Metro-North Railroad

Upper Harlem Parking Improvements at Croton Falls

Package 2 – Surface Parking Lot
Contract No. 142486

General Specifications

THIS SPACE IS LEFT BLANK INTENTIONALLY.

THIS SPACE IS LEFT BLANK INTENTIONALLY.

SECTION – 01 11 00

SUMMARY OF WORK

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

The Contract Documents include the Specifications, Drawings, Reference Documents and Attachments. The documents set forth the objectives, requirements and criteria established by Metro-North for the construction of a surface parking lot to serve the Croton Falls Station.

1.02 WORK COVERED BY THE CONTRACT DOCUMENTS

A. Project Identification: CONTRACT NO. 142486; UPPER HARLEM PARKING IMPROVEMENTS AT CROTON FALLS

B. Owner: MTA – Metro-North Railroad (Metro-North)

C. The delivered project shall:

D. Meet or exceed the requirements set forth in the Contract

1. Be capable of safe and reliable operation meeting and/or exceeding industry standards and practices.

E. The following outlines the main features of the work to be performed under the various parts of the Contract but is not a complete description. The general details of the Work to be performed under this Contract are indicated in the Drawings and other Specification Sections.

1. Construction of a 472-space surface parking lot including 9 ADA accessible spaces, 8 electric vehicle charging station spaces, and 2 ADA accessible electric vehicle charging station spaces.

   a. The proposed parking lot includes 3 pay stations in a pay station shelter, a bus shelter, an existing non-potable water well to be made operational and commissioned, lighting, power, drainage, grading, ADA ramps, sidewalks, signage, a stormwater retention system, Landscaping, New Electrical service, and pavement markings.

2. Construction of a 41-space temporary parking facility including 2 ADA accessible spaces, sidewalk, pedestrian crossing, maintenance and protection of traffic devices, lighting, signage, and pavement markings.

3. Reconstruction of the existing access driveway to the proposed parking lot.

4. Improvements to the Croton Falls Road/Route 202 intersection including concrete sidewalk, ADA ramps, pedestrian crossing signals, traffic signage improvements, grading, roadway reconstruction at the crosswalks, light poles, conduit and cable, signage, pavement markings.

   a. The proposed work at the southeast corner of the intersection will connect to the existing sidewalk grade.

1.03 PROJECT DESCRIPTION

A. Site Location: 12 Croton Falls Road Somers, NY 10519

B. Site Description: The existing site is located on 20 acres of the old St. Joseph's

C. Roman Catholic Church / elementary school site in Croton Falls, NY in the Town of Somers. Approximately half of the 20 acres are located on wooded steep slopes while the existing school complex project site is located on a relatively flat developed portion of property adjacent to Croton Falls Road. The project site also includes DEP property along the north and south sides of Croton Falls Road southeasterly towards the intersection of Croton Falls Road and Route 202.

1.04 CONSTRUCTION SEQUENCING

A. The work included in the Contract shall be progressed adhering to the Contract Drawings Construction Sequencing Plans. This plan assigns separate work elements which proceed chronologically from the notice of award to completion of demolition. The Contractor's construction schedule shall address all work elements in the order they are presented and any work from different work elements that is to be performed concurrently per the Contractor's construction schedule must first be approved by Metro-North.

B. The Contractor can present an alternate phasing schedule for Metro-North review and approval.

C. The work elements described below are a summary of the work and are not to be considered inclusive.

1. Work Element 1: Construction of Croton Falls Parking Lot: The Work consists of Construction of a 472-space surface parking lot including 9 ADA accessible spaces, 8 electric vehicle charging station spaces, and 2 ADA accessible electric vehicle charging station spaces, installation of MNR provided pay stations, pay station shelter, bus shelter, an existing non-potable water well to be made operational and commissioned, lighting, power, drainage, grading, ADA ramps, sidewalks, signage, stormwater retention system, landscaping, new electrical service, pavement markings, and all other parking lot components not listed in other work elements below but included as per the contract documents. This item shall include all costs for construction, general conditions, mobilization, demobilization, bonds, and insurance required by the Contract Documents. For mobilization and demobilization, refer to spec section 01 71 13 and other related spec sections.

   Submit all required Metro-North Contract documentation.

   a. Prepare Work Plans for all Contract Work.

   b. Obtain all required Metro-North contractual document approvals (plans/schedules/bid breakdown/etc.).

   c. Obtain all required permits, including but not limited to any permits from NYSDOT, local towns, counties, or any other required permit not being provided by Metro-North Railroad. (Please note, Metro-North Railroad shall provide the permit for construction of the parking lot, as well as the SWPPP, and the land use permit to be issued by NYCDEP).

   d. Attain approval from Metro-North on the overall Sequencing Plan.

   e. Document existing conditions.

2. Work Element 2: Demolition and Site Preparation: This item consists of the

demolition and proper disposal of all existing site elements as detailed in the Contract Documents including, but not limited to existing asphalt pavement, concrete, wood, vegetation, and signage. (This item does NOT include the removal and disposal of any soils. Soil hauling is covered by unit price items below.)

a. Verify existing conditions.

b. Document existing conditions.

c. Demolish existing features as indicated.

d. Complete clearing and grubbing of the site.

e. Install soil erosion and sediment control mitigation measures.

f. Isolate and protect the projected work zone.

g. Install traffic control devices for protection of pedestrians and vehicle traffic.

h. Install tree protection devices and complete tree removals.

1) Mark trees to be removed for review and approval by the owner/engineer prior to removal.

3. Work Element 3: Intersection Improvements: This item consists of the improvements to the Croton Falls Road/Route 202 intersection, including installation of pedestrian signal heads, intersection lighting, associated conduit, sidewalk, ADA ramps, crosswalks, pavement markings, signage, and grading in accordance with the Contract Documents.

This work shall be completed prior to completion of the temporary parking facility and temporary sidewalk. The contractor is expected to coordinate their work with any other work being performed in the area which may affect, or be affected by, the contractor's work.

a. Complete traffic signal improvements and pedestrian signal installation.

b. Install light poles, conduit, and cables.

c. Demolish, regrade, and repave road at crosswalk locations.

d. Complete sidewalk, ADA ramp, and curb installation.

e. Install signage and pavement markings.

4. Work Element 4: Temporary Parking and Sidewalk: This item consists of the installation and maintenance of the temporary parking facility, pedestrian crossing across Croton Falls Road, and temporary sidewalk on the south side of Croton Falls Road. The work contained in this item shall be completed no later than three (3) months after award in order to facilitate work by other contractors.

a. Install temporary asphalt sidewalk and barrier on the south side of Croton Falls Road.

b. Connect to the permanent sidewalk at the southwest corner of the Croton Falls Road/Route 202 intersection.

c. Install temporary parking lot including temporary asphalt, sidewalk, barrier, lighting, signage, and pavement markings.

d. Install temporary pedestrian crossing including flashing beacon assembly signage and crosswalk pavement markings.

5. Work Element 5: Mill and Pave Croton Falls Road: This item consists of the milling and paving of Croton Falls Road from the intersection at Butlerville Road to the intersection at Route 202, as well as the installation of signage and pavement markings.

The contractor is expected to coordinate his or her work with any other work being performed in the area which may affect, or be affected by, the contractor's work.

6. Work Element 6: Hauling and Disposal of various classifications of soil/fill: This item consists of hauling and off-site disposal of non- hazardous soils in accordance with Metro-North procedure and standards, the contract documents and the quantities listed on the bid sheet for the different classifications of non-hazardous soils. A list of Metro-North pre-qualified haulers and landfills is included in the contract specifications.

This item shall be measured and paid based on the number of tons of waste classified as non-hazardous soil that must be disposed of, including all labor, sampling and analysis, equipment, loading, stabilization, transport, disposal, decontamination, material documentation, permits and material to complete the work.

PART 2 – PRODUCTS

2.01 DELIVERABLES

A. Work to be performed by the Contractor shall include, but not necessarily be limited to the following:

1. Design Documents:

a. Design Submittal Schedule: Refer to Chapter 18 of the Contract Terms and Conditions.

b. The design shall consist of, be not limited to, the advancing of the list of plans that have already been included in the Final Design. In addition, the following sets of plans shall be included:

1) Phasing Plans shall include a proposed sequence of construction outlining the steps of operation for construction. The plans shall also include the location of laydown areas, field trailers and employee parking areas.

2) Construction Staging and Sequencing Plans shall define the work area for the Contractor to perform his work within. The project limit, work area limit and work sequence shall be shown and clearly defined.

3) Maintenance and Protection of Traffic Plans shall define a maintenance program for the project to protect the public, Metro-North employees as well as other work forces in the area. This plan shall follow standards, codes, standard

industry practices for construction on Metro-North property. This plan shall also follow appropriate guidelines for construction outside Metro-North property, depending on the agencies involved.

4) Dewatering Plans shall define a dewatering program for any dewatering required during construction. This plan shall follow standards, codes, standard industry practices and appropriate guidelines. If permits are required, the Contractor is responsible for obtaining and complying with such permits.

5) Baseline Schedule and monthly updates shall define the duration of work

PART 3 – EXECUTION

3.01 GENERAL COORDINATION

The Contractor shall coordinate its activities with the work of others in such a way as to minimize conflicts and interferences, and shall cooperate fully with Metro-North and other Contractors.

Cooperation and Coordination of Work

The scope of work defined in the contract documents requires coordination with work being performed by Other Contractors that may have work that may occupy areas in, around or adjacent to this Contract Work Sites. Work shall be performed in cooperation with Other Contractors and Metro-North Railroad Forces and scheduled as to allow speedy and efficient completion of the work.

The Contractor shall attend coordination meetings as required by Metro-North work being performed under this contract with the work being performed under adjacent contracts. The Contractor shall provide Metro-North and Other Contractors proper and safe access to the Site on a scheduled and orderly basis, and will afford them a reasonable opportunity for the delivery and storage of materials and equipment and the execution of their work. The Contractor shall not clutter the Site with equipment, materials and products which could interfere with the work of Other Contractors. Only equipment, tools or materials required for the Work may be stored at the Site. The Contractor shall protect the products, equipment and materials stored by the Contractor on the Site.

Disputes arising with respect to delivery or storage of materials or equipment, or otherwise relating to coordination of the Work with the work of Other Contractors or arising with respect to loss, damage or expense incurred or suffered by the Contractor as a result of the acts or omissions of Other Contractors shall be resolved among the various parties without recourse to or against Metro-North.

The Contractor shall cooperate and coordinate with all Other Contractors in scheduling and performing the work each is required to perform under its respective contract and to furnish to Other Contractors, upon request, copies of relevant portions of the Contractor's Work Plan Schedules. The Contractor shall proceed diligently to complete the Work by all partial and final completion dates specified in the bid documents in a manner that will permit Other Contractors to complete the work they are required to perform under their respective contracts by the completion dates set forth therein. If another Contractor encounters a delay that can be avoided by the Contractor's rescheduling the order of the Work without adversely affecting the Contractor's ability to complete its performance by

the completion dates specified herein or its overall costs of performance of the Work, the Contractor shall reschedule its performance to accommodate the delayed Other Contractor.

