials Load Out

It is expected that excavated soil for off-site disposal will be either stockpiled in roll-off containers or loaded directly into trucks for off-site management. Stockpiled soils requiring off-site management will be loaded into trucks using excavators, back-hoes, and front-end loaders.

Soil

Excavated soils that will be generated during construction activities that require off-site disposal will be tested as part of the EABP and transported off-site to the pre-approved receiving disposal facility.

Disposal of Contaminated Soil

If no evidence of contamination is identified by field screening during construction activities (and in accordance with NYSDEC 6 NYCRR Part 360), excavated soil will be stockpiled and re-used on-site as backfill. If evidence of contamination is identifed by field screening, excavated soil will not be used as backfill and will be managed in accordance with this EMP.

Excavated materials characterized by the Skanska Team as contaminated soil, as defined in Section 5.2 of this EMP, will be disposed of or beneficially reused consistent with 6 NYCRR Part 360 and MTA C&D requirements. The Skanska Team will dispose of contaminated soil to an asphalt manufacturing facility, processing facility or landfill which is authorized by the New York State Department of Environmental Conservation (NYSDEC), the New Jersey Department of Environmental Protection (NJDEP), or the Pennsylvania Department of Environmental Protection (PADEP), as applicable, to accept such materials. The safe and proper removal of contaminated soil for off-site disposal will be performed in accordance with Federal, State and local regulations by the Skanska Team. The required documents in connection with the disposal of such material will be provided to the MTA C&D for review and approval.

Disposal of Hazardous Soil

Soil characterized by the Skanska Team as hazardous, as defined in Section 5.1 of this EMP, will be disposed of in accordance with applicable Federal, State and local regulations and MTA C&D requirements. The Skanska Team will dispose of hazardous waste to a Treatment, Storage and Disposal Facility (TSDF), which is permitted by an authorized state agency (e.g. NYSDEC, NJDEP, PADEP) to accept such materials. The Skanska Team will provide documentation of the TSDF permit and compliance status and evidence that the facility is not currently a State or Federally listed Superfund site and is not under consideration by the state (e.g., NYSDEC, NJDEP, PADEP) or the U.S. Environmental Protection Agency as a potential State or Federal Superfund site. The required documents in connection with the disposal of hazardous waste will be provided to MTA C&D for review and approval.

5.7 Materials Transported Off-Site for Temporary Storage

Excavated soil will not be transported off-site for temporary storage.

5.8 Soil Sampling Procedures

Soil for Off-Site Disposal

Waste classification sampling will be performed as part of the EMP to characterize the soil planned for excavation and off-site disposal and will consist of either in-situ soil sampling or soil sampling stockpiled material in a roll off container.

Contaminated Soil

Soil sampling procedures for petroleum-contaminated soil identified during field screening required for off-site disposal.

Stockpile Sampling

Contaminated soil will be stockpiled separately as indicated in this EMP. Soil stockpiles will be characterized for off-site disposal with samples representing 500 cubic yards. Soil stockpiles will be sampled for soil characterization as follows:

- One discrete grab sample will be collected and submitted to the laboratory and analyzed for VOCs as well as TPH or EPH (dependent on disposal facility requirements).
- One composite sample will be collected for each 500 cy sampling grid, dependent on disposal facility requirements. The sample will consist of 5 or 8 discrete grab samples collected throughout the sampling grid and put into a stainless-steel mixing bowl for compositing and containerized in laboratory prepared jars. The composite sample will be submitted to the laboratory and analyzed for the remaining parameters as shown below.

In-situ Sampling

In-situ waste classification sampling will be performed to characterize the area where contaminated soil is identified. A 500 cy sampling grid (dependent of facility requirements) will be established for the limits of work to generate data for off-site

disposal. The sampling grid will be comprised of X (depth), Y (length), Z (width) dimensions.

Borings will be advanced in each sampling grid for representative sampling by one of the following methods:

- Hand tools (e.g., hand auger, post hole digger, etc.) will be utilized to advance shallow borings from the ground surface to 5 feet bgs.
- Soil borings greater than 5 feet bgs will be advanced via direct push drilling methods to advance 5-foot long, 2-inch diameter macrocore samplers lined with acetate sleeves.

Borings will be sampled for soil characterization as follows:

- One discrete grab sample will be collected and submitted to the laboratory and analyzed for VOCs as well as TPH or EPH (dependent on facility requirements).
- One 5-point composite sample will be collected for each boring that represents each 500 cy sampling grid, dependent on disposal facility requirements. The sample will consist of 5 or 8 discrete grab samples collected within borings that are advanced throughout the sampling grid and put into a stainless-steel mixing bowl for compositing and containerized in laboratory prepared jars. The composite sample will be submitted to the laboratory and analyzed for the remaining parameters as shown below.

Laboratory Analysis for Off-Site Disposal

Soils requiring off-site disposal will be sampled and analyzed in accordance with the selected disposal facility's requirements as noted herein. Samples will be collected in such a manner as to comply with the permit requirements of the selected disposal facility and submitted to NYSDOH ELAP-certified laboratory for analysis for the parameters required by the facility. The typical analytical schedule for off-site disposal may include, but is not limited to, the following analyses:

- Target Compound List (TCL) Volatile Organic Compounds (VOCs) by USEPA Method 8260B
- TCL Semi-Volatile Organic Compounds (SVOCs) by USEPA Method 8270D
- Target Analyte List (TAL) Metals by USEPA Method 6010/7471/7196
- Pesticides by USEPA Method 8081
- Herbicides by USEPA Method 8151
- PCBs by USEPA Method 8082
- Resource Conservation and Recovery Act (RCRA) Characteristics:
    - Ignitability USEPA 1030
    - Reactivity USEPA 9014/9030A
    - Corrosivity USEPA 9045C
    - Toxicity – TCLP Metals by USEPA 1311 (TCLP VOCs, SVOCs, Pesticides, and Herbicides only if total concentrations exceed 20X regulatory limit)
- Paint filter by USEPA Method 9095B

- Total cyanide by USEPA 9014
- Extractable petroleum hydrocarbon (EPH) by USEPA 8015
- TPH by USEPA by 418.1

The above analytical schedule is a composite list encompassing typical disposal facility requirements in the New York, New Jersey, and Pennsylvania area. The Skanska Team will contact the disposal facility(s) to obtain the specific analytical requirements for the facility's permit. The Skanska Team will request a summary of analytical parameters, sampling frequency, and analytical method requirements prior to collecting characterization samples and the sampling will be adjusted to include other parameters or test methods that the disposal facility(s) require. Sampling results will be provided to the disposal facility(s) for review and approval.

5.9 Field Procedures

Soil samples will be collected using dedicated sampling equipment. Soil samples will be containerized in laboratory prepared jars, labeled, sealed, packaged to prevent breakage, and placed in a chilled cooler for shipment to the laboratory. Standard chain of custody procedures will be followed.

Borings will be completed to ground surface (if necessary) using hydrated bentonite powder or chips and the ground surface will be restored (patched with concrete or asphalt).

Investigation derived wastes (IDW) will be minimized by returning excess soil from soil borings to its original location, unless grossly contaminated. If decontamination wastewater is generated it will be drummed and staged near the point of generation, pending receipt of the laboratory results. If free of visible contamination, disposable personal protective equipment (PPE) and sampling equipment (scoops, gloves, rope, etc.) will be placed in heavy-duty plastic bags and disposed of properly.

5.10 Materials Transport for Off-Site Disposal

Potential materials to be generated as part of construction activities for off-site disposal are likely to be non-hazardous excavated materials, hazardous excavated material, and petroleum-contaminated materials.

Hazardous soils will be loaded to trucks and transported off-site for disposal at a pre-approved receiving disposal facility. Prior to disposal, the stockpile will be managed per this EMP and proper worker safety precautions and Personal Protective Equipment (PPE) will be employed as outlined in the Health and Safety Plan.

The Skanska Team will dispose of waste materials at approved disposal facilities and in accordance with MTA C&D requirements. Disposal facilities are currently being selected and will be incorporated into this Plan including relevant facility information needed to evaluate the facility for approval (e.g. name, address, permit information, acceptance criteria, waste transporter, etc.).

5.11 Reuse of Excavated Soil

The Skanska Team intends to maximize the re-use of soil originating from the Project Site. Soils excavated on the Project Site, stockpiled, and are determined not to be

contaminated based on field screening, will be reused at the Project Site as backfill material. NYSDEC, under 6 NYCRR 360.13(c), provides the following exemption for on-site reuse of fill material and not subject to the testing requirements for fill material: *"Fill material used as backfill for the excavation from which the fill material was taken, or as fill in areas of similar physical characteristics on the project property is exempt from regulation under this Part. If fill material exhibits historical or visual evidence of contamination (including odors) and will be used in an area with public access, the relocated fill material must be covered with a minimum of 12 inches of soil or fill material that meets the criteria for general fill, as defined in this Part. This provision does not apply to sites which are subject to a department-approved or undertaken program pursuant to Part 375 of this Title."*

Excavated soils will be placed in the general area from which it was initially excavated, or excavations existing on the Project Site. Loading, movement, and staging of excavated soils will be performed in accordance with this EMP.

5.12 Backfill

Material used as imported backfill will be clean soil, sand or gravel procured from sources authorized to provide such material or reuse of on-site excavated soil as discussed above.

5.13 Regulatory References

New York Code of Rules and Regulations (NYCRR)

- 6 NYCRR 360 – Solid Waste Management Facilities
- 6 NYCRR 364 – Waste Transporter Permits
- 6 NYCRR 370 – Hazardous Waste Management System: General
- 6 NYCRR 371 – Identification and Listing of Hazardous Wastes
- 6 NYCRR 375 – Environmental Remediation Programs
- Article 17 – Water Pollution Control
- Title 7 – Permits and Conditions
- Title 8 – State Pollution Discharge Elimination System (SPDES)

New York City Department of Environmental Protection (NYCDEP)

- Title 15 Rules of the City of New York, Chapter 19 – Sewer Use Regulations
- Limitations for Effluent to Sanitary or Combined Sewers

Code of Federal Regulations (CFR)

- 49 CFR 100 to 179 – DOT Hazardous Materials Transport and Manifest System
- 40 CFR Part 112 – Oil Pollution Prevention
- 40 CFR Part 122 – USEPA Administered Permit Program: The National Pollution Discharge Elimination System (NPDES)
- 40 CFR Part 122.26 – Stormwater Discharges (applicable to State NPDES Program)

- 40 CFR 260 – Hazardous Waste Management System: General
- 40 CFR 261 – Identification and Listing of Hazardous Waste
- 40 CFR Part 262 – Standards Applicable to Generators of Hazardous Waste
- 40 CFR Part 273 – Standards for Universal Waste Management
- 40 CFR Part 700 – Toxic Substance Control Act (TSCA)
- 40 CFR Part 761 – Polychlorinated Biphenyls (PCB) Manufacturing, Processing, Distribution in Commerce and Use Prohibitions
- 29 CFR 1910.120 – Hazardous Waste Operations and Emergency Response
- 29 CFR 1910.146 – General Confined Space
- 29 CFR 1926 – Safety and Health Regulations for Construction with special attention to: 1926.65 – Hazardous Waste Operations and Emergency Response but particularly Subparts C, D, E, H, G, O, P, S, Z, AA

New York State Department of Environmental Conservation (NYSDEC):

- Sampling Guidelines and Protocols, Division of Water, Bureau of Spill Prevention and Response, September 1992.
- Division of Environmental Remediation Memorandum DER-10 (Technical Guidance for Site Investigations and Remediation) – Sampling Guidelines and Protocols (DER – 10)
- CP-51: Soil Cleanup Guidance Policy, December 2010.
- NYSDEC Part 375 Soil Cleanup Objectives
- Determination of Soil Cleanup Memorandum, December 12, 2000
- Response to Comments Relative to 12/20/00 Soil Cleanup Consolidation Memo, April 10, 2001
- Soil Cleanup Consolidation – Further Clarifications Memorandum, July 10, 2001.
- Spill Guidance Manual, 1995.
- Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, Division of Water Technical and Operational Guidance Series (TOGS) (1.1.1), June 1998.
- Addendum to TOGS 1.1.1, April 2000.

6.0 GROUNDWATER MANAGEMENT AND DEWATERING

Project work relating to management of groundwater and dewatering will be performed in accordance with the requirements outlined in this EMP, the PRDC, and health and safety procedures. Based on review of the Site Management Plan, groundwater was reported at depths ranging from 9 to 17 feet bgs at the Jamaica Bus Depot and may be encountered during construction: however, the relocation of the maintenance locker rooms from the basement location to the roof eliminated the deepest work avoiding dewatering. Groundwater testing at the Jamaica Bus Depot will be performed as part of the EABP to address groundwater management with respect to dewatering and contaminated and/or hazardous water in areas where groundwater is expected to be encountered that may require dewatering during construction. As documented in the Site Management Plan and in Section 3.0, there is a closed NYSDEC spill case for petroleum contamination at the Jamaica Bus Depot.

Dewatering of the Jamaica Bus Depot property, if required, will be performed to lower groundwater levels and provide sufficiently dry subgrade during construction activities. Dewatering permits are discussed in Section 4.0.

Groundwater was encountered at depths ranging from approximately 18 to 30 feet bgs at the York College property. Dewatering is not anticipated for construction of the New Bus Parking Lot at York College; therefore, groundwater sampling is not required for the York College property.

6.1 Groundwater Sampling

Groundwater samples will be collected from temporary monitoring wells as part of the EABP. Groundwater sampling methods may include hand bailing of wells or purging of wells with a submersible pump. Groundwater samples will be analyzed for:

- NYCDEP Sewer Discharge Parameters
- Target Compound List (TCL) Volatile Organic Compounds (VOCs) by USEPA Method 8260B
- TCL Semi-Volatile Organic Compounds (SVOCs) by USEPA Method 8270D
- Target Analyte List (TAL) Metals by USEPA Method 6010/7471/7196
- Pesticides by USEPA Method 8081
- Herbicides by USEPA Method 8151
- PCBs by USEPA Method 8082

6.2 Dewatering

Dewatering, if required, will be performed in accordance with NYSDEC and NYCDEP permits (refer to Section 4.0 for a discussion of dewatering permits).

Water that is pumped from excavations will not be discharged into the City sewer unless NYCDEP permit requirements are met. Water discharge will be determined by the Skanska Team through the regular implementation of field testing in accordance with required permits or the results groundwater sampling as part of the EABP. Such water may contain hydrocarbons, other soluble petroleum products, or other contaminants, and may have to be passed through a portable treatment apparatus; or be chemically treated and passed through a portable oil water separator to meet the maximum

concentration allowed before discharging to the City sewer system. The treatment process to be used will be acceptable by NYCDEP. Prior to discharge of water, written authorization by NYCDEP for discharge into the City sewer system will be provided to MTA C&D for approval. Alternatively, such water can be collected, transported and disposed of at a RCRA permitted TSDF consistent with NYSDEC 6 NYCRR Parts 360, 364 and 370 requirements.

6.3 Type of Dewatering Activities

Dewatering activities may include the following:

1. Evaluation of groundwater monitoring data from the EABP and Geotechnical Investigation to establish pre-construction baseline ground water quality and static water levels in the local unconfined aquifer. Additional monitoring wells may need to be installed and maintained.
2. Periodic monitoring of the pumped groundwater that will be discharged to surface water or local sewer.
3. Treatment system design and installation prior to construction/dewatering may be necessary as based on baseline water quality and comparison with state groundwater quality criteria.
4. Design, installation, maintenance and eventual dismantling of the dewatering system.

6.4 Method of Dewatering

The dewatering method for the Project will be determined by the Skanska Team for the construction area(s). As per the results of the Geotechnical Investigation, permeability will be established and depth to water will be evaluated with respect to dewatering requirements.

The standard dewatering method consists of wells or a well-point system. When a well is pumped, the groundwater surface in the surrounding area is lowered. The amount of lowering is dependent on the pumping rate, the size of the well, the permeability of the ground, and the distance from the well. Provided that the permeability of the ground can be established with sufficient accuracy, the drawdown curve may be reliably computed. These calculations may be used to plan dewatering operations within the zone of influence of the well(s).

Direct pumping from an open trench is also an option that is quite commonly used. It is simple and inexpensive and can be carried out with very little planning, provided the method is deemed feasible for the Project Site.

6.5 Proposed Treatment of Dewatering Fluids

Groundwater samples will be analyzed and treatment methods, if required, will be identified. The dewatering effluent will be treated as necessary and discharged in accordance with the NYSDEC and NYCDEP Permits, as applicable.

6.6 Contingency Plan

The management of a successful dewatering operation will require constant surveillance and assessment of changing site conditions and water quality based on the nature of this Project. Dewatering options will be continually evaluated and updated as construction progresses. The Skanska Team will have a dedicated Construction Manager at each station who will provide surveillance of dewatering activities, if required.

6.7 Regulatory References

New York Code of Rules and Regulations (NYCRR)

- 6 NYCRR 360 – Solid Waste Management Facilities
- 6 NYCRR 364 – Waste Transporter Permits
- 6 NYCRR 370 – Hazardous Waste Management System: General
- 6 NYCRR 371 – Identification and Listing of Hazardous Wastes
- 6 NYCRR 375 – Environmental Remediation Programs
- Article 17 – Water Pollution Control
- Title 7 – Permits and Conditions
- Title 8 – State Pollution Discharge Elimination System (SPDES)

New York City Department of Environmental Protection (NYCDEP)

- Title 15 Rules of the City of New York, Chapter 19 – Sewer Use Regulations
- Limitations for Effluent to Sanitary or Combined Sewers

Code of Federal Regulations (CFR)

- 49 CFR 100 to 179 – DOT Hazardous Materials Transport and Manifest System
- 40 CFR Part 112 – Oil Pollution Prevention
- 40 CFR Part 122 – USEPA Administered Permit Program: The National Pollution Discharge Elimination System (NPDES)
- 40 CFR Part 122.26 – Stormwater Discharges (applicable to State NPDES Program)
- 40 CFR 260 – Hazardous Waste Management System: General
- 40 CFR 261 – Identification and Listing of Hazardous Waste
- 40 CFR Part 262 – Standards Applicable to Generators of Hazardous Waste
- 40 CFR Part 273 – Standards for Universal Waste Management
- 40 CFR Part 700 – Toxic Substance Control Act (TSCA)
- 40 CFR Part 761 – Polychlorinated Biphenyls (PCB) Manufacturing, Processing, Distribution in Commerce and Use Prohibitions
- 29 CFR 1910.120 – Hazardous Waste Operations and Emergency Response

- 29 CFR 1910.146 – General Confined Space
- 29 CFR 1926 – Safety and Health Regulations for Construction with special attention to:
- 1926.65 – Hazardous Waste Operations and Emergency Response but particularly Subparts C, D, E, H, G, O, P, S, Z, AA.

New York State Department of Environmental Conservation (NYSDEC):

- Sampling Guidelines and Protocols, Division of Water, Bureau of Spill Prevention and Response, September 1992.
- Division of Environmental Remediation Memorandum DER-10 (Technical Guidance for Site Investigations and Remediation) – Sampling Guidelines and Protocols (DER – 10)
- CP-51: Soil Cleanup Guidance Policy, December 2010.
- NYSDEC Part 375 Soil Cleanup Objectives
- Determination of Soil Cleanup Memorandum, December 12, 2000
- Response to Comments Relative to 12/20/00 Soil Cleanup Consolidation Memo, April 10, 2001
- Soil Cleanup Consolidation – Further Clarifications Memorandum, July 10, 2001.
- Spill Guidance Manual, 1995.
- Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, Division of Water Technical and Operational Guidance Series (TOGS) (1.1.1), June 1998.
- Addendum to TOGS 1.1.1, April 2000.

7.0 IMPLEMENTATION OF STORMWATER POLLUTION PREVENTION PLAN

7.1 Objective

The primary objective of the Stormwater Pollution Prevention Plan (SWPPP) for the Project is to control runoff and prevent or reduce pollutants in stormwater discharges from the site during construction activities to the maximum extent possible. The SWPPP is provided under separate cover and recommends applicable temporary erosion and sediment control measures for the Project that are in conformance with the General Permit, GP-0-15-002 and the New York State Standards and Specifications for Erosion and Sediment Control, published by the Empire State Chapter of the Soil and Water Conservation Society, August 2005. Soil erosion and sediment control measures and best management practices will reduce or eliminate erosion and sediment loading to water bodies during construction and control the impact of runoff on water quality. The Skanska Team will submit a SWPPP to the Project CEO 30 days prior to start of work. A SWPPP is not required for test pits, geotechnical borings or environmental borings.

The Skanska Team will manage stormwater, stormwater runoff, and erosion and sediment control to prevent work site debris, including soil, chemicals, and equipment grease from contaminating stormwater runoff. The operations will comply with the applicable Federal, State and local laws and regulations, and MTA policies. Federal, State, and local laws and regulations, and MTA policies include the following:

i. New York State Standards and Specifications for Erosion and Sediment Control
ii. New York State Stormwater Management Design Manual
iii. MTA's Municipal Separate Stormwater Sewer System (MS4) permit – NYR20A479.

7.2 Pollution Prevention Measures

The stated stormwater management objectives will be achieved through the implementation of pollution prevention measures that will be effective both during construction and upon final stabilization of the site. Pollution prevention measures will include the following:

1. Litter, work site chemicals, and work site debris exposed to stormwater will be prevented from becoming a pollutant source (e.g., screening outfalls, daily pick up of litter/debris) in stormwater discharges. A description of work site and waste materials expected to be stored on-site with updates as appropriate, and a description of controls to reduce pollutants from these materials, including storage practices to minimize exposure of the materials to stormwater, and spill prevention and response.

2. Dust control will be monitored and managed in accordance with NYCDEP 15RCNY, Chapter 13, Dust Control Permit and Regulations and as directed by the CEO.

3. Temporary erosion and sediment control (E&SC) measures may include silt fences and/or erosion eels, storm drain inlet protect, stabilized work site entrance(s)/exit(s), and truck washing stations.

7.3 Erosion and Sediment Control (E&SC) Measures

Erosion and sediment controls are the structural and non-structural practices used during the construction process to keep sediment in place (erosion control) and to capture sediment that is moved by storm water before it leaves the site (sediment control). Erosion and sediment control plans will be developed by the Skanska Team and will be incorporated into the SWPPP. Erosion and sediment control measures will be installed prior to area disturbance and will be adjusted and maintained during construction to prevent the release of contaminants to receiving water bodies. Permanent water quality features will be installed as part of the Project to achieve an improvement in the overall quality of stormwater runoff after the Project is completed.

The Skanska Team will provide an Erosion and Sediment Control Quality Work Plan including a description of appropriate E&SC measures 30 days prior to the start of work. These E&SC measures will incorporate the following information:

1. Existing data that describe the stormwater runoff characteristics at the work site;

2. A description of interim and permanent stabilization practices for the work site, including a schedule of when the practices will be implemented;

3. A description of structural and vegetative practices to divert flows from disturbed or exposed soils, store flows, or otherwise limits runoff and the discharge of pollutants from exposed areas of the site to the degree attainable;

4. Procedures for site inspection and enforcement of erosion control BMPs.

7.4 SWPPP Implementation

Erosion and sediment control Best Management Practices (BMPs) will be implemented throughout the duration of the Project, specifically during excavation, backfilling and site restoration activities. Two types of BMP inspections will be performed: (1) Routine daily inspections, and (2) Monthly inspections at construction sites where soil disturbance activities are ongoing. At no time will the Skanska Team allow stormwater runoff from soil excavation / stockpiling operations, or effluent from decontamination operations to migrate and contaminate soils in other areas. The Project will be graded at times and maintained such that stormwater runoff is diverted to soil erosion and sediment control devices. The Skanska Team will erect temporary sediment barriers as required to intercept and detain sediment due to construction.

7.5 Site Inspections

The Skanska Team will perform daily visual inspections of locations and operations that could result in fugitive migration of soil, sediment, grout, muck, or rock materials. The Skanska Team will perform monthly visual inspections of chemical storage containers and equipment for proper stormwater pollution prevention practices and take necessary corrective measures to ensure proper housekeeping compliance. The qualified inspector will inspect erosion and sediment control practices and pollution prevention measures to ensure integrity and effectiveness; post construction stormwater management practices under construction to ensure they are constructed in conformance with contract documents; areas of disturbance that have not achieve final stabilization; and points of discharge from the construction site. The Skanska Team will protect the materials before, during and after installation and protect the installed work

of others. In the event of damage, the Skanska Team will make repairs and replacements necessary to the approval of MTA C&D.

For sites that require a SWPPP, the Skanska Team will maintain copies of records at the site and make them readily available for inspection. These records will document the visual inspections, complaints of fugitive migration (if any) received at the site and corrective actions. Records should be attached to the approved SWPPP. The SWPPP will be maintained and kept on site. The Skanska Team will require personnel to read and comply with the approved SWPPP.

8.0 ASBESTOS, LEAD, POLYCHLORINATED BIPHENYLS, AND UNIVERSAL WASTE

The Project may have hazardous and regulated building materials including asbestos-containing materials (ACMs), lead-containing paint (LCP), polychlorinated biphenyls (PCBs), and universal waste related to mercury containing lamp/equipment (MCL/MCE) and batteries.

8.1 Asbestos-Containing Materials

Prior to the commencement of construction activities, the Skanska Team will perform a comprehensive asbestos survey to determine whether building materials and equipment that may be impacted or disturbed by the Work are Asbestos Containing Materials (ACMs).

Prior to the start of the asbestos survey, the Skanska Team will submit the following to the Project CEO for approval:

a. Copy of valid NYSDOL Asbestos Handling License for the company that will perform the asbestos survey.

b. A list of the company's prior asbestos survey and abatement planning experience within the past five (5) years including projects in New York and current client contact information.

c. A list of the personnel that work on the asbestos survey and abatement plan, their functions, and copies of valid NYSDOL Inspector and Project Designer Asbestos Certifications for these individuals.

d. Current NYSDOH – ELAP and NVLAP and AIHA certifications for the laboratory that will analyze bulk samples.

The asbestos survey will be performed in accordance with 40 CFR Part 763 and 12 NYCRR Part 56. A minimum of three (3) bulk samples will be collected from each homogenous area of friable miscellaneous material and nonfriable suspected asbestos-containing building materials that are not assumed to be ACM. The Skanska Team will coordinate with MTA C&D to ensure that representatives of MTA C&D accompany Skanska Team at all times while the asbestos survey is being performed.

The Skanska Team will prepare an Asbestos Site-Specific Procedure (SSP) to identify project specific requirements in accordance with the requirements outlined in the PRDC related to Appendix B: Asbestos Removal and included as **Appendix I** of this EMP.

The Skanska Team will submit the completed asbestos survey & abatement planning report to MTA C&D for approval within ten (10) business days of survey completion. The survey and abatement planning report to include:

a. Project Summary

b. Asbestos Survey Tables (to be labeled as ES-Drawings by the Skanska Team)

c. Asbestos Abatement Drawings (to be labeled as EN-Drawings by the Skanska Team).

d. Reference Drawings

e. Asbestos Site-Specific Procedures (SSP)

f. Completed MTA NYCT System Wide Variance Payment Form

g. Appendix B: Asbestos Removal of this PRDC

h. Executed Chain of Custody Forms for Asbestos Bulk Sample

i. Laboratory analytical reports

j. Photographic documentation of all ACM and non-ACM materials found during the survey

k. Asbestos Contractor's License, Employee Certifications and Laboratory

l. Certifications

MTA C&D reserves thirty (30) business days to complete its review of the survey report. No construction shall commence prior to approval of the survey & abatement planning report by MTA C&D.

Asbestos Abatement

Asbestos abatement, if ACM identified, will be performed conducted by an Asbestos Abatement Contractor retained by MTA C&D. Asbestos requirements are included in **Appendix I** and below as it relates to the Skanska Team:

A. The Skanska Team will attend an asbestos kick-off meeting and a pre-construction walk-through with their sub-contractors that will be scheduled by MTA C&D to become familiar with ACM present at the Work Site. The Skanska Team will attend asbestos coordination meetings when notified by MTA C&D.

B. The Skanska Team will coordinate its Work with the asbestos abatement contractor to allow for the completion of asbestos abatement Work within the Contract duration. The Skanska Team will allow time for the asbestos abatement contractor to perform the abatement Work in its Contract Schedule.

C. The Skanska Team will notify MTA C&D in writing of its intent to commence a portion of the Work that requires completion of asbestos abatement at least eight (8) weeks prior to the scheduled activity.

D. In addition to the identified ACM, additional ACM may exist on or at the Work site and may be encountered during the Work. If additional ACM is encountered, the Skanska Team will immediately notify MTA C&D and not disturb any suspected ACM. MTA C&D will arrange for a survey of the suspected materials. If additional ACM is found, MTA C&D will abate it.

E. The Skanska Team will provide sufficient electrical power to the asbestos abatement contractor to allow the asbestos abatement contractor to install at least two (2) temporary electrical panels, with each panel requiring up to 100 amps, each time asbestos abatement occurs.

F. The Skanska Team will provide an onsite electrician(s) to isolate electrical panels and heaters and other equipment, shut off power, remove conduits and sever cables to enable the asbestos-abatement contractor to perform its Work. When cutting or

removing conduits, the Skanska Team will pay special attention to the presence of duct seals and the type of wires and cables inside the conduit.

G. Where existing cables contain ACM, the asbestos abatement contractor will remove all ACM. After completion of abatement Work for those cables, the Skanska Team will perform its Work hereunder.

H. The Skanska Team will cut and remove bolts, brackets, studs, and other non-required components that remain after asbestos abatement is completed to restore existing surfaces to a safe condition.

I. The Skanska Team will provide a signal specialist and/or communication engineer for locations and/or equipment and material which require this individual(s) to be present for asbestos abatement.

J. The Skanska Team will prepare all signal and communication bulletins that are required for asbestos abatement.

8.2 Lead-Containing Materials

Painted surfaces in NYC Transit (NYCT) structures are considered to contain lead. Disturbance to these surfaces will be treated as a potential lead hazard to workers in accordance with 29 CFR 1926.62 Lead Exposure in Construction, the requirements of the PRDC12, and federal, state and local laws and regulations.

The Skanska Team will prepare and submit and Lead Disturbance Placard Package prior to the start of work activities that disturb lead. The Skanska Team will perform work that impacts lead-containing materials in accordance with the following procedures:

- Work that affects lead-containing paint will be performed in accordance with the Occupational Safety and Health Administration (OSHA) Lead in Construction Standard 29 CFR 1926.62, OSHA Hazard Communication Standard 29 CFR 1910.1200, and federal, state and local regulations.

- Work will be performed using removal methods and containment systems that will eliminate or minimize the risk of worker and community exposure to lead dust/debris generated during preparation for painting or other construction activity that causes will disturb surfaces which may contain lead to be disturbed.

- Painted surfaces, metal-sheathed cables, and ceramic tiles will be considered to be lead containing and will treat any disturbance to these materials as a potential lead hazard. In addition, paint may contain arsenic, barium, cadmium, chromium, mercury, selenium, silver, and PCBs.

- Fugitive dust, debris, and/or paint chips resulting from manual wet scraping, power tool cleaning, chemical stripping, demolition, rivet busting, torch cutting, open flame burning or welding, saw cutting, bolting/unbolting, drilling, scarification or cable splicing activities will be collected and disposed, including debris and paint chips beyond the boundaries of the work area that result from the work.

- The Skanska Team and its Subcontractors will possess permits and/or licenses required under the Toxic Substances Control Act (TSCA), the Resource and

Recovery Act (RCRA), and permits required by federal, state, and local regulations, for the removal, repackaging, transportation and disposal of lead containing materials.

- A competent person, who has extensive training (i.e., C3/C5 SSPC certified and refreshed on an annual basis) and experience in identifying occupational hazards associated with the removal/disturbance of lead containing materials, will be onsite during work that will disturb lead-containing materials and will confirm that employees, including subcontractors, are trained and experienced in the work of preparing and removing and disposing of the lead-containing materials.

- Provide notice, make reports and comply with laws, ordinances, rules and regulations applicable to the work.

8.3 Polychlorinated Biphenyls (PCBs)

The Skanska Team will furnish all labor, materials, tools, equipment, safety devices, and spill prevention and clean up materials necessary for, and perform work necessary for and incidental to the removal, transportation, and disposal of PCB-containing fluorescent light fixture ballast(s). The Skanska Team will assume that all fluorescent light fixtures have ballast(s) that contain over 500 ppm PCBS.

The Skanska Team will prepare a PCB Containing Fluorescent Light Fixture Ballast Removal Package prior to the start the of removal of light fixtures that contain PCB containing ballasts and will include the following:

- Written site-specific work plan (SSWP) describing the methods and procedures that will be used to: (a) dismantle light fixtures and isolate ballasts, (b) protect Work Site against release of PCB containing materials, (c) store PCB ballasts pending removal from the Work Site, and (d) Name and address of the transporter and TSD Facility that will handle ballasts.
- Spill Response and Notification Plan.
- Valid waste transporter permits for all states through which the ballasts will pass through.
- Valid Recycling Facility permits for all facilities that will handle ballasts from recycling through incineration.
- Written description of the methods and procedures to be followed for recycling of the ballasts and disposal of all PCB wastes from the Recycling Facility.

The Skanska Team and Subcontractors involved in the Work will possess permits and/or licenses required under the Toxic Substance Control Act (TSCA), the Resource Conservation and Recovery Act (RCRA), as well as any state or local permits or licenses required, for the removal, repackaging, transportation and disposal of PCBs, PCB equipment and PCB waste.

Protective ground covering will be provided with material of sufficient strength to prevent tearing, nonabsorbent, fire retardant and of sufficient size to minimize seams will be provided. Seams will be overlapped and sealed to prevent migration of materials between seams. Adhesive Tape with sufficient adhesive strength that is formulated to adhere to the protective ground covering and disposal bags of sufficient strength to prevent tearing and leak proof will be used. Labeling will be in accordance with 40 CFR Parts 262 and 761.45(a), 49CFR Part 172 and 6NYCRR Part 372. Drums for disposal of

PCB-containing ballast will meet the requirements set forth in 40 CFR Parts 264, 265 and 300, and 49 CFR Parts 171-178. The area where light fixture dismantling will take place will be covered with protective ground covering and cordoned off to prevent access by unauthorized personnel. After removal from the light fixture, the ballasts will be placed in drums. Recycle non-leaking PCB ballasts and ship using a non-hazardous waste manifest. PCB-containing components shall be incinerated pursuant to 40 CFR 761.70. Leaking ballasts and all material that came in contact with the leaking ballasts will be assumed to be hazardous waste and will be shipped using a hazardous waste manifest. Leaking PCB Ballasts and any material contaminated by such leakage shall be incinerated pursuant to 40 CFR 761.70. The ballasts shall be stored in the Universal Waste Storage Area.

8.4 Mercury Containing Lamp/Equipment (MCL/MCE)

The Skanska Team will furnish labor, materials, tools, equipment, and perform Work necessary for the removal, transportation, and disposal of Mercury Containing Lamps (MCL) and/or Mercury Containing Equipment (MCE), as they pertain to Large Quantity Handlers of Universal Waste within the Work Site. The Skanska Team will obtain federal or state permits required to remove and transport MCL and MCE.

The Skanska Team will prepare and submit an MCL/MCE Removal and Handling Plan prior to the start of removal of MCL and/or MCE from their current locations. The MCL/MCE Removal and Handling Plan will include the following: (a) Detailed Work Plan – A written description detailing the method(s) and procedure(s) for the removal, packaging, transportation and recycling of all MCL and/or MCE; (b) Emergency/Spill Response and Notification Plan; (c) Valid 6 NYCRR Part 364 transporter permit issued by NYSDEC and transporter permits for all states that the MCL and/or MCE will pass through; (d) Valid USEPA and/or state permit(s) for Destination Facility and literature from the facility explaining the process that will be used to recycle MCL and MCE; and (e) Proof of supervisor and worker training.