The Contractor shall cooperate and coordinate with all Other Contractors with respect to all aspects of its performance of the Work which affects the performance of any Other Contractors. With respect to facilities which are to be shared by Other Contractors, the Contractor shall mutually agree with such. Other Contractors on lay down and storage space and the Contractor shall store and access its equipment and materials in a manner that will permit the Other Contractors to have sufficient access to their respective equipment and materials. The Contractor shall coordinate with the Other Contractors with respect to vendor delivery schedules in order to avoid impeding the access of such Other Contractors to their respective equipment and materials. The Contractor shall cooperate with the Other Contractors in adequately securing common gates and access ways, and establishing agreed upon procedures to protect the security of the equipment and materials of all Other Contractors.

With respect to access to the Site, the Contractor shall cooperate with the Other Contractors so that the moving of equipment, materials, and work forces onto the Site through any limited access point shall occur in the most expeditious manner. If the Contractor requires or requests access through the site of another Contractor, the Contractor shall affect such access in the least disruptive manner possible to the work of the Other Contractor. The Contractor shall give as much notice as is practicable under the circumstances and shall consider the need for access and the other possible alternatives for access or rescheduling. The Contractor shall not obstruct any common access point without good reason and reasonable prior notice to Other Contractors and reasonable attempts at accommodating Other Contractors with alternative access if such obstruction shall continue for more than a brief time. The Contractor shall mutually agree with the Other Contractors on the apportionment of the cost of constructing and maintaining any joint lay down and storage areas, access, or other means of access to the Site.

Metro-North reserves the right to place its forces or those of its contractors at the Site to perform work not included in the Contract. Contractor's forces shall work in harmony with all such other forces. Contractor shall be responsible for harmonious labor relations among its own employees; and with respect to Contractor's presence at the Site its own employees, Subcontractors, Metro-North and the employees of any other contractors authorized by Metro-North to be on the Site.

The Contractor shall assure that its forces coordinate and cooperate with the forces of any and all other contractors working on the Project. The Contractor's Project Manager shall interface, on a daily basis, with Metro-North and Other Contractors working on other portions of the Project.

The Contractor shall participate as a key team member in efforts to coordinate the overall Project structure and activities, and the Contractor shall perform the Work in a manner consistent with the plan for the Project.

Mutual Responsibility

The Contractor shall afford Metro-North and Other Contractors reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities and shall connect and coordinate the Contractor's construction and operations with theirs as required by the Contract Documents.

If part of the Work depends upon proper execution or results upon construction or

operations by Metro-North and / or Other Contractors, the Contractor shall, prior to proceeding with that portion of the Work, promptly report to Metro-North and other Contractor of apparent discrepancies or defects in such other construction that would render it unsuitable for such proper execution and results. Failure of the Contractor to so report shall constitute an acknowledgment that Metro-North and/ or Other Contractors' completed or partially completed construction is fit and proper to receive the Work, except as to defects not then reasonably discoverable.

Whenever the Work is dependent upon the work of another Contractor, the Contractor shall:

- Coordinate its dependent Work with such other work;
- Provide the MNR/Other Contractor with all necessary dependent data and requirements;
- Examine the drawings and specifications of the work of the Other Contractor;
- Notify the Other Contractor, with a copy of the notice delivered to Metro- North of all improperly installed work which would prevent satisfactory installation of the dependent Work; and
- Take all other steps as are necessary to ensure that the dependent Work is properly constructed and installed.

At all locations where a portion of the Project to be installed or constructed by the Contractor abuts a portion of the Project to be installed or constructed by another Contractor, the Contractor shall take special care to ensure that such installation or construction is coordinated to result in a smooth junction between the two portions of the Project, without gaps or mismatches in connections, materials, equipment, or grade. If the Contractor proposes to engage in activities, such as blasting, which by their nature are disruptive to the activities of Other Contractors, the Contractor shall give reasonable prior notice to the Other Contractors and shall coordinate with the Other Contractors to schedule such activity in the least disruptive time practicable under the circumstances.

When practical, the Contractor shall coordinate similar disruptive activities with Other Contractors so that they occur simultaneously or in sequence if that would benefit the Project or MNR as a whole.

The Contractor shall promptly remedy damage wrongfully caused by the Contractor to completed or partially completed construction or to property of Metro-North and/or Other Contractors.

A. Coordination to be performed by the Contractor shall include, but is not necessarily limited to, the following:

1. The Contractor is required to coordinate all activities with Metro-North's operations.

2. The Contractor must submit, for approval by Metro-North and the municipality, detailed plans, and procedures for the construction work.

3. The Contractor is responsible for all work associated with utilities, all coordination with utility companies, authorities and municipalities and all payments for all required utility hook-up installations and relocations.

4. Submit project Construction Sequencing Plans to Metro-North for approval. Access and sequencing of all tasks, including mechanical, electrical, and plumbing accessories, must be coordinated with Metro-North.

5. All materials shall be amply protected throughout the period of construction and shall be thoroughly cleaned to the satisfaction of Metro-North.

B. This work is being performed adjacent to neighboring private, New York State, New York City, and Westchester County property. The Contractor shall coordinate all operations with these owners.

3.02 PROJECT SCOPE

A. A detailed summary of work can be found in the various sections of these specifications. Additional work to be performed by the Contractor shall include, but is not necessarily limited to the following:

1. Temporary construction work for the safe and proper performance of the Contract Work. As required by the work of this Contract, this shall generally include but not be limited to, furnishing, and installing the following: (See specifications for additional details.)

   a. Temporary utilities, such as electric, water and sanitary

   b. Temporary portable toilet

   c. Garbage receptacles and rubbish containers

   d. Temporary erosion and sediment control devices

   e. Temporary maintenance and protection of traffic devices along active roadways

   f. Temporary grading and drainage

   g. Storage areas

   h. Temporary directional and informational signage

2. The removal and relocation or disposal shall include, but not be limited to, the following items:

   a. Concrete and asphalt

   b. Underground utilities, structures, and abandoned duct banks (both identified or not identified on the survey topographic plan)

   c. Debris and unclassified excavation

   d. Landscaping items not limited to trees

   e. Any excess materials brought on site by the Contractor for use in construction of the new facilities that are not a part of the final as constructed facilities including equipment and furnishings

3. The excavation, handling, and legal disposal of soil, debris, and other contaminated/hazardous and non-hazardous materials within the Contract limits of work. Test the excavated materials to determine what materials need to be removed and disposed of off-site and what material can remain on site for re-use on this project. No excess material is to remain on site.

4. Signing, pavement marking, and crosswalks, as required.

5. Site grading.

6. All other work shown on the Contract Documents referenced documents,

specified in the “Contract Terms and Conditions” and as specified herein.

3.03 PERMITS AND APPROVALS

A. The Contractor is required to obtain all necessary permits and approvals through Metro-North, as required to complete the work of this Contract.

B. The demolition of all items shall be done in accordance with all applicable Metro-North, federal and state laws, codes, rules, and regulations. Metro-North is exempt from the jurisdiction of and so not required to obtain any permits or approvals from local (i.e. city or county) entities when performing work on Metro-North property. When performing work on property owned by other entities, the Contractor is required to comply with all applicable Metro-North, federal and state laws, codes, rules, and regulations, and must take direction from Metro-North with respect to local permits that must be obtained in connection with the work.

C. Agencies and authorities have jurisdiction over specific aspects of this project. Although the Preliminary Design effort may initiate contact and coordination with these agencies, it shall be the responsibility of the Contractor to prepare all permits and supporting documentation and to obtain all approvals in a timely manner.

D. The work performed shall strictly comply with the New York State Department of Environmental Conservation requirements, including but not limited to soil erosion and sedimentation control.

E. Keep construction areas, access locations and adjacent public roadways clean and free from tracked dirt, sand, and construction debris at all times. Provide wheel washing as necessary and as determined by Metro-North and in compliance with NYSDEC Best Management Practices. Provide dumpsters for debris storage and removal. Clean the work area at the end of each day.

F. Existing storm drainage systems must be kept clean and maintained during demolition. Any silting of inlets or piping due to inadequate sedimentation protection must be remedied prior to completion of construction as ordered by the engineer.

G. Any diesel-powered non-road vehicle, fifty horsepower and greater, that is owned by, operated by or on behalf of, the Contractor be powered by ultra-low sulfur diesel fuel and utilize the best available technology for reducing the emission of pollutants.

H. Noise Control:

1. All equipment and operations shall not exceed permissible sound levels for construction and equipment operations established by all Federal, State, and local agencies having jurisdiction.

2. All mechanical equipment utilized onsite will conform to the New York State, OSHA, and local noise codes and requirements.

3. Haul routes for mobile construction will be selected to provide the maximum distance possible between the construction site and nearby residential receptors.

4. The placement of idling equipment, air compressors, and generators near noise sensitive receptors will be avoided; such equipment not in use will be powered down.

5. The Contractor is responsible for responding to all summons or complaints and paying any and all fines levied against him/her resulting from noise control code violations. If Metro-North is fined or penalized, in addition to other remedies Metro-North may possess, as a result of the Contractor's violations, said fine or penalty will be deducted from the Contractor's payment on the appropriate bid items of work.

I. Only disposal sites and transporters on the Metro-North Department of Environmental Compliance and Services approved list can be used. Metro-North reserves the right to arrange for transport and disposal of the materials outside the Contract.

3.04 CONTRACT RESPONSIBILITIES

A. Contractor: Unless specifically noted otherwise, the demolition work shall be the responsibility of the Contractor. In general, the Contractor shall be responsible for, but not necessarily limited to, the following:

B. Code and regulatory agency review

C. Obtaining all demolition and regulatory permits

D. Coordinating with private utility companies (first contact shall be coordinated through Metro-North)

E. Coordinating with each department of Metro-North that will be impacted by the project. All such coordination shall be done thru the Metro-North Project Manager.

F. Performing all required periodic inspections

G. Furnishing to Metro-North the following completed checklists (not an all-inclusive list):

1. Uniform Code Compliance Review Checklist

2. Document Review / Response Form

H. Metro-North: Metro-North's responsibilities will include the following, performed either directly by Metro-North staff or through others designated to act on behalf of Metro-North's interests:

1. Reviewing and commenting in writing on Contractor submissions. Metro-North will not, by its review, assume any responsibility for the accuracy of details, dimension, or compliance with applicable codes, ordinances and regulations of any authority having jurisdiction.

2. Reviewing and commenting on selected Shop Drawings and other submittals.

3. Arranging for the temporary shutdown of Metro-North owned utilities as required allowing Contract construction to progress. Metro-North must approve all such requests in advance prior to arranging for any temporary shutdowns.

4. Inspecting field construction activities (not relieving the Contractor of specified responsibilities for controlled and other inspections).

5. Providing utility mark-out assistance as noted in the Utility Locate Protocol. All other private utilities are the responsibility of the private utility owner.

6. Terminating existing communication cables.

3.05 REQUIREMENTS FOR WORK AFFECTING METRO-NORTH

A. Use of Explosives:

1. The handling, storage or use of any explosive shall be prohibited in all work performed above or below ground.

B. Use of Cranes:

1. The Contractor shall abide by Metro-North Article 1.22 for crane use.
2. The Contractor shall be responsible for providing all material and labor for crane operation.
3. The Contractor shall maintain a minimum distance of 10 feet away from any live wires but cannot boom over Con Ed feeders regardless of clearance.
4. Any crane used on the project shall be grounded by a minimum 2/0 cable.
5. Cranes and all its parts such as the bracing arms are prohibited from being located directly above existing underground utilities.
6. The following data will be required for all hoisting operations adjacent to train operations:
   a. Sections showing locations of cranes, horizontally, and vertically, operating radii, with delivery of disposal locations shown. The location of the Metro-North and various public property owners right of way should also be shown.
   b. All required data shall be prepared and sealed by a Professional Engineer licensed in New York State.
7. Submit for review by Metro-North, sketches defining the operations of all cranes used in support of construction. Also submit, at Metro-North's request, similar information for cranes or other equipment in use and capable of encroachment.
   a. These sketches shall include planned locations and movements of the equipment, calculations demonstrating the adequacy of the capacity of the crane for the loads, and interface between the footprint of the equipment and the movement of the boom and loads relative to the existing structure and surrounding buildings, the support grillages and the protection of the existing utilities, and facilities, and any other pertinent details required by Metro-North.

3.06 CONTRACTOR USE OF WORK SITE

A. Work site operations are confined to areas permitted by Metro-North, ordinances and permits and to areas for which the Contractor has obtained easements. The Contractor will not be allowed to use any other areas of the site to perform these functions unless approved by Metro-North.

B. Deliveries of material and equipment to the site shall not interfere with the flow of pedestrian and/or vehicular traffic and shall be scheduled accordingly.

C. The Contractor shall not store material and/or equipment upon Metro-North Right-

of-Way without the prior approval of Metro-North. If additional storage and work areas, beyond what is available at the site and on Metro-North property, are needed for operations, the Contractor shall secure those areas as required at no cost to Metro-North.

D. The Contractor shall provide appropriate site security to protect materials, plant, and equipment.

E. The Contractor shall protect all existing surfaces and facilities from any damage resulting from construction operations.

F. All materials shall be amply protected throughout the period of construction and shall be thoroughly cleaned to the satisfaction of Metro-North prior to being turned over to the Metro-North.

END OF SECTION

SECTION – 01 14 00

WORK RESTRICTIONS

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

A. The Contract Drawings and other Contract Documents, including the General Conditions, Supplementary Conditions, and other Division 01 Specification Sections, apply to the Work of this Section.

B. Related Sections include the following:

1. Section 01 20 00 – Measurement & Payment
2. Section 01 41 00 – Regulatory Requirements.

1.02 SUMMARY

A. This Section specifies restrictions regarding:

1. Temporary construction.
2. Noise.
3. Explosives and blasting.
4. OSHA regulated workplace activities.

1.03 REFERENCES

A. Reference Standards:

1. Occupational Safety and Health Administration (OSHA):
   a. 29 CFR 1910 Occupational Safety and Health Standards.
   b. 29 CFR 1926 Safety and Health Regulations for Construction.

1.04 QUALITY ASSURANCE

A. Regulatory Agency Sustainability Approvals:

1. Temporary Construction:
   a. Other than maintenance and protection of traffic plans, no other temporary construction is projected as part of the Work.
2. Noise Restrictions:
   a. The Contractor shall follow all local noise ordinances and restrictions including filing for the required permits and construction stipulations from each local agency.
   b. Additional permit restrictions affecting the Work are specified in Section 01 41 00, Regulatory Requirements.

1.05 SITE CONDITIONS

A. Explosives and Blasting:

1. Explosives and blasting are not allowed by Metro-North in the performance of the Work of this Project.

B. Occupational Safety and Health Administration (OSHA) Restrictions:

1. The Contractor shall comply with the applicable restrictions on OSHA regulated workplace activities.

1.06 PROTECTION OF UNDERGROUND METRO-NORTH RAILROAD FACILITIES

A. General

1. The Contractor shall take all necessary precautions to identify, locate, avoid contact with, and protect existing public, private, and Metro-North Railroad facilities. In addition to the requirements of New York State (NYS) Code Rule 753, the Contractor shall provide for the location of Metro-North's facilities in accordance with the requirements herein.

B. Duty To Provide Notification

1. Excavation shall be conducted in accordance with NYS Code Rule 753 for work in New York State, and the requirements specified herein. The definition of "Excavation" shall be the same as described in Section 753–1.2 Definitions of NYS Code Rule 753. In conformance with previously cited regulations, the Contractor must notify the local One Call Center to allow member agencies to mark locations of underground facilities prior to commencing excavation. Depending on the work location, the Contractor shall contact the appropriate One Call Center.

2. In addition to contacting the appropriate One Call Center, the Contractor shall request the identification of:

   a. Utilities owned and operated by Metro-North Railroad in accordance with the following process, and

   b. Identification of private utilities along or within the Metro-North Right-of-Way via private utility locate service companies

State	Name	Telephone	
New York	Dig Safely New York	(800) 962-7962	811

C. Timing Of Notification

1. The Contractor shall identify the areas in which they intend to work on the Two Week Look Ahead Schedule presented to Metro-North Railroad during the Bi-Weekly Progress Meeting and/or Weekly Coordination Meeting.

2. The Contractor shall complete and submit a *Metro-North Railroad Utility Location Request* (see request form at end of this section) identifying locations where excavation or other types of ground disturbance are required. Said request shall be submitted to the Engineer a minimum of three (3) weeks prior to the start date of excavation.

D. Identification / Mark-Out Process

1. The Contractor shall physically demarcate / mark out all locations to be disturbed with white paint, flags, or stakes in accordance with the Common Ground Alliance Best Practices prior to submittal of the Utility Location Request. Should the size of the work area preclude the ability to mark the entire excavation area, the Contractor shall utilize flags or stakes to

demarcate the limits of the work and paint arrows between the limits. Alternatively, if available, and agreeable to Metro-North Railroad, the Contractor may identify locations to be disturbed on project drawings or plans. Copies of the same shall be attached to and submitted with the *Metro-North Railroad Utility Location Request.*

2. The Engineer will submit the *Metro-North Railroad Utility Location Request* completed by the Contractor to the Metro-North Railroad Project Manager assigned to the project.

3. The Metro-North Railroad Project Manager will distribute the *Metro-North Railroad Utility Location Request* to the appropriate Metro-North Railroad Departments responsible for conducting utility identification. The Metro-North Railroad Departments included in the utility identification process are Communications and Signal, Power, and Structures.

4. The Metro-North Departments shall conduct the identification; locating and marking the buried utilities, within (2) weeks of receiving the request from the Metro-North Railroad Project Manager. Utilities shall be field identified in accordance with the Common Ground Alliance Best Practices utilizing the standard colors for locating utilities. (See Uniform Colors at the end of this section).

5. Upon completion of field identification, a *Metro-North Railroad Utility Location Ticket* (see ticket at end of this section) shall be completed by each of the responsible departments; Power, Communications, Signal, and Structures, and returned to the Metro-North Railroad Project Manager.

6. The Metro-North Railroad Project Manager shall review the *Metro-North Railroad Utility Location Tickets* to verify that they have been satisfactorily completed by each of the appropriate departments and forward them to the Engineer, or other Metro-North Railroad personnel responsible for managing the Contractor activities.

7. The Engineer shall provide copies of the completed *Metro-North Railroad Utility Location Tickets* to the Contractor and retain the originals for the project files. The Contractor shall review the *Utility Location Tickets* and compare it against the *Utility Location Request* form to ensure it has been satisfactorily completed. The Contractor shall review available As Built drawings for the work location(s) and compare the information to the field identified utilities. If a discrepancy exists between what is shown on the As Built drawings and the utilities physically marked out in the field, the Contractor shall immediately notify the Engineer.

E. Documentation & Preservation of Markings

1. Upon completion of the utility mark-out and receipt of the *Metro-North Railroad Utility Location Tickets*, but prior to disturbance, the Contractor shall prepare and provide a photograph or video record of the utility mark-out. The record should include a description of the general location (i.e. state, county, town/village), milepost, control point, track number and include visual landmarks to assist in identification.

2. It is the responsibility of the Contractor to maintain and preserve the markings provided for the duration of the work. This includes transferring

mark outs outside of the work area using offsets. For work within the rail traffic envelope, it is recommended that the Contractor transfer markings, or provide offsets on the side of the running rail. If some of the markings may be destroyed during the course of your work, or if the excavation will be taking place over a long period of time, take measurements and photos first. Should the Contractor be negligent in maintaining the markings, and additional work is required to re-identify utilities, the Contractor shall be responsible for the costs associated with providing the extra location services and such shall be deducted from the next progress payment.

F. Verification of Underground Facilities via Test Pitting / Pot Holing

1. The Contractor shall not begin disturbance until having, 1) received the completed *Metro-North Railroad Utility Location Tickets*, 2) completed video or photo documentation of the mark out, and 3) transferred the marks as necessary to preserve them throughout the course of the work.

2. Where an underground facility has been staked, marked, or otherwise identified and the tolerance zone overlaps with any part of the work area, or the projected line of a bore/directional drill intersects the tolerance zone, the excavator shall verify the precise location, type, size, direction of run and depth of such underground facility or its encasement. Verification shall be completed before the excavation or demolition is commenced or shall be performed as the work progresses.

3. The verification of underground facilities shall be accomplished by exposing the underground facility or its encasement to view by means of hand dug test pits at one or more points where the work area and tolerance zone overlap, or more points as designated by Metro-North Railroad. The Contractor shall excavate Test Pits / Pot Holes to identify the actual locations of the buried utilities/facilities. Unless otherwise identified in the Contract Documents, the Contractor shall assume the following:

   a. One (1) test pit will be required every twenty-five feet (25') if proposed excavation is within five feet (5') of an existing utility

   b. One (1) test pit will be required wherever an excavation is crossing an existing utility

4. The Contractor is urged to consider use of soft excavation methods (i.e. vacuum excavation).

5. Powered or mechanized equipment may be used within the tolerance zone for removal of pavement or masonry, but only to the depth of such pavement or masonry. Only when agreed to in writing by Metro-North Railroad, may powered equipment be used within the tolerance zone below the depth of pavement or masonry prior to the verification of the location of facilities.

6. Metro-North Railroad, or their agents and Contractors working under their direct supervision, may use powered equipment to locate their own facilities within the tolerance zone.

7. Unless otherwise identified, the minimum size of Test Pits shall be one (1) cubic yard. Should the Contractor not be able to locate the marked utility within the Test Pit area, the Contractor shall enlarge the test pit excavation

towards the direction the utility is most likely located, or as directed by the Engineer. Once the test pits confirm utility locations, the Contractor will be released to excavate in that area.

8. Measurement and Payment: Refer to Section 01 20 00 – Measurement & Payment.

9. Existing utilities shall be taken out of service (i.e. de-energized, depressurized) and tested to verify the same, prior to being spliced into, demolished, removed, or otherwise disturbed. The Contractor shall implement a means of positively identifying existing utilities to be disturbed during the work. A means of identifying the utility as “in service” or “out of service” shall be implemented and made known to project personnel.

G. Unverifiable Underground Facilities

1. Should the Contractor be unable to verify the location of a facility, after diligent search at a reasonable depth, excavation shall not be allowed to proceed, and the Contractor shall notify the Engineer. The Engineer will contact the Metro-North Railroad Project Manager and inform them of the inability to locate the previously marked utility. The Metro-North Railroad Project Manager will notify the representative of the appropriate Metro-North Department having marked the utility. Within (24) twenty-four hours of notification, this department shall return to the area and attempt to further identify the location of the utility or use other means mutually agreeable to the Contractor and Metro-North Railroad (i.e. continue to hand excavate until utility is located). Metro-North will identify if and where any additional test pits are necessary to locate/expose the utility, or if problem areas exist that could restrict the Contractor’s excavation.