The Skanska Team and Subcontractors involved in the Work will possess permits and/or licenses required by the USEPA, as well as any state or local permits or licenses required, for the removal, repackaging, transportation and disposal of MCL and/or MCE.

The Skanska Team will remove, manage and recycle of all intact MCL and MCE as Universal Waste in accordance with Universal Waste Regulations, with the exception of storage which will be in accordance with Paragraph 12.13.

The Skanska Team will remove, manage, and dispose of broken MCL and damaged MCE and clean-up debris as hazardous waste in accordance the Hazardous Waste Regulations.

Protective ground covering will be provided with material of sufficient strength to prevent tearing, nonabsorbent, fire retardant and of sufficient size to minimize seams will be provided. Seams will be overlapped and sealed to prevent migration of materials between seams. Adhesive Tape with sufficient adhesive strength that is formulated to adhere to the protective ground covering and disposal bags of sufficient strength to prevent tearing and leak proof will be used. Labeling will be in accordance with Universal Waste Regulations for handling, transportation, and disposal of universal waste. Boxes for disposal will be structurally sound and of suitable size corresponding to the waste (i.e. MCL or MCE) to be disposed and containers acceptable for disposal will meet

requirements of 40 CFR Parts 260-264, 6NYCRR Parts 370-373 and 49 CFR Parts 171-178.

The Skanska Team will ensure that employees involved with the handling of MCL and/or MCE are provided training in accordance with universal waste regulations prior to the date of employee's assignment at the Work Site and maintain documentation of all completed trainings.

The Skanska Team will ensure at least one (1) on-site supervisor has satisfactorily completed the OSHA 40 Hour – HAZWOPER training within the past year.

8.5 Removal of Batteries

The Skanska Team will use means and methods to manage the quantities of waste generated. The goal of this project is to divert at least 80% of construction and demolition (C&D) debris from landfilling through recycling, reuse and salvage. Calculations of this percentage may be done by weight (tons) or volume (cubic yards) and the methods chosen will be used consistently throughout.

The Skanska Team will determine the battery type and properly recycle these materials in accordance with this EMP, PRDC, and, other applicable laws. The Skanska Team will furnish all tools, personnel, equipment, safety devices, acid neutralization/cleanup material, and spill prevention equipment/plans and cleanup material including protective equipment and ensure that batteries are protected from moisture and sealed when they are removed from service.

Prior to execution of Work, the Skanska Team will obtain permits or licenses required for handling Universal Waste under the USEPA, as well as any NYSDEC or local permits or licenses required for the removal, repackaging, transportation and recycling of batteries.

The Skanska Team will prepare and submit a Battery Removal and Handling Plan prior to the start of battery removal. The Battery Removal and Handling Plan will include the following: (a) Detailed Work Plan – A written description detailing the method(s) and procedure(s) for the removal, packaging, transportation and recycling of all MCL and/or MCE; (b) Emergency/Spill Response and Notification Plan; (c) Valid 6 NYCRR Part 364 transporter permit issued by NYSDEC and transporter permits for all states that the MCL and/or MCE will pass through; (d) Valid USEPA and/or state permit(s) for Destination Facility and literature from the facility explaining the process that will be used to recycle MCL and MCE; and (e) Proof of supervisor and worker training.

Upon approval of the Battery Removal and Handling Plan, the Project CEO will provide an original Certificate for Removal of any batteries, which shall be posted at the Work Site. Do not remove any batteries without the signed Certificate for Removal prominently posted at the Work Site. Battery removal operations will cease upon expiration of the Certificate for Removal and will not resume until a request for a Certificate for Removal extension has been approved by the Project CEO.

The batteries will be handled as Universal Waste in the following manner:

- Handle batteries in a manner that will prevent spill;
- Discharge batteries to remove electric charge;
- Cover the terminals in duct tape or wrapped in a manner capable of preventing

discharge prior to storing in the accumulation area;

- Tightly place caps on all batteries and/or containers in which the batteries are stored;
- Sort batteries by type;
- Properly store batteries in a structurally sound lockable container. Batteries should not be stored in a sealed container to prevent hydrogen build up;
- Label all battery containers; and
- Immediately contain any spills by using appropriate protective equipment.

Damaged batteries that cannot be managed as Universal Waste will be managed as hazardous waste (i.e. leaking batteries), in accordance with 40 CFR Parts 260-272 and 6NYCRR Parts 370-373 and 376. Intact batteries removed will be lawfully recycled by an USEPA/State- approved Destination Facility as defined in the Universal Waste Regulations. The Project CEO will be notified of all Universal Waste releases and guidance on cleanup, storage and disposal.

Protective ground covering will be provided with material of sufficient strength to prevent tearing, nonabsorbent, fire retardant and of sufficient size to minimize seams will be provided. Seams will be overlapped and sealed to prevent migration of materials between seams. Adhesive Tape with sufficient adhesive strength that is formulated to adhere to the protective ground covering and disposal bags of sufficient strength to prevent tearing and leak proof will be used. Labeling will be in accordance with Universal Waste Regulations for handling, transportation, and disposal of universal waste. Containers acceptable for disposal will meet requirements of 40 CFR Parts 260-264, 6NYCRR Parts 370-373 and 49 CFR Parts 171-178.

The Skanska Team will ensure that employees involved with the handling of MCL and/or MCE are provided training in accordance with universal waste regulations prior to the date of employee's assignment at the Work Site and maintain documentation of all completed trainings.

The Skanska Team will ensure at least one (1) on-site supervisor has satisfactorily completed the OSHA 40 Hour – HAZWOPER training with in the past year.

For waste packing, the Skanska Team will prepare and package batteries and battery-powered device(s) containing batteries in a manner to prevent a dangerous evolution of heat and short circuiting.

9.0 WASTE MANAGEMENT

The Skanska Team will prepare and submit a Waste Management Plan (WMP) to be implemented for the entire duration of the on-site phases of the Contract. The implementation will be included in the agenda of the job progress meetings.

The WMP will contain the following information:

1. Analysis of the proposed sitework waste expected to be generated, including types and approximate quantities. Types should be determined by a combination of the following:
    a. at a minimum, regulatory requirements of the latest known EO4 reporting
    b. categories of recyclables available on the site
    c. categories accepted for recycling at the selected facilities
    d. reuse opportunities both on and off site
    e. suppliers' procedures for retention and return of reusable packaging materials. Total project diversion rate shall be no less than 80%
    f. all other categories of waste generated (i.e. regulated, universal, hazardous)
2. Projection of the Contract phases (by reference to quarter(s) of calendar year(s)) in which the majority of each waste category is expected to be removed from the worksite.
3. Waste diversion strategy identifying whether and how proposed categories will be separated onsite or collected and removed commingled by a hauler from the site and separated at the recycling processor, or the hybrid thereof.
4. Methods and frequency of awareness training for all the workers on the Work Site to the requirements and provisions of the Waste Management Plan.
5. Proposed alternatives to landfilling:
    a. A list of each material to be salvaged, reused, or recycled for the duration of the Contract,
    b. the proposed destination for each material, and
    c. the projected amount of recycling (by weight if source-separated or by average percentage provided by the recycling processor of commingled wastes).
6. A description of the means and methods by which materials destined for diversion will be protected from contamination, and a description of the means to be employed in recycling the above materials consistent with the requirements for acceptance by recycling processors to be utilized.
7. For materials that cannot be salvaged, reused, or recycled, the Skanska Team will identify the landfill(s) where waste will be disposed of and shall provide valid landfill permits.
8. Information about means of transportation for all types of waste and

identification of licensed waste haulers for all waste streams. The Skanska Team will include valid licenses of identified haulers.

9. Information about final recipients of the various waste streams with all appropriate licenses and recycling percentages of mixed construction and demolition debris (if applicable) consistent with 6NYCRR Part 360 regulations.

10. Valid permitting for all transfer, treatment, storage and disposal facilities, along with a written description of the methods used to handle the waste.

In addition to the WMP, a Quarterly Report will be prepared and an Emergency Response and Contingency Plan. The Emergency Response and Contingency Plan will be prepared in accordance with 6 NYCRR 373-3.4 and include a contact list and telephone numbers for the nearest police precinct, fire department, hospital, NYSDEC, NYCDEP, the Skanska Team's Project Manager and Environmental Manager and the MTA Project CEO. The plan will be posted prominently in storages area(s) at all times.

The goal of this project is to divert at least 80% of construction and demolition (C&D) debris from landfilling through recycling, reuse and salvage. Calculations of this percentage may be done by weight (tons) or volume (cubic yards) and the methods chosen will be used consistently throughout.

For hazardous and regulated wastes, MTA C&D will be identified as the generator and will provide the EPA identification number where required, but the Skanska Team will be responsible for managing waste in accordance with Hazardous Waste, Universal Waste, Used Oil and Soldi Waste Regulations:

1. United States Environmental Protection Agency (USEPA):
    a. 40 CFR Parts 260-272 – Hazardous Waste Regulations
    b. 40 CFR Part 273 – Standards for Universal Waste Management
    c. 40 CFR Part 297 – Used Oil Regulations
    d. 40 CFR Part 761 – PCB Regulations
2. United States Department of Transportation (USDOT):
    a. 49 CFR 171-180 – Hazardous Materials Regulations
3. New York State Department of Environmental Conservation (NYSDEC)
    a. 6 NYCRR Part 360 – Solid Waste Regulations
    b. 6 NYCRR Part 364 - Waste Transporter Permits
    c. 6 NYCRR Parts 370 – 373 – Hazardous Waste Regulations
    d. 6 NYCRR Subpart 374-3 - Standards for Universal Wastes
    e. 6 NYCRR Part 376 – Land Disposal Restrictions
    f. 6 NYCRR Part 374-2 – Used Oil Regulations
    g. Policy DSH-HW-03-17 – Counting of Container and Packaging Weights

MTA C&D will designate a representative who will be permitted to sign waste profiles and disposal documentation/manifests as the waste generator.

The Skanska Team will ensure workers that are involved with the handling and storage of Hazardous Waste shall be trained in accordance with 6NYCRR Part 373 – 3.2(g) prior to the start of Work, and refreshed annually.

Prior to start of activities that generate waste, the Skanska Team will coordinate with MTA C&D to establish a waste storage area(s) in accordance with the applicable laws and regulations and MTA C&D requirements for the particular type of waste that will be stored at that location. The storage area(s) shall be inspected with the Environmental Manager and the Project CEO prior to storage of waste. Store non-hazardous waste separately from hazardous waste. Do not co-mix hazardous waste with non-hazardous waste. Do not mix different types of hazardous waste together unless specifically approved by the Project CEO and the TSDF. Storage areas will be located within the MTA property or directly below the footprint of an elevated structure where Work is taking place. Storage of waste in storage areas is limited to 90 days from the date that waste was initially placed inside the container. Waste generated from paint removal operations that involve abrasive blasting, waste generated from that activity is further limited to storage for 45 days.

The Skanska Team will arrange for the transportation of waste to the approved facility in accordance with 6NYCRR Part 364, Hazardous Waste Regulations, Universal Waste Regulations, Used Oil Regulations, Solid Waste Regulations and all Law for states through which the waste will be transported through. The Skanska Team will provide valid transporter permit(s) to the Project CEO. Transportation of waste by the Skanska Team is limited to within MTA property or street directly beneath an elevated MTA structure with an active EPA Identification Number. A manifest will be prepared by the Skanska Team for each shipment of waste that leaves the Work Site, it will be signed by an MTA employee. The manifest utilized will be as follows:

<u>York College</u>

EPA ID#'s are TBD for now and will be requested as needed.

<u>Commercial / Residential Properties</u>

EPA ID#'s are TBD for now and will be requested as needed.

<u>Jamaica Bus Depot</u>

1. Shipment of Hazardous Waste
    a. The Skanska Team will prepare the Uniform Hazardous Waste manifest (EPA Form 8700-22 and if necessary, EPA Form 8700-22A (Rev. 12-17)) for each shipment in accordance with Hazardous Waste Regulations. Generator related information to be included on the manifest is as follows:
        i. Item 1 on the manifest, Generator's US EPA Identification Number (NYD980642268), shall be obtained from MTA DSO – Environmental Services.
        ii. Item 3 of the manifest shall be completed with telephone number

(800) 233- 4377.

ii. The following information shall be included in Item 5 on the manifest: Generator's Name and Mailing Address:

NYCT OFFICE OF SYSTEM SAFETY (MTA C&D),
2 BROADWAY – ROOM D3.123 (MAILBOX 321)
NEW YORK, NEW YORK 10004
CONTRACT # C-40355

iv. Generator's Site Address:

JAMAICA BUS DEPOT,
164-18 SOUTH ROAD,
JAMAICA, NEW YORK 11433

v. Generator's Phone: (646) 252-3540

vi. Items 11 and 12 of the manifest shall take into account NYSDEC Policy DSH- HW-03-17 – Counting of Container and Packaging Weights.

vii. In addition to the federal waste codes listed in Item 13 of the manifest "Waste Codes", Item 13 shall also contain a New York State waste code identified in 6NYCRR Part 372.2 (b)(2)(ii) to designate the ultimate disposal method for the hazardous waste.

viii. Item 14 of the manifest "Special Handling Instructions and Additional Information" shall list the Contract number and container #s.

b. A Land Disposal Restriction (LDR) Form in accordance with Hazardous Waste Regulations shall accompany every manifest.

2. Shipment of Universal Waste, Used Waste Oil, Asbestos Waste, Non-Hazardous Waste:

a. The Skanska Team will prepare the Non-Hazardous Waste manifest that is similar in format to the Uniform Hazardous Waste manifest (EPA Form 8700-22 and, if necessary, EPA Form 8700-22A (Rev. 12-17) for each shipment in accordance with applicable waste Laws. Generator related information to be included on the manifest is as follows:

i. Generator's Name and Mailing Address:

MTA C&D DSO-ENVIRONMENTAL
SERVICES, CONTRACT # C-40355
BROADWAY – 3RD FLOOR
NEW YORK, NEW YORK 10004

ii. Generator's Phone: (646) 252-3546

iii. Work Site Name: JAMAICA BUS DEPOT

iv. Work Site Address:

JAMAICA BUS DEPOT,
164-18 SOUTH ROAD,
JAMAICA, NEW YORK 11433

v. Copies of all parts of the manifest, which are to be returned to MTA as the generator, shall be sent to “Generator’s Name and Mailing Address” above.

vi. Item 14 of the manifest "Special Handling Instructions and Additional Information" shall list the Contract Number and Container #s.

All fees, transportation costs and special precautions will be the responsibility of the Skanska Team. Any violations of applicable Laws and regulations and the defense against such violations will be solely the responsibility of the Skanska Team who will be solely liable for any fines or assessments levied against the Project due to improper handling or disposal of the waste material.

The Skanska Team is responsible for the safe and proper removal and conveyance of removed materials to a fully licensed, permitted and approved facility for treatment, recycling and/or disposal. The facility(s) shall be in compliance with Hazardous Waste Regulations, Universal Waste Regulations, Used Oil Regulations, and/or Solid Waste Regulations.

The Skanska Team will submit information regarding a proposed facility or designated that it intends to use to recycle/dispose of the waste to the Project CEO for approval prior to removal of waste. The Skanska Team will provide valid TSDF permitting to the Project CEO. MTA C&D may inspect the facility(s) at any time.

If the facility needs to return the waste to the Skanska Team or if the facility has violated any regulatory enforcement action, the Skanska Team will immediately notify the Project CEO in writing and make provisions for the proper and lawful storage of the waste until an alternate facility is located by the Skanska Team and approved by MTA C&D. The Skanska Team will be responsible for the associated fines. Additionally, the Skanska Team will be responsible for coordination and implementation of shipment of the original material.

The Skanska Team will submit Certificates of Recycling/Disposal prepared by the facility which specify that the waste has been properly recycled/disposed of within six (6) months from the date it was removed from the Site. Such certificates will include reference to the manifest for the original shipment from MTA property and the final shipment to the ultimate destination facility, as well as the address of the generator facility.

10.0 SPILL PREVENTION AND RESPONSE

The Skanska Team will perform Work necessary for the prevention of and cleanup of spills of hazardous materials from equipment and materials used as part of the Project. In addition, the Skanska Team will conduct operations in a manner that prevents the release to the environmental of oil and other substances defined as contaminates or hazardous by Federal and State Regulations.

10.1 Submittals

A. Spill Prevention and Response Plan (SPRP)

B. Weekly Inspection Reports of Material Storage Areas

C. Valid Transporter(s) and TSDF(s) permit(s)

D. Post Spill Reports

E. Certificates of Disposal or Recycling

F. Manifests

10.2 Spill Prevention Methods

- Materials will be stored in containers that are compatible with the material being stored.
- Store containers on pallets for protection and inspection. Container storage areas will have adequate space between containers for inspections and management. Containers will be properly labeled and closed except when materials are being removed.
- Store containers with liquid materials in secondary containment devices that have the capacity to hold 10% of total volume of the containers or 10% of the largest container, whichever is greater.
- The Skanska Team will have the appropriate types and amounts of spill response equipment on site for the materials that will be stored and used at the Work Site. The Skanska Team will train its workers on the proper use of this equipment.
- The Skanska Team will conduct weekly inspections of areas where materials are stored to ensure containers are in good condition and proper spill prevention measures are in place. Maintain results of inspections in a log. Submit inspection results to the Project CEO no later than the 5th day of every month.
- At least once per day, inspect all equipment containing liquid systems (including, but not limited to dozers, backhoes, loaders, drill rigs, trucks, hoists, hi-lifts and cranes) to ensure that all liquid-containing systems are leak free; that hoses, tubing, and hydraulic lines are all in good operating condition; and that all plugs, stoppers, valves, etc. are properly sealed for leak free operation. For systems that cannot be completely “leak free,” they shall have leakage rates maintained “As Low As Reasonably Achievable” (ALARA). Contain all leakage for such systems.
- Promptly clean up any to prevent any release into the environment. Maintain spill kits at each Work Area where spill equipment is utilized.

10.3 Spill Response

The Skanska Team will immediately notify the MTA Project CEO of any spill of materials from containers or liquids from equipment. As directed by the Project CEO, or otherwise required by law, the Skanska Team will notify the following agencies pursuant to 40 CFR 117 and 40 CFR 302 regarding reportable quantities:

- New York State Department of Environmental Conservation (NYSDEC) 24 Hour Spill Hotline at (800) 457-7362
- National Response Center (1-800-424-8802) if the release is reportable under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) of 1980
- The United States Coast Guard if the spill or release has the potential to impact the water at 1- 718-354-4119/4120 (24-hour hotline number)
- New York City Department of Health (NYCDOH)
- New York City Department of Environmental Protection (NYCDEP)

In the event of a spill the following procedures will be used:

- Cordon off or otherwise delineate and restrict access to an area encompassing any visible traces plus a 3-foot buffer and place signs that are clearly visible advising persons to avoid the area to minimize the spread of contamination as well as the potential for human exposure.
- Utilize workers who are trained in accordance with 29 CFR Part 1926.65.
- Immediately contain and remediate the spill using approved methods, materials, and equipment.
- For a mercury spill comply with the following:
    - Use a mercury spill absorbent to clean any spills. Do not use mops and brooms.
    - Perform air monitoring throughout the cleanup of the spill to confirm extent of contamination and effectiveness of clean up procedures.
    - After clean-up, perform additional air monitoring to determine the effectiveness of the effort. If post-spill clean-up levels of mercury vapor remain higher than pre-spill levels after clean-up, the surface must be painted with epoxy and resampled again.
- For a spill of PCB oil comply with the following:
    - Decontaminate the solid surfaces with a double wash/rinse; must be cleaned to 10 micrograms per 100 square centimeters by standard commercial wipe tests.
    - Excavate and remove all soil (earth material) within the spill area, which shall include all visible traces of spill and a buffer of 1 lateral foot around the visible traces, as PCB waste. The excavated area shall then be backfilled with clean soil containing less than 1 ppm PCB.
    - Complete the spill cleanup within the time period specified in 40 CFR 761.

- Excavate all soil within the spill area and remove as waste unless testing shows soil is not contaminated. The excavated area shall then be backfilled with clean soil.
- Remediation costs will be borne by the Skanska Team at no additional cost to MTA C&D. Removal, storage, transportation, and disposal of contaminated materials will be performed in accordance with RCRA, NYSDEC and all applicable laws, rules and regulations, including for collection and analysis of final cleanup verification samples prior to backfilling.
- Provide valid permit(s) for Transporter(s) and TSDF(s) prior to removal of any waste generated as a result of the spill cleanup from the Work Site.
- Submit a Post Spill Report to the Project CEO within five (5) days of completion of cleanup.

10.4 Regulatory Requirements

A. United States Environmental Protection Agency (USEPA)

1. 40 CFR Part 112 – Oil Pollution Prevention
2. 40 CFR Part 300 – National Oil and Hazardous Substances Pollution Contingency Plan
3. 40 CFR Part 302 – Designation, Reportable Quantities, and Notification
4. 40 CFR Part 761 – Toxic Substance Control Act

B. New York State

1. Article 12 of the Navigation Law

C. New York State Department of Environmental Conservation (NYSDEC)

1. 17 NYCRR Part 32 – Oil Spill Prevention and Control
2. 6NYCRR 360 – Solid Waste Management Facilities

11.0 PETROLEUM BULK STORAGE TANKS

The Skanska Team will remove, decontaminate, and dispose of PBS tanks and associated and ancillary equipment. A summary of PBS tanks is included in Section 3.0. In service and closed in-place PBS tanks will be removed and disposed of.

Prior to the start of any Work to remove, decontaminate, or dispose of PBS tanks, the Skanska Team will submit, at minimum, the following to the Project CEO for review and approval:

a. Site Assessment
b. Pre-work notification form (file with NYSDEC 30 days prior to start of work)
c. Work Plan
d. Site Safety and Health Plan
e. Emergency Action Plan
f. Field Testing and Laboratory Testing Plan
g. Tank and Piping Removal and Disposal Plan
h. Spill and Discharge Control Plan
i. Worker Qualifications'
j. Laboratory Services (and Certifications)
k. Valid Permits for Transporters and Treatment, Storage and Disposal Facilities

The Skanska Team will submit the following to the MTA CEO after the work is completed:

a. Tank Closure Report
b. Manifests
c. Certificate(s) of Disposal

The Skanska Team will install PBS tanks in accordance with Contract Documents and 6 NYCRR Part 613.

a. Prior to the installation of the PBS tanks, the Skanska Team will fill out the NYS PBS Pre-work notification to be filed with NYSDEC at minimum 30 days prior to start of work.
b. The Skanska Team will fill out the PBS application to register the tanks with NYSDEC (as Out-of-Service) once the tank installation is complete.
c. The Skanska Team will provide proof that the tanks have been installed in accordance with 6 NYCRR Part 613-4 and FDNY and EPA requirements.
d. The Skanska Team will submit to PCEO as-built drawings signed and stamped by a PE.
e. The Skanska Team will perform all the tightness testing of the tanks and piping and provide the tightness testing reports to the PCEO.
f. The Skanska Team will complete the PBS inspection form to change the status from Out-of-Service to In-Service and submit it to PCEO.
g. The tanks cannot be filled with fuel for any reason until the new tank is listed on facilities PBS certificate.

Prior to PBS installation activities, the Skanska Team will prepare and submit a Pre-Work Notification for Bulk Storage Tank Installation to the NYSDEC to provide notice of the proposed PBS installation. A draft notification form will be submitted to the Project CEO for approval prior to submission to NYSDEC. The notification form will be submitted to the NYSDEC a minimum of 30 days prior to PBS installation activities.

The Skanska Team will fill out the PBS application to register the tanks with NYSDEC (as Out-of-Service) once the tank installation is complete. Proof that the tanks have been installed in accordance with 6 NYCRR Part 613-4 and FDNY and EPA requirements and as-built drawings signed and stamped by a PE will be submitted. The Skanska Team will perform tightness testing of the tanks and piping and provide the tightness testing reports to the MTA CEO. The Skanska Team will complete the PBS inspection form to change the status from Out-of-Service to In-Service and submit it to the MTA CEO. The tanks cannot be filled with fuel for any reason until the new tank is listed on facilities PBS certificate.

Pre-work notifications with NYSDEC will be coordinated through the MTA Office of System Safety.

Coordination with NYSDEC and other agencies will be coordinated through the MTA CEO and MTA Office of System Safety.

The following codes and standards are applicable for the Work related to PBS tanks:

New York State Department of Environmental Conservation (NYSDEC)

- 6 NYCRR 360.2 – Environmental Monitoring
- 6 NYCRR 364 – Waste Transporter Permits
- 6 NYCRR 370 – Hazardous Waste Management
- 6 NYCRR 371 – Identification List of Hazardous Waste
- 6 NYCRR 372 – Hazardous Waste Manifest System for Generators, Transporters & Facilities
- 6 NYCRR 373.1-2 – Hazardous Waste Management
- 6 NYCRR 375.4 and 375.6 – Environmental Remediation Programs
- 6 NYCRR 598.10 – Tank Closure/ Change in Service
- 6 NYCRR 598.14 – Release Reporting, Investigation, Confirmation and Corrective Action
- 6 NYCRR 613 – Petroleum Bulk Storage
- 6 NYCRR 750 – SPDES Permit

Remediation Guidance Documents

- CP-43 – Groundwater Monitoring Well Decommissioning
- DER-10 – Site Investigation & Remediation
- STARS MEMO #1 Petroleum Contaminated Soil Guidance Policy
- TOGS 1.1.1 NYSDEC groundwater criteria

Underground Storage Tank Cleaning/Closure Guidance Documents

- American Petroleum Institute: 1604 – Abandonment & removal of USTs 2015 Cleaning
- Petroleum Storage Tanks 2016- Entering & Cleaning Petro. Storage Tanks

National Fire Protection Agency

- a. 326 – Safeguarding of Tanks & Containers for Entry, Cleaning & Repair
- b. 327 – Cleaning & Safeguarding small tanks & Containers

12.0 ADDITIONAL SITE MANAGEMENT ACTIVITIES

12.1 Mold Control

Though assumed to not be present, the Skanska Team will be aware of the potential to encounter mold during performance of the Work. If suspected mold is encountered at the Work Site, the Skanska Team will be responsible for worker protection in accordance with OSHA regulations, and all other applicable federal, state, and local regulations and guidelines.

General Requirements:

If suspected mold is encountered at the Work Site, or MTA C&D confirms that mold is present at the Work Site, the Skanska Team will prevent the migration of mold contamination to areas adjacent to the Work Site and will take measures necessary to prevent the creation of mold conditions in the Work Areas for the duration of the contract. In the event that the Skanska Team creates mold, or is required to remediate mold under this Contract, or MTA C&D confirms that mold is present at the Work Site, the Skanska Team will shall comply with the following:

1. New York City Department of Health, Bureau of Environmental & Occupational Disease Epidemiology: Guidelines on Assessment and Remediation of Fungi in Indoor Environments.

2. New York State Department of Health: Bureau of Toxic Substance Assessment, Mold Fact Sheet.

3. U.S. Environmental Protection Agency (EPA 402-K-01-001): Mold Remediation in Schools and Commercial Buildings.

4. Center for Disease Control: Mold: Prevention and Remediation Strategies for the Control and Prevention of Fungal Growth.

5. The Institute of Inspection, Cleaning and Restoration (IICRC): Mold Remediation Standard (IICRC S520) establishes mold contamination definitions, descriptions and general guidance.

12.2 Dust Control

Skanska Team will be responsible for maintaining dust control during construction and demolition activities that disturb concrete or other masonry. Dust control measures will prevent excessive particulate matter emissions and concentrations, and nuisance dust conditions in the Work Site and the immediate surrounding areas.

The Skanska Team will develop and implement a Dust Control Work Plan, a Silica Air Sampling Plan, and Air Sampling Report to be submitted under separate cover. The Dust Control Work Plan will comply with PRDC 12, Division 1, and the Site Management Plan.

Dust control methods:

A. Engineering controls and work practice methods shall be in compliance with those listed in Table 1: "Specified Exposure Control Methods When Working with Materials Containing Crystalline Silica" of 29 CFR 1926.1153(c), or "Alternative Exposure Control Methods" as described in 29 CFR 1926.1153(d).

B. Wet Suppression Method

   a. Consists of the application of water or a wetting agent in solution with water

   b. Wetting agents will be water soluble, non-toxic, non-reactive, non-volatile and non-foaming.

   c. The use of petroleum products for wet suppression is prohibited.

   d. Wet suppression equipment shall consist of mobile sprinkler pipelines, tanks, tank trucks, or other devices capable of providing regulated flow, uniform spray, and positive shut-off.

   e. Protect against electrical and other safety hazards when using wet suppression methods.

   f. The Skanska Team will prevent spent water or wetting agent runoff from being discharged to public sewers, body of water, or into the ground. The Skanska Team will retain a laboratory to perform the sampling of the collected spent water or wetting agent runoff.

   g. The sampling analysis characterization will determine the means of disposal in accordance with NYCDEP requirements. The Skanska Team may not allow runoff of spent water or wetting agent to be discharged without written approval from NYCDEP.

   h. If a permit is required to discharge water into a storm sewer, body of water, or, into the ground, the Skanska Team is responsible to obtain the appropriate NYSDEC permit coverage.

C. Physical Barriers

   a. Windscreens will be a durable fabric mesh of 50 percent porosity attached to a construction fence.

   b. Wind barriers will be solid wood fences or solid durable fabric attached to a construction fence, or other solid barriers intended to block the passage of wind.

   c. For physical barrier dust control, the Skanska Team will secure windscreens, wind barriers, tarps, meshes, strips doors and/or plywood barriers to construction fences or solid barriers to minimize wind erosion and the spread of dust. The Skanska Team will repair or replace when any physical barrier becomes torn or damaged during Work that may cause dust.

D. High Efficiency Particulate Air (HEPA) vacuums will be used. HEPA vacuums shall be equipped with HEPA filters. The vacuums will be able to handle dust without clogging the vacuum filter by automatically pulsing the filter clear of dust and debris during operation of the vacuum.

E. Power tools will be equipped with a commercially-available shroud and HEPA-filtered dust collection system that is able to handle dust without clogging the vacuum filter by automatically pulsing the filter clear of dust and debris during operation of the dust collection system or are used with an integrated water delivery system to keep dust emissions to a minimum.

Dust Control Conditions in and Around the Work Site:

A. The Skanska Team will check that emissions of respirable crystalline silica do not exceed background level of contaminants outside of the Work Site in spaces occupied by MTA employees and the public.

B. Any areas outside the Work Site near stations or other public areas that are contaminated due to the SKANSKA Team's Work will be cleaned immediately by the Skanska Team utilizing HEPA vacuums. If visible dust enters a public area, the Skanska Team will stop the Work and immediately clean the area prior to resuming Work.

C. The Skanska Team will clean the Work Site periodically throughout each work shift and at the end of each Work Day to prevent excessive buildup of dust using HEPA vacuums.

D. The Skanska Team will place silica warning signs and warning tape around the Work Site to prevent unauthorized access to the area.

Air Sampling for Silica and Testing Requirements

A. The Skanska Team will engage a certified laboratory under the American Industrial Hygiene Association (AIHA) Laboratory Accreditation Program to perform the sample analysis for silica particles. Submit proof of certification for the laboratory.

B. The laboratory will perform sampling in accordance with National Institute for Occupational Safety and Health (NIOSH) 7500 testing protocol.

C. The Skanska Team will submit a Silica Air Sampling Plan to the Project CEO for approval at least 30 days prior to the start of demolition and construction activities that disturb concrete or other masonry. The Silica Air Sampling Plan will include the following:

- Proposed sampling locations that include the Work Site as well as adjacent public and non-public areas.
- Plans to conduct baseline air sampling prior to commencement of Work activities to determine background level of contaminants.
- The frequency of sampling and exposure assessments depending on air results and variation in Work activities.
- Air monitoring protocols and exposure assessments to be used to measure respirable silica.
- Methods of air sampling and testing for respirable silica.

D. The Skanska Team will check that emissions for respirable crystalline silica do not exceed OSHA's PEL or the PESH Final Rule Limits 8-hour TWA without proper respiratory protection for its employees or any other personnel.

E. Periodically perform exposure assessments to compare with baseline air sampling data and check that levels are within NYS PESH Final Rule Limits TWA, as required by 12 NYCRR § 800.5 PELs and all applicable OSHA regulations.

F. For each sampling event, the Skanska Team will submit air sampling report to the Project CEO no later than 72 hours after sampling is completed at the Work Site. The report will include:

- Laboratory results
- Chain-of-custody
- Eight (8) hour TWA calculations
- Description(s) and location(s) of Work activities
- Type of equipment used during sampling
- Description of the Engineering and Work Practice Controls utilized during the Work shift
- Recommendations, if necessary, to reduce exposure

G. Continue air sampling until review of the air sampling report has been completed by the Project CEO and results have been confirmed to be below the action level.

As noted above, dust control measures that result in wastewater will be managed and disposed of appropriately and related permits are referenced in the Permit Matrix in Section 4.0.

12.3 Vector Control

The Skanska Team will prepare and submit a Vector Control Plan (VCP) for each Work Site, including a 1000 feet wide zone around the construction area, to the Project CEO for review and approval at least thirty (30) Days prior to the start of any construction activities at that Work Site.

The VCP will include at a minimum:

A. Name of the NYSDEC Certified Pest Controller along with current individual and company Commercial Pest Applicator/Technician Certifications issued by NYSDEC.

B. Integrated pest management protocols.

C. Incident investigation protocols.

D. Performance monitoring and intervention protocols.

E. Copies of the SDSs and catalog cuts for rodenticides, pesticides, and larvicides.

F. Procedures for the placing and the removal and disposal of carcasses.

G. Methods and procedures for identifying sites of pest harborage and access.

H. Monitoring and inspection schedules.

I. High risk areas.

The Skanska Team will obtain permits related to vector control operations, such as, but not limited to, sanitation measures, rodent extermination certificates and required permits for the removal, transportation and disposal of carcasses, bait, and boxes.

Vector control Work will be conducted by retaining a Certified Pest Controller (CPC) that holds current Commercial Pesticide Applicator, and Commercial Pesticide Technician Certifications for all workers that will perform Work for this Contract. The CPC will be retained for the duration of the Project.

The Vector Control Plan will be submitted under separate cover.

12.4 Noise and Vibration

The Skanska Team will develop and implement a Noise Control, Monitoring, and Mitigation Plan for the Project that will comply with applicable Federal, State, Local, County, and City codes, regulations, and standards. Our Acoustical Engineer, to be identified in a separate Noise Control, Monitoring, and Mitigation Plan, will be responsible for obtaining permits, variances, equipment certifications, and other documents required. The Noise Control, Monitoring, and Mitigation Plan be submitted under separate cover.

The Noise Control, Monitoring, and Mitigation Plan will include noise monitoring methods and procedures; construction site(s) drawings with noise sensitive locations and noise monitoring locations; anticipated construction activities with equipment locations; an inventory of construction equipment and associated noise levels; construction noise commitments; noise level calculations; type of noise measurement devices; data reporting method; and a construction noise mitigation section. The Skanska Team has the technical expertise and ability to source specialized equipment for this Project to reduce noise and vibration.

12.5 Existing And New Monitoring Wells

According to PRDC 01 – 1.12 Environmental Scope of Work, there are existing monitoring wells and a proposed new network of monitoring wells that are documented in the SMP that was prepared as part of the closure of NYSDEC Spill Case No. 9010039. The Monitoring Well Network included in the SMP includes the proposed new monitoring wells and existing monitoring wells to remain/be maintained and decommissioned. The Monitoring Well Decommissioning Plan (including wells to remain) is shown on the figure included as **Appendix L**. The Proposed SMP Monitoring Well Network is shown on the figure included as **Appendix M.**

The monitoring wells associated with the spill case which are not part of the approved SMP will be properly closed by the Skanska Team in accordance with NYSDEC guidance document “Groundwater Monitoring Well Decommissioning Procedures.” Any network monitoring well(s) to remain that are otherwise damaged or removed during the Work will be replaced to the exact location and with the same size and depth well(s). The Skanska Team will refer to USEPA/SESD Guidance for Design and Installation of Monitoring Wells.