H. Commencement of Excavation or Demolition

1. The excavator may proceed with excavation or demolition on the stated commencement date if, prior thereto, he or she has received completed *Metro-North Railroad Utility Location Tickets* from each Metro-North Department identifying that:

   a. No underground facilities were located in or within fifteen feet (15’) of the work area; or

   b. That any underground facility located in or within fifteen feet (15’) of the work area has been marked

2. The excavator may proceed with the excavation or demolition prior to the stated date of commencement only if he or she has received notification from each department that no underground facilities are located in or within fifteen feet (15’) of the work area.

3. The excavator shall not commence the excavation or demolition on the stated commencement date if he or she has been notified by Metro-North Railroad that the marking of an underground facility located in or within fifteen feet (15’) of the proposed work area will not be completed on the stated commencement date. In such case, Metro-North Railroad shall promptly report such to the excavator and inform of a prompt and practicable completion date, which in no case shall be more than two (2) working days after the excavator’s stated commencement date unless a

longer period is agreed to by both parties.

I. Responsibilities of The Excavator

1. Every excavator shall be familiar with the provisions of this procedure and NYS Code Rule 753, especially those relating to size and depth indications, color coding, center line or offset staking or marking and the location of underground facilities by designations other than staking or marking.

2. Whenever the excavator determines that a review of the staking, marking or other designation is necessary or that additional information is required, he or she shall notify the Engineer.

3. Starting on the stated commencement date, the excavator shall be responsible for protecting and preserving the staking, marking or other designation until no longer required for proper and safe excavation or demolition work at or near the underground facility.

4. Whenever mechanized excavation equipment is utilized within five feet (5') of a facility, a ground spotter shall be provided to oversee the excavation.

J. Powered Excavation Limitations

1. The Contractor shall not proceed with excavation until the locations of the utilities shown on the as-built drawings and those marked in the field are confirmed through manual excavation of test pits. Metro-North Railroad and the Contractor must concur that the procedures herein were followed before production excavation begins.

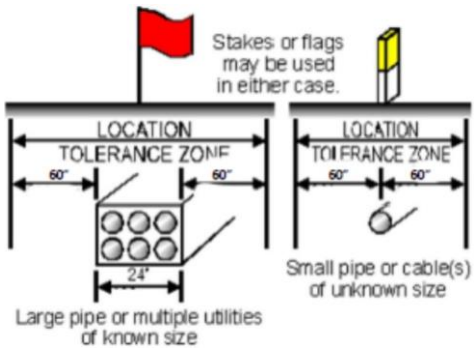
2. After verifying the location of an underground facility, the Contractor may utilize powered excavation equipment as long as it does not endanger the facility. At no time shall the Contractor employ powered or mechanical excavating equipment closer than twelve inches (12") in any direction from the staked, marked or otherwise designated or known outside diameter or perimeter of such facility or its protective coating unless agreed to in writing by Metro-North Railroad. Upon request, any such written agreement shall be furnished to the Contractor by Metro-North Railroad.

K. Tolerance Zone

1. Before mechanized digging equipment is used in a Tolerance Zone, the presence and location of the facility must be verified. Refer to the diagram for an understanding of the Tolerance Zone.

2. For markings that indicate the width of the facility, the tolerance zone is the width of the facility plus an additional five feet (5') on either side of the facility. For example, the facility on the left is marked as being twenty-four inches (24") wide. So, five feet (5') on either side gives us an approximate location or Tolerance Zone of twelve feet (12'). (see diagram)

3. For markings that do not indicate the width of the facility, the tolerance zone is five feet (5') on either side of the markings. No width is provided for the facility on the right, so five feet (5') on either side gives us an approximate location or Tolerance Zone of ten feet (10'). (see diagram)



L. Discovery of Unknown Facilities

1. Should the Contractor uncover, unearth, or otherwise identify an unmarked or unknown facility, excavation that may further disturb said utility shall cease, and the Contractor shall immediately notify the Engineer. Excavation shall not proceed until the utility is identified by Metro-North Railroad or a utility agency and a determination can be made on how to proceed by Metro-North Railroad.

2. The Engineer will contact the Metro-North Railroad Project Manager and inform them of the unmarked/unknown facility.

3. The Metro-North Railroad Project Manager will notify the representatives of the appropriate Metro-North Departments.

4. Within twenty-four (24) hours of notification, these departments shall return to the area and attempt to identify the utility. The responsible department will identify if and where any additional test pits are necessary to locate/expose the unmarked utility and test the utility as necessary to determine if the utility is in service or out of service / abandoned. If abandoned or no longer in service, the responsible department may authorize the immediate removal of the interference or will provide direction as how to handle the unmarked utility as soon as possible, but no longer than twenty-four (24) hours from time of field identification by the department.

5. The Contractor is hereby notified that Metro-North Force Account Departments are subject to call out for Railroad emergencies. In this case, the Contractor is advised to identify other work that can be completed in addition to the anticipated week's production.

M. Damage to Underground Facilities

1. Excavators shall take all reasonable precautions to prevent contact or damage to underground facilities and their protective coatings, including but not limited to, compliance with accepted engineering practices and any reasonable directions provided by Metro-North Railroad.

2. In the event of contact with or damage to an underground facility, the excavator shall immediately notify the Engineer. All excavation or demolition in the immediate vicinity of the contacted or damaged portion of the underground facility shall be suspended until such portion is repaired and the Engineer advises the excavator that excavation or demolition may proceed.

3. No backfilling shall be done by the excavator in the vicinity of the contact or damage until the Engineer and Metro-North Railroad conduct an inspection and makes any necessary repairs; and, the excavator shall undertake no repairs unless and until authorized by Metro-North Railroad.

4. Should damage to an underground facility occur and it be determined that the Contractor is negligent in its actions; it did not exercise all necessary precautions to prevent contact or damage to underground facilities and their protective coatings, the Contractor is responsible for all costs associated with the repair and restoration of the damage facility. Such costs shall be deducted from the Contractor's next progress payment.

N. Identification of Underground Facilities in Danger of Failing

1. An excavator who by removing the surrounding materials exposes an underground facility which in his or her judgment appears to have failed or to be in potential danger of failing from corrosion or other causes shall immediately report such condition to the Engineer.

2. The excavator shall delay any further work in the immediate vicinity of such underground facility which could jeopardize it but may proceed in areas not affecting the questionable facility.

3. The excavator may proceed in such immediate vicinity after the Engineer responds and takes necessary action in regard thereto and advises the excavator that he or she may proceed.

O. Support and Protection for Underground Facilities

1. An excavator shall provide prompt and adequate support and protection for every underground facility located in the work area as is reasonably specified by the Engineer.

2. In the absence of any specifications, the excavator shall provide support and protection in accordance with generally accepted engineering practice, including but not limited to shoring and bracing.

3. Support shall be at least equivalent to the previously existing support and shall protect the underground facility against freezing and against traffic and other loads.

4. Support shall be maintained during excavation, during backfilling and, if necessary, after backfilling is completed.

5. Metro-North Railroad may, in agreement with the excavator, provide such support.

P. Backfilling Requirements

1. An excavator performing excavation or demolition at an underground facility shall backfill such excavation with materials and in such manner as specified by the Engineer or, in the absence of such specifications, with suitable materials and in such manner as will avoid damage to, and provide proper support for, such underground facility and its protective coating both during and after backfilling operations.

2. The excavator shall not place large rock, frozen earth, rubble, debris or other heavy or sharp materials or objects which could cause damage to or

scraping against any underground facility.

3. The backfill beneath and around any underground facility shall be properly compacted in accordance with generally accepted engineering practice and the Contract Documents.

4. Heavy loads and excessive forces shall not be imposed on any exposed underground facility at any time during backfilling operations.

Q. Emergency Requirements

1. In the event of an emergency involving danger to life, health, or property as a result of damage to an underground facility containing gas or liquid petroleum products or as a result of an electrical short or escape of gas or hazardous fluids, the excavator shall:

2. Proceed to evacuate his or her employees and all other endangered persons from the immediate vicinity to the best of his or her ability;

3. Immediately call 911 and the Engineer to inform of the exact location, nature of the emergency and type of underground facility which is affected.

R. Responsibility to Employees

1. Every excavator subject to the provisions of this Part shall make certain that all of his or her employees directly involved in excavation or demolition are thoroughly familiar with the applicable provisions of this Part and especially the provisions of this Subpart relating to their safety.

S. Documentation & Marking of Facilities

1. As to facilitate future identification, the Contractor shall identify all in service and abandoned utilities on As Built drawings.

2. The Contractor shall mark all new buried utilities with warning tapes specifically designed and manufactured for subgrade utility identification. The warning tape shall be of durable impervious material, designed to withstand extended underground exposure without material deterioration or fading of color. All tapes, unless otherwise directed by the specific utility, shall be detectable to a depth of at least three feet (3') with a commercial radio-type metal locator. The tape shall be of the color assigned to the type of facility and shall be durably imprinted with an appropriate warning message. The tape shall also comply with the specific requirements of the utility that owns the facility.

3. Warning tapes shall be installed the entire length of the utility, in one continuous unbroken length. Tapes shall be located a minimum of twelve inches (12") above the buried utility unless the excavation's depth, other underground facilities, or other engineering considerations make this minimum separation infeasible. The tapes shall extend a minimum of two feet (2') above grade and be tied or otherwise secured to the utility where it exits the ground. This is to facilitate access to the tape to allow sending of an electronic signal to aid in future identification of the utility.

UNIFORM COLOR CODE – UTILITY IDENTIFICATION ASSIGNED COLORS	
White	To delineate proposed excavation site
Pink	Survey markings
Green	Storm and sanitary sewers and drainage systems, including force mains and other non-hazardous materials
Blue	Water
Orange	Communication lines or cables, including, but not limited to, those used in, or in connection with, telephone, telegraph, fire signals, cable television, civil defense, data systems, electronic controls, track signal and control, and other instrumentation
Red	Electrical power lines, electrical power conduits and other electrical power facilities, railroad traction power (i.e. 3rd rail or catenary), traffic signals and appurtenances and illumination facilities
Yellow	Gas, oil, petroleum products, steam, compressed air, compressed gases and all other hazardous liquid or gaseous materials except water
Brown	Other
Purple	Radioactive materials, reclaimed water, irrigation

LIST OF LOCATING COMPANIES FOR PRIVATELY OWNED FACILITIES

(This is not a comprehensive listing; check local listings for more alternatives.)

Absolute Locating 24/7 2713 West Main Street, Unit 2, Wappingers, NY 12590 Phone: (845) 750-3157 Contact: Ryan Craven	**Pipedream Services** www.pipedreamservice.com 10 Fronckowiak Ave, Cheektowaga, NY 14227 Phone: (716) 894-9236 Contact: Steven L. Craft
Accumark, Inc. www.accumark.us 668 Stony Hill Rd, Suite 107, Yardley, PA 19067 Phone: (215) 369-3569 Contact: Van Singer, P.E.	**Premier Utility Services, LLC** www.premierlocatingllc.com 100 Marcus Blvd, Hauppauge, NY 11788 Phone:1-800-262-8600 Contact: Ed Heaney

ACS Underground Solutions www.acsunderground.com P.O. Box 448, Georgetown, CT 06829 Phone: (203) 544 7190 Contact: Ian Beaver	**ProTek Locating** www.proteklocating.com 10-37 51st Ave, 1st Floor, Long Island City, NY 11101 Phone: (718) 472-2304 Contact: Craig Anderson
Eastern Locating Services Inc. www.easternlocating.com PO Box 9485, Trenton, NJ 08650 Phone: (607) 585-0577 Contact: Ken Samu	**Puls Inc.** www.pulsinc.com 2299 Broadhead Road Suite G-1, Bethlehem, PA 18020 Phone: (610) 419-1232 Contact: Stanley Kalsky
ECSM Utility Contractors, Inc www.ECSMINC.com 1200 Walnut Bottom Rd, Suite 101, Carlisle, PA 17015 Phone: (717) 258-8001 Contact: Gerald L. Redden	**Underground Surveying, LLC** www.undergroundsurveying.com 152 Deer Hill Ave Suite 207, Danbury, CT 06810 Phone: (203) 312-9844 Contact: Peter C. Viola
Master Locators Inc. www.masterlocators.com 2426 East Helms Manor, Boothwyn, PA 19061 Phone: (610) 358-0172 Contact: Art Worthman	**Utility Survey Corp.** www.u-survey.com 87 East Main Street, Washingtonville, NY 10992 Phone: 1-800-825-9283 Contact: Garry Williams

1.07 UTILITY LOCATION REQUEST

(TO BE COMPLETED & SUBMITTED BY CONTRACTOR)

Date Request Submitted			
Contract Number		**Project Description**	
General Contractor Company Name			
Address			
Field Contact		Telephone	
Excavating Contractor Company Name			
Address			
Field Contact		Telephone	

Excavation Site Information			
State (circle appropriate) City, Town, Village Street Address	**NY**		**CT**
Excavation site is located		County	
	1)		
between… (Describe two closest intersecting streets)	2)		
Milepost	Control Point		Track Number(s)
Excavation Dimensions (in feet)	**Length**	**Width**	**Depth**
Has proposed excavation been field identified with white paint?		**YES**	**NO**
Project drawings/plans identifying proposed excavation attached?		**YES**	**NO**
Describe work causing disturbance			

Describe equipment to be used			
Excavation Start Date		Approximate Duration (days)	

Other

MNR Resident Engineer	
Name	Phone
MNR Project Manager	
Name	Phone

UTILITY LOCATION TICKET

(TO BE COMPLETED BY METRO-NORTH RAILROAD & RETURNED TO CONTRACTOR)

Check the box applicable to the represented department

☐ Power Department ☐ Signal Department

☐ Communications Department ☐ Structures Department

Contact's Name		Phone	
Date location request received	Date location completed		
Field Mark Out complete?		**YES**	**NO**
Utilities identified within the demarcated area?		**YES**	**NO**
If Yes, Describe			

Problems encountered during utility identification/mark out?	**YES**	**NO**
If Yes, Describe		

Recommended locations of Test Pits have been marked out?	**YES**	**NO**
Additional Test Pits Required?	**YES**	**NO**
If Yes, Describe		

Response provided to the Metro-North personnel responsible for managing the Contractor's work?

YES

NO

If Yes, provide contact's name and date notified

Date

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION

SECTION – 01 20 00

MEASUREMENT AND PAYMENT

PART 1 – GENERAL

1.01 SUMMARY

A. Provide the work of this section in accordance with requirements of the Contract Documents.

B. This Section Includes but is not limited to measurement and payment criteria applicable to portions of the work performed as a lump sum, unit price, allowances, and options as exercised by the Railroad during the course of the Contract shall be measured and paid in accordance with this section.

C. Defect assessment and non-payment for rejected work.

1.02 AUTHORITY

A. The Engineer will take all measurements, compute quantities accordingly, and submit to Metro-North Railroad for review and approval.

B. The Contractor shall assist by providing necessary equipment, workers, and survey personnel as required.

1.03 DESCRIPTION OF BID ITEMS

The following descriptions of Bid Items for this Contract define how various items of work shall be paid:

A. Base Package

1. **Item No. 1 – (Lump Sum) Construction Croton Falls Parking Lot:** The Work consists of Construction of a 472-space surface parking lot including 9 ADA accessible spaces, 8 electric vehicle charging station spaces, and 2 ADA accessible electric vehicle charging station spaces, installation of MNR provided pay stations, pay station shelter, bus shelter, an existing non-potable water well to be made operational and commissioned, lighting, power, drainage, grading, ADA ramps, sidewalks, signage, stormwater retention system, landscaping, new electrical service, and pavement markings. This item shall include all costs for construction, general conditions, mobilization, demobilization, bonds, and insurance required by the Contract Documents. For mobilization and demobilization, refer to spec section 01 71 13 and other related spec sections.

   This item consists of Work including all labor, materials, tools, equipment, and services required by the Contract Documents for all the components specified and any other incidentals necessary to complete the Work required by the Contract Documents, EXCEPT for the work covered by the bid items of work described below.

2. **Item No. 2 – (Lump Sum) Demolition:** This item consists of the demolition and proper disposal of all existing site elements as detailed in the Contract Documents including, but not limited to existing asphalt pavement, concrete, wood, vegetation, and signage. (This item does NOT include the hauling and disposal of any soils. Soil hauling and disposal is covered by unit price items below.)

This item consists of Work including all labor, materials, tools, equipment, and services required by the Contract Documents for all the components specified and any other incidentals necessary to complete the Work required by the Contract Documents.

3. **Item No. 3 – (Lump Sum) Intersection Improvements:** This item consists of the improvements to the Croton Falls Road/Route 202 intersection, including installation of pedestrian signal heads, intersection lighting, associated conduit, sidewalk, ADA ramps, crosswalks, pavement markings, signage, and grading in accordance with the Contract Documents.

   The work contained in this item shall be completed prior to, or at the time of, completion of the temporary parking facility and temporary sidewalk. The contractor is expected to coordinate his or her work with any other work being performed in the area which may affect, or be affected by, the contractor's work.

   This item consists of Work including all labor, materials, tools, equipment, and services required by the Contract Documents for all the components specified and any other incidentals necessary to complete the Work required by the Contract Documents.

4. **Item No. 4 – (Lump Sum) Temporary Parking Facility:** This item consists of the installation and maintenance of the temporary parking facility, pedestrian crossing across Croton Falls Road, and temporary sidewalk on the south side of Croton Falls Road. The work contained in this item shall be completed no later than three (3) months after award in order to facilitate work by other contractors.

   This item consists of Work including all labor, materials, tools, equipment, and services required by the Contract Documents for all the components specified and any other incidentals necessary to complete the Work required by the Contract Documents.

5. **Item No. 5 – (Lump Sum) Mill and Pave Croton Falls Road:** This item consists of the milling and paving of Croton Falls Road from the intersection at Butlerville Road to the intersection at Route 202. The Work shall also include installation of signage, pavement markings and all other ancillary work as depicted in the contract documents, including the truck loading, hauling and disposal of the milled asphalt. Refer to spec section 01 74 19 (Construction Waste Management and Disposal) for more information on disposal of waste products related to this work, including recycling diverting waste streams from landfills.

   The Contractor shall coordinate work with any other work being performed in the area by MNR forces, other Contractors, etc. which may affect, or be affected by this work.

   This item consists of Work including all labor, materials, tools, equipment, and services required by the Contract Documents for all the components specified and any other incidentals necessary to complete the Work required by the Contract Documents.

6. **Item No. 6 – (Unit Price) Hauling and Disposal of Non-Hazardous Petroleum Contaminated Soil:** This item consists of hauling and off-site disposal of non- hazardous, petroleum contaminated soil in accordance with Metro-North procedure and standards, the contract documents and the quantities listed on the bid sheet. A list of Metro-North pre-qualified haulers and landfills is included in the contract specifications.

   This item shall be measured and paid based on the number of tons of waste classified as non-hazardous, petroleum contaminated soil that must be disposed of, including all labor, sampling and analysis, equipment, loading, stabilization, transport, disposal, decontamination, material documentation, permits and material to complete the work.

   Metro-North reserves the right, upon its sole determination to utilize Metro-North on-call contractors for transport and disposal of Non-Hazardous Petroleum Contaminated Soil, with the Contractor remaining responsible for loading.

   All excavation, stockpiling, truck loading, site work and related costs shall be included in Bid Item #2. Refer to specification 02 61 00 Sampling, Testing, Handling, Loading, Removal and Disposal of Soils for ability to reuse soils on site. Costs for Work related to soil excavated and re-used on site shall be included in Bid Item #1. The Contractor is responsible for soil sampling and testing; testing results shall be submitted to Metro-North Environmental Compliance and Services Department for review and determination whether soils can be reused on site.

   Work shall not be charged to this unit price without written authorization from metro-North. The actual amount of work and associated cost shall be identified based on the unit price and quantity at the time when work is required.

   This item consists of Work including all labor, materials, tools, equipment, and services required by the Contract Documents for all the components specified and any other incidentals necessary to complete the Work required by the Contract Documents.

7. **Item No. 7 – (Unit Price) Hauling and Disposal of Non-Hazardous PCB Contaminated Soil:** This item consists of hauling and off-site disposal of non- hazardous PCB contaminated soil that cannot be backfilled/re- used on site in accordance with Metro-North procedure and standards, the contract documents and the quantities listed on the bid sheet. A list of Metro-North pre-qualified haulers and landfills is included in the contract specifications.

   This item shall be measured and paid based on the number of tons of waste classified as non-hazardous PCB contaminated soil that must be disposed of, including all labor, sampling and analysis, equipment, loading, stabilization, transport, disposal, decontamination, material documentation, permits and material to complete the work.

   Metro-North reserves the right, upon its sole determination to utilize Metro-North on-call contractors for transport and disposal of Non-Hazardous PCB Contaminated Soil, with the Contractor remaining responsible for loading.

All excavation, stockpiling, truck loading, site work and related costs shall be included in Bid Item #2. Refer to specification 02 61 00 Sampling, Testing, Handling, Loading, Removal and Disposal of Soils for ability to reuse soils on site. Costs for Work related to soil excavated and re-used on site shall be included in Bid Item #1. The Contractor is responsible for soil sampling and testing; testing results shall be submitted to Metro-North Environmental Compliance and Services Department for review and determination whether soils can be reused on site.

Work shall not be charged to this unit price without written authorization from metro-North. The actual amount of work and associated cost shall be identified based on the unit price and quantity at the time when work is required.

This item consists of Work including all labor, materials, tools, equipment, and services required by the Contract Documents for all the components specified and any other incidentals necessary to complete the Work required by the Contract Documents.

8. **Item No. 8 – (Unit Price) Hauling and Disposal of Non-Hazardous Soil/Fill:** This item consists of hauling and off-site disposal of non-hazardous soil/fill that cannot be backfilled/re-used on site in accordance with Metro-North procedure and standards, the contract documents and the quantities listed on the bid sheet. A list of Metro-North pre-qualified haulers and landfills is included in the contract specifications.

   This item consists of all labor, materials, tools, equipment, and services required by the Contract Documents for the construction of all the components specified and any other incidentals necessary to complete the work.

   This item shall be measured and paid based on the number of tons of waste classified as non-hazardous soil/fill that must be disposed of, including all labor, sampling and analysis, equipment, loading, stabilization, transport, disposal, decontamination, material documentation, permits and material to complete the work.

   Metro-North reserves the right, upon its sole determination to utilize Metro-North on-call contractors for transport and disposal of Non-Hazardous Soil/Fill, with the Contractor remaining responsible for loading.