12.6 Abatement of Bird Droppings

The Skanska Team will clean and remove all bird droppings, carcasses, nests, chicks, and related waste. Product Data Sheets and Safety Data Sheets (SDS) will be submitted for each product used during the abatement of bird droppings to Project CEO prior to its use.

The Skanska Team will ensure that employees, including the Subcontractors, who will perform bird dropping abatement Work shall be knowledgeable of the health hazards associated with the cleanup of bird droppings, wear appropriate PPE, and comply with other applicable safety procedures. Areas are accessible to the public or MTA employees will be closed off using 6-mil fire retardant polyethylene and/or fire-retardant tarps.

The Skanska Team will assign a cleaner to perform bird dropping abatement Work. The assigned cleaner will wear a disposable respirator (i.e., dust mask), Tyvek suit with booties, rubber or vinyl gloves and chemical splash goggles. To avoid creating dust while cleaning up the droppings, apply disinfectant prior to removal of droppings. Allow the disinfectant to remain on the droppings a few minutes in order to penetrate prior to removal. Place the waste in 6-mil polyethylene bags. The interior of the bags will be thoroughly sprayed with the disinfectant prior to sealing the bag to ensure that the waste remains wet during transportation. All disposable protective clothing will be removed and placed in 6-mil polyethylene bags. Bird dropping waste may be disposed of with construction and demolition debris. No special labeling is required. Disinfect and rinse reusable equipment, such as shovels, after removal of the waste.

If bird carcasses are found in clusters of less than ten (10) carcasses, they will be disposed of with the bird droppings as construction and demolition debris.

If bird carcasses are found in clusters of ten (10) or more carcasses, they will be placed in double 6-mil polyethylene bags, using gloves, and the Skanska Team will report the findings to the New York City Department of Health (NYCDOH) at (212) 227-5269. Within 24 hours of the report, NYCDOH may advise the Skanska Team if they want the carcasses. If NYCDOH wants the carcasses, it will provide further instructions. If NYCDOH does not respond after 24 hours from the time the report was made, the Skanska Team will dispose of the carcasses with the bird droppings as regular waste.

13.0 TRAINING PROCEDURES

General

The Skanska Team employees are trained to recognize unsafe conditions or behavior and will be instructed to take immediate action when such conditions are discovered or suspected. Subcontractors and suppliers with personnel on-site will also be trained and required to comply with the project safety program. Personnel will be fit tested for personal respirator use, will receive silica training, NYCT track training, OSHA 30 hour, and a variety of task specific training based on the specific work to be performed, as applicable. Personnel working with hazardous material will have OSHA 40 Hr. HAZWOPER training.

Environmental staff of the Skanska Team and representatives from subcontractors are trained as appropriate for the specific tasks including:

- OSHA 10-hour Construction
- OSHA 30-hour Construction
- OSHA 40-hour HAZWOPER and valid/up-to-date 8-hour refresher
- Hazard Communication
- Respiratory Protection
- Fall Protection
- Asbestos Containing Materials
- Lead-Based Paint
- Society for Protective Coatings (SSPC) C3/C5
- Universal Waste Awareness
- Polychlorinated Biphenyl Awareness
- Respirable Crystalline Silica Awareness
- Spill Response
- NYCT Track Training
- Hazardous Waste Operations

14.0 DOCUMENTATION AND REPORTING

The Skanska Team will document environmental scope items as required by the PRDC, MTA C&D requirements and regulatory requirements. The Skanska Team will manage the permitting and approvals process through detailed documentation and tracking of required permits, permit application submission requirements and timelines, and permit expiry timelines. The Skanska Team will provide supporting documentation in the case of re-evaluation.

The Skanska Team will prepare bi-weekly and monthly reports that will summarize environmental activities performed during the reporting period for locations under construction during that time, identifying issues encountered and corrective measures to be taken.

14.1 SEQRA Re-Evaluation

MTA C&D has performed the state environmental review and prepared the documentation for the Contract pursuant to the State Environmental Quality Review Act (SEQRA) and other applicable environmental laws and requirements. The Project CEO will provide the applicable SEQRA (EIS) and related environmental Decision Document (Record of Decision (ROD)) prior to award of the Contract.

MTA C&D will lead the agency coordination necessary to complete the applicable state environmental re-evaluation documentation for the Contract.

In the event of a change to the Work that results in new and/or increased environmental impacts, in comparison to the completed state environmental review documentation for the Contract, the following shall apply:

A. The Skanska Team will provide any project plans, supporting design information and supporting construction information necessary for MTA C&D to prepare new or updated state environmental review documentation for the Contract.

B. The Skanska Team will prepare the supplemental state environmental review documentation for the Contract, obtain any required information from third-party agencies, and submit to the Project CEO for review.

C. Construction of the proposed change shall not advance without MTA C&D's approval and prior to the completion of the state environmental review, including issuance of the signed amendments or revisions to the SEQRA Decision Documents.

In the event of a change that may affect the state and local permits, licenses, and approvals, the Skanska Team is responsible for securing new or modifications of the applicable permits, licenses, and approvals.

14.2 Leadership in Energy and Environmental Design (LEED) Requirements

The Work will be developed in accordance with the latest version of U.S. Green Building Council (USGBC) LEED for New Construction Rating System. The Skanska Team is responsible for obtaining LEED Certification. The Contract is currently registered with USGBC / GBCI (Green Building Certification Institute) for LEED 2009; registration will be updated by the Skanska Team to the most current version and fee. The Skanska Team is responsible for paying certification fees to USGBC.

The Skanska Team will perform applicable operations in accordance with PRDC12 Paragraph 12.12 – Stormwater Management to meet LEED Sustainable Sites (SS) Prerequisite: Construction Activity Pollution Prevention to reduce pollution from construction activities by controlling soil erosion, waterway sedimentation, and airborne dust. The preparation of a SWPPP is the LEED requirement to meet the criteria for this prerequisite and will be provided in accordance with the LEED certification process.

The Skanska Team will coordinate with MTA NYCT Materiel Department for current MTA NYCT Department of Buses (DOB) waste management practices to meet LEED Materials and Resources (MR) Prerequisite: Storage and Collection of Recyclables to reduce the waste that is generated by building occupants and hauled to and disposed of in landfills. Provisions for Storage and Collection of Recyclables is the LEED requirement to meet the criteria for this prerequisite and will be provided in accordance with the LEED certification process.

The Skanska Team will perform applicable operations in accordance with PRDC12 Paragraph 12.13 – Waste Handling and Removal to meet Materials and Resources (MR) Prerequisite: Construction and Demolition Waste Management Planning to reduce construction and demolition waste disposed of in landfills and incineration facilities by recovering, reusing, and recycling materials. A construction waste management plan is the LEED requirement to meet the criteria for this prerequisite and will be provided in accordance with the LEED certification process.

The Skanska Team will coordinate with MTA NYCT DOB' policies to meet Indoor Environmental Quality (EQ) Prerequisite: Environmental Tobacco Smoke Control to prevent or minimize exposure of building occupants, indoor surfaces, and ventilation air distribution systems to environmental tobacco smoke. Prohibiting smoking in the new building and restricting use outside is the LEED requirement to meet the criteria for this prerequisite and will be provided, with the proper signage, in accordance with the LEED certification process.

The Skanska Team is required to coordinate through MTA C&D on assuring assembled data is acceptable to USGBC and responding to USGBC requests for additional construction information over the course of seeking Project certification.

The draft LEED checklist for the Project is included as **Appendix N**.

14.3 Permits, Approvals, Occurrences

The Jamaica Bus Depot has a current a NYSDEC Air Facility Registration Certificate, Registration ID: 2-6307-00302/00009. The Skanska Team will prepare the air permitting calculations and NYSDEC application during the design of the Work. The following codes and standards are applicable to the Work involving air permitting in addition to NYSDEC permitting requirements:

1. 40 CFR 52 Prevention of Significant Deterioration
2. 40 CFR 60 New Source Performance Standards
3. 40 CFR 63 National Emissions Standards for Hazardous Air Pollutants for Source Categories
4. 6 NYCRR Chapter III – Air Resources (Parts 200 -317)

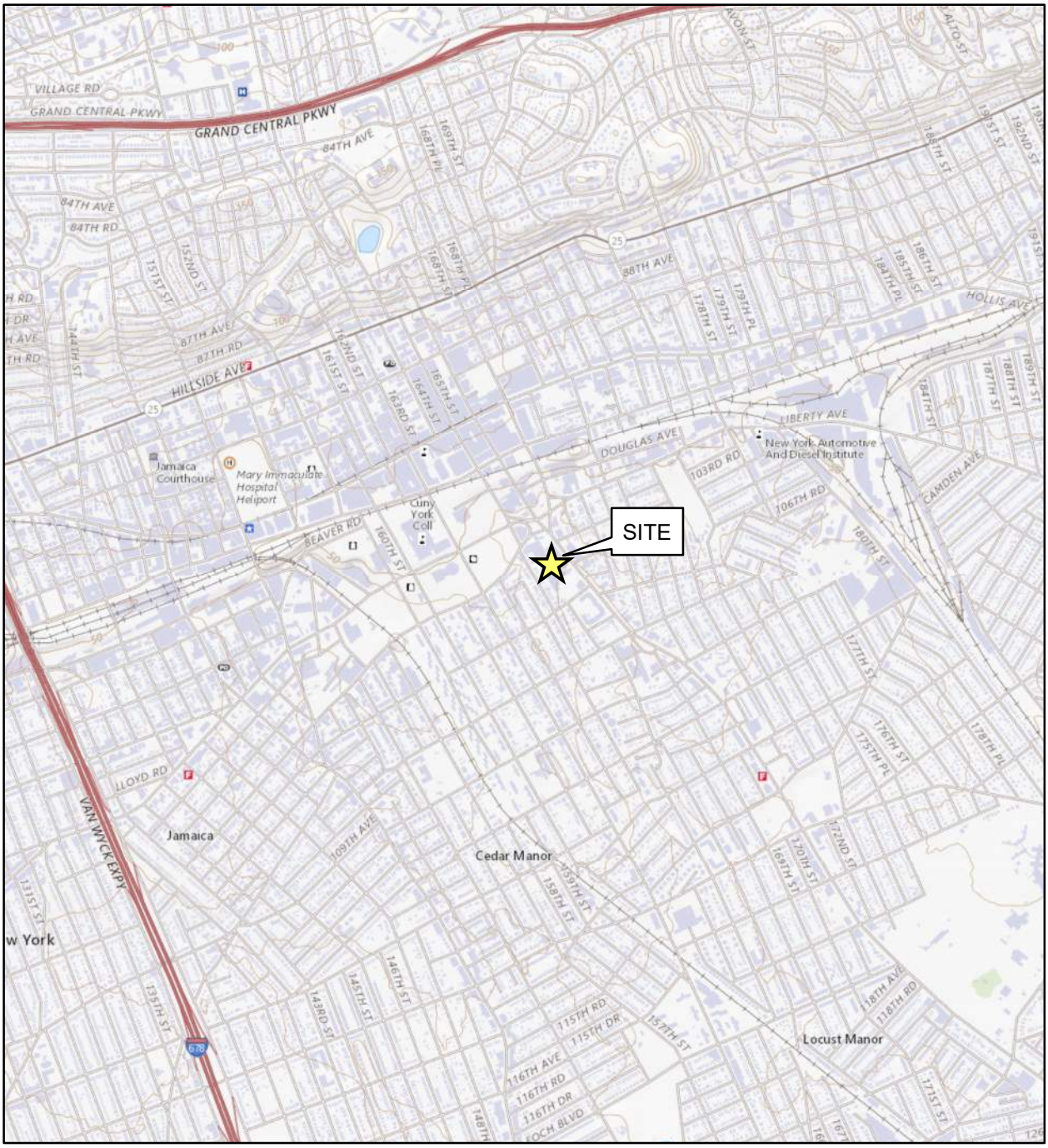
The Skanska Team will provide MTA C&D all information required for the application and MTA C&D will submit the air permitting application on the Skanska Team's behalf. The Skanska Team will not commence construction prior to the receipt of air permitting approval from NYSDEC. The Skanska Team will ensure all emission sources are designed and installed in accordance with the permitting and other environmental requirements.

Appendix A

Environmental Manager Resume

Appendix B

Site Location Maps



Service Layer Credits: USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; USGS Global Ecosystems; U.S. Census Bureau TIGER/Line data; USFS Road Data; Natural Earth Data; U.S. Department of State Humanitarian Information Unit; and NOAA National Centers for Environmental Information, U.S. Coastal Relief Model. Data refreshed June,

0 0.125 0.25 0.5 0.75 1 Miles

N

stv

225 PARK AVENUE SOUTH, NY, NY 10003

DESIGN-BUILD SERVICES FOR CONSTRUCTION OF A NEW JAMAICA BUS DEPOT AND NEW BUS PARKING LOT AT YORK COLLEGE IN THE BOROUGH OF QUEENS, NEW YORK

JAMAICA BUS DEPOT PROPERTY

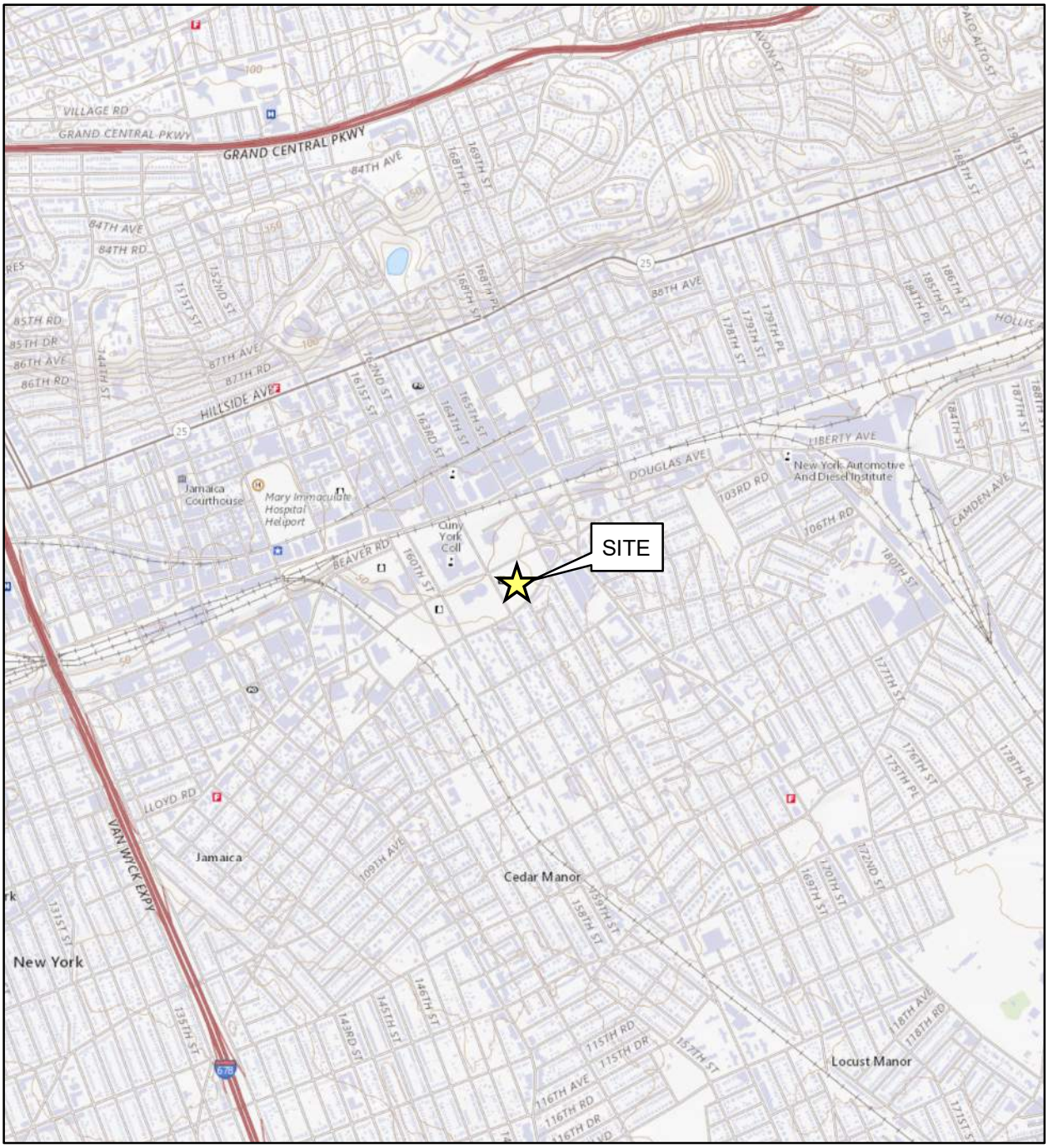
MTA CONSTRUCTION AND DEVELOPMENT

SITE LOCATION MAP

DATE: APRIL 2023

SCALE: 1:24,000

SHEET NO: APPENDIX B



Service Layer Credits: USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; USGS Global Ecosystems; U.S. Census Bureau TIGER/Line data; USFS Road Data; Natural Earth Data; U.S. Department of State Humanitarian Information Unit; and NOAA National Centers for Environmental Information, U.S. Coastal Relief Model. Data refreshed June,

0 0.125 0.25 0.5 0.75 1 Miles

N

STV 100 Years

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DESIGN-BUILD SERVICES FOR CONSTRUCTION OF A NEW JAMAICA BUS DEPOT AND NEW BUS PARKING LOT AT YORK COLLEGE IN THE BOROUGH OF QUEENS, NEW YORK

YORK COLLEGE PROPERTY

MTA CONSTRUCTION AND DEVELOPMENT

SITE LOCATION MAP

DATE: APRIL 2023

SCALE: 1:24,000

SHEET NO: APPENDIX B

Appendix C

Incident Reporting Requirements

Incident Reporting

All Incidents and near misses shall be immediately reported to MTA C&D Project Construction Management (PCM) Team. A Supervisor's Accident Investigation Report (SAIR) including details of any personal injury or property damage, written on the appropriate NYCT form with logo, shall be transmitted to the MTA C&D PCM team within 24hrs of the incident. The report shall be reviewed by the Safety Manager and detail the root cause and corrective action implemented to prevent further incidents. I shall any include all witness statements prepared.

For all incidents requiring professional treatment beyond first aid – the Safety Manager must:
Call the Safety Director and MTA Project CEO as soon as the area is made safe and first aid is completed.

These requirements are in addition to the internal Skanska reporting requirements listed below.

WHAT	FOR WHAT	WHEN	ACTION	SEND TO	HOW & WHY
Incident Report	First Aid Incident	24 hrs.	PM / PS	[redacted]	TELEPHONE CALL OCIP – Owner will require ASAP CCIP – Notification Immediately
	Medical treatment beyond site first aid - PS or designee to accompany	8 hrs.	PM / PS		
	Lost Time Incident	1 hr.	EXEC		
	Near Miss Incident	8 hrs.	PM / PS		
	Environmental Incident	1 Hr.	PM / PS		
General Liability Report	Auto / Motor Fleet Incident Property Damage & Public Liability Inc.	24 hrs.	PM / PS	[redacted]	TELEPHONE CALL
Incident Recording	Written report for all above in Intelex Witness Statements	24 hrs.	EHS Manager	Intelex and Paper Copy	SAFETY DEPARTMENT INSURANCE DEPARTMENT (CLAIM HANDLING), MTA C&D RESIDENT ENGINEER AND EH&S MANAGER

Post Incident Meeting	First Aid Incident – where emp. leaves site for treatment or evaluation PS or designee to accompany Recordable Incident Lost Time Incident Near Miss Incident	Close of business day that the incident is discovered.	All*	PROJECT TEAM	Project Manager, all Superintendents, Project Engineer, Safety Manager and all Foremen.

Post Incident Review/Creation of Flash Report	Recordable Incident Lost Time Incident Near Miss Incident & Any incident as requested by SD	5 DAYS	All – EHS Chief/VP/Dir have final approval.	Regional/Operating Unit Office	Establish corrective / preventative action to prevent future occurrence, accountability and disciplinary action taken. Target dates for completion must be set. Legal Review Communicate Flash Report/RCA to BU for necessary review and determination of applicability to activities being performed on other sites

Appendix D

Office of System Safety Chemical Review Request Form

OFFICE OF SYSTEM SAFETY
CHEMICAL REVIEW REQUEST FORM

Requestor Name: [redacted] Title: [redacted]
Location: Date:
Department: Phone:
Manufacturer's Name: Commodity #:
Product Name:
Product Code/Number: Est. Quantity Used: (Per Wk/Mo/Yr)
Contract #/ Description:

Facility where product will be used:
Location where product will be used/applied:
- ☐ Office/Admin
- ☐ Utilities/Storage Room
- ☐ Interior Rail Car/Work Train
- ☐ Elevator Shaft
- ☐ Other (specify)
- ☐ Shop/Repair Area
- ☐ Exit Stair in Building
- ☐ Customer Areas in Stations
- ☐ Interior Bus

Material to be covered:
- ☐ Steel/Metal
- ☐ Concrete/Masonry
- ☐ Other (specify)
- ☐ For Structural Fireproofing Yes / No (circle one)
- ☐ Wood
- ☐ Gypsum

Existing Substrate:
- ☐ None (new application will be on bare steel, wood, etc.)
- ☐ Existing Painted Surface
- ☐ Other (specify)

Titles and/or Job Functions of Employees who will use this material:

Intended use of Product:
Is this SDS the most current one from the manufacturer? ☐YES ☐NO

Method or Manner of Application (Include dilution ratios, if applicable):

Will a wastestream be generated: Yes / No (circle one) **If Yes, provide a waste disposal method:**

Those named below will be responsible for reviewing and establishing, where necessary, work practice changes, review of storage practices, familiarization of employees with new product, and phasing in of new product to prevent creation of excess:

Name	Title(s)	Phone No(s)

What material(s) does it replace or will it bid against?

Attachments:
Safety Data Sheet

Send to: **Environmental Protection & Industrial Hygiene**
Office of System Safety
2 Broadway – 27th Floor
New York, NY 10004

CHEMICAL REVIEW REQUEST FORM 2018

Appendix E

Confirmation of Compliance with Limits for VOCs in Adhesives and Sealants

Construction & Development
Metropolitan Transportation Authority

Memorandum

Date:_____

To: T. Abdallah PE, LEED AP, Chief Environmental Engineer

From:_____

Re: Contract #: _____
Confirmation of Compliance with Limits for Volatile Organic Compounds (VOCs) in Adhesives and Sealants

This is to confirm that I reviewed requirements defining volatile organic compound (VOC) limits as specified in the Regulated Product Categories and VOC Limits tables in this document. I hereby certify that the product in this Chemical Approval Package for [PRODUCT NAME] will be used only as listed and required by PRDC Paragraph 12 and that the entered VOC value conforms with appropriate limits. All application types to be used for the product shall be listed below or on a separate page under this review. Refer to the Regulated Product Categories and VOC Limits tables for a complete list of Adhesives, Substrate Specific Adhesives, Sealants, Adhesive Primers and Sealant Primers. The Design-Builder is responsible for:

√	Architectural Applications VOC Limit (g/L less water)	Actual Product VOC (g/IL less water)		√	Specialty Applications VOC Limit (g/L less water)	Actual Product VOC (g/IL less water)
	Indoor carpet adhesives 50				PVC welding 510	
	Carpet pad adhesives 50				CPVC welding 490	
	Wood flooring adhesives 100				ABS welding 325	
	Rubber floor adhesives 60				Plastic cement welding 250	
	Subfloor adhesives 50				Adhesive primer for plastic 550	
	Ceramic tile adhesives 65				Contact adhesive 80	
	VCT and asphalt adhesives 50				Special purpose contact adhesive 250	
	Drywall and panel adhesives 50				Structural wood member adhesive 140	
	Cove base adhesives 50				Sheet applied rubber lining operations 850	
	Multipurpose construction adhesives 70				Top and trim adhesive 250	
	Structural glazing adhesives 100				**Substrate Specific Applications VOC Limit (g/L less water)**	
	Sealants VOC Limit (g/L less water)				Metal to metal 30 Plastic foams 50	
	Architectural 250				Porous material (except wood) 50	
	Nonmembrane roof 300				Wood 30	
	Roadway 250				Fiberglass 80	
	Single-ply roof membrane 450				**Sealant Primers VOC Limit (g/L less water)**	
	Other 420				Architectural, nonporous 250	
	Aerosol Adhesives VOC Limit in % by weight	**Actual % by weight**			Architectural, porous 775	
	General purpose mist spray 65%				Other 750	
	General purpose web spray 55%					
	Special purpose aerosol adhesives (all types) 70%					

_____ _____
Project CEO Name Project CEO Signature

_____ _____
Design-Builder Name Design-Builder's Project Manager Name & Signature

Appendix F

Environmental Permit Matrix

Environmental Permit Matrix

Item No.	Permit or Approval	Issuing Agency	Reference	Estimated Review Period for Permit Approvals	Comments/Status
1	Notification of Demolition and Renovation to USEPA, Asbestos Project Notification to NYSDOL	NYSDOL, USEPA	PRDC 12 / NYSDOL, USEPA Regulations	10 Day Review Period	
2	Lead-Based Paint Permit (Notification of Lead-Based Paint Abatement Activities to USEPA	USEPA	PRDC 12 / USEPA Regulations	10 Day Review Period	
3	SPDES Permit (SPDES General Permit for Stormwater Discharges from Construction Activity - Permit No. GP-0-20-001)	NYSDEC	PRDC 12 / NYSDEC Regulations - Issued Pursuant to Article 17, Titles 7, 8 and Article 70 of the Environmental Conservation Law	15 days to respond to a submitted application.	Requirements for this permit based on amout of soil disturbance and watershed location. A Stormwater Pollution Prevention Plan (SWPPP) will be required as per PRDC.
4	New York City Department of Environmental Protection Wastewater Quality Discharge Permit	NYCDEP, NYSDEC	PRDC 12 / NYCDEP Rules and Regulations (Title 15 of the Rules of the City of New York (RCNY) Chapter 19)	3 Week Review Period	Wastewater Quality Control Application is required to be submitted for discharges Over 10,000 gallons per day. A Self-Certification Form must be submitted if the discharge is 10,000 gallons per day or less. Discharges to sanitary and combined sewers are subject to approval from the Bureau of Wastewater Treatment (see above Dewatering WQCA for Discharges Over 10,000 Gallons Per Day). Discharges to storm sewers must be approved by the New York State Department of Environmental Conservation prior to applying for a Discharge Permit from the Bureau of Customer Service.
5	Air Facility Registration Certificate	NYSDEC	PRDC 12 / NYSDEC	1 month	Current Air Facility Registration Certificate (Registration ID: 2-6307-00302/00009 and Facility DEC ID: 2-6307-00302)
6	NYCDEP Dewatering Permit	NYCDEP	PRDC 12 / NYDEP Rules and Regulations (Title 15 of the Rules of the City of New York (RCNY) Chapter 19)	3 Week Review Period	If Project requires dewatering.
7	NYSDEC Dewatering Permit (Long Island Well Permit)	NYSDEC	PRDC 12 / NYSDEC Regulations	15 days to respond to a submitted application.	If Project requires dewatering. Applicable for projects in Queens.
AGENCY COORDINATION/NOTIFICATIONS					
1	Solid waste management	NYCT Code Compliance	PRDC 12	1 month	
2	Hazardous waste and hazardous materials management	NYCT Code Compliance	PRDC 12	1 month	
3	Placard for Disturbance and Disposal of Lead Containing Materials	NYCT Code Compliance	PRDC 12	1 month	
4	Vector Control Management	NYCT Code Compliance	PRDC 12	1 month	
5	Health and Safety Plan (HASP)	NYCT Code Compliance	PRDC 12	1 month	

Appendix G

Copies of Authorized Environmental Permits and Approvals

(To be added upon approval)

Appendix H

Appendix A: Definitions & Acronyms From PRDC

Environmental Appendix A: Definitions & Acronyms From Specifications

The following definitions and acronyms apply to all Paragraphs within this PRDC Section 12:

A

AA – Atomic Absorption

Abatement – Any portion that includes procedures to control fiber release from asbestos containing material. This includes removal, encapsulation, enclosure, repair, or handling of asbestos material that may result in the release of asbestos fiber

Action Level (AL) – A concentration designated in 29 CFR Parts 1910 and 1926 for a specific substance, calculated as an eight (8)-hour time-weighted average, which initiates certain required activities such as exposure monitoring and medical surveillance.

Adequately Wet – Sufficiently mixed or penetrated with liquid to prevent the release of particulates. If visible emissions are observed coming from a Work area, then that material subjected to demolition/construction activities have not been adequately wetted.

Airlock – System for permitting entrance and exit while restricting air movement between the contaminated and uncontaminated areas.

Air Sampling – The process of measuring the fiber content of a known volume of air collected during a specified period of time, using accepted methods, as per 12 NYCRR Part 56.

Amended Water – Water to which a surfactant has been added.

Asbestos – Any naturally occurring hydrated mineral silicate separable into commercially usable fibers, including chrysotile (serpentine), amosite (cumingtonite-grunerite), crocidolite (riebeckite), tremolite, anthophyllite and actinolite, as per 12 NYCRR Part 56.

Asbestos Abatement Permit Placard (PLACARD) – A document, signed by the Director of Hazard Assessment, Office of System Safety, indicating that an asbestos project being performed by an outside contractor, has been reviewed and approved by the Office of System Safety. An original copy of the PLACARD must be at the Work Site at all times when Work is being performed.

Asbestos Containing Material (ACM) – Any material containing greater than one percent (1%) of asbestos, also known as Asbestos Material.

Asbestos Handler or Worker – Any person who removes, encapsulates, encloses, repairs, or disturbs Asbestos-Containing Material. This person shall be certified by the NYS-DOL.

Asbestos Handler Supervisor – Any person who performs supervision of persons (other than authorized visitors) permitted to enter the restricted area and regulated abatement Work Area. This person shall be certified by the NYS-DOL.

Asbestos Handling Certificate – A certificate issued by the NYS-DOL to an individual who has satisfactorily completed an asbestos training course approved by NYS-DOH.

Asbestos Inspector – Any person who performs the limited tasks involved in the asbestos survey, identification and assessment of the condition of asbestos and asbestos material and the recording and

reporting thereof, or who is involved in the collection of bulk samples of asbestos material or suspected asbestos material for laboratory analysis. This person shall be certified by the NYS-DOL.

Asbestos Project – Work that involves removal, encapsulation, enclosure, repair or disturbance of friable or non-friable asbestos, or any handling of asbestos material that may result in the release of asbestos fibers. An asbestos project shall include any disturbance of asbestos fibers, and the planning, asbestos survey, design, background air sampling, inspection, air sampling and oversight of abatement work, cleanup and the handling of all asbestos material subject to abatement, as well as the supervising of such activities. An asbestos project starts with Phase I when the planning, asbestos survey, and design work begins, or is required to begin. The Project shall not be considered completed until Phase II D is complete.

Asbestos Project Phase IA of Work – The asbestos survey, planning and design.

Asbestos Project Phase IB of Work – The background air sampling.

Asbestos Project Phase IIA of Work – The regulated abatement Work Area(s) preparation and enclosure construction.

Asbestos Project Phase IIB of Work – The asbestos handling including gross removal or abatement, initial cleans and waste removal.

Asbestos Project Phase IIC of Work – Final cleaning and clearance air samples.

Asbestos Project Phase IID of Work – Final waste removal from Work Site.

Asbestos Project Kick-off Meeting – A meeting to detail the responsibilities of MTA C&D, including any of its consultants, and the Design-Builder for the Project.

Asbestos Survey – A thorough inspection for and identification of all PACM, suspect ACM, or asbestos material throughout the building/structure or portion thereof to be demolished, renovated, remodeled, or repaired.

Asbestos Waste – ACM, PACM, asbestos material or asbestos contaminated objects requiring disposal pursuant to applicable laws and regulations.

ASTM – The American Society for Testing and Materials.

Authorized Visitor – Any party on an asbestos project, who has to enter the asbestos project restricted area or regulated abatement Work Area for emergency purposes or regulatory compliance inspections. Visitors shall comply with all applicable requirements of OSHA 29 CFR 1926, per 12 NYCRR Part 56.

B

Bait Station – A device that protects children, dogs, and cats from accidental poisoning by preventing them from coming into contact with the rodent bait block. A bait station holds the bait securely inside.

Battery – A device consisting of one or more electrically connected electrochemical cells which is designed to receive, store, and deliver electric energy. An electrochemical cell is a system consisting of an anode, cathode, and an electrolyte, plus such connections (electrical and mechanical) as may be

needed to allow the cell to deliver or receive electrical energy. The term *battery* also includes an intact, unbroken battery from which the electrolyte has been removed.

Bill of Lading – A detailed list of a shipment of goods and/or materials in the form of a receipt given by the carrier to the person acknowledging receipt of goods and/or materials.

BMP – Best Management Practices

Building Owner – The entity or Person to whom legal title to the premises is deemed vested unless the premises are held in land trust, in which instance Building Owner means the person in whom beneficial title is vested.

C

Certified pesticide applicator – A commercial or private pesticide applicator who is certified by the department to use, supervise the use of, or train another individual in the use of any pesticide in any category of use covered by the individual's certification or any individual who is certified to sell restricted use pesticides as described in 6 NYCRR 325.1

Certificate for Removal – A certificate issued by MTA C&D, signed by Environmental Services and the Office of System Safety (OSS), that signifies the approval of removal work for an applicable material.

Certificate of Recycling/Disposal – A form that is sent to a waste generator certifying that a particular waste has been recycled, disposed of, or destroyed

CFR – Code of Federal Regulations

Chemical Commodity – Materials and non-inventory goods, which contain ingredients that meet the definition of a hazardous chemical. These materials include but are not limited to cleaners, paints, solvents, lubricants, adhesives, graffiti removers and concrete mixes. A manufactured article is not considered a chemical commodity (i.e. roofing tiles, membranes, equipment).

CIH – Certified Industrial Hygienist

Classification – Process of separating spoils, wastes, and groundwater (including liquids) into categories; managing in accordance with applicable regulatory requirements.

Clean Room – An uncontaminated area or room which is a part of the personal decontamination enclosure, with provisions for storage and changing of persons' street clothes and protective equipment.

Clearance Air Monitoring – An accepted method of air sampling used upon completion of final cleaning, during Phase IIC of an asbestos project. This method consists of using aggressive sampling techniques to dislodge and stir up remaining asbestos fibers, then air samples are collected for appropriate analysis to determine representative airborne fiber concentrations.

Commissioner - A Commissioner of the New York State Department of Labor (NYS-DOL).

Confined Space – Any area large enough and so configured that an employee can bodily enter and perform assigned work, has limited or restricted means of entry or exit and is not designated for continuous employee occupancy.

Construction and Demolition Debris – As defined in 6 NYCRR Part 360, waste resulting from construction, remodeling, repair and demolition of structures, buildings and roads. Construction & demolition debris includes fill material, demolition wastes, and construction wastes. Materials that are not construction & demolition debris (even if generated from construction, remodeling, repair and demolition activities) include municipal solid waste, friable asbestos-containing waste, corrugated container board, electrical fixtures containing hazardous liquids such as fluorescent light ballasts or transformers, fluorescent lights, furniture, appliances, tires, drums, fuel tanks, containers greater than 10 gallons in size, and any containers having more than one inch of residue remaining on the bottom.

Contaminated soil and/or water – Soil and/or water contaminated by petroleum spill or by the presence of historic fill.

Conventional Waste – Non-porous, non-asbestos waste that can be cleaned, removed from the Work Area and disposed of as non-asbestos waste.

CPC – Certified Pest Controller

Curtained Doorway – An assembly which consists of at least three overlapping sheets of 6-mil fire retardant plastic over an existing or temporarily framed doorway, used to separate the chambers within the decontamination system enclosures and to inhibit airflow if the negative air ventilation system shuts down.

D

DAR – MTA C&D's Departmental Asbestos Representative

Decontamination System Enclosure (Decon) – A series of connected rooms, usually attached to the regulated abatement Work Area, for the decontamination of persons, materials and equipment.

Destination Facility – A facility that treats, disposes of, or recycles a particular category of universal waste, except those management activities described in sections 6NYCRR 374-3.2(d)(1), (3) and 374-3.3(d)(1), (3) and 40CFR 273.13 (a) and (c) and 273.33 (a) and (c). A facility at which a particular category of universal waste is only accumulated, is not a destination facility for purposes of managing that category of universal waste.

Disturbance – Any activities that disrupt the matrix of ACM or PACM, or generate debris, visible emissions or airborne asbestos fibers from ACM or PACM. This includes moving of friable ACM from one place to another.

DOT – Department of Transportation

Dust – Solid particulate matter which has been released into the open air by natural forces or by mechanical and manual processes

E

E&SC – Erosion and Sediment Control

ELAP – Environmental Laboratory Approval Program

Emissions – Term used to describe the gases and particles which are put into the air or emitted by various sources. (EPA Website – Air quality). The dispersion of an air contaminant (i.e. dust) into the open air.

Encapsulant (sealant) or Encapsulating Agent – A liquid material which can be applied to asbestos material and which prevents the release of asbestos fibers from the material either by creating a membrane over the surface (bridging encapsulant) or by penetrating into the material and binding its components together and to the substrate (penetrating encapsulant). This may also be used to seal surfaces from which ACM has been removed.

EPA or USEPA – United State Environmental Protection Agency

Equipment Room – A contained area or room which is part of the personal decontamination system with provisions for the storage of contaminated clothing and equipment.

Exposure Assessment – A method used to determine employees' exposure to airborne contaminants. The sample(s) is/are collected outside the respirator in the worker's breathing zone.

Exposure Control Plan (ECP) – A plan to identify tasks that involve exposure and methods used to protect workers, including procedures to restrict access to Work Areas (within the Work Site) where high exposures may occur.

F

Fixed Object – Equipment, furniture or other item that is affixed, as a whole, to a floor ceiling, wall or other building structure or system.

Friable – Any material that when dry, can be crumbled, pulverized or reduced to powder by hand pressure, or is capable of being released into the air by hand pressure.

G

Generator – Any person, by site, whose act or process produces hazardous waste identified, in 40 CFR Part 261 and 6NYCRR Part 371, or whose act first causes a hazardous waste to become subject to regulation.

Glovebag – A manufactured impervious bag-like enclosure constructed of at least 6mil transparent plastic, seamless at the bottom, with inward-projecting long sleeve glove(s), which may also contain an inward-projecting water wand sleeve, an internal tool pouch, and an attached, labeled receptacle or portion for asbestos waste. The glovebag is constructed and installed to surround the object or area to be decontaminated and contain all asbestos fibers released during the removal process per 6 NYCRR Part 56.

Glovebag Technique – A method for removing asbestos material from heating, ventilating, and air conditioning (HVAC) ducts, electrical cables, piping runs, valves, joints, elbows, and other non-planar surfaces by using a glove-bag.

H

Hazardous Chemical – A chemical, or mixture of chemicals, that presents either a physical hazard or a health hazard to the user or to persons in the vicinity of the area where the chemicals are being used. This includes chemical mixtures which may be classified as being: toxic, irritants, carcinogens, reproductive toxicants, corrosives, strong oxidizers, strong sensitizers, combustible, flammable, reactive, pyrophoric, pressure generating (explosives), or that may otherwise cause substantial, acute, chronic personal injury or illness during its use, as a direct result of any present, and or foreseeable future handling or use.

Hazardous Sludge – Debris exhibiting any of the characteristics of a hazardous waste, namely ignitability, corrosivity, and toxicity as defined in 6 NYCRR Part 371 and 40 CFR Part 261 or contains 50ppm PCBs or greater as per 40 CFR Part 761.

Hazardous Waste – Hazardous waste as defined in 40 CFR Part 261 and 6 NYCRR Part 371

Hazardous Waste Accumulation Area (HWAA) – Indoor area located in close proximity to a particular hazardous waste generating operation. Only one (1) hazardous waste drum can be used to collect hazardous waste in the area at any one time.

Hazardous Waste Regulations – 40 CFR 260–272 and 6 NYCRR Part 360, 370-374 and 376, collectively

Hazardous Waste Storage Area (HWSA) – A location within the Work Site that has been selected to be used for the storage of hazardous waste, in containers, prior to the waste being removed from the Work Site.

High Efficiency Particulate Air (HEPA) Filter – A filter capable of trapping and retaining 99.97 percent of all mono-dispersed particles of 0.3 microns in diameter or larger per 12 NYCRR Part 56.

HEPA Vacuum equipment – Vacuuming equipment designed for abatement, with a high efficiency particulate air filtration system.

Holding Area – A chamber in the waste decontamination enclosure utilized for temporary storage of containerized ACM waste.

I

IDW – Investigative Derived Waste

In-Situ Classification Sampling – In-situ sampling program performed to classify spoils prior to excavation, including groundwater likely to be handled during construction.

Intact – Asbestos material that has not crumbled, been pulverized, or otherwise been damaged or disturbed, and the material's matrix has not noticeably deteriorated.

Isolation Barriers – Installed temporary hardwall barriers that complete the containment enclosure and establish the regulated abatement Work Area.

J

K

L

L_{10}, dB(A) slow – The sound pressure level that is exceeded for 10% of the time for which the given sound is measured averaged over a 20-minute interval.

L_{max} – Maximum sound level that occurs over a measured interval.

Lamp – Also referred to as universal waste lamp, is defined as the bulb or tube portion of an electric lighting device. A lamp is specifically designed to produce radiant energy, most often in the ultraviolet, visible, and infra-red regions of the electromagnetic spectrum. Examples of common universal waste electric lamps include, but are not limited to, fluorescent, high intensity discharge, neon, mercury vapor, high pressure sodium, and metal halide lamps as defined in 40 CFR Part 273 and 6 NYCRR 374. Lamps are assumed to contain over 0.2 ppm Mercury via Toxicity Characteristic Leaching Procedure (TCLP)

Landfill Material – C&D debris or waste, that is not otherwise, recycled, reused or salvaged and is disposed of, on to or into land used as a waste disposal site, or used for the storage of waste.

Large asbestos project – An asbestos project involving the removal, disturbance, enclosure, encapsulation, repair or handling of 160 square feet or more of ACM, PACM or asbestos material or 260 linear feet or more of ACM, PACM or asbestos material.

Law - The Constitution of the State of New York, the New York City Charter, the City Code, and each and every other law, rule, code, guideline, regulation, Law, requirement, order, judgement, decree, or ordinance of every kind whatsoever issued by any Governmental Entity including any of the foregoing that relate to health, safety, environmental protection, and non-discrimination.

LDR – Land Disposal Restriction Form

Lead Disturbance Permit Placard (Lead Placard) – A document signed by the Office of System Safety indicating that a lead disturbance project is authorized to be performed by an outside contractor or Design-Builder, or MTA C&D related work conducted by New York City Transit employees.

LHASP – Lead Health and Safety Plan

Light Ballast – A device placed in line with the electric load to limit the amount of current in an electrical circuit. PCB-based oils were used inside the ballast as an insulating oil to provide cooling and electrical isolation.

Low PCB Cable – Cable that contains PCBs at a concentration of 1-49 ppm

M

Manifest – A shipping document that tracks hazardous or non-hazardous waste from the point of generation to ultimate disposal.

Mercury Containing Equipment (MCE) – A device or part of a device – including thermostats, but excluding batteries and lamps, that contains elemental mercury integral to its function (40 CFR 273.9 and 6NYCRR 374-3.1). MCE includes, but are not limited to, thermometers, thermostats, barometers, manometers, temperature and pressure gauges, and mercury switches (70 FR 45507-45522).

Minor Asbestos Project – An asbestos project involving the disturbance (removal, enclosure, encapsulation and repair) of 25 linear feet or less or 10 square feet or less of Asbestos-Containing Material.

Miscellaneous Material – Any material on structural components, structural members or fixtures, such as, but not limited to floor tile and ceiling tiles: does not include surfacing material or thermal system insulation.

Mobile Decontamination Enclosure System (Decon) – A functioning decon system enclosure built in a vehicle (i.e. truck), positioned as close to the Work Area as practical.

Municipal Separate Stormwater Sewer System – Otherwise referred to as MS4, a publicly-owned conveyance or system of conveyances (including but not limited to streets, ditches, catch basins, curbs, gutters, and storm drains) that is designed or used for collecting or conveying stormwater and that discharges to surface waters of the State. If discharges are needed, an MS4 permit is required.

N

Naturally Occurring Asbestos (NOA) – Asbestos that is found in some rocks, sediments and soils in its natural origin. Some naturally occurring forms of NOA are chrysotile, crocidolite, amosite, anthophyllite, tremolite, actinolite, and serpentinite.

Negative Air Pressure equipment – A local exhaust system, capable of maintaining air pressure within a containment at lower pressure than the air pressure outside of such containment, and which provides for HEPA filtration of all air exhausted from the containment.

Negative Exposure Assessment – As per 29 CFR 1926.1101 (f) (2) (iii).

NESHAP – National Standard for Hazardous Air Pollutants

NIOSH – The National Institute for Occupational Safety and Health.

NOA – Naturally Occurring Asbestos

NOAMP – Naturally Occurring Asbestos Management Plan

NOI – Notice of Intent

Non-Hazardous Waste – water and debris that does not meet the definition of hazardous waste as defined in 6NYCRR Part 371 and 40 CFR Part 261

NOT – Notice of Termination

NYCDEP or DEP – New York City Department of Environmental Protection

NYCRR – New York State Codes, Rules, and Regulations

NYSDEC or DEC – New York State Department of Environmental Conservation

NYSDOH or DOH – New York State Department of Health

NYSDOL or DOL – New York State Department of Labor

O

OSHA – Occupational Safety and Health Administration

P

PCB and PCBs – Polychlorinated Biphenyls. Any chemical substance that is limited to the biphenyl molecule that has been chlorinated to varying degrees or any combination of substances which contains such substance. Refer to § 761.1(b) for applicable concentrations of PCBs. PCB and PCBs as contained in PCB items are defined in § 761.3. For any purposes under this part, inadvertently generated non-Aroclor PCBs are defined as the total PCBs calculated following division of the quantity of monochlorinated biphenyls by 50 and dichlorinated biphenyls by 5.

PCB Cable – A cable containing PCBs greater than 500 ppm

PCB Contaminated Cable – Cable that contains PCBs between a concentration of 50-500 ppm

PCB Free Cable – Cable that is free of PCBs (less than 1ppm)

PCB Hazardous Waste – Hazardous Waste containing PCB contamination greater than or equal to 50 ppm

PCM – Phase Contrast Microscopy

PDS – Product Data Sheets

Permissible Exposure Limit (PEL) – A legal limit in the United States for exposure of an employee to a chemical substance or physical agent. PELs are established by OSHA and measured over an eight (8)-hour time-weighted average.

Permitted Confined Space – Any confined space that contains one or more of the following conditions: the potential to contain a hazardous atmosphere, the potential for engulfing an entrant, has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor which slopes downwards and tapers into a smaller cross section or contains any other recognized serious safety or health hazard

Personal Decontamination System Enclosure – An area designated for controlled passage of all persons to and from the regulated abatement Work Area.

Pesticide – Any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest; Any substance or mixture of substances intended for use as a plant regulator, defoliant, or desiccant and Any nitrogen stabilizer. https://www.epa.gov/minimum-risk-pesticides/what-pesticide.

Physical Barriers – Fencing, windscreens, wind barriers, tarps, meshes, strip doors, water curtains, plywood barriers, reinforced polyethylene on large open areas.

Plasticize – To cover floors, walls, ceilings or other surfaces with 6-mil fire retardant plastic sheeting.

PLM – Polarized Light Microscopy

Polychlorinated biphenyl (PCB) – An organic chlorine compound found in dielectric fluids and coolants. PCBs were banned in 1979 by the EPA because they were discovered to be highly toxic and a potent carcinogen.

Post-Consumer Recycled Content – The percentage by weight of constituent materials that have been recovered or otherwise diverted from the solid-waste stream after consumer use.

PPE – Personnel Protective Equipment; disposable work suits or coveralls, head covering, eye protection, footwear, gloves, and appropriate NIOSH-approved respirators with appropriate NIOSH-approved filters.

PPM – Parts per million

Pre-Consumer Recycled Content – Materials that have been recovered or otherwise diverted from the solid-waste stream during the manufacturing process. Pre-consumer content must be material that would not have otherwise entered the waste stream.

Presumed Asbestos Containing Material (PACM) – All thermal system insulations and surfacing materials found in buildings constructed no later than 1980. PACM is considered to be ACM unless proven otherwise by appropriate bulk sampling and laboratory analyses.

Project Monitor (PM or Consultant) – An individual (working for a firm hired by MTA C&D), other than the Design-Builder, certified by the Commissioner as having satisfactorily demonstrated the ability to oversee an Asbestos Project from start to finish. The PM shall provide the supervision, Air Monitoring and support services described in these specifications. The Consultant is independent of the Design-Builder for the Project and of the individual or firm performing the asbestos abatement/removal work and shall act as the on-site representative for the Project CEO.

Q

Qualitative Fit Test – A pass/fail fit test to assess the adequacy of respirator fit that relies on the individual's response to the test agent.

Qualitative Fit Test – A pass/fail fit test to assess the adequacy of respirator fit that relies on the individual's response to the test agent.

Quantitative Fit Test - Exposing the respirator wearer to a test atmosphere containing an easily detectable, non-toxic aerosol, vapor or gas as the test agent. Instrumentation, which samples the test

atmosphere and the air inside the face piece of the respirator, is used to measure quantitatively the leakage into the respirator. There are a number of test atmospheres, test agents, and exercises to perform during the tests.

R

RCRA – Resource Conservation and Recovery Act

Recycled Content Materials – Products that contain pre-consumer or post-consumer materials as all or part of their feedstock.

Recycling – The process of converting waste materials into new materials and objects. Recycling is an alternative to "conventional" waste disposal that can save material (for reuse) and help lower greenhouse gas emissions. Recycling can prevent the disposal of potentially useful materials and reduce the consumption of fresh raw materials, thereby reducing energy consumption, air pollution (via incineration) and water pollution (from landfilling).

Recycling Facility – A fully regulated federal or state facility that recycles PCB Containing light ballasts.

Regional Materials – Materials that are extracted, harvested, recovered, and manufactured within a radius of 500 miles (400 km) from the Work Site.

Regulated Abatement Work Area – The portion of the restricted area where abatement work actually occurs.

Reinforced Poly – Reinforced (6) six-mil opaque fire-retardant plastic sheeting.

Removal – Abatement\ consisting of operations where ACM, PACM or asbestos material is removed or stripped from structures or substrates. This includes demolition operations.

Rodenticide – A poison used to kill rodents.

Restricted Area – A restricted area established and marked for the abatement portion of an asbestos project. This area shall include, but not limited to asbestos project regulated abatement Work Areas and any contiguous decontamination facilities, adjoining staging areas where work materials, debris or waste from such work may accumulate, remote decontamination areas, and waste areas (dumpsters, trailers, etc.).

Restricted asbestos handler (allied trades) – Any person performing any limited or special tasks in preparation for or ancillary to an asbestos project, such as a carpenter, electrician, plumber or similar occupation, or any other person who may potentially disturb friable or non-friable asbestos during the course of any employment, shall possess a valid restricted asbestos handler (allied trades) certificate and shall have such certificate or a copy thereof in possession at all times while working on the Project, per 12 NYCRR Part 56.

Reused Material – The use, in the same or similar form as it was produced, of a material that might otherwise be discarded.

S

Salvage Material – C&D materials generated on the Work Site for the purpose of recycling, reuse or storage for later recycling or reuse.

Safety Data Sheet (SDS) – A document that contains information on the potential health effects of exposure to chemicals, or other potentially dangerous substances, and on safe working procedures when handling chemical products.

Spoils (or Muck) – Materials that consist of soil, fill, gravel, asphalt, concrete, rock, and other accompanying residues, excluding groundwater, generated during the construction process. Spoils are classified as construction and demolition debris material.

SSP – Site Specific Procedures

SSPC – Society for Protective Coatings

SSV – Site Specific Variance

Sequential Abatement – The abatement of different types of ACM within a common regulated abatement Work Area in a priority order.

Shower Room – A room between the clean room and the equipment room in the personal decontamination enclosure with hot and cold running water controllable at the tap and arranged for complete showering during decontamination.

Small Asbestos Project – An asbestos project involving the disturbance (e.g., removal, enclosure, encapsulation, repair) of more than 25 and less than 260 linear feet of friable Asbestos-Containing Material or more than ten and less than 160 square feet of friable Asbestos-Containing Material.

Soil/Water –

1**. Historic fill** – Non-indigenous or non-native material, historically deposited or disposed in the general area of, or on, a site to create useable land by filling water bodies, wetlands, topographic depressions or to stabilize and drain track bed, which is in no way connected with the subsequent operations at the location of the emplacement. Historic fill may be solid waste including, but not limited to, coal ash, wood, municipal solid waste, incinerator ash, construction and demolition debris, dredged sediments, railroad ballast, refuse and land clearing debris. The chemical constituents of historic fill are assumed to be greater than both of the following:

- the soil cleanup objectives for residential use as defined in 6 NYCRR Part 375-6; and
- the soil cleanup objectives for groundwater protection as defined in 6 NYCRR Part 375-6.

2. **Petroleum spill contaminated soil and/or water** – Soil and/or water exhibiting one or more of the following characteristics:

- Elevated photo-ionization detector (PID) readings, subsequently confirmed by lab analysis (i.e., VOCs found in lab results)
- Visual evidence of contamination, i.e., staining
- Petroleum and/or chemical odors

- Soil and/or water that has been documented by the MTA, the Design-Builder, or any other party, including a third-party or regulatory agency, as contaminated by spill reporting, or industrial or manufacturing activities.

3. **Hazardous soil and/or water** – Soil and/or water exhibiting any of the characteristics of a hazardous waste, namely ignitability, corrosivity, reactivity, and toxicity as defined in 6 NYCRR Part 371 and 40 CFR Part 261 or contains 50 ppm PCBs or greater as per 40 CFR Part 761.

State Pollutant Discharge Elimination System (SPDES) – A State of New York permit program that requires anyone who discharges any pollutants to waters of the State of New York to obtain a discharge permit.

Stormwater – Water that originates during precipitation events and snow/ice melt.

Surface Waters – Lakes, bays, sounds, ponds, impounding reservoirs, springs, rivers, streams, creeks, estuaries, marshes, inlets, canals, the Atlantic ocean within the territorial seas of the state of New York and all other bodies of surface water, natural or artificial, inland or coastal, fresh or salt, public or private (except those private waters that do not combine or effect a junction with natural surface or underground waters), which are wholly or partially within or bordering the state or within its jurisdiction.

Surfacing Material – Any material that is sprayed-on, troweled-on or otherwise applied to surfaces, such as acoustical plaster on ceilings and fireproofing materials on structural members, or other materials on surfaces for acoustical, fireproofing, or other purposes.

Surfactant – A chemical wetting agent added to water to reduce the surface tension of the water and improve its penetration for added mitigation of airborne fiber release.

SWPPP – Stormwater Pollution Prevention Plan

System Wide Variance (SWV) – The prior approved System Wide Variances, obtained by MTA C&D from the New York State Department of Labor (NYS-DOL) for use on MTA NYCT Property.

T

Targeted Substance – A product which contains ingredients that:

- Are known or suspected carcinogens, mutagens or teratogens based on the findings and designated category assigned by any of the following:
  - Occupational Safety & Health Administration (OSHA)
  - National Toxicology Program (NTP): Clear Evidence and Some Evidence
  - International Agency for Research on Cancer (IARC): classified as Group 1 (carcinogenic to humans) and 2A (probably carcinogenic to humans).
- May pose difficulties in complying with federal, state or local disposal requirements.
- Are contrary to hazardous waste minimization efforts.
- May result in unacceptable environmental or occupational safety hazards.

TCLP – Toxicity Characteristic Leaching Procedure

TEM – Transmission Electron Microscopy

Thermal System Insulation (TSI) – Insulation material applied to pipes, fittings, boilers, breeching, tanks, ducts or other structural components to prevent heat gain or loss.

TOGS – Technical and Operational Guidance Series per NYSDEC

TSCA – Toxic Substance Control Act

TSD or TSDF – Treatment, Storage, Disposal Facility

Transporter – A person or company engaged in the off-site transportation of hazardous, non-hazardous or universal waste by air, rail, highway, or water

TWA – Time Weighted Average

U

Universal Waste – Consists of the following hazardous wastes, as identified in 6 NYCRR 374-3: lamps, mercury-containing equipment, batteries, and pesticides.

Universal Waste Regulations – 40 CFR Part 273 and NYCRR Part 374-3 collectively

Used Oil Processor/Re-refiner – A facility that processes and/or re-refines used oil

V

Visible Emissions – Visible particulate matter that occurs as the result of construction, demolition and paint removal activities by means of sawing, drilling, breaking, chipping, cutting, chopping, scraping, grinding, hoe ramming, abrasive blasting, etc.

Volatile Organic Compounds (VOCs) – Any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, which participates in atmospheric photochemical reactions. Compounds that have negligible photochemical reactivity, listed in EPA 40 CFR 51.100(s), are also excluded from this definition.

W

Waste Decontamination System Enclosure (Waste Decon) – An area, consisting of a washroom and a holding area separated from each other by airlocks, designated for the controlled transfer of materials and equipment from the regulated abatement Work Area.

Waste Liquids – Contaminated liquid wastes generated during construction which include decontamination liquids, non-aqueous liquids, floating product, etc. which cannot be treated by the on-site groundwater treatment system.

Waste Management Plan (WMP) – A plan to identifying, document and track the types of debris that will be generated by the Project and to clearly describe how all waste streams will be managed by recycling, salvaging and/or reusing.

Weighted Noise Levels dB(A) – Decibels (referenced to 20 micro-Pascal) as measured with A-weighing network of standard sound level meter.

Wet Cleaning – The process of eliminating asbestos contamination from surfaces, equipment or other objects by using cloths, mops, or other cleaning tools that have been saturated with amended water.

Wet Suppression – A method used to keep visible dust from becoming airborne.

Work Area – location(s) within the Work Site where demolition and construction activities that disturb concrete and other masonry take place.

X

Y

Z

The following Definitions and acronyms apply to all Environmental 12-Series Specifications

A

AA – Atomic Absorption

Abatement – Any portion that includes procedures to control fiber release from asbestos containing material. This includes removal, encapsulation, enclosure, repair, or handling of asbestos material that may result in the release of asbestos fiber

Action Level (AL) – A concentration designated in 29 CFR Parts 1910 and 1926 for a specific substance, calculated as an eight (8)-hour time-weighted average, which initiates certain required activities such as exposure monitoring and medical surveillance.

Adequately Wet – Sufficiently mixed or penetrated with liquid to prevent the release of particulates. If visible emissions are observed coming from a Work area, then that material subjected to demolition/construction activities have not been adequately wetted.

Airlock – System for permitting entrance and exit while restricting air movement between the contaminated and uncontaminated areas.

Air Sampling – The process of measuring the fiber content of a known volume of air collected during a specified period of time, using accepted methods, as per 12 NYCRR Part 56.

Amended Water – Water to which a surfactant has been added.

Asbestos – Any naturally occurring hydrated mineral silicate separable into commercially usable fibers, including chrysotile (serpentine), amosite (cumingtonite-grunerite), crocidolite (riebeckite), tremolite, anthophyllite and actinolite, as per 12 NYCRR Part 56.

Asbestos Abatement Permit Placard (PLACARD) – A document, signed by the Director of Hazard Assessment, Office of System Safety, indicating that an asbestos project being performed by an outside contractor, has been reviewed and approved by the Office of System Safety. An original copy of the PLACARD must be at the Work Site at all times when Work is being performed.

Asbestos Containing Material (ACM) – Any material containing greater than one percent (1%) of asbestos, also known as Asbestos Material.

Asbestos Handler or Worker – Any person who removes, encapsulates, encloses, repairs, or disturbs Asbestos-Containing Material. This person shall be certified by the NYS-DOL.

Asbestos Handler Supervisor – Any person who performs supervision of persons (other than authorized visitors) permitted to enter the restricted area and regulated abatement Work Area. This person shall be certified by the NYS-DOL.

Asbestos Handling Certificate – A certificate issued by the NYS-DOL to an individual who has satisfactorily completed an asbestos training course approved by NYS-DOH.

Asbestos Inspector – Any person who performs the limited tasks involved in the asbestos survey, identification and assessment of the condition of asbestos and asbestos material and the recording and reporting thereof, or who is involved in the collection of bulk samples of asbestos material or suspected asbestos material for laboratory analysis. This person shall be certified by the NYS-DOL.

Asbestos Project – Work that involves removal, encapsulation, enclosure, repair or disturbance of friable or non-friable asbestos, or any handling of asbestos material that may result in the release of asbestos fibers. An asbestos project shall include any disturbance of asbestos fibers, and the planning, asbestos survey, design, background air sampling, inspection, air sampling and oversight of abatement work, cleanup and the handling of all asbestos material subject to abatement, as well as the supervising of such activities. An asbestos project starts with Phase I when the planning, asbestos survey, and design work begins, or is required to begin. The Project shall not be considered completed until Phase II D is complete.

Asbestos Project Kick-off Meeting – A meeting to detail the responsibilities of MTA C&D, including any of its consultants, and the Contractor for the Project.

Asbestos Project Phase IA of Work – The asbestos survey, planning and design.

Asbestos Project Phase IB of Work – The background air sampling.

Asbestos Project Phase IIA of Work – The regulated abatement Work Area(s) preparation and enclosure construction.

Asbestos Project Phase IIB of Work – The asbestos handling including gross removal or abatement, initial cleans and waste removal.

Asbestos Project Phase IIC of Work – Final cleaning and clearance air samples.

Asbestos Project Phase IID of Work – Final waste removal from Work Site.

Asbestos Survey – A thorough inspection for and identification of all PACM, suspect ACM, or asbestos material throughout the building/structure or portion thereof to be demolished, renovated, remodeled, or repaired.

Asbestos Waste – ACM, PACM, asbestos material or asbestos contaminated objects requiring disposal pursuant to applicable laws and regulations.

ASTM – The American Society for Testing and Materials.

Authorized Visitor – Any party on an asbestos project, who has to enter the asbestos project restricted area or regulated abatement Work Area for emergency purposes or regulatory compliance inspections. Visitors shall comply with all applicable requirements of OSHA 29 CFR 1926, per 12 NYCRR Part 56.

B

Bait Station – A device that protects children, dogs, and cats from accidental poisoning by preventing them from coming into contact with the rodent bait block. A bait station holds the bait securely inside.

Battery – A device consisting of one or more electrically connected electrochemical cells which is designed to receive, store, and deliver electric energy. An electrochemical cell is a system consisting of an anode, cathode, and an electrolyte, plus such connections (electrical and mechanical) as may be needed to allow the cell to deliver or receive electrical energy. The term battery also includes an intact, unbroken battery from which the electrolyte has been removed. (6 NYCRR 374 3.1)

Bill of Lading – A detailed list of a shipment of goods and/or materials in the form of a receipt given by the carrier to the person acknowledging receipt of goods and/or materials.

BMP – Best Management Practices

Building Owner – The entity or Person to whom legal title to the premises is deemed vested unless the premises are held in land trust, in which instance Building Owner means the person in whom beneficial title is vested.

C

Certified pesticide applicator – A commercial or private pesticide applicator who is certified by the department to use, supervise the use of, or train another individual in the use of any pesticide in any category of use covered by the individual's certification or any individual who is certified to sell restricted use pesticides as described in 6 NYCRR 325.1

Certificate for Removal – A certificate issued by MTA C&D, signed by Environmental Services and the Office of System Safety (OSS), that signifies the approval of removal work for an applicable material.

Certificate of Recycling/Disposal – A form that is sent to a waste generator certifying that a particular waste has been recycled, disposed of, or destroyed

CFR – Code of Federal Regulations

Chemical Commodity – Materials and non-inventory goods, which contain ingredients that meet the definition of a hazardous chemical. These materials include but are not limited to cleaners, paints, solvents, lubricants, adhesives, graffiti removers and concrete mixes. A manufactured article is not considered a chemical commodity (i.e. roofing tiles, membranes, equipment).

CIH – Certified Industrial Hygienist

Classification – Process of separating spoils, wastes, and groundwater (including liquids) into categories; managing in accordance with applicable regulatory requirements.

Clean Room – An uncontaminated area or room which is a part of the personal decontamination enclosure, with provisions for storage and changing of persons' street clothes and protective equipment.

Clearance Air Monitoring – An accepted method of air sampling used upon completion of final cleaning, during Phase IIC of an asbestos project. This method consists of using aggressive sampling techniques to dislodge and stir up remaining asbestos fibers, then air samples are collected for appropriate analysis to determine representative airborne fiber concentrations.

Commissioner - A Commissioner of the New York State Department of Labor (NYS-DOL).

Confined Space – Any area large enough and so configured that an employee can bodily enter and perform assigned work, has limited or restricted means of entry or exit and is not designated for continuous employee occupancy.

Construction & Demolition Debris – As defined in 6 NYCRR Part 360, waste resulting from construction, remodeling, repair and demolition of structures, buildings and roads. Construction & demolition debris includes fill material, demolition wastes, and construction wastes. Materials that are not construction & demolition debris (even if generated from construction, remodeling, repair and demolition activities) include municipal solid waste, friable asbestos-containing waste, corrugated container board, electrical fixtures containing hazardous liquids such as fluorescent light ballasts or transformers, fluorescent lights, furniture, appliances, tires, drums, fuel tanks, containers greater than 10 gallons in size, and any containers having more than one inch of residue remaining on the bottom.

Contaminated soil and/or water – Soil and/or water contaminated by petroleum spill or by the presence of historic fill.

Conventional Waste – Non-porous, non-asbestos waste that can be cleaned, removed from the Work Area and disposed of as non-asbestos waste.

CPC – Certified Pest Controller

Curtained Doorway – An assembly which consists of at least three overlapping sheets of 6-mil fire retardant plastic over an existing or temporarily framed doorway, used to separate the chambers within the decontamination system enclosures and to inhibit airflow if the negative air ventilation system shuts down.

D

DAR – MTA C&D's Departmental Asbestos Representative

Decontamination System Enclosure (Decon) – A series of connected rooms, usually attached to the regulated abatement Work Area, for the decontamination of persons, materials and equipment.

Destination Facility – *A facility* that treats, disposes of, or recycles a particular category of universal waste, except those management activities described in sections 6NYCRR 374-3.2(d)(1), (3) and 374-3.3(d)(1), (3) and 40CFR 273.13 (a) and (c) and 273.33 (a) and (c). A facility at which a particular category of universal waste is only accumulated, is not a destination facility for purposes of managing that category of universal waste. (6NYCRR 374-3.1)

Disturbance – Any activities that disrupt the matrix of ACM or PACM, or generate debris, visible emissions or airborne asbestos fibers from ACM or PACM. This includes moving of friable ACM from one place to another.

DOT – Department of Transportation

Dust – Solid particulate matter which has been released into the open air by natural forces or by mechanical and manual processes

E

E&SC – Erosion and Sediment Control

ELAP – Environmental Laboratory Approval Program

Emissions – Term used to describe the gases and particles which are put into the air or emitted by various sources. (EPA Website – Air quality). The dispersion of an air contaminant (i.e. dust) into the open air.

Encapsulant (sealant) or Encapsulating Agent – A liquid material which can be applied to asbestos material and which prevents the release of asbestos fibers from the material either by creating a membrane over the surface (bridging encapsulant) or by penetrating into the material and binding its components together and to the substrate (penetrating encapsulant). This may also be used to seal surfaces from which ACM has been removed.

EPA or USEPA – United State Environmental Protection Agency

Equipment Room – A contained area or room which is part of the personal decontamination system with provisions for the storage of contaminated clothing and equipment.

Exposure Assessment – A method used to determine employees' exposure to airborne contaminants. The sample(s) is/are collected outside the respirator in the worker's breathing zone.

Exposure Control Plan (ECP) – A plan to identify tasks that involve exposure and methods used to protect workers, including procedures to restrict access to Work Areas (within the Work Site) where high exposures may occur.

F

Fixed Object – Equipment, furniture or other item that is affixed, as a whole, to a floor ceiling, wall or other building structure or system.

Friable – Any material that when dry, can be crumbled, pulverized or reduced to powder by hand pressure, or is capable of being released into the air by hand pressure.

G

Generator – Any person, by site, whose act or process produces hazardous waste identified, in 40 CFR Part 261 and 6NYCRR Part 371, or whose act first causes a hazardous waste to become subject to regulation.

Glovebag – A manufactured impervious bag-like enclosure constructed of at least 6mil transparent plastic, seamless at the bottom, with inward-projecting long sleeve glove(s), which may also contain an inward-projecting water wand sleeve, an internal tool pouch, and an attached, labeled receptacle or portion for asbestos waste. The glovebag is constructed and installed to surround the object or area to be decontaminated and contain all asbestos fibers released during the removal process per 6 NYCRR Part 56.

Glovebag Technique – A method for removing asbestos material from heating, ventilating, and air conditioning (HVAC) ducts, electrical cables, piping runs, valves, joints, elbows, and other non-planar surfaces by using a glove-bag.

H

Hazardous Chemical – A chemical, or mixture of chemicals, that presents either a physical hazard or a health hazard to the user or to persons in the vicinity of the area where the chemicals are being used. This includes chemical mixtures which may be classified as being: toxic, irritants, carcinogens, reproductive toxicants, corrosives, strong oxidizers, strong sensitizers, combustible, flammable, reactive, pyrophoric, pressure generating (explosives), or that may otherwise cause substantial, acute, chronic personal injury or illness during its use, as a direct result of any present, and or foreseeable future handling or use.

Hazardous Sludge – Debris exhibiting any of the characteristics of a hazardous waste, namely ignitability, corrosivity, and toxicity as defined in 6 NYCRR Part 371 and 40 CFR Part 261 or contains 50ppm PCBs or greater as per 40 CFR Part 761.

Hazardous Waste – Hazardous waste as defined in 40 CFR Part 261 and 6 NYCRR Part 371

Hazardous Waste Accumulation Area (HWAA) – Indoor area located in close proximity to a particular hazardous waste generating operation. Only one (1) hazardous waste drum can be used to collect hazardous waste in the area at any one time.

Hazardous Waste Regulations – 40 CFR 260–272 and 6 NYCRR Part 360, 370-374 and 376, collectively

Hazardous Waste Storage Area (HWSA) – A location within the Work Site that has been selected to be used for the storage of hazardous waste, in containers, prior to the waste being removed from the Work Site.

High Efficiency Particulate Air (HEPA) Filter – A filter capable of trapping and retaining 99.97 percent of all mono-dispersed particles of 0.3 microns in diameter or larger per 12 NYCRR Part 56.

HEPA Vacuum equipment – Vacuuming equipment designed for abatement, with a high efficiency particulate air filtration system.