   All excavation, stockpiling, truck loading, site work and related costs shall be included in Bid Item #2. Refer to specification 02 61 00 Sampling, Testing, Handling, Loading, Removal and Disposal of Soils for ability to reuse soils on site. The Contractor is responsible for soil sampling and testing; testing results shall be submitted to Metro-North Environmental Compliance and Services Department for review and determination whether soils can be reused on site.

   Work shall not be charged to this unit price without written authorization from metro-North. The actual amount of work and associated cost shall be identified based on the unit price and quantity at the time when work is required.

   This item consists of Work including all labor, materials, tools, equipment,

and services required by the Contract Documents for all the components specified and any other incidentals necessary to complete the Work required by the Contract Documents.

9. **Item No. 9 – (Unit Price) Hauling & Disposal of Non-Hazardous C&D Soil/Fill:** This item consists of hauling and off-site disposal of non-hazardous C&D soil/fill in accordance with Metro-North procedure and standards, the contract documents and the quantities listed on the bid sheet. A list of Metro-North pre-qualified haulers and landfills is included in the contract specifications.

   This item shall be measured and paid based on the number of tons of waste classified as non-hazardous C&D soil/fill that must be disposed of, including all labor, sampling and analysis, equipment, loading, stabilization, transport, disposal, decontamination, material documentation, permits and material to complete the work.

   Metro-North reserves the right, upon its sole determination to utilize Metro-North on-call contractors for transport and disposal of Non-Hazardous C&D Soil/Fill, with the Contractor remaining responsible for loading trucks.

   All excavation, stockpiling, truck loading, site work and related costs shall be included in Bid Item #2. Refer to Specification Section 02 61 00 Sampling, Testing, Handling, Loading, Removal and Disposal of Soils for ability to reuse soils on site. Any and all soil excavated and re-used on site shall be included in the lump sum of other items in the contract based on contract work. The reuse on site of excavated soil must be approved by Metro-North Environmental Compliance and Services Department.

   Work shall not be charged to this unit price without written authorization from metro-North. The actual amount of work and associated cost shall be identified based on the unit price and quantity at the time when work is required.

   This item consists of Work including all labor, materials, tools, equipment, and services required by the Contract Documents for all the components specified and any other incidentals necessary to complete the Work required by the Contract Documents.

10. **Item No. 10 – (Unit Price) Clean Fill:** This item consists of furnishing and delivery of clean fill to the project site in accordance with the Contract Specification Section 02 61 00 for Borrow Soil, and any other applicable contract documents, for quantities in excess of that which is listed on the bid sheet. All site work and work related to placement, grading compacting, etc. of clean fill shall be included in Bid Item #1.

    This item shall be measured and paid based on the number of tons of fill classified as being suitable for use on site, including all labor, sampling and analysis, equipment, loading, stabilization, transport, material documentation and permits to complete the work.

    This item consists of Work including all labor, materials, tools, equipment, and services required by the Contract Documents for all the components specified and any other incidentals necessary to complete the Work required by the Contract Documents.

B. Allowances

1. This project has no allowances.

1.04 DEFECT ASSESSMENT

A. The Contractor shall replace the Work, or portions of the Work not conforming to specified requirements.

B. If, in the opinion of Metro-North, it is not practical to remove and replace the Work, Metro-North will direct that the defective Work will be partially repaired to the instructions of Metro-North, and the unit price will be adjusted at the discretion of Metro-North.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION

SECTION – 01 31 00

PROJECT MANAGEMENT AND COORDINATION

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

A. The Contract Drawings and other Contract Documents, including the General Conditions, Supplementary Conditions, and other Division 01 Specification Sections, apply to the Work of this Section.

B. Related Sections include the following:

1. Section 01 20 00 – Measurement and Payment.
2. Section 01 32 00 – Construction Progress Documentation.
3. Section 01 33 00 – Submittal Procedures.
4. Section 01 43 00 – Quality Assurance.

1.02 SUMMARY

A. This Section specifies requirements for:

1. Project Coordination:
    a. Coordinating the Work of this Contract with other work affecting or affected by this Contract.
    b. Coordinating the work of the Contractor's employees, Subcontractors, Suppliers, manufacturers, and fabricators.
2. Project Meetings:
    a. Attendees required at Project meetings.
    b. Administration of Project meetings, including, but not limited to:
        1) Frequency of Project meetings.
        2) Minimum requirements for meeting agendas.
        3) Project meeting procedures.
        4) Responsibilities of meeting attendees.
            a) Responsibility for recording and distributing meetings minutes.
            b) This Section describes the various types of Project meetings, including.
        5) The Preconstruction Conference.
        6) Progress Meetings.
        7) Pre-installation Meetings.
        8) Progress Schedule Update Meetings.
        9) Other meetings.
3. Electronic Communication Protocols.

1.03 REFERENCES

A. Abbreviations and Acronyms:

1. EEO: Equal Employment Opportunity.
2. QC: Quality control.

B. Reference Standards:

1. State of New York:
   a. New York State Energy Research and Development Authority (NYSERDA):
      1) New York State Executive Order No. 111 – "Green and Clean" State Buildings and Vehicles Guidelines.
   b. Official Compilation of the Rules and Regulations of the State of New York (NYS).
      1) NYS Code Rule 753 – Protection of Underground Facilities.
2. United States Government:
   a. Buy America Act (Pub. L. 103–429, 49 U.S.C. 5323(j))
   b. Federal Transit Administration (FTA):
      1) 49 CFR 661 Buy America Requirements.
   c. Occupational Safety and Health Administration (OSHA):
      1) 29 CFR 1910 Occupational Health and Safety Standards.
      2) 29 CFR 1926 Safety and Health Regulations for Construction.

1.04 PROJECT COORDINATION

A. Coordination with Local Jurisdictions and Agencies:

1. Coordinate the Work of this Contract with state and local governmental and private agencies having jurisdiction over the Work, and document and comply with their requirements.
   a. Coordinate traffic control measures with appropriate agencies in accordance with Section 01 55 26 – Maintenance of Traffic.
   b. Document and meet the requirements of governmental and private agencies having jurisdiction over utility work and insure that all required permits have been obtained before connecting permanent and temporary utilities to the Work of this Contract.
   c. Strictly enforce safety rules and regulations imposed by the State of New York, the Occupational Safety and Health Administration (OSHA), Metro-North, and others having jurisdiction.
2. State and local jurisdictions and agencies include, but are not limited to the following:
   a. Metro-North.
   b. State of New York.

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

2) New York State Department of Transportation (NYSDOT).

c. New York City.

1) New York City Department of Environmental Protection (NYCDEP).

d. Westchester County, NY.

B. Coordination with Area Residents:

1. Notify area residents of work to be done that may affect their neighborhood or property.

2. Prior to beginning the Work, survey dwellings and properties near the Project as specified in Section 01 32 00 – Construction Progress Documentation and note conditions to prevent claims.

1.05 FACILITY SERVICES COORDINATION

A. Coordinate the Work of this Contract with local utilities, whether or not they are listed in the Contract Documents, so that utility interconnections and interfaces to the Work do not delay this Contract; and so utility service to the community is not adversely impacted.

1. Notify utility companies or other parties being affected by construction; and endeavor to have necessary adjustments of public or private utility fixtures, pipelines, or other appurtenances made as soon as possible.

2. Notify public utilities operating overhead power lines whenever construction operations are within clearance envelopes established by statute.

3. Two to ten days prior to the start of digging or excavation Work not counting the day of the call, contact Dig Safely New York by calling 1-800-962-7962 or 811 to arrange for utility owners to locate and mark their underground utilities.

a. Comply with applicable State of New York statues.

1) Strict compliance with NYS Code Rule 753 is obligatory.

b. If unexpected active underground facilities are encountered during the performance of the Work, immediately notify the Engineer.

B. Unless otherwise shown on the Contract Drawings or stated in the Specifications, maintain all utilities whether underground or overhead in continuous service throughout the entire Contract period.

1. Safeguard and maintain conflicting utilities as shown on the Contract Drawings, including overhead wires and cables and their supporting poles, and underground utilities, whether or not they are inside or outside a proposed trench.

a. The owners of conflicting water lines, gas lines, meter boxes, and other utility appurtenances at the Site may be asked to relocate their utilities prior to the beginning of the Work this Contract.

C. In the event that an existing service, or other large structure, is found to impede the performance of the Work, notify the Engineer.

1. If in the course of the Work a conflicting utility line that was not shown on the Contract Drawings is discovered, Metro-North will either negotiate with the utility owner to relocate the line, relocate the utility using Metro- North forces, change the alignment and grade of the conflicting trench, or declare the conflict as extra work to be performed at an agreed upon negotiated price.

a. If a price cannot be agreed upon, then perform the work as “Time and Materials Work”.

2. If temporarily or permanently relocating or shutting down any utility or appurtenance will simplify construction operations, the Contractor at his option may make the necessary arrangements and agreements with the utility’s owner for any expense related to the relocation or shut down and construction if at no increase in the Contract Price, and if the following is observed:

a. Reconstruct all property to its original or new location as soon as possible and to a condition at least as good as its previous condition.

b. Any such relocation or shut down and reconstruction of utilities is subject to inspection and approval by both the Engineer and the owner of the utility.

1.06 MULTIPLE CONTRACT COORDINATION

A. Metro-North reserves the right to perform other or additional work at or near the Site, including any storage site, with forces other than those of the Contractor.

1. Utility construction and development projects may also occur adjacent to or within the Contract limits of work.

B. If the Contract Documents give notice that other work may affect the Work of this Contract, do the following:

1. Attend construction progress meetings in accordance with the requirements specified herein.

2. Review drawings and submittals from related contracts for adequacy of coordination and compatibility with the Work of this Contract and report any shortcomings of those drawings and submittals when found.

3. Include the cost of the resulting coordination effort in the Guaranteed Maximum Price (GMP) bid for this Contract.

C. Take the initiative in identifying, defining, coordinating, and documenting all interface points between the Work of this Contract and adjacent work.

1. Survey the physical, mechanical, and electrical interfaces of related contracts and facilities.

a. Document all interface points identified.

b. Report any shortcomings of interface points and facilities that affect the Work of this Contract.

2. When the Work of this Contract overlaps with other contracts entered into by the Metro-North, coordinate the Work of this Contract with the other entities working at or near the Site with the Engineer, the Engineer's inspectors, and with Metro-North personnel.

   a. Request each Contractor involved to submit a current schedule for the work of their contract for review.

   b. After review and consultations, the Engineer will determine if the schedules are acceptable or if corrections are needed to coordinate between contracts.

      1) If corrections are required, update the Contract's progress schedule in accordance with the requirements of Section 01 32 00 – Construction Progress Documentation to reflect the required corrections.

   c. The Contractor, through the Engineer, will resolve any disagreements that may arise among the Contractors over the method or sequencing of the Work.

      1) In case of unavoidable interferences or schedule impacts, the Contractor, through the Engineer will establish the priority of the work elements, which in general will be in the sequence that the contracts were awarded.

      2) The Engineer's decision in these matters is final.

3. Whenever the work of other Contractors occurs either within or next to this Contract's Site, do the following:

   a. Cooperate with other Contractors' forces.

   b. Carry out the Work under this Contract in a way that will minimize interference and delay for all forces involved.

   c. Place and dispose of the materials being used so as not to interfere with the operations of other Contractors' forces.

   d. Coordinate with other Contractors to perform the Work in proper sequence to meet schedule requirements of this and the other contracts.

D. Take responsibility for any damages to or interruption of service caused by the Work of this Contract.

1. If the Work performed as a part of this Contract damages the work of another Contractor, promptly repair, or replace the damaged work at no increase in the Contract Price.