Holding Area – A chamber in the waste decontamination enclosure utilized for temporary storage of containerized ACM waste.

I

IDW – Investigative Derived Waste

In-Situ Classification Sampling – In-situ sampling program performed to classify spoils prior to excavation, including groundwater likely to be handled during construction.

Intact – Asbestos material that has not crumbled, been pulverized, or otherwise been damaged or disturbed, and the material's matrix has not noticeably deteriorated.

Isolation Barriers – Installed temporary hardwall barriers that complete the containment enclosure and establish the regulated abatement Work Area.

J

K

L

L_{10}, dB(A) slow – The sound pressure level that is exceeded for 10% of the time for which the given sound is measured averaged over a 20-minute interval.

L_{max} – Maximum sound level that occurs over a measured interval.

Lamp – Also referred to as universal waste lamp, is defined as the bulb or tube portion of an electric lighting device. A lamp is specifically designed to produce radiant energy, most often in the ultraviolet, visible, and infra-red regions of the electromagnetic spectrum. Examples of common universal waste electric lamps include, but are not limited to, fluorescent, high intensity discharge, neon, mercury vapor, high pressure sodium, and metal halide lamps as defined in 40 CFR Part 273 and 6 NYCRR 374. Lamps are assumed to contain over 0.2 ppm Mercury via Toxicity Characteristic Leaching Procedure (TCLP)

Landfill Material – Construction & demolition debris or waste, that is not otherwise, recycled, reused or salvaged and is disposed of, on to or into land used as a waste disposal site, or used for the storage of waste.

Large asbestos project – An asbestos project involving the removal, disturbance, enclosure, encapsulation, repair or handling of 160 square feet or more of ACM, PACM or asbestos material or 260 linear feet or more of ACM, PACM or asbestos material. (12 NYCRR Part 56)

LDR – Land Disposal Restriction Form

Lead Disturbance Permit Placard (Lead Placard) – A document signed by the Office of System Safety indicating that a lead disturbance project is authorized to be performed by an outside contractor or Contractor, or MTA C&D related work conducted by New York City Transit employees.

LHASP – Lead Health and Safety Plan

Light Ballast – A device placed in line with the electric load to limit the amount of current in an electrical circuit. PCB-based oils were used inside the ballast as an insulating oil to provide cooling and electrical isolation.

Low PCB Cable – Cable that contains PCBs at a concentration of 1-49 ppm

M

Manifest – A shipping document that tracks hazardous or non-hazardous waste from the point of generation to ultimate disposal.

Mercury Containing Equipment (MCE) – A device or part of a device – including thermostats, but excluding batteries and lamps, that contains elemental mercury integral to its function (40 CFR 273.9 and 6NYCRR 374-3.1). MCE includes, but are not limited to, thermometers, thermostats, barometers, manometers, temperature and pressure gauges, and mercury switches (70 FR 45507-45522).

Minor Asbestos Project – An asbestos project involving the disturbance (removal, enclosure, encapsulation and repair) of 25 linear feet or less or 10 square feet or less of Asbestos-Containing Material.

Miscellaneous Material – Any material on structural components, structural members or fixtures, such as, but not limited to floor tile and ceiling tiles: does not include surfacing material or thermal system insulation.

Mobile Decontamination Enclosure System (Decon) – A functioning decon system enclosure built in a vehicle (i.e. truck), positioned as close to the Work Area as practical.

Municipal Separate Stormwater Sewer System – Otherwise referred to as MS4, a publicly-owned conveyance or system of conveyances (including but not limited to streets, ditches, catch basins, curbs, gutters, and storm drains) that is designed or used for collecting or conveying stormwater and that discharges to surface waters of the State. If discharges are needed, an MS4 permit is required.

N

Naturally Occurring Asbestos (NOA) – Asbestos that is found in some rocks, sediments and soils in its natural origin. Some naturally occurring forms of NOA are chrysotile, crocidolite, amosite, anthophyllite, tremolite, actinolite, and serpentinite.

Negative Air Pressure equipment – A local exhaust system, capable of maintaining air pressure within a containment at lower pressure than the air pressure outside of such containment, and which provides for HEPA filtration of all air exhausted from the containment.

Negative Exposure Assessment – As per 29 CFR 1926.1101 (f) (2) (iii).

NESHAP – National Standard for Hazardous Air Pollutants

NIOSH – The National Institute for Occupational Safety and Health.

NOA – Naturally Occurring Asbestos

NOAMP – Naturally Occurring Asbestos Management Plan

NOI – Notice of Intent

Non-Hazardous Waste – water and debris that does not meet the definition of hazardous waste as defined in 6NYCRR Part 371 and 40 CFR Part 261

NOT – Notice of Termination

NYCDEP or DEP – New York City Department of Environmental Protection

NYCRR – New York State Codes, Rules, and Regulations

NYSDEC or DEC – New York State Department of Environmental Conservation

NYSDOH or DOH – New York State Department of Health

NYSDOL or DOL – New York State Department of Labor

O

OSHA – Occupational Safety and Health Administration

P

PCB and PCBs – Polychlorinated Biphenyls. Any chemical substance that is limited to the biphenyl molecule that has been chlorinated to varying degrees or any combination of substances which contains such substance. Refer to § 761.1(b) for applicable concentrations of PCBs. PCB and PCBs as contained in PCB items are defined in § 761.3. For any purposes under this part, inadvertently generated non-Aroclor PCBs are defined as the total PCBs calculated following division of the quantity of monochlorinated biphenyls by 50 and dichlorinated biphenyls by 5.

PCB Cable – A cable containing PCBs greater than 500 ppm

PCB Contaminated Cable – Cable that contains PCBs between a concentration of 50-500 ppm

PCB Free Cable – Cable that is free of PCBs (less than 1ppm)

PCB Hazardous Waste – Hazardous Waste containing PCB contamination greater than or equal to 50 ppm

PCM – Phase Contrast Microscopy

PDS – Product Data Sheets

Permissible Exposure Limit (PEL) – A legal limit in the United States for exposure of an employee to a chemical substance or physical agent. PELs are established by OSHA and measured over an eight (8)-hour time-weighted average.

Permitted Confined Space – Any confined space that contains one or more of the following conditions: the potential to contain a hazardous atmosphere, the potential for engulfing an entrant, has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor which slopes downwards and tapers into a smaller cross section or contains any other recognized serious safety or health hazard

Personal Decontamination System Enclosure – An area designated for controlled passage of all persons to and from the regulated abatement Work Area.

Pesticide – Any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest; Any substance or mixture of substances intended for use as a plant regulator, defoliant, or desiccant and Any nitrogen stabilizer. https://www.epa.gov/minimum-risk-pesticides/what-pesticide.

Physical Barriers – Fencing, windscreens, wind barriers, tarps, meshes, strip doors, water curtains, plywood barriers, reinforced polyethylene on large open areas.

Plasticize – To cover floors, walls, ceilings or other surfaces with 6-mil fire retardant plastic sheeting.

PLM – Polarized Light Microscopy

Polychlorinated biphenyl (PCB) – An organic chlorine compound found in dielectric fluids and coolants. PCBs were banned in 1979 by the EPA because they were discovered to be highly toxic and a potent carcinogen.

Post-Consumer Recycled Content – The percentage by weight of constituent materials that have been recovered or otherwise diverted from the solid-waste stream after consumer use.

PPE – Personnel Protective Equipment; disposable work suits or coveralls, head covering, eye protection, footwear, gloves, and appropriate NIOSH-approved respirators with appropriate NIOSH-approved filters.

PPM – Parts per million

Pre-Consumer Recycled Content – Materials that have been recovered or otherwise diverted from the solid-waste stream during the manufacturing process. Pre-consumer content must be material that would not have otherwise entered the waste stream.

Presumed Asbestos Containing Material (PACM) – All thermal system insulations and surfacing materials found in buildings constructed no later than 1980. PACM is considered to be ACM unless proven otherwise by appropriate bulk sampling and laboratory analyses.

Project Monitor (PM or Consultant) – An individual (working for a firm hired by MTA C&D), other than the Contractor, certified by the Commissioner as having satisfactorily demonstrated the ability to oversee an Asbestos Project from start to finish. The PM shall provide the supervision, Air Monitoring and support services described in these specifications. The Consultant is independent of the Contractor for the Project and of the individual or firm performing the asbestos abatement/removal work and shall act as the on-site representative for the Project CEO.

Q

Qualitative Fit Test – A pass/fail fit test to assess the adequacy of respirator fit that relies on the individual's response to the test agent.

Qualitative Fit Test – A pass/fail fit test to assess the adequacy of respirator fit that relies on the individual's response to the test agent.

Quantitative Fit Test - Exposing the respirator wearer to a test atmosphere containing an easily detectable, non-toxic aerosol, vapor or gas as the test agent. Instrumentation, which samples the test atmosphere and the air inside the face piece of the respirator, is used to measure quantitatively the leakage into the respirator. There are a number of test atmospheres, test agents, and exercises to perform during the tests.

R

RCRA – Resource Conservation and Recovery Act

Recycled Content Materials – Products that contain pre-consumer or post-consumer materials as all or part of their feedstock.

Recycling – The process of converting waste materials into new materials and objects. Recycling is an alternative to "conventional" waste disposal that can save material (for reuse) and help lower greenhouse gas emissions. Recycling can prevent the disposal of potentially useful materials and reduce the consumption of fresh raw materials, thereby reducing energy consumption, air pollution (via incineration) and water pollution (from landfilling).

Recycling Facility – A fully regulated federal or state facility that recycles PCB Containing light ballasts.

Regional Materials – Materials that are extracted, harvested, recovered, and manufactured within a radius of 500 miles (400 km) from the Work Site.

Regulated Abatement Work Area – The portion of the restricted area where abatement work actually occurs.

Reinforced Poly – Reinforced (6) six-mil opaque fire-retardant plastic sheeting.

Removal – Abatement\ consisting of operations where ACM, PACM or asbestos material is removed or stripped from structures or substrates. This includes demolition operations.

Rodenticide – A poison used to kill rodents.

Restricted Area – A restricted area established and marked for the abatement portion of an asbestos project. This area shall include, but not limited to asbestos project regulated abatement Work Areas and any contiguous decontamination facilities, adjoining staging areas where work materials, debris or waste from such work may accumulate, remote decontamination areas, and waste areas (dumpsters, trailers, etc.).

Restricted asbestos handler (allied trades) – Any person performing any limited or special tasks in preparation for or ancillary to an asbestos project, such as a carpenter, electrician, plumber or similar occupation, or any other person who may potentially disturb friable or non-friable asbestos during the course of any employment, shall possess a valid restricted asbestos handler (allied trades) certificate and shall have such certificate or a copy thereof in possession at all times while working on the Project, per 12 NYCRR Part 56.

Reused Material – The use, in the same or similar form as it was produced, of a material that might otherwise be discarded.

S

Salvage Material – C&D materials generated on the Work Site for the purpose of recycling, reuse or storage for later recycling or reuse.

Safety Data Sheet (SDS) – A document that contains information on the potential health effects of exposure to chemicals, or other potentially dangerous substances, and on safe working procedures when handling chemical products.

Spoils (or Muck) – Materials that consist of soil, fill, gravel, asphalt, concrete, rock, and other accompanying residues, excluding groundwater, generated during the construction process. Spoils are classified as construction and demolition debris material.

SSP – Site Specific Procedures

SSPC – Society for Protective Coatings

SSV – Site Specific Variance

Sequential Abatement – The abatement of different types of ACM within a common regulated abatement Work Area in a priority order.

Shower Room – A room between the clean room and the equipment room in the personal decontamination enclosure with hot and cold running water controllable at the tap and arranged for complete showering during decontamination.

Small Asbestos Project – An asbestos project involving the disturbance (e.g., removal, enclosure, encapsulation, repair) of more than 25 and less than 260 linear feet of friable Asbestos-Containing Material or more than ten and less than 160 square feet of friable Asbestos-Containing Material.

Soil/Water –

1**. Historic fill** – Non-indigenous or non-native material, historically deposited or disposed in the general area of, or on, a site to create useable land by filling water bodies, wetlands, topographic depressions or to stabilize and drain track bed, which is in no way connected with the subsequent operations at the location of the emplacement. Historic fill may be solid waste including, but not limited to, coal ash, wood, municipal solid waste, incinerator ash, construction and demolition debris, dredged sediments, railroad ballast, refuse and land clearing debris. The chemical constituents of historic fill are assumed to be greater than both of the following:

- the soil cleanup objectives for residential use as defined in 6 NYCRR Part 375-6; and
- the soil cleanup objectives for groundwater protection as defined in 6 NYCRR Part 375-6.

2. **Petroleum spill contaminated soil and/or water** – Soil and/or water exhibiting one or more of the following characteristics:

- Elevated photo-ionization detector (PID) readings, subsequently confirmed by lab analysis (i.e., VOCs found in lab results)
- Visual evidence of contamination, i.e., staining
- Petroleum and/or chemical odors
- Soil and/or water that has been documented by MTA C&D, the Contractor, or any other party, including a third-party or regulatory agency, as contaminated by spill reporting, or industrial or manufacturing activities.

3. **Hazardous soil and/or water** – Soil and/or water exhibiting any of the characteristics of a hazardous waste, namely ignitability, corrosivity, reactivity, and toxicity as defined in 6 NYCRR Part 371 and 40 CFR Part 261 or contains 50 ppm PCBs or greater as per 40 CFR Part 761.

State Pollutant Discharge Elimination System (SPDES) – A State of New York permit program that requires anyone who discharges any pollutants to waters of the State of New York to obtain a discharge permit.

Stormwater – Water that originates during precipitation events and snow/ice melt.

Surface Waters – Lakes, bays, sounds, ponds, impounding reservoirs, springs, rivers, streams, creeks, estuaries, marshes, inlets, canals, the Atlantic ocean within the territorial seas

of the state of New York and all other bodies of surface water, natural or artificial, inland or coastal, fresh or salt, public or private (except those private waters that do not combine or effect a junction with natural surface or underground waters), which are wholly or partially within or bordering the state or within its jurisdiction.

Surfacing Material – Any material that is sprayed-on, troweled-on or otherwise applied to surfaces, such as acoustical plaster on ceilings and fireproofing materials on structural members, or other materials on surfaces for acoustical, fireproofing, or other purposes. (12N – OSHA and 12 NYCRR Part 56) match closely

Surfactant – A chemical wetting agent added to water to reduce the surface tension of the water and improve its penetration for added mitigation of airborne fiber release. (12N and 12NYCRR Part 56)

SWPPP – Stormwater Pollution Prevention Plan

System Wide Variance (SWV) – The prior approved System Wide Variances, obtained by MTA C&D from the New York State Department of Labor (NYS-DOL) for use on MTA C&D Property.

T

Targeted Substance – A product which contains ingredients that:

- Are known or suspected carcinogens, mutagens or teratogens based on the findings and designated category assigned by any of the following:
  - Occupational Safety & Health Administration (OSHA)
  - National Toxicology Program (NTP): Clear Evidence and Some Evidence
  - International Agency for Research on Cancer (IARC): classified as Group 1 (carcinogenic to humans) and 2A (probably carcinogenic to humans).
- May pose difficulties in complying with federal, state or local disposal requirements.
- Are contrary to hazardous waste minimization efforts.
- May result in unacceptable environmental or occupational safety hazards.

TCLP – Toxicity Characteristic Leaching Procedure

TEM – Transmission Electron Microscopy

Thermal System Insulation (TSI) – Insulation material applied to pipes, fittings, boilers, breeching, tanks, ducts or other structural components to prevent heat gain or loss.

TOGS – Technical and Operational Guidance Series per NYSDEC

TSCA – Toxic Substance Control Act

TSD or TSDF – Treatment, Storage, Disposal Facility

Transporter – A person or company engaged in the off-site transportation of hazardous, non-hazardous or universal waste by air, rail, highway, or water

TWA – Time Weighted Average

U

Universal Waste – Consists of the following hazardous wastes, as identified in 6 NYCRR 374-3: lamps, mercury-containing equipment, batteries, and pesticides.

Universal Waste Regulations – 40 CFR Part 273 and NYCRR Part 374-3 collectively

Used Oil Processor/Re-refiner – A facility that processes and/or re-refines used oil

V

Visible Emissions – Visible particulate matter that occurs as the result of construction, demolition and paint removal activities by means of sawing, drilling, breaking, chipping, cutting, chopping, scraping, grinding, hoe ramming, abrasive blasting, etc.

Volatile Organic Compounds (VOCs) – Any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, which participates in atmospheric photochemical reactions. Compounds that have negligible photochemical reactivity, listed in EPA 40 CFR 51.100(s), are also excluded from this definition.

W

Waste Decontamination System Enclosure (Waste Decon) – An area, consisting of a washroom and a holding area separated from each other by airlocks, designated for the controlled transfer of materials and equipment from the regulated abatement Work Area.

Waste Liquids – Contaminated liquid wastes generated during construction which include decontamination liquids, non-aqueous liquids, floating product, etc. which cannot be treated by the on-site groundwater treatment system.

Waste Management Plan (WMP) – A plan to identifying, document and track the types of debris that will be generated by the Project and to clearly describe how all waste streams will be managed by recycling, salvaging and/or reusing.

Weighted Noise Levels dB(A) – Decibels (referenced to 20 micro-Pascal) as measured with A-weighing network of standard sound level meter.

Wet Cleaning – The process of eliminating asbestos contamination from surfaces, equipment or other objects by using cloths, mops, or other cleaning tools that have been saturated with amended water.

Wet Suppression – A method used to keep visible dust from becoming airborne.

Work Area – location(s) within the Work Site where demolition and construction activities that disturb concrete and other masonry take place.

X

Y

Z

Appendix I

Appendix B: Asbestos Removal

APPENDIX B: ASBESTOS REMOVAL

12.29. APPENDIX B: ASBESTOS REMOVAL

12.29.1. General Information

A. Furnish all labor, materials, tools and equipment required to perform all asbestos abatement, including the removal, handling, storing, transporting, and disposing of ACM at the locations indicated in the Site-Specific Procedures (SSP) on the Contract Drawings and as specified herein.

B. Mark, tag, paint or otherwise identify all ACM to be removed before performing any Work at the Work Site to ensure that the ACM is not disturbed prior to asbestos abatement by an Asbestos Abatement Contractor licensed by the New York State Department of Labor.

C. In addition to the identified ACM, additional ACM may exist on or at the Work site and may be encountered during the work. If additional ACM is encountered, the Design-Builder shall immediately notify MTA C&D and not disturb any suspected ACM.

12.29.2. Codes and Standards

A. Comply with the following codes and standards:

1. USEPA National Emission Standards for Hazardous Air Pollutants (NESHAPS) 40 CFR Part 61.
2. USEPA for Asbestos in Water, EPA 600/4- 80-005.
3. U.S. Department of Labor, Occupational Safety and Health Act Standards, 29 CFR Part 1926.
4. U.S. Department of Labor, Occupational Safety and Health Act Standards, 29 CFR Part 1910. 134.
5. Part 56 of Title 12 of the State of New York Official Compilation of Codes, Rules and Regulations, 12NYCRR 56.
6. NYSDEC, 6NYCRR Part 364, Waste Transporter Permits.
7. Article 30 of New York State Labor Law, Products Containing Asbestos; Licensing.
8. New York City Local Law 70, NYC Department of Sanitation Regulations in Relation to Transport, Storage and Disposal of Asbestos Waste.
9. ASTM Standard E1368 “Standard Practice for Visual Inspection of Asbestos Abatement Projects”.

12.29.3. Asbestos Documentation

A. The following documentation shall be available at the Work Site:

1. A copy of the Asbestos Abatement Contractor’s worker’s Asbestos Handler (Worker) and Asbestos Supervisor and the Asbestos Project Air Sampling Technician’s and Project Monitor’s NYS-DOL Asbestos Certificates per ICR 56;
2. Copies of respiratory protection program and negative exposure assessment;
3. Written emergency procedures;
4. Completed asbestos survey and abatement plan including bulk samples chain of custodies, bulk sample results, drawings, variances, SSP, and photo documentation for affected portions of the building, structure and Work Site. It shall be kept on the

construction site throughout the duration of the asbestos project and any associated demolition, renovation, remodeling or repair project.

5. A copy of the air sampling log if the Project Monitor /Asbestos Project Air Sampling Technician is at the Work Site. If the Project Monitor /Asbestos Project Air Sampling Technician is not on-site, a copy of the air sample log shall be supplied within 24 hours of the request to produce a copy there of;
6. A copy of all air sampling results, including method of analysis, by date for the entire asbestos Work, organized by regulated abatement Work Area;
7. A copy of the Project Monitor's daily logs during abatement;
8. The licensed Asbestos Abatement Contractor's supervisor's daily log with entry/exit logs organized by date;

B. Post the following documentation at the entrance to the decontamination unit:

1. A copy of the USEPA Regulations for Asbestos, 40 CFR 61 Subparts A and M; a copy of OSHA Asbestos Regulations, 29 CFR 1926.1101; and a copy of 12 NYCRR 56.
2. A copy of all applicable US EPA and NYS-DOL Notifications and amendments, System Wide Variance (SWV) Payment Form (if applicable) and Approved Variances, amendments and re-openings being used for the project.
3. A list of telephone numbers for local hospital, location of hospital and/or emergency squad, local fire department, the building owner (or representative) and the NYS-DOL Asbestos Control Program.
4. The original signed asbestos abatement placard and General Order Tracking Form, if applicable, issued by MTA-NYCT Office of System Safety.
5. An entry/exit log documenting every person upon every entry and exit.
6. Copies of waste hauler information, including the location of the waste site, permits and licenses.
7. Copy of all Design-Builder and NYS-DOL company handling licenses.
8. Copy of ELAP.
9. A copy of all SDS for hazardous chemicals used.
10. Copies of emergency procedures, site-specific emergency procedures, including but not limited to the location of emergency exits, locations of fire extinguishers and exiting procedures.

12.29.4. Submittals

A. Provide the following documents as one submittal for approval at least forty-five (45) days prior to the intended start date of the asbestos abatement work:

1. Asbestos abatement cost estimate.
2. List of previous waste transporter experience in New York City and New York State.
3. A list of previous asbestos abatement experience including Projects in New York City and New York State (owner, dates, contact person, quantities and value).
4. A valid copy of the NYS-DOL Asbestos Handling License.

5. Chain of Command.
6. Licenses and permits for the proposed asbestos waste transporter.
7. List and certifications of any waste transfer stations to be utilized associated with the disposal of the asbestos waste.
8. Certifications, length of experience disposing of asbestos waste, list of principal owners, and location of asbestos waste landfill(s) (name, address, telephone #) to be utilized for the Project.
9. Copies of original and all amended EPA and NYS-DOL notifications for Asbestos Projects. Clearly indicate what section of the EPA and NYS-DOL notification forms were amended and sequence of the notifications.
10. The abatement schedule including locations, dates, type of activities, equipment to be utilized, staffing and times for work to be done per activities.
11. Copies of public notices.
12. Shop drawings of scaffolding and other temporary structures designed, signed and sealed by a NYS licensed Professional Engineer.

B. Upon approval of these submittals, the Project CEO will provide an Asbestos Abatement Placard issued by the Office of System Safety, which shall be posted at all times, at the Work Site for the duration of the abatement work. No work shall be permitted without a placard.

C. Within thirty (30) days of the completion of each phase of asbestos abatement work, the Design-Builder shall provide the following to the Project CEO:

1. Copies of the Asbestos Abatement Contractor’s daily project logs;
2. Notarized list of abatement workers that shall include the following information:
    a. Full name of worker as it appears on their NYSDOL Asbestos Certificate
    b. NYSDOL Certificate #
    c. NYSDOL Certificate type
    d. NYSDOL Certificate expiration date
    e. Social Security information

D. The Design-Builder and its Asbestos Abatement Contractor shall attend an Asbestos Project Kick-off Meeting, to be held within seven days prior to the start of asbestos abatement activities and the Office of System safety will be notified and invited to attend. Asbestos Abatement Supervisor(s) for this Work shall also attend.

12.29.5. Permits and Notifications

A. Secure all necessary permits and execute all necessary notifications in conjunction with asbestos removal, hauling and disposal, required by Federal, State, and Local regulations.

B. The Asbestos Abatement Contractor shall post public notices ten calendar days prior to the commencement of Phase II A work on any asbestos project, and to maintain these notices at all direct means of access to the floor, such as but not limited to stairways,

ramps, emergency ingress or egress, elevators, escalators, ladders, hallways, corridors and trapdoors.

12.29.6. Work Area On-Site Planning

A. The Work Areas shall be phased as described in the Contract Drawings.

B. Construct the Work areas so as not to prohibit passengers' and/or MTA C&D employees' access to trains, stairways, or means of egress.

12.29.7. Temporary Lighting and Power

A. Shutdown and lock out of electric power to all negative pressure containment enclosures within the regulated abatement Work Areas shall be required as per current applicable OSHA standards. All existing power to fixtures, lights, machinery and outlets within the enclosure must be shut down and locked out. The Asbestos Abatement Contractor shall provide temporary power and lighting to the regulated abatement Work area and ensure safe installation of temporary power sources and equipment used where high humidity or water shall be sprayed in accordance with all applicable codes. All temporary power to regulated abatement Work areas shall be brought in from outside the regulated abatement Work area. This temporary power shall be protected by a ground fault circuit interrupter (GFCI) before the entry point to the regulated abatement Work area. The negative air equipment shall be on GFCI protected circuits separate from the remainder of the regulated abatement Work Area temporary power circuits. The GFCI temporary power connections shall be located outside of the regulated abatement Work area, in a secure, dry area, which is accessible to the Asbestos Abatement Contractor.

B. **Electric Power Shutdown Exemption.** If electrical circuits, machinery and other electrical systems in or passing through the regulated abatement Work Area must stay in operation due to health and safety requirements, the following precautions must be taken:

1. All unprotected cables (except low-voltage [less than 24 volts] communication and control system cables), panel boxes of cables and joints in live conduit that run through the regulated abatement Work Area shall be covered with three (3) independent layers of six (6) mil fire retardant polyethylene. Each layer shall be individually duct taped and sealed. All three (3) layers of polyethylene sheeting shall be left in place until satisfactory clearance air sampling results have been obtained.

2. Any energized circuits remaining in the regulated abatement Work Areas shall be posted with a minimum of two (2) inch high lettering warning sign which reads: DANGER LIVE ELECTRICAL – KEEP CLEAR. The sign shall be placed on all live covered barriers at a maximum of ten (10) foot intervals. These signs shall be posted in sufficient numbers to warn all persons authorized to enter the regulated abatement Work area of the existence of the energized circuits.

12.29.8. Temporary Water

A. Locate potable water source and make all plumbing connections for water to perform all asbestos Work.

B. Supply an adequate amount of drummed potable water to perform the Asbestos Project if an adequate source of water does not exist on site or if utilizing an existing source would adversely affect the operations of the MTA.

C. When Work is conducted below 32 degrees Fahrenheit or 0 degrees Celsius, utilize measures to prevent the water from freezing.

12.29.9. Warning Signs

A. Display warning signs in English, Spanish and the predominant language of the workers at all approaches, entrance ways to the Work Area and on barriers separating the Work Area from adjacent non-Work Areas in accordance with 29 CFR 1926.1101(k) (7).

B. Lettering requirements for the signs shall be as follows:

Legend (In Addition to Caution)	Size	Type
DANGER	1"	Black
ASBESTOS	3/4"	Black
MAY CAUSE CANCER	1/4"	Gothic
CAUSES DAMAGE TO LUNGS	1/4"	Gothic
AUTHORIZED PERSONNEL ONLY	1/4"	Gothic
WEAR RESPIRATORY PROTECTION & PROTECTIVE CLOTHING IN THIS AREA		

12.29.10. Engineering Controls

A. Install Engineering Controls as per 12 NYCRR 56 Subpart 7.8

12.29.11. Temporary Structures

A. Construct all temporary structures of incombustible or fireproofed (fire-retardant pressure impregnated) materials. Temporary structures (other than plastic sheeting) shall be painted and repainted as required (at intervals not to exceed 6 months) with two coats of an approved paint of a color.

B. Fireproofed wood shall meet the requirements in Paragraph 27-328 of the Building Code of the City of New York.

C. Fireproofed wood shall be clearly identified with an impression on both faces of the wood, as to the type and grade of the treatment and the name of manufacturer.

D. Seal the edges of the isolation barriers partition at the floor, ceiling, walls and fixtures using caulk, fire-retardant expandable foam or duct tape to form an airtight seal. The seams of the partition sheathing shall also be sealed airtight using these techniques.

E. Design canopy abatement temporary structures located between the platform and canopy roof to withstand high winds such that the enclosure framing shall not be thrust into the train clearance envelope or thrust into the platform area (including provision for super-elevation, end approach, etc.). The enclosure shall be designed to withstand wind loads of 30-lb. /sq. ft.

F. Temporary structures built on or near the active platform and/ or track shall not obstruct the right of way and shall not interfere with the safe operation of the Railroad and must comply with the MTA-NYCT Office of System Safety Guidelines for Constructing Temporary Enclosure/ Structure.

12.29.12. Scaffolding, Lifts, and Ladders

A. Where ladders, lifts or scaffolds are used, take care to prevent breaching of the containment areas.

B. Seal scaffold joints and ladder openings with duct tape to prevent incursion of asbestos.

C. Scaffolds, lifts and scaffolds and their use shall comply with OSHA 29 CFR 1926 and other applicable codes.

D. Supply Shop Drawings for all scaffolding construction, that are designed, signed and sealed by a New York State licensed Professional Engineer.

12.29.13. Worker Protection

A. Provide workers and visitors with NIOSH-approved respirators and a sufficient quantity of filter cartridges of a size and type based on the concentration of fibers found during air sampling and as required by the regulations.

1. Workers shall change filter cartridges following each worker's break outside of the Regulated Abatement Work Area.

2. Unused filter cartridges shall be stored at the Work Site in the Clean Room and shall be totally protected from exposure to asbestos prior to their use.

B. Workers shall always wear a respirator properly fitted on the face while in the Regulated Abatement Work Area following installation of the personal decontamination unit. Respirators shall be worn and used in accordance with OSHA regulations.

C. Workers shall always wear disposable, full-body coveralls in a color other than white and shall wear disposable head covers, gloves and footwear in the Regulated Abatement Work Area after installation of the personal decontamination unit. Footwear may be non-disposable. Non-disposable footwear shall be left in the Regulated Abatement Work Area at all times until disposal.

12.29.14. Decontamination Facilities - General

A. **Installation**. Construct decontamination facilities as detailed on the Contract Drawings.

1. Personal decontamination system enclosure shall be constructed and functional prior to commencing the remainder of the Phase IIA regulated abatement work area preparation activities.

2. Waste decontamination system enclosure shall be constructed and functional at the completion of Phase IIA preparation activities.

3. After installation of the personal decontamination system enclosure, all access to the regulated abatement work area shall be via the installed personal decontamination system enclosure.

4. These decontamination systems must be kept clean, sanitary and climate-controlled at all times in conformance with all federal, state and local government requirements. These systems shall remain on-site, operational and be used until completion of Phase IIC of the Asbestos Work.

B. **Clean Room**. All attempts shall be made to size the clean room in accordance with 12 NYCRR Part 56 where permitted by site conditions. Provide benches, lockers and hooks for storage of street clothes of workers in the clean room. In the same clean room, provide uncontaminated disposable protective clothing and equipment. The clean room shall be used by workers and visitors to change from street clothes to disposable protective clothing, respirators, and other personnel protective equipment prior to entering the

contaminated area. It shall be then used dress into street clothing after they have showered and dried in the Shower Room as they exit from the contaminated area. The clean room shall also contain one complete set of personal protective equipment for each person.

C. **Shower Room**. Provide one operational shower head per 6 full-shift abatement personnel calculated on the basis of the largest shift. Multiple showers heads shall be simultaneously accessible (installed in parallel) to certified personnel. Provide disposable towels and liquid soap. Locate the shower facilities to allow complete showering of workers and visitors as they exit the contaminated area. Make provisions to prevent contaminated water run-off from the shower room. The shower shall have hot and cold water, adjustable at the tap.

D. **Equipment Room**. Provide an equipment room with a drum lined with a labeled, minimum 6-mil plastic bag for contaminated clothing and equipment. Workers and visitors shall dispose of their disposable protective clothing in the equipment room, except for the respirator, prior to entering the shower room.

E. **Washroom**. The washroom shall be equipped with facilities to wash and wipe the outside of the bags prior to removing them from the Regulated Abatement Work Area for transportation to the landfill. Make provisions to prevent any contaminated water run-off.

F. **Curtained Doorway**. Provide an assembly which consists of at least 3 overlapping sheets of 6-mil fire retardant plastic over an existing or temporary framed doorway. One sheet shall be secured at the top and left side, the second at the top and right side, and the third sheet at the top and left side. All sheets shall have weights attached to the bottom to ensure that the sheets hang straight and maintain a seal over the doorway when not in use.

G. **Airlocks.** Construct airlock in accordance with 12 NYCRR Part 56.

H. **Heating and ventilation**. Provide heating and ventilation in the entire Decontamination System Enclosure, as defined in ICR 56, so that airflow shall be from the outside towards the workspace.

I. **Water requirements**. All water contaminated by asbestos during this Project shall be filtered. The final filter should be of a 5- micron size. Use a system containing a series of several filters with progressively smaller pore size to avoid rapid clogging of the filtration system by large particles. Filtered wastewater shall be discharged to a sanitary sewer. Used filters shall be disposed of as asbestos-containing waste.

J. **Fire protection**. At a minimum, provide two fire extinguishers, and place 1 inside and 1 outside of the Decontamination System Enclosure and within the Regulated Abatement Work Area where it is accessible to the workers.

K. **Safety.** Worker and waste decontamination units shall be constructed to be safe and suitable to the permitted site conditions.

L. All workers shall:

1. Sign the entry/exit log upon every entry and exit of the personal decontamination facility (including all consultants and contractors).

2. Remove street clothes in the clean room and put on the disposable coveralls and head covers, gloves, footwear and respirator before entering the Regulated Abatement Work Area. No asbestos-contaminated items are permitted in the clean room.
3. All persons entering the Regulated Abatement Work Area shall wear an approved respirator and disposable coverall, head cover, gloves and footwear.
4. Prior to exiting the Regulated Abatement Work Area, remove all gross contamination and debris from coveralls using a HEPA filter vacuum. The disposable coveralls, head covers, gloves and footwear in the Equipment Room shall be removed upon leaving the Regulated Abatement Work Area. Store Work equipment, footwear and all other contaminated work clothing in the Equipment room. All areas between the Shower Room and Regulated Abatement Work Area shall be treated as part of the Regulated Abatement Work Area.
5. While still wearing their respirators, workers shall proceed to the showers in the Shower Room and remove their respirators while showering with liquid soap and water. Respirators shall not be removed until respirators and workers have been washed free of dust.
6. Workers shall shower each time they exit the Regulated Abatement Work Area and before entering the clean room to change into street clothes.
7. Shower wastewater shall be drained, collected and stored pending disposal or filtered for sanitary sewer discharge. Filters shall have at least a 5.0- micron particle size collection capability. Used filters shall be disposed of as asbestos-containing waste.
8. Workers shall not eat, drink, smoke, chew gum, or chew tobacco, in the Regulated Abatement Work Areas and Decontamination System Enclosures.
9. Control access to the Work Site and maintain a daily log of personnel entering the Regulated Abatement Work Area. A list of names of workers shall be posted with their start and stop times for each day. Record the NYS- DOL asbestos certification number and Social Security Number for each worker.
10. Provide disposable coveralls, head cover, gloves and footwear to any authorized visitor.
11. All workers shall possess a current New York State Department of Labor Asbestos Handler or Supervisor certificate while performing work. The certification shall be presented for examination to the Project CEO and the Asbestos Project Monitor.

12.29.15. Personal Attached Decontamination System Enclosure

A. Provide a Personal Decontamination System Enclosure outside the Regulated Abatement Work Area consisting of a serial arrangement of rooms attached to all locations where personnel shall enter or exit the Regulated Abatement Work Area. Each room shall be clearly identified and separated from the others and the Regulated Abatement Work Area. Refer to ICR 56 for diagrams of the decontamination system.

B. Personal Decontamination System Enclosure system may be constructed of metal, wood or plastic supports covered with fire-retardant plastic sheeting. Use a minimum of 1 layer of 6-mil fire-retardant plastic sheeting on walls and the ceiling of the enclosure system. At least 2 layers of 6- mil fire-retardant reinforced plastic sheeting shall be installed on the floor.

C. Schedule showering in the event of personnel from both sexes being in the Regulated Abatement Work Area.

D. All personal decontamination enclosure systems accessible to the public shall be constructed in accordance with 12 NYCRR Part 56 and NYSDOL System-Wide Variances (Paragraphs 12.29.22 to 32). Exterior walls shall be painted in accordance with MTA-NYCT requirements. The decontamination unit shall have lockable doors, and if located outside, shall be able to withstand all weather conditions.

E. A Large Asbestos Project decontamination unit shall consist of a clean room, shower room, and equipment room connected in series but separated from each other by airlocks. Minimum airlock size shall be 3 feet wide, by 3 feet long, by 6 feet in height.

F. A Small Asbestos Project decontamination unit shall consist of a clean room, shower room, and equipment room connected in series but separated from each other and all other areas by curtained doorways only, with at least 3 overlapping sheets of 6-mil fire retardant plastic and weights attached to the bottom.

12.29.16. Personal Remote/Mobile Decontamination System Enclosure

A. If a personal decontamination system enclosure cannot be attached to the regulated abatement work area, provide a remote/mobile decontamination system as close to the regulated abatement work area as possible that meets the requirements of Paragraphs 12.29.15 and 12.29.18.

B. Asbestos Workers involved in the removal procedure shall wear two (2) disposable suits, including gloves, hood and footwear, and appropriate respiratory equipment. All street clothes shall be removed and stored in a clean room within the Work Site.

C. At a minimum, construct two (2) extra airlocks. One shall be constructed at the entrance to the equipment room or washroom. The other extra airlock shall be attached to the entrance of the Regulated Abatement Work Area; or if not permitted due to the site conditions, position the remote airlocks in close proximity to the entrance of the Regulated Abatement Work Area and utilize additional curtained doorway with 3 layers of overlapping 6-mil fire-retardant plastic sheeting at the entrance to the regulated abatement work area. These airlocks shall have lockable doorways at the entrance to the airlock from uncontaminated areas. These airlocks shall be cordoned off and posted with asbestos warning sign and shall not be used as waste decontamination areas.

D. Prior to exiting the Regulated Abatement Work Area (for materials or shift changes) the workers shall HEPA vacuum and/or wet wipe, then remove the outer suit and dispose of it as ACM waste while in the airlock. Workers shall then don a clean set of protective clothing prior to proceeding directly to the Decontamination Enclosure System, another regulated Work Area, when transferring bags to the waste container (herein referred to as “double-suiting procedures”) .

E. If both suits are compromised during the Asbestos Work, the workers shall request that the on-site supervisor provide additional clean suits, dispose of compromised suits and don new suits during decontamination procedures. Workers with contaminated inner suits shall not make trips outside of the Regulated Abatement Work Area.

F. The walkway from the regulated abatement work area to the airlocks, remote/mobile decontamination systems enclosures, or other regulated abatement work areas shall be cordoned off or restricted by certified asbestos workers during use only.

12.29.17. Remote/Mobile Decontamination Unit in Work Trains

A. Provide personal and waste decontamination units that meet the requirements of Paragraphs 12.29.16 and 12.29.18. (if required by the size of the Asbestos Project) for Work that utilizes a work train. The work train may consist of a diesel engine, a rider car for decontamination systems enclosures (personal and waste if required), a flatbed car with a mechanical crane (if required), a second flatbed car with additional waste holding area enclosure with floor wall and ceiling covered with 2 layers of 6-mil fire-retardant plastic sheeting (if required). In addition, a section of the flatbed car with mechanical crane shall be covered with 2 layers of 6-mil fire-retardant plastic sheeting and provided with additional remote airlock. Notwithstanding the above, the configuration of the work train is not guaranteed if provided by MTA-NYCT.

B. Furnish wheel stops and/ or bumper blocks for each work train as required by the MTA-NYCT Rules and Regulations.

12.29.18. Waste Decontamination System Enclosure

A. Provide a Waste Decontamination System. The Waste Decontamination System shall consist of a washroom and holding area. Each space shall be clearly identified and separated from each other by an airlock. A minimum of 1 layers of 6-mil fire-retardant plastic sheeting shall be required for walls and the ceiling. At least 2 layers of 6-mil reinforced plastic sheeting shall be required on the floor.

B. All waste decontamination enclosure systems accessible to the public shall be constructed in accordance with 12 NYCRR Part 56, exterior walls shall be painted in accordance with MTA requirements. The decontamination unit shall have lockable doors, sturdy and if located outside shall be able to withstand all weather conditions.

C. The washroom shall be equipped with a wash bin of sufficient size to perform waste containers washing operations and shall have a submersible pump installed to collect wastewater and deliver it to the shower wastewater filtration system for filtration in accordance with Paragraph 12.29.14.A)

D. Where there is only one (1) exit from the regulated abatement work area, the holding area of the waste decontamination system enclosure may branch off from the equipment room of the personal decontamination system enclosure. The equipment room shall also be used as the washroom.

E. For Small Asbestos Project with only one exit from the regulated abatement work area, the shower room may be used as the washroom. The clean room shall not be used for waste storage but may be used for direct and immediate waste transfer to transportation carts or waste containers.

F. When a remote/mobile personal decontamination system enclosure is utilized, construct an additional washroom within the regulated abatement work area. The additional washroom shall be attached to the existing airlock used to access the regulated abatement work area.

1. If the work area configuration does not allow the washroom to be constructed inside the Regulated Work Area, construct the washroom outside the Regulated Work Area entrance and attach to the existing airlock (changing chamber) used to access the Regulated Abatement Work Area.

2. If a remote airlock (changing chamber) is utilized based on site conditions, the washroom chamber shall not be constructed. Establish a waste wash-area inside the work area by placing fire-retardant plastic sheeting on the floor close to the work area's exit. All waste bags shall be wet wiped, HEPA-vacuumed and double bagged and or be containerized in the wash-area prior to the waste being transferred to the waste container on Site. No ACM abatement or cleaning activities may occur during waste transfer operations.

G. ACM bagged waste shall be kept locked in the holding area wet and inspected daily. Waste shall not be stored for periods longer than 24 hours.

12.29.19. General Abatement Procedures

A. Adequate Wetting of ACM

1. Spray the ACM with water containing a wetting agent to enhance penetration. The wetting agent shall be 50% polyoxyethylene ester and 50% polyoxyethylene ether (Aqua-GRO or approved equal), in a concentration of one (1) ounce in five (5) gallons of water. Apply a fine spray of the amended water to reduce fiber release preceding and as required during the removal of the ACM. The material shall be sufficiently saturated to prevent emission of airborne fibers, and to maintain airborne fiber concentrations below the exposure limits prescribed in the OSHA regulations. If visible emissions are observed coming from ACM, then the material is not adequately wet.

B. ACM Removal

1. The ACM shall be removed in sections using manual methods whenever possible. If mechanical means are required, obtain approval from the Project Monitor for tools and procedures.

2. Before beginning removal of the next section in sequence, the material shall be double-bagged while still wet in accordance with 12 NYCRR Part 56. Bags shall be labeled as Class 9 waste including the Generator Label in accordance with EPA NESHAP regulations.

3. Thoroughly clean the Regulated Abatement Work Areas of all asbestos-containing debris, before, during and after the ACM removal.

4. No dry removal or disturbances of ACM shall be permitted without State and Federal approval.

C. Electric Power

1. All electric power to negative pressure containment shall be shut down and locked until completion of the abatement work, including but not limited power to fixtures, lighting, outlets and machinery or equipment. All temporary power to regulated abatement work area shall be brought in from outside and be protected by a ground fault circuit interrupter (GFCI) with connections located outside the regulated abatement work area in secure, dry and accessible space. The negative air equipment shall be on GFCI-

protected circuit separate from the remainder of the regulated abatement work area temporary power circuit.

2. If electric power to negative pressure containment, including power to fixtures, lighting, outlets and machinery, must remain on due to health and safety requirements, then all unprotected cables and wires (except low-voltage, 24 V and below), panel boxes of cables and joints in live conduits shall be covered with 3 individually duct taped and sealed independent layers of 6-mil fire retardant polyethylene. In addition, post a sufficient number of warning signs with minimum of 2” high letters that reads: DANGER LIVE ELECTRICAL – KEEP CLEAR, shall be placed on all energized circuits and all live covered barriers at a maximum of 10-foot intervals. All the above-mentioned precautions must remain in place until satisfactory clearance air sampling results have been obtained.

3. Existing power cables may carry high voltage power (600 V and above). Abate asbestos cable wrap, cable seal, and duct seal when the power is “off”. MTA C&D shall turn the power "off" when requested. Verify that electricity is turned off and secured by lockout, tag-out procedure. Non-conductive tools and approved gloves shall be used when abating energized cables and heaters.

4. If the MTA cannot " turn the power off from the power cables, MTA C&D will obtain required approvals before the Design-Builder initiates dry removal procedures.

D. Site Security/Safety

1. Ensure adequate site security is maintained at all times, including times when abatement activities are not occurring (between shifts, weekends, etc.). Site security program shall include surveillance controls to prevent unauthorized access to the Regulated Abatement Work Areas and shall include inspection and surveillance of critical barriers, negative air systems, and decontamination units. Establish and maintain emergency and fire exits from the Regulated Abatement Work Area as per existing fire code requirements. Emergency procedures shall have priority.

12.29.20. The procedures contained in 12.29.22 – 12.29.37 are based on variances obtained by the New York State Department of Labor Engineering Services Unit and shall be used for asbestos abatement work indicated on the Contract Drawings and for abatement of asbestos materials discovered during the Work which were previously not identified.

12.29.21. Non-Friable Flooring and Mastic Removals (SWV# 21-0081)

A. Background air sample results as per 12NYCRR 56 Subpart 4.9 (a) and 6 allows the clearance criteria of the work area to be higher than 0.01 fibers per cubic centimeter. Since background air samples will not be collected, all work areas will be cleared to the more stringent criteria of less than 0.01 fibers per cubic centimeter

B. In lieu of 12NYCRR 56 Subpart 4.9 (d) and 11.7 (d), conduct clearance air monitoring of the work area with the following modifications:

1. Air samples will be collected inside the regulated abatement work area during Asbestos Abatement Phase II B and II C activities until post-abatement cleaning is complete. The number of samples collected inside of each individual work area shall be based on the amount of material in the work area: 5 air samples for large work areas, 3 air samples

for small work areas, and a minimum of 1 air sample shall be collected inside of each minor work area.

2. The results of the last set of air samples collected during Asbestos Abatement Phase II C activities will be used as the clearance air sample criteria. Phase II C will include the final cleaning and lockdown encapsulation of non-removal surfaces covered with fire-retardant plastic sheeting.

3. After a satisfactory visual inspection and if the airborne fiber concentrations are below 0.01 fibers per cubic centimeter (f/cc), the regulated work area can be dismantled in accordance with 12 NYCRR 56 Subpart 9.3.

4. If the results of the last set of inside-regulated-work-area air samples are equal to or greater than 0.01 f/cc, the Design-Builder shall continue cleaning the regulated work area using wet methods with negative air pressure equipment operating. Air samples will be collected inside and outside the regulated abatement work area during the re-cleaning activities and used as the clearance air sampling criteria.

5. If the results of the last set of outside regulated work area air samples are equal to or greater than 0.01 f/cc, the Design-Builder shall clean-up the surfaces outside the Regulated Work Area using HEPA-vacuums and wet methods. Air samples will be collected outside the regulated abatement work area during the clean-up activities and used as the clearance air sampling criteria.

C. Due to large sizes, shapes of the various MTA facilities (Bus depots, Subway Stations, etc.) and the location of work areas, the ambient air sample requirement of 12NYCRR 56 Subpart 7.1 (c) (3) will not be performed. The number of air samples collected outside the work area shall be based on the amount of material to be removed for that particular work area. 5 air samples for large work areas, 3 air samples for small work areas and a minimum of 1 air sample shall be collected outside of each minor work area. Common outside the work area air sample shall be collected if a single remote/mobile decontamination unit is utilized for simultaneous abatement of several adjacent regulated work areas.

D. All attempts will be made to size the clean room in accordance with 12NYCRR 56 Subpart 7.5 (b) (8) requirements where permitted by site conditions.

E. In lieu of Personal Decontamination System requirements of 12NYCRR 56 Subpart 7.5 (d) (2) and (6) a mobile system will be used if the site conditions (examples include but are not limited to interference with the MTA C&D system operations, the riding public and/or MTA C&D employees, space restrictions within Bus Depots, Subway Stations, etc.) do not allow an attached/remote decontamination system. The mobile decontamination system will be located as close to the work area as possible (examples include but are not limited to entrance(s) to Bus Depots, Subway Stations, etc.). The Decontamination System will be cordoned off with asbestos warning tape and signs. Prior to removal from the job site at the end of each shift, the mobile system will be HEPA vacuumed, wet wiped completely and sealed. The remote and/or mobile decontamination system's shower may be used as an equipment decontamination washroom. Equipment shall be decontaminated only during times when the shower(s) are not being used by personnel.

F. In lieu of 12NYCRR 56 subpart 7.5 (d) (3) and 7.11(f)(1)(ii)(d) requirements of an airlock attached to the entrance to the regulated work area(s), a remote airlock (changing

chamber) may be utilized where it is logistically not possible to attach it to the work area (examples include but are not limited to the catwalk space and safety restrictions, active track (third rail and right of way) adjacent to the work area entrance, etc.). It shall be positioned in close proximity to the regulated work area (such as but not limited to the closest station platform entrance, inactive section of Work Site, etc.). Curtained doorway with three layers of overlapping poly will be utilized at the entrance to each work area. The remote airlock (changing chamber) will be cordoned off with asbestos warning tape and signs. Workers will HEPA vacuum and wet wipe themselves in the work area prior to moving towards the remote airlock (changing chamber).

G. In lieu of the designated pathway requirement of 12NYCRR 56 Subpart 7.5 (d)(4), the walkway from the regulated abatement work area to the remote/mobile decontamination unit or next regulated abatement work area shall be cordoned off or restricted by certified asbestos workers during use.

H. The location of the washroom as required by 12NYCRR 56 Subpart 7.5 (f)(2)(i) shall be determined by the following site conditions.

1. If the non-friable floor and/or mastic materials to be abated do not construct the washroom inside the regulated work area. Instead, construct the washroom outside the regulated work area entrance and attach to the existing airlock (changing chamber) used to access the regulated abatement work area.

2. If a remote airlock (changing chamber) is utilized, do not construct a washroom. Instead, establish a waste wash-area inside the work area by placing fire-retardant plastic sheeting on the floor close to the work area's exit. All waste bags shall be wet wiped, HEPA-vacuumed and doubled bagged and or be containerized in the wash-area prior to the waste being transferred to the waste container on-site. No ACM abatement or cleanup activities may occur during waste container transfer operations.

3. If a waste container is not on-site prior to the waste transfer, construct a waste holding area. The holding area shall temporarily store the bagged or containerized waste until the waste can be transferred to a waste transport vehicle.

4. The remote airlock (changing chamber) shall be cordoned off with asbestos warning tape and signs.

I. In lieu of the continuous operation of negative air unit(s) requirements of 12 NYCRR Part 56 Subpart 7.8 (a) (1), (3), (8), (10) (vii) and 9.1 (a), negative air unit(s) will be active in the work area when work is being performed. The work area shall be sealed during non-working hours. Prior to sealing of the work area, all surfaces shall be wet wiped and/or HEPA-vacuumed and the negative air unit(s) shall continue to operate for an additional 20-30 minutes after the completion of the day's disturbance activities. Upon restarting of the negative air unit(s), the Design-Builder shall ensure that all barriers remain intact and secure prior to the continuation of abatement activities. Inspection, necessary repairs and documenting will be performed during negative air unit(s) operation.

J. In lieu of ventilation unit(s) exhaust ducting not to exceed 25 feet in length and negative air units exhausting greater than 15 feet outside of the building/structure with a four-foot high construction fence constructed at a minimum of 10 feet from the end of the exhaust tube or bank of tubes requirements of 12NYCRR 56 Subpart 7.8 (a)(5), (a)(10)(ii), (viii) and (11), n air units shall be exhausted outside the work area into a non-public / normally

unoccupied area with no box required. If a non-public / normally unoccupied area is not available, the negative air units shall be exhausted into a plywood box a minimum of 1' x 1' x 1' with a pre-filter covering the exhaust end into a public / occupied area. The exhaust box shall be cordoned off with a tape barrier. An air sample of the negative air exhaust will be collected in these area(s) and outside of the box.

K. A one (1) hour pre-abatement period and settling/drying time for Large Asbestos Projects. Observe a thirty (30) minute pre-abatement period and settling/drying time for Small Asbestos Projects shall be observed.

L. All ACM shall be abated utilizing manual abatement methods only.

M. In lieu of final cleanup procedures requirements of 12NYCRR 56 Subpart 9.1 and 11.7 (d), one stage of post-abatement cleaning of all areas abated shall be performed at the conclusion of Phase II C activities. Additionally, floor plastic sheeting and isolation barriers shall also be cleaned if applicable. After the post-abatement cleaning is complete and settling/drying time has elapsed, a visual inspection by the Project Monitor and Asbestos Abatement Contractor' Supervisor shall be performed to confirm that the scope of Asbestos Work is complete, and the area is dry and free of visible debris/residue. If re-cleaning is required, an additional visual inspection shall be performed. Additional air samples will be collected during all re-cleaning activities and will be utilized as the clearance air sample criteria. Waiting/settling and drying times will not be applicable.

N. Preparation Requirements:

1. Non-friable flooring and/or mastic removal Work shall be conducted in accordance with 12 NYCRR 56 Subpart 11.7.

2. Alternatively, the work area will be prepared with the following modifications. In lieu of the plasticizing requirements of 12 NYCRR 56 Subpart 11.7 (b) (2), (3), (5), use the following alternatives in the removal areas:

   a. Construct a tent as per 12 NYCRR 56 Subpart 7.11 (f) (1) and procedures identified within this variance. The tent will remain in place until satisfactory clearance air testing results have been obtained.

   b. Maintain negative air at four air changes per hour for tent enclosure work areas.

O. A distance of approximately 10 feet shall be maintained to restrict the general public from the cordoned off work area during the actual removal of ACM, except in those areas/locations where it is logistically impossible (examples include but are not limited to: adjacent tracks where there is active train traffic or locations where non-certified individuals are required to enter the 10 foot perimeter to gain access to or perform their job tasks, i.e. train/crane operators, track workers, etc.).

12.29.22. Tent and Glovebag Removals (SWV# 21-0083)

A. Background air sample results as per 12NYCRR 56 Subpart 4.9 (a) and 6, allows the clearance criteria of the work area to be higher than 0.01 fibers per cubic centimeter. Since background air samples will not be collected, work areas will be cleared to the more stringent criteria of less than 0.01 fibers per cubic centimeter.

B. In lieu of 12NYCRR 56 Subpart 4.9 (d) and 11.8 (d), clearance air monitoring of the “Tent Enclosure” constructed on the track, will be conducted in accordance with the following modifications:

1. Air samples will be collected inside the regulated abatement work area during Asbestos Abatement (Phase II B and II C) activities until post abatement cleaning is complete. The number of samples collected inside of each individual work area shall be based on the amount of material in the work area. 5 air samples for large work areas, 3 air samples for small work areas and a minimum of 1 air sample shall be collected inside of each minor work area.
2. The results of the last set of air samples collected during Asbestos Abatement (Phase II C) activities will also be used as the clearance air sample criteria. Phase II C will include the final cleaning and lockdown encapsulation of non-removal surfaces covered with fire-retardant plastic sheeting.
3. Upon satisfactory visual inspection and provided the airborne fiber concentrations are below 0.01 fibers per cubic centimeter (f/cc), the regulated work area can be dismantled in accordance to 12 NYCRR 56 subpart 9.3.
4. If results of the last set of inside regulated work area air samples are equal to or greater than 0.01 f/cc, the Design-Builder will continue cleaning of the regulated work area using wet methods with negative air pressure equipment operating. Air samples will be collected inside and outside the regulated abatement work area during the re-cleaning activities and used as the clearance air sampling criteria.
5. If results of the last set of outside regulated work area air samples are equal to or greater than 0.01 f/cc, the Design-Builder will clean-up the surfaces outside the regulated work area using HEPA-vacuums and wet methods. Air samples will be collected outside the regulated abatement work area during the clean-up activities and used as the clearance air sampling criteria.

C. Due to large sizes, shapes of the various MTA facilities (Bus depots, Subway Stations, etc.) and the location of work areas, the ambient air sample requirement of 12NYCRR 56 Subpart 7.1 (c) (3) will not be performed. The number of air samples collected outside the work area shall be based on the amount of material to be removed for that particular work area. 5 air samples for large work areas, 3 air samples for small work areas and a minimum of 1 air sample shall be collected outside of each minor work area. Common outside the work area air sample shall be collected if a single remote/mobile decontamination unit is utilized for simultaneous abatement of several adjacent regulated work areas.

D. All attempts will be made to size the clean room in accordance with 12 NYCRR 56 Subpart 7.5 (b) (8) requirements where permitted by site conditions.

E. In lieu of Personal Decontamination System requirements of 12NYCRR 56 Subpart 7.5 (d) (2) and (6) a mobile system will be used if the site conditions (examples include but are not limited to interference with the MTA C&D system operations, the riding public and/or MTA C&D employees, space restrictions within Bus Depots, Subway Stations, etc.) do not allow an attached/remote decontamination system. The mobile decontamination system will be located as close to the work area as possible (examples include but are not limited to entrance(s) to Bus Depots, Subway Stations, etc.). The Decontamination

System will be cordoned off with asbestos warning tape and signs. Prior to removal from the job site at the end of each shift, the mobile system will be HEPA vacuumed, wet wiped completely and sealed. The remote and/or mobile decontamination system's shower may be used as an equipment decontamination washroom. Equipment shall be decontaminated only during times when the shower(s) are not being used by personnel.

F. In lieu of 12 NYCRR 56 subpart 7.5 (d) (3) and 7.11(f)(1)(ii)(d) requirements of an airlock attached to the entrance to the regulated work area(s), a remote airlock (changing chamber) may be utilized where it is logistically not possible to attach it to the work area (examples include but are not limited to the catwalk space and safety restrictions, active track (third rail and right of way) adjacent to the work area entrance, etc.). It will be positioned in close proximity to the regulated work area (such as but not limited to the closest station platform entrance, inactive section of Work Site, etc.). Curtained doorway with three layers of overlapping poly will be utilized at the entrance to each work area. The remote airlock (changing chamber) will be cordoned off with asbestos warning tape and signs. Workers shall HEPA vacuum and wet wipe themselves in the work area prior to moving towards the remote airlock (changing chamber).

G. In lieu of the designated pathway requirement of 12 NYCRR 56 Subpart 7.5 (d)(4), the walkway from the regulated abatement work area to the remote/mobile decontamination unit or next regulated abatement work area will be cordoned off or restricted by certified asbestos workers during use.

H. The location of the washroom as required by 12NYCRR 56 Subpart 7.5 (f) (2) (i), will be determined by the following site conditions:

1. If the work area configuration does not allow the washroom to be constructed inside the regulated work area, the washroom will be constructed outside the regulated work area entrance and attached to the existing airlock (changing chamber) used to access the regulated abatement work area.
2. If a remote airlock (changing chamber) is utilized based on-site conditions, the washroom chamber will not be constructed. A waste wash-area will be established inside the work area by placing fire-retardant plastic sheeting on the floor close to the work area's exit. All waste bags shall be wet wiped, HEPA-vacuumed and doubled bagged and or be containerized in the wash-area prior to the waste being transferred to the waste container on-site. No ACM abatement or cleaning activities may occur during waste transfer operations.
3. If a waste container is not on-site prior to the waste transfer, a waste holding shall be constructed. The holding area is to temporarily store the bagged or containerized waste until the waste can be transferred to a waste transport vehicle.
4. The remote airlock (changing chamber) will be cordoned off with asbestos warning tape and signs.

I. In lieu of the continuous operation of negative air unit(s) requirements of 12NYCRR 56 Subpart 7.8 (a) (1), (3), (8), (10) (vii) and 9.1 (a) negative air unit(s) will be active in the work area when work is being performed. The work area shall be sealed during non-working hours. Prior to sealing of the work area all surfaces shall be wet wiped and/or HEPA-vacuumed and the negative air unit(s) shall continue to operate for an additional 20-30 minutes post disturbance activity. Upon restarting of the negative air unit(s) the

Design-Builder will ensure that all barriers remain intact and secure, prior to the continuation of abatement activities. Inspection, necessary repairs and documenting will be performed during negative air unit(s) operation.

J. In lieu of ventilation unit(s) exhaust ducting not to exceed 25 feet in length and negative air units exhausting greater than 15 feet outside of the building/ structure with a four foot high construction fence constructed a minimum of 10 feet from the end of the exhaust tube or bank of tubes requirements of 12NYCRR 56 Subpart 7.8 (a)(5), (a)(10)(ii), (viii) and (a)(11), negative air units will be exhausted outside the work area into a non-public / normally unoccupied area (no box required). If a non-public / normally unoccupied area is not available, the negative air units will be exhausted into a plywood box a minimum of 1' x 1' x 1' with a pre-filter covering the exhaust end into a public / occupied area. The exhaust box will be cordoned off with a tape barrier. An air sample of the negative air exhaust shall be collected in these area(s) and outside of the box.

K. A one (1) hour pre-abatement waiting period and settling/drying time for large projects and a thirty (30) minute pre-abatement waiting period and settling/drying time for small projects will be observed.

L. In lieu of final cleanup procedures requirements of 12NYCRR 56 Subpart 9.1 and 11.8 (d), for "Tent Enclosure(s)" constructed on the track, one stage of post-abatement cleaning of all areas abated will be performed at the conclusion of Phase II C activities. After the post- abatement cleaning is complete a visual inspection by the Project Monitor and Design-Builder Supervisor shall be performed to confirm that the scope of abatement work is complete, and the area is dry and free of visible debris/residue. If re-cleaning is required, an additional visual inspection shall be performed. Additional air samples will be collected during all re-cleaning activities and will be utilized as the clearance air sample criteria. Waiting/settling and drying times will be applicable.

M. A distance of approximately 10 feet will be maintained to restrict the general public from the cordoned off work area during the actual removal of ACM, except in those areas/locations where it is logistically impossible (examples include but are not limited to: adjacent tracks where there is active train traffic or locations where non-certified individuals are required to enter the 10 foot perimeter to gain access to or perform their job tasks, i.e. train/crane operators, track workers, etc.)

12.29.23. Non-Friable Component Intact Removals (Transite Panels, etc.) (SWV# 21-0080)

A. Background air sample results as per 12 NYCRR 56 Subpart 4.9 (a) and 6, allows the clearance criteria of the work area to be higher than 0.01 fibers per cubic centimeter. Since background air samples will not be collected, all work areas will be cleared to the more stringent criteria of less than 0.01 fibers per cubic centimeter.

B. In lieu of 12 NYCRR 56 Subpart 4.9 (d), clearance air monitoring of the work area will be conducted in accordance with the following modifications:

1. Air samples will be collected inside the regulated abatement work area during Asbestos Abatement (Phase II B and Phase II C) activities post abatement cleaning is complete. The number of samples collected inside of each individual work area shall be based on the amount of material in the work area. 5 air samples for large work areas, 3 air samples for small work areas and a minimum of 1 air sample shall be collected inside of each minor work area.

2. The results of the last set air samples collected during Asbestos Abatement (Phase II C) activities will also be used as the clearance air sample criteria. Phase II C will include the final cleaning and lockdown encapsulation of non-removal surfaces covered with fire-retardant plastic sheeting.
3. Upon satisfactory visual inspection and provided the airborne fiber concentrations are below 0.01 fibers per cubic centimeter (f/cc), the regulated work area can be dismantled in accordance to 12 NYCRR 56 subpart 9.3.
4. If results of the last set of inside regulated work area air samples are equal to or greater than 0.01 f/cc, the Design-Builder will continue cleaning of the regulated work area using wet methods with negative air pressure equipment operating. Air samples shall be collected inside and outside the regulated abatement work area during the re-cleaning activities and used as the clearance air sampling criteria.
5. If results of the last set of outside regulated work area air samples are equal to or greater than 0.01 f/cc, the Design-Builder will clean-up the surfaces outside the regulated work area using HEPA-vacuums and wet methods. Air samples will be collected outside the regulated abatement work area during the clean-up activities and used as the clearance air sampling criteria.

C. Due to large sizes, shapes of the various MTA facilities (Bus depots, Subway Stations, etc.) and the location of work areas, the ambient air sample requirement of 12 NYCRR 56 Subpart 7.1 (c) (3) will not be performed. The number of air samples collected outside the work area shall be based on the amount of material to be removed for that particular work area. 5 air samples for large work areas, 3 air samples for small work areas and a minimum of 1 air sample shall be collected outside of each minor work area. Common outside the work area air sample shall be collected if a single remote/mobile decontamination unit is utilized for simultaneous abatement of several adjacent regulated work areas.

D. All attempts will be made to size the clean room in accordance with 12 NYCRR 56 Subpart 7.5 (b) (8) requirements where permitted by site conditions.

E. In lieu of Personal Decontamination System requirements of 12 NYCRR 56 Subpart 7.5 (d) (2) and (6) a mobile system will be used if the site conditions (examples include but are not limited to interference with the MTA C&D system operations, the riding public and/or MTA C&D employees, space restrictions within Bus Depots, Subway Stations, etc.) do not allow an attached/remote decontamination system. The mobile decontamination system will be located as close to the work area as possible (examples include but are not limited to entrance(s) to Bus Depots, Subway Stations, etc.). The Decontamination System will be cordoned off with asbestos warning tape and signs. Prior to removal from the job site at the end of each shift, the mobile system will be HEPA-vacuumed, wet wiped completely and sealed. The remote and/or mobile decontamination system's shower may be used as an equipment decontamination washroom. Equipment shall be decontaminated only during times when the shower(s) are not being used by personnel

F. In lieu of 12 NYCRR 56 subpart 7.5 (d) (3), requirements of an airlock attached to the entrance to the regulated work area(s), a remote airlock (changing chamber) may be utilized where it is not logistically possible to attach it to the work area (examples include

but are not limited to the catwalk space and safety restrictions, active track (third rail and right of way) adjacent to the work area entrance, etc.). It shall be positioned in close proximity to the regulated work area (such as but not limited to the closest station platform entrance, inactive section of Work Site, etc.). Curtained doorway with three layers of overlapping polyethylene shall be utilized at the entrance to each work area. The remote airlock (changing chamber) shall be cordoned off with asbestos warning tape and signs. Workers will HEPA vacuum and wet wipe themselves in the work area prior to moving towards the remote airlock (changing chamber).

G. In lieu of the designated pathway requirement of 12 NYCRR 56 Subpart 7.5 (d)(4), the walkway from the regulated abatement work area to the remote/mobile decontamination unit or next regulated abatement work area will be cordoned off or restricted by certified asbestos workers during use.

H. The location of the washroom as required by 12NYCRR 56 Subpart 7.5 (f) (2) (i), will be determined by the following site conditions.

1. If the work area configuration does not allow the washroom to be constructed inside the regulated work area, the washroom will be constructed outside the regulated work area entrance and attached to the existing airlock (changing chamber) used to access the regulated abatement work area.
2. If a remote airlock (changing chamber) is utilized based on-site conditions, the washroom chamber will not be constructed. A waste wash-area will be established inside the work area by placing fire-retardant plastic sheeting on the floor within close proximity to the work area's exit. All waste bags shall be wet wiped, HEPA-vacuumed and doubled bagged and or be containerized in the wash-area prior to the waste being transferred to the waste container on-site.
3. If a waste container is not on-site prior to the waste transfer, a waste holding shall be constructed. The holding area is to temporarily store the bagged or containerized waste until the waste can be transferred to a waste transport vehicle.
4. The remote airlock (changing chamber) will be cordoned off with asbestos warning tape and signs.

I. In lieu of Engineering Controls requirements of 12 NYCRR 56 Subpart 7.8, localized engineering controls (HEPA Vacuum) shall be utilized during the abatement.

J. In lieu of Work Area Preparation requirements of 12 NYCRR 56 Subpart 7.11, each work area will be defined as three-foot from each side and in front and/or below the Non-Friable components (transite panels, electrical panels, electrical boxes/switches, duct seals, wall mounted heaters and/or friable ACM in non-ACM containers, etc.), if possible. One layer of plastic sheeting will be secured to floor of the defined work area, below or in front of the equipment/material to be abated.

K. In lieu of the pre-abatement waiting period requirement of 12 NYCRR 56 Subpart 8.2 (b), the regulated work area(s) preparation will be continuously monitored to ensure that the prep remain intact and secure.

L. When friable ACM in non-ACM containers are to be abated together, the friable ACM shall not be removed from the ACM container both materials will be abated intact. The non-

ACM container shall be wrapped with 2 layers of six mil Fire retardant plastic sheeting. All cuts and sealing of ends will be performed in a glovebag.

M. In lieu of final cleanup procedures requirements of 12 NYCRR 56 Subpart 9.1, one stage of post- abatement cleaning of each work area's floor plastic sheeting and isolation barriers will be performed at the conclusion of Phase II C activities. After the post-abatement cleaning is complete and a one-hour settling/drying time for Large Asbestos Projects or a thirty- minute settling/drying time for Small Asbestos Projects has elapsed, a visual inspection by the Project Monitor and Design-Builder Supervisor shall be performed to confirm that the scope of abatement work is complete, and the area is dry and free of visible debris/residue. If re-cleaning is required, an additional visual inspection shall be performed. Additional air samples will be collected during all re-cleaning activities and will be utilized as the clearance air sample criteria. Waiting/settling and drying times will be applicable.

N. A distance of approximately 10 feet shall be maintained to restrict the general public from the cordoned off work area during the actual removal of ACM, except in those areas/locations where it is logistically impossible (examples include but are not limited to: adjacent tracks where there is active train traffic or locations where non-certified individuals are required to enter the 10 foot perimeter to gain access to or perform their job tasks, i.e. train/crane operators, track workers, etc.)

12.29.24. General: Non-Friable Exterior Removals (Roofing, Facades/siding, etc.) (SWV# 21-0084)

A. All attempts will be made to size the clean room in accordance with 12 NYCRR 56 Subpart 7.5 (b) (8) requirements where permitted by site conditions.

B. In lieu of Personal Decontamination System requirements of 12NYCRR 56 Subpart 7.5 (d) (2) and (6) a mobile system will be used if the site conditions do not allow attached/remote. The mobile will be located as close to the work area as possible. The Decontamination System will be cordoned off with asbestos warning tape and signs. Prior to removal from the job site at the end of each shift, the mobile system will be HEPA-vacuumed, wet wiped completely and sealed. The remote and/or mobile decontamination system's shower may be used as an equipment decontamination washroom. Equipment shall be decontaminated only during times when the shower(s) are not being used by personnel.