1.07 PROJECT MEETINGS

A. Meeting Participation:

1. Participation in all Project meetings specified herein is mandatory. All appropriate representatives of the Contractor's staff, Subcontractors, Suppliers, manufacturers, and fabricators are required to attend.

   a. Attend meetings prepared to discuss the items which the Contractor has been notified will be on the meeting's agenda and those

specified in this Section.

1) Advise the Engineer of items to be added to a meeting's agenda at least 24 hours in advance of the meeting.

B. Minutes of Meetings:

1. The Engineer is responsible for recording the minutes of all meetings, and for distributing them to all parties present and to those on an agreed upon distribution list within five (5) Days of each meeting.

C. The Preconstruction Conference:

1. The Engineer will schedule a Preconstruction Conference within 21 days of the Notice to Proceed and will notify all parties concerned of the exact time and place of this meeting.

a. Attendance at this meeting by the Contractor and his principal Subcontractors is mandatory; but the Contractor has the option to invite additional parties as required.

b. Do not commence the Work of this Contract without first attending the Preconstruction Conference.

c. The meeting is typically held at the Site, or at an alternate location designated by the Engineer.

d. The Engineer will conduct the Preconstruction Conference, and will address the conduct of the Work, lines of communication, and similar items.

e. The Engineer will invite Metro-North representatives to the Preconstruction Conference.

D. Other entities concerned with the progress, or involved in planning, coordination, or performance of future activities, will also be represented.

1. All participants at the conference must be familiar with the Project and authorized to conclude matters relating to the Work.

2. Preconstruction Conference Agenda:

a. The Preconstruction Conference agenda will include at a minimum the following items, but is not limited to these items:

1) Establishing a sound working relationship among all parties, including the Contractor and his Subcontractors, the Metro-North representatives, the Engineer's staff, representatives from affected utilities, and other appropriate agencies.

a) Designate which employees are the Contractor's responsible personnel.

b) Distribute a list of the Contractor's proposed Subcontractors.

2) Distributing and discussing the Contractor's Preliminary Schedule.

a) Discuss critical Work sequencing.

b) Discuss progress schedules.

3) Distributing and discussing of the Contractor's Preliminary Schedule of Values required by the Agreement and the Contract Terms and Conditions, and Section 01 20 00, Measurement and Payment Procedures.

a) Discuss using the Schedule of Values to prepare payment requests.

4) Discussing Submittal schedules and procedures, and of delivery schedules and procedures.

a) Discuss submittal of Working Drawings, Shop Drawings, Project Data, and Samples.

b) Discuss major equipment deliveries and priorities.

c) Discuss materials furnished by the Metro-North.

d) Discuss the requirement to provide a Submittal Schedule as specified in Section 01 33 00, Submittal Procedures.

e) Discuss the requirement to provide a Delivery Schedule.

5) Reviewing the concerns of the community.

6) Reviewing safety requirements:

a) Define the Contractor's responsibility for making arrangements for safety, first aid, emergency actions, security, and a full-time safety representative.

b) Discuss Metro-North requirements for a Contractor's Safety Program and Safety Plan, Surveillance and Security Control Program, and Site Security Plan; and the introduction of the Metro-North construction safety and security representatives.

c) Metro-North is responsible for providing a construction "hotline" telephone number which will be answered by Metro-North representative during regular working hours, or by an answering service during other times, for the Contractor to use for emergency communications with the Metro-North.

d) The Contractor is responsible for holding weekly safety meetings and for holding tool box/lunch box meetings as required.

7) Discussing procedures for processing field decisions and Contract Change Orders.

8) Discussing requirements for maintaining record documents.

9) Discussing miscellaneous procedures, such as safety, recordkeeping, first aid, security, housekeeping, and similar

items.

10) Discussing office and storage area locations.

11) Discussing the Owner's use of premises requirements.

12) Discussing coordination with affected utilities.

13) Open discussion.

b. The Engineer is responsible for addressing the following items at the preconstruction conference:

1) Responsibilities and authorities of Metro-North's and the Engineer's organizations.

2) Equal Employment Opportunity (EEO) and affirmative action requirements.

3) Requirements of labor provisions stipulated by the U.S. Department of Transportation (DOT) as required.

4) Laws, codes, traffic regulations, permit requirements, and other public agencies' regulations.

a) Buy America Act requirements.

b) New York State Executive Order No. 111.

c) Other laws, codes, regulations, and requirements.

5) Procedures for processing Requests for Information (RFIs), Change Requests, Change Orders, Shop Drawings, Working Drawings, Product Data, and Samples

6) Monthly pay estimate cut-off dates.

7) Partial and final payments.

8) Community affairs functions and procedures.

9) A list of dates for generating data for the draft Project Schedule Monthly Update Reports in accordance with Section 01 32 00 – Construction Progress Documentation.

c. The Contractor is responsible for performing the following activities at the Preconstruction Conference:

1) Ensuring that the Contractor's Project Manager/Superintendent, Quality Control Manager, Safety Representative, Equal Employment Opportunity (EEO) Officer, Subcontractor representatives, and Community Affairs representatives attend the meeting.

a) Introduce Contractor representatives, and briefly describe each person's responsibilities.

(i) Prepare and distribute the Contractor's Organization Chart and Contact List.

b) Distributing and discussing a list of the major Subcontractors proposed.

(i) Discussing how the Contractor's quality control (QC) personnel will perform independently of the rest of the construction workforce to insure quality in the constructed facilities as required in Section 01 43 00 – Quality Assurance.

c) Identifying the public involvement contact and discuss how they will work with the Metro-North public involvement representative.

2) Distributing and discussing the Baseline Schedule.

a) Submit the Baseline Schedule in accordance with Section 01 32 00 – Construction Progress Documentation.

(i) Describe the construction sequencing.

(ii) Discuss major equipment deliveries and priorities.

(iii) Discuss the coordination and notifications required for utility Work.

(iv) Describe temporary street closings and street restoration, including detours or time limits of temporary street closings.

3) Submitting the Preliminary Schedule of Values.

4) Describing the general layout of the Site.

a) Discuss the use of offices, storage areas, construction areas, and temporary easements.

b) Describe haul routes.

d. Discussing construction methods.

e. Describing noise, emissions, dust, and water pollution control.

f. Describing erosion and sediment control procedures and drawings.

g. Defining housekeeping procedures.

E. Progress Meetings:

1. Unless otherwise directed or agreed, the Engineer will hold weekly Progress Meetings at the Site, or at an alternate location designated by the Engineer.

a. Attend additional meetings or meetings scheduled at a different frequency as directed by the Engineer at no increase in the Contract Price.

2. A typical Progress Meeting's agenda will include, but may not be limited to, the following items:

a. Reviewing the minutes of the previous meetings.

b. Noting field observations, problems, and decisions taken since the

last Progress Meeting.

c. Identifying present problems and planning the resolution of each.

d. Presenting the log of outstanding nonconformance reports, planned corrective actions, subsequent operations impacted, and a schedule for closure of the nonconformance reports.

e. Reviewing the status of the Contractor's Contract Construction Schedule and Work Plan.

1) Plan the progress of the Work for the next work period and assess its effect on the related work of others.

a) Present the look-ahead schedule of the Work Plan for the next 21 Days.

(i) Prepare, distribute, and discuss a time-scaled look-ahead schedule based on and correlated with the activity numbers and descriptive nomenclature of the accepted Contract Construction Schedule.

2) Provide a 7-day history documenting the achievements of the past 7 days.

a) Include this as-built schedule for the previous 7 days within the look-ahead schedule.

3) Discuss the current and previous Project Schedules and Work Plans, particularly how they relate to actual achievements.

a) Incorporate the Engineer's comments into the as-built schedule for the previous 7 days.

b) Expedite the Work to insure its completion within the approved Project Schedule.

f. Reviewing Project safety requirements.

g. Reviewing the status of other Contractor work in regard to shared access.

h. Coordinating occupancy arrangements and access requirements with the Engineer.

i. Reviewing the status of progress payment requests, change proposals and Change Orders, Submittals, time impacts, and Requests for Information.

j. Reviewing other outstanding issues.

k. Providing current as-build drawings to the Engineer for review.

F. Pre-installation Meetings

1. Internally coordinate the Work by scheduling and conducting pre-installation meetings that include the Contractor's employees, Subcontractors, Suppliers, manufacturers, and fabricators as attendees.

a. The Engineer may also require that the Contractor, his Subcontractor(s), and/or others to attend meetings held to discuss selective items of Work.

2. For each activity affecting proper sequencing of the Work, schedule and conduct pre-installation meetings.

a. Schedule the pre-installation meetings with your employees, Subcontractors, Suppliers, manufacturers, fabricators, and other affected parties as appropriate.

b. Hold pre-installation meetings for Contract activities according to the early start dates for the activities established in the approved Contract Schedules required under Section 01 32 00 – Construction Progress Documentation, and well in advance of the submittal dates for related Shop Drawings so the activity is not delayed.

1) Prepare all documentation and procedures in advance for presentation at the meeting; including but not limited to, copies of drawings and Contract Drawings, Specifications, submittals, certifications, inspection and test procedures, and other pertinent documentation for use during the meeting.

c. Coordinate the work of Contractor's employees, Subcontractors, Suppliers, manufacturers, fabricators, and other affected trades.

3. The Engineer may also require that a pre-installation conference be held with the Contractor and its Subcontractor(s) on selective items of Work.

G. Progress Schedule Update Meetings:

1. Unless otherwise directed, the Engineer will hold monthly Progress Schedule Update Meetings to be attended by the Engineer, the Contractor, and applicable Subcontractor(s) as required.

2. The agenda of the Progress Schedule Update Meetings will, at a minimum, include a joint review of an agreement on the amount of progress made on the Work of the Contract and the update of the Schedule of Value quantities as shown in the draft Progress Schedule Update Reports.

3. After agreement is reached concerning the amount of progress made on the Work of the Contract and updated quantities, submit the Progress Schedule Update Report and the progressed Schedule of Values which then serves as the progress Payment Request.

H. Other Meetings:

1. In addition to the regularly scheduled meetings, ad-hoc meetings may be called to address significant matters or situations that have a bearing on the successful execution of the Work.

2. On an as needed basis, meetings may be called to discuss issues with representatives of local jurisdictions, public involvement representatives and news reporters, or other agencies involved with the Contract.

1.08 ELECTRONIC COMMUNICATION PROTOCOLS:

A. Electronic communications protocols for the Project are specified in the individual

Specification Sections.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION

SECTION – 01 32 00

CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

A. The Contract Drawings and other Contract Documents, including the General Conditions, Supplementary Conditions, and other Division 01 Specification Sections, apply to the Work of this Section.

1.02 RELATED SECTIONS

A. Section 01 31 00 – Project Management and Coordination.

B. Section 01 32 33 – Photographic Documentation

C. Section 01 33 00 – Submittal Procedures.

D. Section 01 71 00 – Examination and Preparation.

1.03 SUMMARY

A. This Section specifies requirements for

1. Adequate planning, scheduling, managing, and executing the Work.
2. Preliminary 90-Day Schedule.
3. Contract Schedule.
4. Monthly Update Reports.
5. As-Built Schedule.
6. Obtaining Contract time adjustments.
7. Requirements for photographing existing conditions prior to beginning construction activities.
8. Requirements for providing pre-construction and new construction photographs of the construction as directed by the Engineer.
9. Camera requirements.