C. In lieu of 12NYCRR 56 subpart 7.5 (d) (3) and 7.11(f)(1)(ii)(d) requirements of an airlock (changing chamber) attached to the entrance to the work area(s), a remote airlock (changing chamber) may be utilized where it is logistically not possible to attach it to the work area (examples include but are not limited to the catwalk space and safety restrictions, active track (third rail and right of way, an area is too small to accommodate a regulated area and an airlock (changing chamber) or when the entire roof area is a regulated area and a lift is used, etc.) adjacent to the work area entrance, etc.). It will be positioned in close proximity to the regulated work area (such as but not limited to the closest station platform entrance, inactive section of Work Site, etc.). Curtained doorway with three layers of overlapping polyethylene will be utilized at the entrance to each work area. The remote airlock(s) (changing chamber(s)) will be cordoned off with asbestos warning tape and signs. Workers will HEPA-vacuum and wet wipe in the work area prior to moving towards the remote airlock (changing chamber).

D. In lieu of the designated pathway requirement of 12NYCRR 56 Subpart 7.5 (d)(4), the walkway from the regulated abatement work area to the remote/mobile decontamination unit or next regulated abatement work area will be cordoned off or restricted by certified asbestos workers, during use.

E. The location of the washroom as required by 12NYCRR 56 Subpart 7.5 (f) (2) (i), will be determined by the following site conditions.

1. If the material to be abated, does not allow the washroom to be constructed inside the regulated work area, the washroom will be constructed outside the regulated work area entrance and attached to the existing airlock used to access the regulated abatement work area.

2. If a remote airlock (changing chamber) is utilized based on-site conditions, the washroom chamber will not be constructed. A waste wash-area will be established inside the work area by placing fire-retardant plastic sheeting on the floor within close proximity to the work area's exit. All waste bags shall be wet wiped, HEPA-vacuumed and doubled bagged and or be containerized in the wash-area prior to the waste being transferred to the waste container on-site. ACM Abatement operations and cleanup shall not occur during waste transfer operations.

3. If a waste container is not on-site prior to the waste transfer, a waste holding shall be constructed. The holding area is to temporarily store the bagged or containerized waste until the waste can be transferred to a waste transport vehicle.

4. Using a waste decontamination enclosure, in accordance with 12NYCRR 56 7.5 (e) and (f) would not be practical when large pieces are removed from roofs and when utilizing a chute. All waste containerization methods, including waste bags, wrapping in plastic sheeting, use of chutes into lined containers, etc. will all be labeled appropriately. No abatement work or cleanup activities may occur during waste container transfer operations.

5. The remote airlock (changing chamber) will be cordoned off with asbestos warning tape and signs.

F. In lieu of 12NYCRR 56 11.6 (b) (4) (viii), with regards to lining the lift with plastic sheeting, for all lifts used, small perforations will be made in the plastic sheeting covering the walls of the personnel lift/scaffolding to allow for appropriate fall protection. These perforations will be sealed as possible without hindering the fall protection mechanisms.

G. Lifts may be used to transfer waste material to the holding area/trailer/dumpster. The walls/guardrails of the lift will be covered with a minimum 1 layer of plastic.

H. A distance of approximately 10 feet shall be maintained to restrict the general public from the cordoned off work area during the actual removal of ACM, except in those areas/locations where it is logistically impossible (examples include but are not limited to adjacent tracks where there is active train traffic or locations where non- certified individuals are required to enter the 10 foot perimeter to gain access to or perform their job tasks, i.e. train/crane operator, track workers, etc.)

I. Air sampling shall be performed as indicated in TABLE 2 (Asbestos Project Air Sampling Requirements)

J. Roofing

1. The work area shall be limited to the roof area from which the asbestos containing roofing materials are actively being removed.
2. The asbestos work area(s) shall be cordoned off with asbestos warning tape and signs and be a minimum of 10 feet from non-work areas, except were logically impossible, i.e., where there is not 10 or more feet of roofing.
3. In lieu of building a tunnel where an entrance or vehicular door exists beneath the work area, in accordance with 12NYCRR 56 Subpart 11.6 (b)(1)(i), a barrier shall be constructed at a minimum height of five (5) feet (including height of parapet wall) from the roofing material. The barrier shall extend a minimum of five (5) horizontal feet in each direction beyond the entrance or vehicular door. The barrier shall be designed and constructed to withstand anticipated static and dynamic loading. Barrier may be constructed of 3/8" plywood or two (2) layers of reinforced polyethylene supported by 2" X 4" studding or other support system designed to withstand anticipated
4. In lieu of sealing all openings as specific in 12NYCRR 56 Subpart 11.6 (b)(4)(i), all openings of the building being abated (including operable windows, doors, ducts, grills, communicating openings, etc.) within a distance of one (1) story, or twelve (12) feet, whichever is less, above and below the roof level and extending ten (10) feet horizontally from the work area, where the ten (10) feet horizontal extension shall not impact non MTA property, shall be sealed with two layers of at least six-mil flame-retardant plastic sheeting. All vent openings which cannot be sealed shall be extended vertically, using plastic sheeting or hardwall barrier, a minimum of eight (8) feet and remain in operation. In lieu of sealing inoperable doors/windows, etc. with caulk/duct tape from the outside as specified in 12NYCRR 56 Subpart 11.6 (b) (4) (v), they may be sealed, caulked, or duct taped from the
5. In lieu of sealing windows on the outside of the building being abated, in accordance with 12NYCRR 56 Subpart 11.6 (b)(4)(iii)(iv), one of the following precautions shall be employed:
    a. If using a polyethylene drape or curtain, it shall extend five (5) feet beyond the last opening and within ten (10) feet of the regulated area. The drape may be removed following the completion of the section of roof within fifteen (15) feet of the regulated area; or
    b. A barrier shall be constructed as described above. The barrier shall extend a minimum of five (5) horizontal feet in each direction beyond window(s) which are not sealed.
6. Where adjacent buildings equal to or greater in height to the roof level being abated exist, construct a barrier, as described above, if the adjacent building is within twenty-five (25) horizontal feet of the roof being abated.
7. If necessary, the roofing material removal shall be conducted using rotating blade roof cutters with manufacturer equipped HEPA-filtered local exhaust ventilation to cut sections of the roof. A chipping gun/demolition hammer with a HEPA dust-collection attachment shall be used to remove the asphalt coating/mastic which comprises the bottom layer of the roofing which is attached to the roof deck. The parapet flashing mastic abatement shall be conducted by a demolition hammer with a manufacturer's

HEPA dust-collection attachment. Upon completion of removal of the roofing material removal, within each work area, the caulk, plastic tape or interior plastic sheeting may be removed; however, subsequent to their removal, the interior surfaces and trim of each window/opening that was sealed shall be thoroughly HEPA vacuumed.

8. Removed roofing materials shall be transported across the roof in enclosed containers with two (2) layers of six-mil polyethylene.

9. A chute, if used, will be air/dust tight along its lateral perimeter and at the terminal connection to the dumpster at ground level (solid wall/opened top container). The dumpster will be lined with two (2) layers of six-mil plastic draped loosely over the sides so as to facilitate being wrapped over the top of the load and sealed prior to transport from the site. The upper end of the chute will be furnished with a hinged lid, to be closed when the chute is not used. Prior to transport from the Work Site, the dumpster will be disconnected from the chute and sealed air/dust tight utilizing six-mil plastic and tape, complete with appropriate labels. The roof waste material will be transported as an asbestos-containing material by appropriate legal methods.

10. After a work area has been visually inspected and cleaned as per 12 NYCRR 56-11.6 (e) and waste has been removed as per 12 NYCRR 56-11.6 (f), non-certified workers may commence replacing the roofing system.

K. Façades/Siding

1. The work area shall be limited to the area from which the ACM are actively being removed. In lieu of this section only applying to the front of the building or a wall of the building that has architectural interest in accordance with 12NYCRR 56 11.6 (b) (4) (v)-(vi), facades will also apply to the remaining exterior wall areas of the building/structure which is not the front.

2. Should it not be possible to plasticize windows/openings within 25 feet of the work area and/or where adjacent buildings/structures are within 25 feet of the work area, as described in 12NYCRR 56 Subpart 11.6 (b) (40 (vii), the plastic sheeting used along the sides of the lift/scaffold to waist height shall be extended six (6) feet above the platform of the lift/scaffold on three (3) sides, using appropriate framing material. Perforations may be made in the plastic sheeting to allow for proper use of fall protection. These perforations shall be resealed so as not to interfere with any fall protection in use.

3. In lieu of a drop cloth being placed on the ground at a width of ten (1) feet for every floor above the first, maximum of thirty (3) feet, as described in 12NYCRR 56 Subpart 11.6 (b) (4) (viii), a drop cloth shall be placed on the ground under the working area and shall extend as far from the exterior of the building out, depending on the size of the area and any impedances (i.e., sidewalks, roadways, adjacent properties, etc.) from the building. This area shall be cordoned off and only certified personnel shall be allowed within the area.

12.29.25. Modified Containment Removals (SWV# 21-0079)

A. Background air sample results as per 12NYCRR 56 Subpart 4.9 (a) and 6, allows the clearance criteria of the work area to be higher than 0.01 fibers per cubic centimeter. Since background air samples will not be collected, all work areas will be cleared to the more stringent criteria of less than 0.01 fibers per cubic centimeter.

B. Due to large sizes, shapes of the various MTA facilities (Bus depots, Subway Stations, etc.) and the location of work areas, the ambient air sample requirement of 12NYCRR 56 Subpart 7.1 (c) (3) will not be performed. The number of air samples collected outside the work area shall be based on the amount of material to be removed for that particular work area. 5 air samples for large work areas, 3 air samples for small work areas and a minimum of 1 air sample shall be collected outside of each minor work area. Common outside the work area air sample shall be collected if a single remote/mobile decontamination unit is utilized for simultaneous abatement of several adjacent regulated work areas.

C. All attempts will be made to size the clean room in accordance with 12NYCRR 56 Subpart 7.5 (b) (8) requirements where permitted by site conditions.

D. In lieu of Personal Decontamination System requirements of 12NYCRR 56 Subpart 7.5 (d) (2) and (6) a mobile system will be used if the site conditions (examples include but are not limited to interference with the MTA C&D system operations, the riding public and/or MTA C&D employees, space restrictions within Bus Depots, Subway Stations, etc.) do not allow an attached/remote decontamination system. The mobile decontamination system will be located as close to the work area as possible (examples include but are not limited to entrance(s) to Bus Depots, Subway Stations, etc.). The Decontamination System will be cordoned off with asbestos warning tape and signs. Prior to removal from the job site at the end of each shift, the mobile system will be HEPA-vacuumed, wet wiped completely and sealed. The remote and/or mobile decontamination system's shower may be used as an equipment decontamination washroom. Equipment shall be decontaminated only during times when the shower(s) are not being used by personnel.

E. In lieu of 12NYCRR 56 subpart 7.5 (d) (3) and 7.11(f)(1)(ii)(d) requirements of an airlock attached to the entrance to the regulated work area(s), a remote airlock (changing chamber) may be utilized where it is logistically not possible to attach it to the work area (examples include but are not limited to the catwalk space and safety restrictions, active track (third rail and right of way) adjacent to the work area entrance, etc.). It shall be positioned in close proximity to the regulated work area (such as but not limited to the closest station platform entrance, inactive section of Work Site, etc.). Curtained doorway with three layers of overlapping polyethylene will be utilized at the entrance to each work area. The remote airlock (changing chamber) will be cordoned off with asbestos warning tape and signs. Workers will HEPA-vacuum and wet wipe themselves in the work area prior to moving towards the remote airlock (changing chamber).

F. In lieu of the designated pathway requirement of 12NYCRR 56 Subpart 7.5 (d)(4), the walkway from the regulated abatement work area to the remote/mobile decontamination unit or next regulated abatement work area will be cordoned off or restricted by certified asbestos workers during use.

G. The location of the washroom as required by 12NYCRR 56 Subpart 7.5 (f) (2) (i), will be determined by the following site conditions.

1. If the work area configuration does not allow the washroom to be constructed inside the regulated work area, the washroom will be constructed outside the regulated work area entrance and attached to the existing airlock (changing chamber) used to access the regulated abatement work area.

2. If a remote airlock is utilized based on-site conditions, the washroom chamber will not be constructed. A waste wash-area will be established inside the work area by placing fire-retardant plastic sheeting on the floor within close proximity to the work area's exit. All waste bags shall be wet wiped, HEPA-vacuumed and doubled bagged and or be containerized in the wash-area prior to the waste being transferred to the waste container on-site. No ACM abatement work or cleanup activities may occur during waste container transfer operations.
3. If a waste container is not on-site prior to the waste transfer, a waste holding area shall be constructed. The holding area is to temporarily store the bagged or containerized waste until the waste can be transferred to a waste transport vehicle.
4. The remote airlock (changing chamber) will be cordoned off with asbestos warning tape and signs.

H. In lieu of plasticizing of isolation barriers with two (2) layers of 6-mil fire-retardant plastic sheeting as prescribed at 12NYCRR 56 7.1 (b) (4); floor, wall and ceiling surfaces (except where abatement of ACM, PACM or asbestos material shall be performed on those specific surfaces) shall be covered with two (2) layers of, at a minimum, six (6) mil fire-retardant plastic sheeting as prescribed at 12NYCRR 56 7.11 (e).

I. In lieu of the continuous operation of negative air unit(s) requirements of 12NYCRR 56Subpart 7.8 (a) (1), (3), (8), (10) (vii) and 9.1 (a) negative air unit(s) will be active in the work area when work is being performed. The work area will be sealed during non-working hours. Prior to sealing of the work area all surfaces will be wet wiped and/or HEPA-vacuumed and the negative air unit(s) shall continue to operate for an additional 20-30 minutes, post disturbance activity. Upon restarting of the negative air unit(s) the Design-Builder will ensure that all barriers remain intact and secure, prior to the continuation of abatement activities. Inspection, necessary repairs and documenting will be performed during negative air unit(s) operation.

J. In lieu of ventilation unit(s) exhaust ducting not to exceed 25 feet in length and negative air units exhausting greater than 15 feet outside of the building/ structure with a four foot high construction fence constructed a minimum of 10 feet from the end of the exhaust tube or bank of tubes requirements of 12NYCRR 56Subpart 7.8 (a)(5), (a)(10)(ii), (viii) and (a)(11), negative air units will be exhausted outside the work area into a non-public / normally unoccupied area (no box required). If a non-public / normally unoccupied area is not available, the negative air units will be exhausted into a plywood box a minimum of 1' x 1' x 1' with a pre-filter covering the exhaust end into a public / occupied area. The exhaust box will be cordoned off with a tape barrier. An air sample of the negative air exhaust shall be collected in these area(s) and outside of the box.

K. In lieu of the pre-abatement waiting period requirement of 12NYCRR 56 Subpart 8.2 (b), the regulated work area(s) preparation will be continuously monitored to ensure that the integrity of the prep remain intact and secure.

L. Follow 12NYCRR 56 section 9.1(e) for tent enclosures and 12NYCRR 56 section 9.1 for all other containment enclosures. Settling/drying times may be reduced to a maximum of 2 hours for friable and 1 hours for non-friable removals.

M. Following asbestos removal, a single phase of cleaning will be performed (wet-wiping and HEPA-vacuuming). The two layers of sheeting covering floor, wall and ceiling surfaces

shall remain in place until final air clearance has been established. After this cleaning is complete, a visual inspection by the Project Monitor and Design-Builder Supervisor shall be performed to confirm the completeness of abatement and cleanup. After satisfactory inspection results, a thin coat of lockdown encapsulant shall be applied to surfaces which were not the subject of abatement. A single waiting/drying/settling period will be observed. The waiting period to be observed shall be two (2) hours for fireproofing, plaster, TSI, and other friable materials; one (1) hour for manual removal of floor tile/mastic, manual abatement of interior non-friable and intact transite removals. Clearance air sampling will not commence until the appropriate waiting/drying/settling period has elapsed and the area is dry.

N. A distance of approximately 10 feet shall be maintained to restrict the general public from the cordoned off work area during the actual removal of ACM, except in those areas/locations where it is logistically impossible (examples include but are not limited to: adjacent tracks where there is active train traffic or locations where non-certified individuals are required to enter the 10 foot perimeter to gain access to or perform their job tasks, i.e. train/crane operators, track workers, etc.).

12.29.26. Manholes (SWV# 21-0086)

A. Background air sample results as per 12NYCRR 56 Subpart 4.9 (a) and 6, allows the clearance criteria of the work area to be higher than 0.01 fibers per cubic centimeter. Since background air samples will not be collected, all work areas will be cleared to the more stringent criteria of less than 0.01 fibers per cubic centimeter.

B. In lieu of 12NYCRR 56 Subpart 4.9 (d), clearance air monitoring of the work area will be conducted in accordance with the following modifications:

1. Air samples will be collected inside the regulated abatement work area during Asbestos Abatement (Phase II B and IIC) activities until post abatement cleaning is complete. The number of samples collected inside of each individual work area shall be based on the amount of material in the work area. 5 air samples for large work areas, 3 air samples for small work areas and a minimum of 1 air sample shall be collected inside of each minor work area.

2. The results of the last set air samples collected during Asbestos Abatement (Phase II C) activities will also be used as the clearance air sample criteria. Phase II C shall include the final cleaning and lockdown encapsulation of non-removal surfaces covered with fire-retardant plastic sheeting.

3. Upon satisfactory visual inspection and provided the airborne fiber concentrations are below 0.01 fibers per cubic centimeter (f/cc), the regulated work area can be dismantled in accordance to 12NYCRR 56 subpart 9.3.

4. If results of the last set of inside regulated work area air samples are equal to or greater than 0.01 f/cc, the Design-Builder shall continue cleaning of the regulated work area using wet methods with negative air pressure equipment operating. Air samples will be collected inside and outside the regulated abatement work area during the re-cleaning activities and used as the clearance air sampling criteria.

5. If results of the last set of outside regulated work area air samples are equal to or greater than 0.01 f/cc, the Design-Builder shall clean-up the surfaces outside the regulated work area using HEPA-vacuums and wet methods. Air samples will be collected outside the

regulated abatement work area during the clean-up activities and used as the clearance air sampling criteria.

C. Due to large sizes, shapes of the various MTA facilities (Bus depots, Subway Stations, etc.) and the location of work areas, the ambient air sample requirement of 12NYCRR 56 Subpart 7.1 (c) (3) will not be performed. The number of air samples collected outside the work area will be based on the amount of material to be removed for that particular work area. 5 air samples for large work areas, 3 air samples for small work areas and a minimum of 1 air sample shall be collected outside of each minor work area. Common outside the work area air sample shall be collected if a single remote/mobile decontamination unit is utilized for simultaneous abatement of several adjacent regulated work areas.

D. All attempts shall be made to size the clean room in accordance with 12NYCRR 56 Subpart 7.5 (b) (8) requirements where permitted by site conditions.

E. In lieu of Personal Decontamination System requirements of 12NYCRR 56 Subpart 7.5 (d) (2) and (6) a mobile system shall be used if the site conditions (examples include but are not limited to interference with the MTA C&D system operations, the riding public and/or MTA C&D employees, space restrictions within Bus Depots, Subway Stations, etc.) do not allow an attached/remote decontamination system. The mobile decontamination system shall be located as close to the work area as possible (examples include but are not limited to entrance(s) to Bus Depots, Subway Stations, etc.). The Decontamination System shall be cordoned off with asbestos warning tape and signs. Prior to removal from the job site at the end of each shift, the mobile system shall be HEPA vacuumed, wet wiped completely and sealed. The remote and/or mobile decontamination system's shower may be used as an equipment decontamination washroom. Equipment shall be decontaminated only during times when the shower(s) are not being used by personnel.

F. In lieu of 12NYCRR 56 subpart 7.5 (d) (3) and 7.11(f)(1)(ii)(d) requirements of an airlock attached to the entrance to the regulated work area(s), a remote airlock (changing chamber) may be utilized where it is not logistically possible to attach it to the work area (examples include but are not limited to the catwalk space and safety restrictions, active track (third rail and right of way) adjacent to the work area entrance, etc.). The remote airlock shall be positioned in close proximity to the regulated work area (such as but not limited to the closest station platform entrance, inactive section of Work Site, etc.). Curtained doorway with three layers of overlapping polyethylene shall be utilized at the entrance to each work area. The remote airlock (changing chamber) shall be cordoned off with asbestos warning tape and signs. Workers shall HEPA vacuum and wet wipe themselves in the work area prior to moving towards the remote airlock (changing chamber).

G. In lieu of the designated pathway requirement of 12NYCRR 56 Subpart 7.5 (d)(4), the walkway from the regulated abatement work area to the remote/mobile decontamination unit or next regulated abatement work area shall be cordoned off or restricted by certified asbestos workers during use.

H. The location of the washroom as required by 12NYCRR 56 Subpart 7.5 (f)(2)(i), will be determined by the following site conditions:

1. If the work area configuration does not allow the washroom to be constructed inside the regulated work area, the washroom shall be constructed outside the regulated work area

entrance and attached to the existing airlock (changing chamber) used to access the regulated abatement work area.

2. If a remote airlock (changing chamber) is utilized based on-site conditions, the washroom chamber shall not be constructed. A waste wash-area shall be established inside the work area by placing fire-retardant plastic sheeting on the floor within close proximity to the work area's exit. All waste bags shall be wet wiped, HEPA-vacuumed and doubled bagged and or be containerized in the wash- area prior to the waste being transferred to the waste container on-site. No ACM abatement work or cleanup activities may occur during waste transfer operations.

3. If a waste container is not on-site prior to the waste transfer, a waste holding shall be constructed. The holding area is to temporarily store the bagged or containerized waste until the waste can be transferred to a waste transport vehicle.

4. The remote airlock (changing chamber) shall be cordoned off with asbestos warning tape and signs.

I. In lieu of the continuous operation of negative air unit(s) requirements of 12NYCRR 56 Subpart 7.8 (a) (1), (3), (8), (10) (vii) and 9.1 (a) negative air unit(s) shall be active in the work area when work is being performed. The work area shall be sealed during non-working hours. Prior to sealing of the work area all surfaces shall be wet wiped and/or HEPA-vacuumed and the negative air unit(s) shall continue to operate for an additional 20-30 minutes, post disturbance activities. Upon restarting of the negative air unit(s) the Design-Builder shall ensure that all barriers remain intact and secure, prior to the continuation of abatement activities. Inspection, necessary repairs and documenting shall be performed during negative air unit(s) operation.

J. In lieu of ventilation unit(s) exhaust ducting not to exceed 25 feet in length and negative air units exhausting greater than 15 feet outside of the building/ structure with a four foot high construction fence constructed a minimum of 10 feet from the end of the exhaust tube or bank of tubes requirements of 12NYCRR 56 Subpart 7.8 (a)(5), (a)(10)(ii), (viii) and (a)(11), negative air units shall be exhausted outside the work area into a non-public / normally unoccupied area (no box required). If a non-public / normally unoccupied area is not available, the negative air units shall be exhausted into a plywood box a minimum of 1' x 1' x 1' with a pre-filter covering the exhaust end into a public / occupied area. The exhaust box shall be cordoned off with a tape barrier. An air sample of the negative air exhaust shall be collected in these area(s) and outside of the box.

K. In lieu of 12NYCRR 56 Subpart 7.8, utilize localized engineering controls (HEPA Vacuum) during the abatement in "Reach-in Access Manhole(s)".

L. All debris in the manhole(s) shall be removed during the pre-cleaning phase and disposed of as asbestos contaminated waste.

M. Preparation requirements:

1. All manhole(s)

   a. In lieu of plasticizing requirements of 12NYCRR 56 Subpart 7.11 (f)(1), after all debris clean-up is complete, 1 layer of 6-mil fire retardant plastic sheeting shall be secured to the manhole floor.

b. The manhole(s) entrances shall be sealed between work shifts with a minimum of 2 layers of 6-mil fire retardant plastic sheeting posted with appropriate signage. For Street/Platform Access Manhole(s), first, the opening shall be sealed, followed by the replacement of the manhole cover(s).

2. Reach-in Access Manhole(s):

a. In lieu of c and isolation barrier requirements of 12NYCRR 56 Subpart 7.11 (a), (b), critical barriers shall consist of filling holes, cracks or inlets with foam or caulking.

b. In lieu of work area preparation requirements of 12NYCRR 56 Subpart 7.11 (f) (1), e work area shall be cordoned off with asbestos warning tape and signs at a minimum of three feet from each side and in front of the manhole opening. One layer of plastic sheeting will be extended three feet onto the track from the working side of the manhole's opening.

c. In lieu of engineering controls consistent with the requirements of 12NYCRR 56 Subpart 7.8, the suction end of a HEPA vacuum hose shall be placed inside the manhole access. The HEPA vacuum shall run while the matrix of the ACM is being disturbed.

N. A one (1) hour pre-abatement waiting period and settling/drying time for large projects/work areas and a thirty (30) minute pre-abatement waiting period and settling/drying time for small projects/work areas will be observed.

O. All friable ACM (cementitious and non-cementitious cable insulation and cementitious duct seal) and friable ACM and non-ACM that are interconnected shall be abated as per 12NYCRR 56 Subpart 8.4 (a) (Glovebag procedures).

P. Non-friable ACM (transite panels, duct sleeve, duct seals, wall and/or friable ACM in non-ACM containers, etc.) shall be removed intact from the substrate and wrap in 2 layers of 6-mil fire retardant plastic sheeting.

Q. In lieu of final cleanup procedures requirements of 12NYCRR 56 Subpart 9.1, one stage of post- abatement cleaning of all areas abated shall be performed at the conclusion of Phase II C activities. Additionally, floor plastic sheeting and isolation barriers shall also be cleaned if applicable. After the post-abatement cleaning is complete a visual inspection by the Project Monitor and Design-Builder Supervisor shall be performed to confirm that the scope of abatement work is complete, and the area is dry and free of visible debris/residue. If re- cleaning is required, an additional visual inspection shall be performed. Additional air samples will be collected during all re-cleaning activities and will be utilized as the clearance air sample criteria. Waiting/settling and drying times will be applicable.

R. A distance of approximately 10 feet shall be maintained to restrict the general public from the cordoned off work area during the actual removal of ACM, except in those areas/locations where it is logistically impossible (examples include but are not limited to: adjacent tracks where there is active train traffic or locations where non-certified individuals are required to enter the 10-foot perimeter to gain access to or perform their job tasks, i.e. train/crane operators, track workers, etc.).

S. If the shut down and lock out of all electrical power in the manhole is not possible, perform the abatement of ACM in accordance with the approved EPA Dry Removal Variance.

12.29.27. Multiple Materials Removals (SWV# 21-0078)

A. The work area shall be plasticized as required by the NYS Department of Labor approved MTA System Wide variance based on the most stringent case of removal.

B. Airlock (changing chamber) shall be constructed as per the relief granted by the NYS Department of Labor approved MTA System Wide variance based on the most stringent case of removal.

C. Final cleaning, final settling/drying and visual inspections requirements shall be performed and observed as per the relief granted by the NYS Department of Labor approved MTA System Wide variance based on the most stringent case of removal.

D. The final clearance air sampling will be performed as per the relief granted by the NYS Department of Labor approved MTA System Wide variance based on the most stringent case of removal.

12.29.28. Track Equipment Removals (SWV# 21-0082)

A. Background air sample results as per 12NYCRR 56 Subpart 4.9 (a) and 6, allows the clearance criteria of the work area to be higher than 0.01 fibers per cubic centimeter. Since background air samples will not be collected, all work areas will be cleared to the more stringent criteria of less than 0.01 fibers per cubic centimeter.

B. In lieu of 12NYCRR 56 Subpart 4.9 (d), clearance air monitoring of the work area will be conducted in accordance with the following modifications:

1. Air samples will be collected inside the regulated abatement work area during Asbestos Abatement (Phase II B and IIC) activities until final visual inspection is acceptable. The number of samples collected inside of each individual work area will be based on the amount of material in the work area. 5 air samples for large work areas, 3 air samples for small work areas and a minimum of 1 air sample shall be collected inside of each minor work area.

2. The results of the last set air samples collected during Asbestos Abatement (Phase II C) activities will also be used as the clearance air sample criteria.

C. Due to large sizes, shapes of the various MTA facilities (Bus depots, Subway Stations, etc.) and the location of work areas, the ambient air sample requirement of 12NYCRR 56 Subpart 7.1 (c) (3) will not be performed. The number of air samples collected outside the work area shall be based on the amount of material to be removed for that particular work area. 5 air samples for large work areas, 3 air samples for small work areas and a minimum of 1 air sample shall be collected outside of each minor work area. Common outside the work area air sample shall be collected if a single remote/mobile decontamination unit is utilized for simultaneous abatement of several adjacent regulated work areas.

D. All attempts shall be made to size the clean room in accordance with 12NYCRR 56 Subpart 7.5 (b)(8) requirements where permitted by site conditions.

E. In lieu of Personal Decontamination System requirements of 12NYCRR 56 Subpart 7.5 (d) (2) and (6) a mobile system shall be used if the site conditions (examples include but are not limited to interference with the MTA C&D system operations, the riding public and/or MTA C&D employees, space restrictions within Bus Depots, Subway Stations, etc.)

do not allow an attached/remote decontamination system. The mobile decontamination system shall be located as close to the work area as possible (examples include but are not limited to entrance(s) to Bus Depots, Subway Stations, etc.). The Decontamination System shall be cordoned off with asbestos warning tape and signs. Prior to removal from the job site at the end of each shift, the mobile system shall be HEPA vacuumed, wet wiped completely and sealed. The remote and/or mobile decontamination system's shower may be used as an equipment decontamination washroom. Equipment shall be decontaminated only during times when the shower(s) are not being used by personnel.

F. In lieu of 12NYCRR 56 subpart 7.5 (d) (3) requirements of an airlock attached to the entrance to the regulated work area(s), a remote airlock (changing chamber) may be utilized where it is logistically not possible to attach it to the work area (examples include but are not limited to the catwalk space and safety restrictions, active track (third rail and right of way) adjacent to the work area entrance, etc.). The remote airlock shall be positioned in close proximity to the regulated work area (such as but not limited to the closest station platform entrance, inactive section of Work Site, etc.). Curtained doorway with three layers of overlapping polyethylene shall be utilized at the entrance to each work area. The remote airlock (changing chamber) shall be cordoned off with asbestos warning tape and signs. Workers shall HEPA vacuum and wet wipe themselves in the work area prior to moving towards the remote airlock (changing chamber).

G. In lieu of the designated pathway requirement of 12NYCRR 56 Subpart 7.5 (d)(4), the walkway from the regulated abatement work area to the remote/mobile decontamination unit or next regulated abatement work area shall be cordoned off or restricted by certified asbestos workers during use.

H. In lieu of a washroom within the regulated abatement work area as required by 12NYCRR 56 Subpart 7.5 (f) (2) (i), each piece of equipment shall be HEPA vacuumed and wet wiped prior to leaving the Work Area.

I. A waste holding area shall be constructed. It shall be located in the restricted area. The holding area is to temporarily store the bagged or containerized waste until the waste can be transferred to a waste container or a waste transport vehicle.

J. In lieu of Engineering Controls requirements of 12NYCRR 56 Subpart 7.8, localized engineering controls (HEPA Vacuum) shall be utilized during the abatement.

K. In lieu of Work Area Preparation requirements of 12NYCRR 56 Subpart 7.11, each work area will be defined as three-foot from each side and in front and/or below the track equipment transite components, electrical boxes, switches, sealants and other non-friable components, if possible. One layer of plastic sheeting shall be secured to floor of the defined work area, below or in front of the equipment to be abated.

L. Any time wire insulation is encountered in conjunction with track equipment removal, and is either assumed or confirmed to be ACM, the cutting of the wire insulation shall occur in a glovebag and exposed ends shall be sealed.

M. A work train may be utilized during train service disruption. It will consist of (i) a diesel engine, (ii) a rider car for decontamination enclosure, (iii) a flatbed car with a mechanical crane and a remote airlock and (iv) a second flatbed car with waste holding area enclosure with floor, wall and ceiling covered with two layers of six mil plastic sheeting.

Section of the floor of the first flatbed with mechanical crane, shall be prepped with two layers of six mil plastic sheeting.

N. A distance of approximately 10 feet shall be maintained to restrict the general public from the cordoned off work area during the actual removal of ACM, except in those areas/locations where it is logistically impossible (examples include but are not limited to: adjacent tracks where there is active train traffic or locations where non-certified individuals are required to enter the 10 foot perimeter to gain access to or perform their job tasks, i.e. train/crane operators, track workers, etc.)

O. Preparation Procedure 1: for equipment containing ACM to be removed in its entirety utilizing a mobile truck decontamination unit and/or work train:

1. For friable fibrous sealant at the bottom of cases on elevated structures, use a mobile truck decontamination unit. A personnel-bucket or scissors lift shall be used from street level to access the cases at track level. The perimeter of the lift shall be enclosed with a vision barrier consisting of secured canvas or tarp material. The lift shall be lined with two layers of six mil plastic sheeting. Beneath the track cases, expandable foam shall be applied into the open base of the track case, sealing the opening.

2. Equipment prepared at step 1, if necessary, while the equipment is still fastened to its base, shall be wrapped in two layers of six mil plastic sheeting and labeled as asbestos-containing material.

3. Each piece of equipment shall be unfastened and hoisted using mechanical crane arm or by manual means. The equipment shall be placed on the first flatbed car's plasticized portion of the floor. This flatbed section will now be designated as the work area and shall be cordoned off with asbestos warning tape.

4. The locations where non-friable asbestos containing materials (e.g., signal cases, transite boards, etc.) are maintained non-friable during handling and removed along the Right of Way shall be cleared by the NYSDOL-certified Asbestos Supervisor's (representing the Asbestos Abatement Contractor) and the NYSDOL-certified Project Monitor's visual inspection only. Upon satisfactory visual clearance inspection, these areas may be reoccupied.

5. In lieu of Waste Decontamination System Enclosure and Equipment and Waste Container Decontamination and Removal Procedures of 12NYCRR 56 Subpart 7.5(f) and 8.9 respectively, each piece of equipment shall be HEPA vacuumed and wet wiped prior to lifting from the work area and placing in into the second flatbed waste holding area. Workers completing this task shall remain in the work area for the duration of the removal to observe any inadvertent damage to the case causing a possible release of asbestos fibers. The mobile and/or work train decontamination system's shower may be used as an equipment decontamination washroom. Equipment shall be decontaminated only during times when the shower(s) are not being used by personnel.

6. The crane operator shall perform the hoisting of the sealed, wrapped track equipment. The operator shall not be "inside" the work area. The crane operator shall have OSHA asbestos Awareness training. The crane operator shall only participate in the transport of material not the abatement.

7. Upon completion of the hoisting phase, the work train will return to the train yard, where the wrapped cases shall be transferred by the Design-Builder to the waste container for future collections and disposal.
8. Hoisting of equipment may involve multiple shifts.

P. Preparation Procedure 2 for Equipment containing non-friable ACM in a non-ACM container and non-friable ACM accessories to be removed intact, in its entirety utilizing a remote decontamination unit.

1. For the abatement of small, light-weight, isolated components such as the signal lights, etc. and for non-friable track accessories such as 3rd rail protection boards, etc. located on the side of the Right-of Way for which a work train is unnecessary, a remote/mobile decontamination unit near the work area shall be utilized.
2. The Design-Builder shall disconnect or unfasten the small component from its base or support. Note that all components with ACM shall be removed intact without any disturbance to the ACM matrix during removal operations. If power tools are utilized to aid in unfastening components and may disturb the ACM, the power tools shall be manufactured with HEPA exhaust attachment and shall be utilized as per manufacturer's instructions. The immediate area from which the component is located shall be cordoned off as indicated in item k above to establish a regulated work area. The item shall be wrapped in two layers of 6-mil plastic sheeting or double bagged and labeled as asbestos containing material. The wrapped item shall be transported from its location on the way-side to the remote/mobile decontamination unit. If a track cart is utilized, it shall be protected with two layers of 6 mil reinforced plastic sheeting. Subsequently, a visual inspection will be performed by the designated Project Monitor to confirm that the ACM has been properly handled and prepared for disposal with no visible disturbance to the ACM.
3. Regulated abatement work area preparation and asbestos handling air samples as per 12NYCRR 56 Subpart 4.9 (b) and (c) for abatement of non-friable ACM, where the material can be removed intact with no disturbance to the material matrix, will not be performed. In lieu of performing air monitoring, the removal will be continuously monitored by MTA C&D to ensure the non-friable material(s) are being removed intact utilizing wet methods. Upon completion of removal, MTA C&D jointly with the Design-Builder shall conduct visual inspection. In addition, MTA C&D will collect full-shift, Personal Worker Exposure Samples for 50% of the abatement subcontractor's work force. The samples will be collected pursuant to 29 CFR 1926.1101 9 (C) (1) to monitor that no employee is exposed to airborne fiber concentrations above the Permissible Exposure Level (0.1 fibers/cc) as an 8 Hour Time Weighted Average. Upon completion of a satisfactory visual inspection, and breakdown of the Work Area, MTA C&D will send the personal exposure samples to an accredited laboratory for analysis.
4. During abatement work on energized tracks, in lieu of using 3 layers of plastic sheeting to protect live electric (3rd rail), the Asbestos Abatement Contractor shall cover the live rail and protection board using wooden enclosure beneath ¾ inch rubber mats.

Q. Preparation Procedure 3 for equipment containing ACM to be abated at a different location

1. (1) Refer to section o. Preparation Procedure 1 – Steps 1, 2, 3, 4, 5 and 6 above.

2. Upon completion of hoisting phase, the work train will return to another location such as the train yard, where the wrapped cases shall be transferred by the Design-Builder to a Negative Pressure Tent Abatement Work Area Enclosure designated for ACM removal following the requirements set forth in Industrial Code Rule ICR 56. This tent shall be constructed using plywood barrier walls and two layers of six mil plastic sheeting with a flapped entrance with an attached airlock and washroom. The ACM waste shall be double bagged and removed from the Work Area. The non-asbestos containing cases shall be wet wiped and moved to a clean designated area outside the containment for recycling. The enclosure shall be sealed with a lockable door following each shift.

R. Preparation Procedure 4 for equipment containing ACM to be abated in place.

1. For non-friable material such as cable sealants, etc. located beneath track at bottom of equipment on elevated structures, the most practical means of accessing the material is from the street level.
2. A mobile truck decontamination unit shall be utilized.
3. Utilize a personnel-bucket or scissors lift or scaffolding to access the material.
4. The work area will be defined as the platform of the scaffolding/lift.
5. The platform floor shall be plasticized, and a regulated area established on the platform using asbestos warning tape.
6. For non-friable material such as cable sealants on metal conduit etc., that are located on the side of the Right-of Way, where a personnel-bucket or scissors lift or scaffolding is not required, one layer of plastic sheeting shall be secured to floor below or in front of the material to be abated. The non-friable material shall be wrapped in two layers of six mil plastic sheeting or double bagged, and properly disposed.

S. Air sampling locations for abatement utilizing a work train:

1. Two of the required outside of the Work Area samples will be taken at the following Work train locations:
   a. the holding area where the double wrapped waste is held and
   b. the outside of the decontamination unit on the rider car
   c. the remaining required outside samples will be located outside the work area.
   d. Work Train Clearance at Train Yard – The rider car and two flat beds shall be cleaned by the Design-Builder and clearance air samples will be taken to clear the Work Train. One sample will be taken at each of the following locations:
   e. On rider car
   f. On first flat bed
   g. On second flat bed
   h. Three on the track bed outside the work train
2. Upon the receipt of acceptable work train clearance samples as described above**,** the work train decontamination enclosure on the rider car, flatbed work area and flatbed waste holding area shall be broken down.

12.29.29. Non-Friable Exterior Canopies, etc. (SWV# 21-0077)

A. General

1. All attempts shall be made to size the clean room in accordance with 12NYCRR 56 Subpart 7.5 (b) (8) requirements where permitted by site conditions.

2. In lieu of Personal Decontamination System requirements of 12NYCRR 56 Subpart 7.5 (d)(2) and (6) a mobile system shall be used if the site conditions (examples include but are not limited to interference with the MTA C&D system operations, the riding public and/or MTA C&D employees, space restrictions within subway stations, etc.) do not allow attached/remote. The mobile system shall be located as close to the work area as possible (examples include but limited to entrances to subway stations, etc.). The Decontamination System shall be cordoned off with asbestos warning tape and signs. Prior to removal from the job site at the end of each shift, the mobile system shall be HEPA vacuumed, wet wiped completely and sealed.

3. In lieu of 12NYCRR 56 Subpart 7.5 (d) (3) requirements of an airlock (changing chamber) attached to the entrance to the work area(s), a remote airlock (changing chamber) may be utilized where it is logistically not possible to attach it to the work area (examples include but are not limited to the catwalk space and safety restrictions, active track (third rail and right of way, and an airlock (changing chamber) or when the a lift is used, etc.) adjacent to the work area entrance, etc.). The remote airlock shall be positioned in close proximity to the regulated work area (such as but not limited to the closest station platform entrance, inactive section of Work Site, etc.). Curtained doorway with three layers of overlapping polyethylene shall be utilized at the entrance to each work area. The remote airlock(s) (changing chamber(s)) shall be cordoned off with asbestos warning tape and signs. Workers shall HEPA vacuum and wet wipe in the work area prior to moving towards the remote airlock (changing chamber).

4. In lieu of the designated pathway requirement of 12NYCRR 56Subpart 7.5 (d)(4), the walkway from the regulated abatement work area to the remote/mobile decontamination unit or next regulated abatement work area shall be cordoned off or restricted by certified asbestos workers.

5. The location of the washroom as required by 12NYCRR 56Subpart 7.5 (f)(2)(i), shall be determined by the following site conditions:

   a. If the material to be abated, does not allow the washroom to be constructed inside the regulated work area, the washroom shall be constructed outside the regulated work area entrance and attached to the existing airlock (changing chamber) used to access the regulated abatement work area.

   b. If a remote airlock (changing chamber) is utilized based on-site conditions, the washroom chamber shall not be constructed. A waste wash-area shall be established inside the work area by placing fire-retardant plastic sheeting on the floor within close proximity to the work area’s exit. All waste bags shall be wet wiped, HEPA-vacuumed and doubled bagged and or be containerized in the wash- area prior to the waste being transferred to the waste container on-site. No ACM abatement or cleanup activities may occur during waste container transfer operations.

c. If a waste container is not on-site prior to the waste transfer, a waste holding area shall be constructed. The holding area is to temporarily store the bagged or containerized waste until the waste can be transferred to a waste transport vehicle.

d. Using a waste decontamination enclosure, in accordance with 12NYCRR 56 7.5 (f) would not be practical when large pieces are removed from canopies and when utilizing a chute. The large pieces shall be wrapped in two layers of plastic sheeting, wet wiped and HEPA vacuumed, prior to exiting the work area. All waste containerization methods, including waste bags, wrapping in plastic sheeting, use of chutes into lined containers, etc. shall all be labeled appropriately.

e. The remote airlock (changing chamber) shall be cordoned off with asbestos warning tape and signs.

6. After a work area has been visually inspected and cleaned as per 12NYCRR 56-11.6 (e) and waste has been removed as per 12NYCRR 56-11.6 (f), non-certified workers may commence replacement work in the cleaned area.

   a. In lieu of 12NYCRR 5611.6 (b) (4) (viii), with regards to lining the lift with plastic sheeting, for all lifts used, small perforations shall be made in the plastic sheeting covering the walls of the personnel lift/scaffolding to allow for appropriate fall protection. These perforations shall be sealed as possible without hindering the fall protection mechanisms.

7. Lifts may be used to transfer waste material to the holding area/trailer/dumpster. The walls/guardrails of the lift shall be covered with a minimum 1 layer of plastic.

8. A distance of approximately 10 feet shall be maintained to restrict the general public from the cordoned off work area during the actual removal of ACM, except in those areas/locations where it is logically impossible (examples include but are not limited to: adjacent tracks where there is active train traffic or locations where non-certified individuals are required to enter the 10 feet perimeter to gain access to or perform their job tasks, i.e., train/crane operators, track workers, etc.)

9. Air sampling shall be performed as indicated in **TABLE 2** (Asbestos Project Air Sampling Requirements).

B. Canopies

1. The canopies are constructed of transite or are a tar material over a substrate. The work area shall be limited to the canopy section from which the asbestos-containing materials (ACM) are actively being removed. If the canopy will be abated in segments, then each segment shall be treated as a work area.

2. The following shall not be constructed:

   a. The building of a tunnel, where an entrance or vehicular door exists beneath the work area, in accordance with 12NYCRR 5611.6 (b) (1) (i), will not be necessary due to the configuration of the canopy areas.

   b. The sealing of all openings as specified in 12NYCRR 5611.6 (b) (4) (i)(ii), all openings of the building being abated (including operable windows, doors, ducts, grills, communicating openings, etc.) within a distance of one (1) story, or twelve

(12) feet, whichever is less, above and below the roof level and extending ten (10) feet horizontally from the work area.

c. The sealing of windows on the outside of the building being abated or where an adjacent building is equal to or greater in height to the roof level is being abated, in accordance with 12NYCRR 5611.6 (b) (4) (iii) (iv).

3. The work area shall be separated from non-work areas by constructing barriers as follows:

   a. Above Canopy

      i. A barrier made of plastic sheeting shall be constructed around the perimeter above the section of the canopy being abated. The barrier shall be a minimum of four (4) feet in height.

   b. Below canopy

      i. Platform or decking shall be constructed above the station platform but beneath the asbestos canopy materials. This platform/decking system in conjunction with the barrier constructed above the section of canopy being abated shall form an envelope. Passengers and the general public will be permitted to walk beneath the scaffolding/decking system during abatement.

      ii. Alternatively, barriers build of at minimum, $^{3}/_{8\text{-inch}}$ plywood, 6 mil reinforced plastic sheeting or tarps shall be constructed around the perimeter below the canopy being abated. The barriers shall extend from the bottom of the canopy to the station platform. Passengers and the general public will be restricted from the area enclosed by these barriers.

      iii. Where the substrate of the canopy is not being removed, “below canopy” preparation shall not be utilized.

      iv. During complete track shutdowns, plastic sheeting may be used to construct the barriers.

   c. Work Train

      i. A personal decontamination unit shall be constructed on the work train, while it is in the yard.

      ii. A visual barrier shall be constructed on one side of a train car, towards the active platform.

      iii. Once the train arrives at a station, a work area shall be extended to the train by affixing the work train to the work area utilizing, at a minimum, barrier tape.

      iv. Following removal or at the end of each shift, the work train will proceed to the yard. The containerized waste shall be transported to the yard (holding area/trailer/dumpster) via the work train for disposal by the Design-Builder.

      v. The barriers shall be designed and constructed to withstand anticipated loading.

      vi. Asbestos warning signage shall be posted on the non-work side of the barrier at a maximum spacing of twenty (20) feet.

4. Asbestos containing caulking and sealant, which must be removed to facilitate installation of barriers, shall be removed by manual methods concurrently HEPA-vacuuming debris as the caulking and sealants are removed from the substrate. Following installation of barriers beneath the canopy, panels may be removed, only as required, to afford access for construction of the barrier above the canopy.
5. Access to the work area shall be through an airlock (changing chamber) attached to the work area barriers.
6. The asbestos canopy shall be removed following installation of temporary structures and two (2) layers of surface polyethylene on the work area side of the temporary structures.
7. The transite or tar like weatherproofing canopy material shall be removed using manual methods whenever possible. Transite shall be handled and lowered to the ground in a manner to prevent breakage.
8. A chute, if used, shall be air/dust tight along its lateral perimeter and at the terminal connection to the dumpster at ground level (solid wall/opened top container). The dumpster shall be lined with two (2) layers of six-mil plastic draped loosely over the sides so as to facilitate being wrapped over the top of the load and sealed prior to transport from the site. The upper end of the chute shall be furnished with a hinged lid, to be closed when the chute is not used. Prior to transport from the Work Site, the dumpster shall be disconnected from the chute and sealed air/dust tight utilizing six-mil plastic and tape, complete with appropriate labels. The roof waste material shall be transported as an asbestos-containing material in accordance with applicable laws and regulations.

12.29.30. Caulking/Glazing Removals (SWV# 21-0085)

A. General – Friable and non-friable abatement located on the interior and exterior of structures, stations, facilities, etc.

1. All attempts shall be made to size the clean room in accordance with 12NYCRR 56 7.5 (b)(8) requirements where permitted by site conditions depending on the size of the area and pedestrian and vehicular traffic conditions.
2. In lieu of Personal Decontamination System requirements of 12NYCRR 56 Subpart 7.5 (d) (2) and (6) a mobile system shall be used if the site conditions (examples include but are not limited to interference with the MTA system operations, the riding public and/or MTA employees, space restrictions within Bus Depots, Subway Stations, etc.) do not allow an attached/remote decontamination system. The mobile decontamination system shall be located as close to the work area as possible (examples include but are not limited to entrance(s) to Bus Depots, Subway Stations, etc.). The Decontamination System shall be cordoned off with asbestos warning tape and signs. Prior to removal from the job site at the end of each shift, the mobile system shall be HEPA-vacuumed, wet wiped completely and sealed. The remote and/or mobile decontamination system's shower may be used as an equipment decontamination washroom. Equipment shall be decontaminated only during times when the shower(s) are not being used by personnel.
3. In lieu of 12NYCRR 56 Subpart 7.5 (d) (3) and 7.11(f)(1)(ii)(d) requirements of an airlock (changing chamber) attached to the entrance to the work area(s), a remote airlock (changing chamber) may be utilized where it is logistically not possible to attach it to the work area (examples include but are not limited to the catwalk, active roadway, an area is too small to accommodate a regulated area and an airlock (changing chamber) or

when a lift is used. The remote airlock shall be positioned in close proximity to the regulated work area (such as but not limited to the closest station platform entrance, inactive section of Work Site, etc.). Work areas that utilize a tent shall have a curtained doorway with three layers of overlapping polyethylene at the entrance to each work area. The remote airlock(s) (changing chamber(s)) shall be cordoned off with asbestos warning tape and signs. Workers shall HEPA vacuum and wet wipe in the work area prior to moving towards the remote airlock (changing chamber).

4. In lieu of the designated pathway requirement of 12NYCRR 56 7.5 (d)(4), the walkway from the regulated abatement work area to the remote/mobile decontamination unit or next regulated abatement work area shall be cordoned off or restricted by certified asbestos workers, during use.

5. The location of the washroom as required by 12NYCRR 56 Subpart 7.5 (f)(2)(i), shall be determined by the following site conditions:

   a. If the material to be abated, does not allow the washroom to be constructed inside the regulated work area, the washroom shall be constructed outside the regulated work area entrance and attached to the existing airlock used to access the regulated abatement work area.

   b. If a remote airlock (changing chamber) is utilized based on-site conditions, the washroom chamber shall not be constructed. A waste wash-area shall be established inside the work area by placing fire-retardant plastic sheeting on the floor within close proximity to the work area's exit. All waste bags shall be wet wiped, HEPA-vacuumed and doubled bagged and or be containerized in the wash- area prior to the waste being transferred to the waste container on-site. No ACM abatement or clean-up activities may occur during waste container transfer operations.

   c. If a waste container is not on-site prior to the waste transfer, a waste holding shall be constructed. The holding area is to temporarily store the bagged or containerized waste until the waste can be transferred to a waste transport vehicle.

   d. The remote airlock (changing chamber) shall be cordoned off with asbestos warning tape and signs.

6. In lieu of 12NYCRR 56 11.6 (b) (4) (viii), with regards to lining the lift with plastic sheeting, for all lifts used, small perforations shall be made in the plastic sheeting covering the walls of the personnel lift/scaffolding to allow for appropriate fall protection. These perforations shall be sealed as possible without hindering the fall protection mechanisms.

7. A distance of approximately 10 feet shall be maintained to restrict the general public from the cordoned off work area during the actual removal of ACM, except in those areas/locations where it is logistically impossible (examples include but are not limited to active roadway where there is active train, pedestrian, or vehicular traffic.)

8. In lieu of final cleanup procedures requirements of 12NYCRR 56 9.1 one stage of post-abatement cleaning of all areas abated shall be performed at the conclusion of Phase II C activities. After the post-abatement cleaning is complete and settling/drying time has elapsed, a visual inspection by the Project Monitor and Design-Builder supervisor shall be performed to confirm that the scope of abatement work is complete, and the area is

dry and free of visible debris/residue. If re-cleaning is required, an additional visual inspection shall be performed. Additional air samples will be collected during all re-cleaning activities and will be utilized as the clearance air sample criteria.

9. Background air sample results as per 12NYCRR 56 Subpart 4.9 (a), allows the clearance criteria of the work area to be higher than 0.01 fibers per cubic centimeter. Since background air samples will not be collected, all work areas will be cleared to the more stringent criteria of less than 0.01 fibers per cubic centimeter.

10. In lieu of 12NYCRR 56 Subpart 4.9 (d) clearance air monitoring will be conducted in accordance with the following modifications:

    a. Air samples will be collected inside the regulated abatement work area during Asbestos Abatement (Phase II B and II C) activities until post abatement cleaning is complete. The number of samples collected inside of each individual work area shall be based on the amount of material in the work area. 5 air samples for large work areas, 3 air samples for small work areas and a minimum of 1 air sample shall be collected inside of each minor work area.

    b. The results of the last set air samples collected during Asbestos Abatement (Phase II C) will also be used as the clearance air sample criteria. Phase II C shall include the final cleaning and lockdown encapsulation of non-removal surfaces covered with fire-retardant plastic sheeting.

    c. After a satisfactory visual inspection and provided the airborne fiber concentrations are below 0.01 fibers per cubic centimeter (f/cc), the regulated work area can be dismantled in accordance to 12NYCRR 56 Subpart 9.3.

    d. If results of the last set of inside regulated work area air samples are equal to or greater than 0.01 f/cc, the Design-Builder shall continue cleaning of the regulated work area using wet methods. Negative air pressure equipment will be operating where appropriate. Air samples will be collected inside and outside the regulated abatement work area during the re-cleaning activities and used as the clearance air sampling criteria.

    e. If results of the last set of outside regulated work area air samples are equal to or greater than 0.01 f/cc, the Design-Builder shall clean-up the surfaces outside the regulated work area using HEPA-vacuums and wet methods. Air samples will be collected outside the regulated abatement work area during the clean-up activities and used as the clearance air sampling criteria.

11. Due to large sizes, shapes of the various MTA facilities (Bus depots, Subway Stations, etc.) and the location of work areas, the ambient air sample requirement of 12NYCRR 56 7.1 (c) (3) will not be performed. The number of air samples collected outside the work area shall be based on the amount of material to be removed for that particular work area. Five (5) air samples for large work areas, three (3) air samples for small work areas and a minimum of one (1) air sample will be collected outside of each minor work area. Common outside the work area air sample will be collected if a single remote/mobile decontamination unit is utilized for simultaneous abatement of several adjacent regulated work areas.

B. Friable Caulking/Glazing Abatement

1. Utilize tent operations for any asbestos abatement project as described in 12 NYCRR 56 Subpart 7.11(f) (1) and procedures identified within this variance. The tent shall remain in place until satisfactory air testing results have been obtained.

   a. Negative air shall be utilized as per 12 NYCRR 56 Subpart 7.8 for minor and small asbestos abatement projects.

   b. 12NYCRR 56-7.8 shall be followed for large asbestos abatement projects with the exception that 12NYCRR 56 Subpart 7.8(a)(8) shall be increased to eight (8) air changes per hour.

   c. Note that the requirements will be based on the quantity of material(s) in each regulated abatement work area.

2. A one (1) hour pre-abatement waiting period and settling/drying time for large projects and a thirty (30) minute pre-abatement waiting period and settling/drying time for small projects and a twenty (20) minute waiting period and settling/drying time for minor projects shall be observed.

3. In lieu of the continuous operation of negative air unit(s) requirements of 12NYCRR 56 Subpart 7.8 (a) (1), (3), (8), (10) (vii) and 9.1 (a) negative air unit(s) shall be active in the work area when work is being performed. The work area shall be sealed during non-working hours. Prior to sealing of the work area all surfaces shall be wet wiped and/or HEPA-vacuumed and the negative air unit(s) shall continue to operate for an additional 20-30 minutes following completion of disturbance activities for the day. Upon restarting of the negative air unit(s) the Design-Builder shall ensure that all barriers remain intact and secure, prior to the continuation of abatement activities. Inspection, necessary repairs of negative air equipment and documenting of equipment performance shall be performed during negative air unit(s) operation.

4. In lieu of ventilation unit(s) exhaust ducting not to exceed 25 feet in length and negative air units exhausting greater than 15 feet outside of the building/ structure with a four foot high construction fence constructed a minimum of 10 feet from the end of the exhaust tube or bank of tubes requirements of 12NYCRR 56 Subpart 7.8 (a)(5), (a)(10)(ii), (viii) and (a)(11), negative air units shall be exhausted outside the work area into a non-public / normally unoccupied area (no box required). If a non-public / normally unoccupied area is not available, the negative air units shall be exhausted into a plywood box a minimum of 1’ x 1’ x 1’ with a pre-filter covering the exhaust end into a public / occupied area. The exhaust box shall be cordoned off with a tape barrier. An air sample of the negative air exhaust shall be collected in these area(s) and outside of the box.

C. Non-Friable Caulking/Glazing Abatement

1. Prepare the regulated work area in accordance with 12 NYCRR 56 Subpart 11.6(b) (4) (vi-viii), with the following exceptions:

   a. In lieu of the plasticizing requirements of 12NYCRR 56 Subpart 11.6 (b)(4)(vi) & (vii), plasticizing of windows and openings within twenty – five (25) feet, barriers up to 8 feet high (if possible) shall be established to separate the work areas from public areas. These barriers may be constructed of 6-mil plastic sheeting. Where this is

not possible, (i.e. lift/scaffolding abatements), all openings and penetrations within the immediate work area shall be sealed as stated in 56 Subpart 7.11(a). The regulated abatement work area shall be cordoned off with asbestos warning tape at a distance of ten feet or as close as logistically possible..

b. In lieu of the requirements of 12NYCRR 56 Subpart 11.6 (b) (4) (viii), floor surfaces along the length of the removal area extending 2 feet on both sides and 10 feet in front, or as close as logistically possible, shall be covered with at least 1 layer of 6-mil reinforced plastic sheeting. Lifts and scaffolds shall be plasticized in accordance with 12NYCRR 56 Subpart 11.6 (b) (4) (viii).

12.29.31. Token Booth (SWV# 19-1495)

A. General

1. Work shall be limited to the disassembly and re-assembly of fiberglass wall panels and metal posts associated with Token Booths, the removal and reinstallation of non-ACM components (i.e. cabinets, shelves, equipment) that are attached to the wall panels, and the cutting of an opening on selected wall panels. All work shall be classified as either Class III or Class IV Asbestos Work per OSHA.
2. At a minimum, an equipment room shall be constructed per Paragraph 12.29.14 adjacent to the regulated work area for the decontamination of employees and equipment that is potentially contaminated with asbestos until the Design-Builder can provide a negative exposure assessment as defined by OSHA to the Project Monitor.
3. Workers shall wear respirators and protective clothing as required by Paragraph 12.29.13 until the Design-Builder can provide a negative exposure assessment as defined by OSHA to the Project Monitor.
4. Each regulated work area shall be vacated and restricted to appropriately-trained personnel, by cordoning off with caution tape at a minimum of three-foot (3') from each side and in front and/or behind the affected area, if possible.

B. Unfastening of Non-ACM Components (i.e. shelves, cabinets, equipment, glass, ceiling, etc.) from Token Booths – OSHA Class IV Work

1. Work is considered OSHA Class IV Asbestos Work and shall be performed by workers who possess OSHA Asbestos Awareness Training.
2. Workers shall carefully unfasten non-ACM components from panels by unbolting and or un-screwing components from wall panels.
3. This Work shall not require an Asbestos Abatement Placard from the Office of System Safety (OSS)
4. Paragraphs A.2, A.3, and A.4 shall not apply to this Work.

C. Disassembly of Fiberglass Panels and Metal Posts with ACM Adhesives – OSHA Class III Work

1. Work is considered Class III Asbestos Work per OSHA and shall be performed by workers who possess NYS DOL Operations and Maintenance Certificates under the supervision of a NYS DOL Asbestos Supervisor.
2. A regulated work area shall be established as per Paragraph A.4.

3. Workers shall carefully remove wall panels, metal fascial/trim and posts intact by unbolting components from metal posts and moving posts and panels without disturbing embedded ACM adhesive. The wall panels and fascia plates/trim shall be kept intact with the substrate.
4. Provide a HEPA vacuum within the regulated work area.
5. After a satisfactory visual inspection by the Design-Builder's Supervisor and Project Monitor, the regulated work area can be dismantled.

D. Storage of Fiberglass Panels and Metal Posts Storage of Fiberglass Panels and Metal Posts shall be properly labeled in compliance with OSHA requirements. The labels shall read:

DANGER
CONTAINS ASBESTOS FIBERS
AVOID CREATING DUST
CANCER AND LUNG
DISEASE HAZARD

1. Store fiberglass panels and metal posts in an isolated/controlled area to prevent access by unauthorized individuals. Obtain advance approval of the storage location from the Project CEO.

E. Re-assembly of Fiberglass Panels and Metal Posts – OSHA Class III Work

1. Work is considered Class III Asbestos Work per OSHA and shall be performed by workers who possess NYS DOL Operations and Maintenance Certificates under the supervision of a NYS DOL Asbestos Supervisor.
2. A regulated work area shall be established as per Paragraph A.4.
3. Workers shall carefully move and assemble wall panels and posts by bolting to the token booth framework without disturbing embedded ACM adhesive. The wall panels and fascia plates/trim shall be kept intact with the substrate.
4. Provide a HEPA vacuum within the regulated work area.
5. After a satisfactory visual inspection by the Design-Builder's Supervisor and Project Monitor, regulated work area can be dismantled.

F. Installation of Non-ACM Components (i.e. shelves, cabinets, equipment, glass, ceiling, etc.) in Token Booths – OSHA Class III Work

1. Work is considered Class III Asbestos Work per OSHA and shall be performed by workers who possess NYS DOL Operations and Maintenance Certificates under the supervision of a NYS DOL Asbestos Supervisor.
2. A regulated work area shall be established as per Paragraph A.4
3. As a precaution, one layer of polyethylene sheeting shall be placed on the ground directly below the locations where the work is to be performed where feasible.
4. Workers shall utilize drills with HEPA-filtered local exhaust ventilation attachments and/or screw guns with HEPA shrouds during the installation work.

5. Workers shall carefully re-install non-ACM components by bolting and screwing components onto wall panels.
6. A HEPA vacuum shall be used to clean up any visible debris that may be generated during this process.
7. After a satisfactory visual inspection by the Design-Builder Supervisor and Project Monitor, regulated work area can be dismantled.

G. Modification of Fiberglass Panels for ADA Compliance – OSHA Class III Work

1. Work is considered Class III Asbestos Work per OSHA and shall be performed by workers who possess NYS DOL Operations and Maintenance Certificates under the supervision of a NYS DOL Asbestos Supervisor.
2. A regulated work area shall be established as per Paragraph A.4
3. A cutting activity may be performed within a negative-pressure tent enclosure consisting of floors, walls and ceilings of at least one (1) layer six mil. fire retardant polyethylene sheeting, except on the surface where the cutting is to be performed. Alternatively, in lieu of a tent enclosure, cutting may be performed within a mini enclosure (e.g. glovebag/glovebox) without the use of a tent. The negative pressure tent enclosure or mini enclosure shall also be constructed on the other side of the panel (non-cutting surface).
4. Work shall entail the cutting of an opening on the existing wall panel to modify the panel for ADA compliance.
5. Workers shall utilize hand tools or power tools with HEPA-filtered local exhaust ventilation attachments or HEPA shrouds during this work.
6. Air monitoring of the work area will be conducted as follows:
    a. Air samples will be collected inside the regulated abatement work area during Asbestos Abatement (Phase IIB and IIC) activities until final visual inspection is acceptable. One (1) air sample will be collected outside the tent or mini-enclosure and one (1) air sample will be collected in each tent or mini-enclosure.
    b. The results of the last set of air samples collected during Asbestos Abatement (Phase II C) activities will also be used as the clearance air sample criteria. Phase II C shall include the final cleaning and lockdown encapsulation of the non- removal surfaces covered with fire-retardant plastic sheeting.
    c. Upon satisfactory visual inspection and provided the airborne fiber concentrations are below 0.01 fibers per centimeter (f/cc), regulated work area can be dismantled.
    d. If results of the last set of inside regulated work area samples are equal to or greater than 0.01 f/cc, the Asbestos Abatement Contractor shall continue cleaning of the regulated work area using wet methods with negative equipment operating. Air samples will be collected inside and outside the regulated abatement work area during the re- cleaning activities and used as the clearance air sampling criteria.
    e. If the results of the last set of outside regulated work area air samples are equal to or greater than 0.01 f/cc, the Asbestos Abatement Contractor shall clean-up the surfaces outside the regulated work area using HEPA-vacuums and wet methods.

Air samples will be collected outside the regulated abatement work area during the clean-up activities and used as the clearance air sampling criteria.

12.29.32. Packaging, Storage, Transport, Disposal

A. Place the container or disposal truck at the Work Site, only for the period required to complete the Asbestos Project. The Project CEO shall be informed of the intended location of all containers or storage areas. The Project CEO reserves the right to refuse the use of in- place container or storage area.

B. All waste generated as part of the asbestos project shall be removed from the site within ten calendar days after successful completion of Phase IIC for all regulated abatement work areas at the site.

C. A waste hauler duly licensed from the state and local authorities having jurisdiction shall haul waste.

D. Document actual disposal of the waste at the designated landfill by completing a manifest.

E. A waste manifest documenting the date of pick up, quantities of asbestos waste, travel route and disposal site shall be filled out completely and signed by the Design-Builder and the waste hauler at the time of pick up at the Work Site. Th e signing of the manifest shall be in the presence of the Project CEO. The Project CEO will verify all quantities on the manifest.

F. If waste materials are to be transferred or stored at a transfer station in New York City, a manifest form for the disposal of asbestos waste shall be obtained, properly prepared, and copies provided to the Project CEO prior to removal of any bagged asbestos waste from the site. For waste disposed outside of New York City, provide waste manifest chain of custody documentation, satisfactory to the Project CEO to document the disposal of ACM waste in accordance with the regulations.

G. The manifest is to include the address of the facility from which the asbestos waste is removed, and copies of the initial manifests shall be provided to the Project Monitor. The original manifests shall have the following address in the area marked "Building Owner", which are to be returned to the MTA C&D as the generator to the same address

MTA-NYCT
DSO – Environmental Services
2 Broadway, 3rd Floor C3.52
New York, New York 10004
(646) 252-3546

1. A copy of the manifest signed by the landfill shall be provided to the Project CEO within 35 days from the date that the waste was removed from the Work Site.

12.29.33. Air Monitoring

A. The air monitoring protocol for all Projects are indicated herein.

12.29.34. Payment

A. No progress payments for asbestos removal work will be made unless all completed waste manifest forms (See Paragraph 12.29.33 Packaging, Transport and Disposal) are submitted and verified by the Project CEO as complete and accurate.

B. Final Payment will not be made without submittal of the following documents:

1. Copies of notifications made to the USEPA, NYS-DOL and other applicable agencies (including all amendments).

2. Copies of completed waste manifest forms for asbestos transported off site

TABLE 2: MINIMUM AIR SAMPLING REQUIREMENTS

Except for Track Equipment SWV# 21-0082

Regulated Abatement Work Area Size	Phase I B	Phase II A	Phase II B	Phase II B	Phase IIC
	Back-ground	Work Area Preparation	Asbestos Handling SWV# 21-0083 (excluding tent on the track) SWV# 21-0079	Asbestos Handling *(During As Finals)* SWV#19-1495 SWV# 21-0078 SWV# 21-0086 SWV# 21-0080 SWV# 21-0081 SWV# 21-0084 SWV# 21-0077 SWV# 21-0085 SWV# 21-0083 (tent on the track)	Final Cleaning & Clearance SWV# 21-0083 (excluding tent on the track) SWV# 21-0079
LARGE	None	No inside air sampling required		5 Inside Regulated Work Area	5 Inside Regulated Work Area
		1 per decon within 10 ft of each entrance/ exit of decon. 1 per negative air exhaust or per bank of 5 exhausts (*) 3 at critical barriers			5 Outside Regulated Work Area
SMALL	None	No inside air sampling required		3 Inside Regulated Work Area	3 Inside Regulated Work Area
		1 per decon within 10 ft of each entrance/ exit of decon. 1 per negative air exhaust or per bank of 5 exhausts(*) 1 at critical barriers			3 Outside Regulated Work Area
MINOR	None	No inside air sampling required		1 Inside Regulated Work Area	1 Inside Regulated Work Area
		1 at critical barrier.			1 Outside Regulated Work Area

Notes:

(1) **For Non-Friable Exterior Removals, collect one air sample inside the building/structure in addition to the samples stated in the table above.**

(2) **(*) In case there is no negative air exhaust, take one representative air sample outside the regulated work area.**

(3) **For multiple materials, perform air sampling based on the most stringent method of removal.**

(4) **If a remote/mobile decon is utilized, an additional sample shall be collected outside the regulated abatement work area within 10ft of each entrance or exit (air lock).**

TABLE 3: MINIMUM AIR SAMPLING REQUIREMENTS

For Track Equipment SWV# 21-0082 only

For procedure 2 [section 12.29.29(p)] to note 2.

Regulated Abatement Work Area Size	Phase I B	Phase II A	Phase II B	Phase II B	Phase IIC
	Back-ground	Work Area Preparation	Asbestos Handling SWV 21-0082 (procedure 3)	Asbestos Handling *(During As Finals)* SWV# 21-0082 (procedures 1 & 4)	Final Cleaning & Clearance SWV# 21-0082 (procedure 3)
LARGE	None	No inside air sampling required		5 Inside Regulated Work Area	5 Inside Regulated Work Area
		1 per decon within 10 ft of each entrance/ exit of decon. 1 per negative air exhaust or per bank of 5 exhausts (*) 3 at critical barriers			5 Outside Regulated Work Area
SMALL	None	No inside air sampling required		3 Inside Regulated Work Area	3 Inside Regulated Work Area
		1 per decon within 10 ft of each entrance/ exit of decon. 1 per negative air exhaust or per bank of 5 exhausts(*) 1 at critical barriers			3 Outside Regulated Work Area
MINOR	None	No inside air sampling required		1 Inside Regulated Work Area	1 Inside Regulated Work Area
		1 at critical barrier.			1 Outside Regulated Work Area

Notes:

(1) **For track equipment removal utilizing work train [sections 12.29.29(o), (q) and (r)], see section 12.29.29(s).**

(2) **For track equipment removal utilizing remote decon [section 12.29.29(p)], see 12.29.29p (3).**

(3) **(*) In case there is no negative air exhaust, take one representative air sample outside the regulated work area.**

(4) **If a remote/mobile decon is utilized, an additional sample shall be collected outside the regulated abatement work area within 10ft of each entrance or exit (air lock).**

Appendix J

Laboratory Certifications

(To be added upon receipt)

Appendix K

Copies of Disposal Facility Permits and Transporter Permits

(To be added upon receipt)

Appendix L

Monitoring Well Decommissioning Plan From Site Management Plan

Appendix M

Proposed SMP Monitoring Well Network From Site Management Plan