1.04 REFERENCES

A. Abbreviations and Acronyms:

1. CPM: An acronym referring to the Critical Path Method of construction scheduling wherein any delay to an activity on the critical path will result in a delay to the Project.

B. Definitions:

1. Activities: Discrete items of Work that must be accomplished under the Contract, and when complete, produce definable, recognizable entities or stages within the Project.
2. Day: Calendar days unless specifically noted otherwise.
3. Float: The number of Days by which an activity can be delayed without lengthening the Critical Path and extend the Substantial Completion date.

4. Fragnet: Short for “fragment of a network” and consisting of a set of activities copied from a portion of an existing project schedule that are saved and applied elsewhere within the same or another project schedule, or that are modified and re-applied to the schedule from which the fragnet was copied in order to modify the schedule.

5. Contract Milestone: A principal event specified in the Contract Documents relating to an intermediate or final completion date or time.

6. Project Schedule: The Preliminary 90-Day Schedule, Contract Construction Schedule, Monthly Status Reports, and any subsequent revisions to the Contract Construction Schedule as described below are collectively referred to as the Project Schedule.

7. Working Day: A day when work is be performed.

1.05 ADMINISTRATIVE REQUIREMENTS

A. Preconstruction Conference and Pre-Installation Meetings:

1. Pre-Construction Conference:

a. Attend the Pre-Construction Conference as required by Section 01 31 00 – Project Management and Coordination.

2. Pre-Installation Meetings:

a. As required to properly coordinate and schedule particularly complex and/or sensitive installations, arrange pre-installation meetings with the affected Subcontractors and other affected entities, to discuss special scheduling requirements of those entities before beginning the work of their trades or working on their right-of-way and property, and schedule the Work appropriately.

B. Scheduling:

1. For scheduling requirements refer to the Terms and Conditions of the Contract Documents.

C. Qualifications:

1. Photographer’s Qualifications:

a. Employ a photographer who is a professional photographer with previous experience providing construction photography, and who is acceptable to the Engineer.

b. Submit the photographer’s qualifications including the name and documented qualifications of the proposed commercial photographer, and a list of previous assignments, to the Engineer for approval.

1.06 SUBMITTALS

A. Action Submittals:

1. Submit the following to the Engineer for approval in accordance with the requirements of Section 01 33 00 – Submittal Procedures:

a. Special Procedure Submittals:

1) Baseline Schedule.

2) Monthly Update Reports.

a) Draft Monthly Update Reports.

b) Final Monthly Update Reports.

3) Contractor's proposed revisions to the accepted Baseline Schedule.

4) Proof construction photographs.

5) Electronic digital copies of photographs.

6) Select construction photographs.

b. Qualification Statements:

1) Photographer's qualifications.

1.07 EXISTING CONDITIONS

A. Preconstruction Photographs:

1. Prior to the start of construction operations; photographically document Site conditions in accordance with Section 01 32 33 – Photographic Documentation.

a. Preconstruction Photographs:

1) Take a sufficient number of views to show existing conditions adjacent to the property before starting the Work.

2. Do not begin construction activity until the submitted photographs have been approved.

PART 2 – PRODUCTS

2.01 CAMERA EQUIPMENT

A. Color Digital Camera:

1. Furnish a color digital camera having a capacity of at least 2.1 megapixels and capable at a minimum of 150 dots per inch resolution.

PART 3 – EXECUTION

3.01 SURVEY AND LAYOUT DATA

A. Furnish and document survey and layout data as specified in Section 01 71 00 – Examination and Preparation.

3.02 PROGRESS PHOTOGRAPHS

A. Refer to Section 01 32 33 – Photographic Documentation and Progress Photographs requirements in the Terms and Conditions of the Contract.

END OF SECTION

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION – 01 32 33

PHOTOGRAPHIC DOCUMENTATION

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

A. The Contract Drawings and other Contract Documents, including the General Conditions, Supplementary Conditions, and other Division 01 Specification Sections, apply to the Work of this Section.

1.02 SUMMARY

A. Section includes administrative and procedural requirements for the following:

1. Preconstruction photographs.
2. Periodic monthly construction photographs.
3. Final Completion construction photographs.

B. Related Requirements:

1. Section 01 32 00 – Construction Progress Documentation
2. Section 02 41 16 – Demolition
3. Section 31 10 00 – Site Clearing

1.03 INFORMATIONAL SUBMITTALS

A. Key Plan: Submit key plan of Project site with notation of vantage points marked for location and direction of each photograph. Indicate elevation or story of construction. Include same information as corresponding photographic documentation.

B. Digital Photographs: Submit image files within three days of taking photographs.

1. Submit photos on CD-ROM or thumb-drive or by uploading to web-based Project management software site. Include copy of key plan indicating each photograph's location and direction.
2. Identification: Provide the following information with each image description in file metadata tag or in web-based Project management software site:
   a. Name of Project.
   b. Name and contact information for photographer.
   c. Name of Engineer.
   d. Name of Contractor.
   e. Date photograph was taken.
   f. Description of location, vantage point, and direction.
   g. Unique sequential identifier keyed to accompanying key plan.

1.04 QUALITY ASSURANCE

A. Photographer Qualifications: An individual who has been regularly engaged as a professional photographer of construction projects for not less than three years.

1.05 FORMATS AND MEDIA

A. Digital Photographs: Provide color images in JPG format, produced by a digital camera with an image resolution of not less than 2.1 megapixels. Use flash in low light levels or backlit conditions.

B. Digital Images: Submit digital media as originally recorded in the digital camera, without alteration, manipulation, editing, or modifications using image-editing software.

C. Metadata: Record accurate date and time and GPS location data from camera.

D. File Names: Name media files with date Project area and sequential numbering suffix.

1.06 CONSTRUCTION PHOTOGRAPHS

A. Photographer: Engage a qualified photographer to take construction photographs.

B. General: Take photographs with maximum depth of field and in focus.

1. Maintain key plan with each set of construction photographs that identifies each photographic location.

C. Preconstruction Photographs: Before commencement of the Work, take photographs of Project site and surrounding properties, including existing items to remain during construction, from different vantage points, as directed by Engineer.

1. Flag construction limits before taking construction photographs.

2. Take 20 photographs to show existing conditions adjacent to property before starting the Work.

3. Take additional photographs as required to record settlement or cracking of adjacent structures, pavements, and improvements.

D. Periodic Construction Photographs: Take 50 photographs monthly coinciding with the cutoff date associated with each Application for Payment. Select vantage points to show status of construction and progress since last photographs were taken.

E. Final Completion Construction Photographs: Take 50 photographs after date of Substantial Completion for submission as Project Record Documents. Engineer will inform photographer of desired vantage points.

F. Additional Photographs: Engineer may request photographs in addition to periodic photographs specified. Additional photographs will be paid for by Change Order and are not included in the Contract Sum or in the allowance for construction photographs.

1. Three days' notice will be given, where feasible.

2. In emergency situations, take additional photographs within 24 hours of request.

3. Circumstances that could require additional photographs include, but are not limited to, the following:

a. Special events planned at Project site.

Immediate follow-up when on-site events result in construction

damage or losses.

b. Photographs shall be taken at fabrication locations away from Project site. These photographs are not subject to unit prices or unit-cost allowances.

c. Substantial Completion of a major phase or component of the Work.

d. Extra record photographs at time of final acceptance.

e. Owner's request for special publicity photographs.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION – 01 33 00

SUBMITTAL PROCEDURES

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

A. The Contract Drawings and other Contract Documents, including the General Conditions, Supplementary Conditions, and other Division 01 Specification Sections, apply to the Work of this Section.

1.02 SUMMARY

A. This Section specifies:

1. Requirements and procedures for submitting information to the Engineer for review, information, approval, or facilitating Project Closeout.

2. Requirements for a Master Submittal Schedule and Cost Breakdown Schedule.

1.03 REFERENCES

A. Abbreviations and Acronyms:

1. MSDS: Material safety data sheets.

B. Definitions:

1. Action Submittals: A category of submissions requiring responsive action by the Engineer that includes Product Data, Shop Drawings, Samples, Certificates, delegated design submittals, sustainable design submittals, special procedure submittals, warranty information, and qualification statements.

2. Certificates: Contractor or manufacturer prepared written instruments certifying that products comply with the requirements of the Contract Documents, or certification of the qualifications of individuals and organizations.

3. Closeout Submittals: A category of submissions required during project closeout that are subject to procedures specified by Metro-North, and that includes maintenance contracts, operation and maintenance data, bonds, warranty documentation, record documentation, sustainable design closeout documentation, and software.

4. Design Calculations: Engineering, mathematical, or scientific computations as required to determine or prove the correctness of a proposed solution to a design issue.

5. Informational Submittals: A category of submissions that do not require responsive action by the Engineer that includes test and evaluation reports, manufacturer's instructions, source and site quality control submittals, and manufacturer's reports.

6. Maintenance Material Submittals: A category of submissions that do not require responsive action by the Engineer other than confirmation of receipt at the specified location, and that includes spare parts, extra stock materials, and tools.

7. Product Data: Product descriptive literature; product specifications, sizes, types, dimensions, and weights; product performance curves and capacity rating schedules; published details; the product manufacturer's name, trade names, and model numbers; information regarding product components, their arrangement, and accessories; installation instructions for the product or system; and product utility requirements for wiring, piping, service connection data, and motor sizes complete with electrical characteristics.
8. Samples: Physical specimens of products and systems prepared and delivered, or erected, by the Contractor or manufacturer as requested in the various Specifications Sections.
9. Submittals: Calculations, certificates, color schedules, Product Data, photographs, Samples, schedules, Shop Drawings, manuals, test reports, Working Drawings, and other similar information submitted to the Engineer for review and approval.
10. Technical Data: Plans that are required to be prepared, or studies required to be performed, as a part of the Work of this Contract and as additional engineering, mathematical, or scientific information regarding various aspects of a product's design or performance.
11. Test Reports: Reports, generally originating from an independent testing agency, that state or verify the results of required testing, and that often include some analysis of those results.
12. Working Drawings: Contractor prepared detail drawings that depict the Contractor's plan for temporary equipment or structures and other such work as may be required for construction, but which does not become an integral part of the completed Work.

C. Reference Standards:

1. American Institute of Architects/Construction Specifications Institute/National Institute of Building Sciences (AIA/CSI/NIBS):
    a. United States National CAD Standard® (NCS).
2. American Society of Mechanical Engineers (ASME):
    a. ASME Y14.24 – Types and Applications of Engineering Drawings.
    b. ASME Y14.34 – Associated Lists.
    c. ASME Y14.35M – Revision of Engineering Drawings and Associated Documents.
    d. ASME Y14.100 – Engineering Drawing Practices.
3. Instrument Society of America (ISA)
    a. ANSI/ISA-5.1 – Instrumentation Symbols and Identification.
    b. ISA-5.2 – Binary Logic Diagrams for Process Operations.
    c. ISA-5.3 – Graphic Symbols for Distributed Control/Shared Display Instrumentation, Logic, and Computer Systems.

1.04 SUBMITTALS

A. ISA-5.4 – Instrument Loop Diagrams.

B. ISA-5.5 – Graphic Symbols for Process Displays.

C. ANSI/ISA-51.1 – Process Instrumentation Terminology.

D. Submittal Types:

1. Product Data:

1) Furnish the product manufacturer's descriptive literature and specifications, including such items as standard catalogs; brochures; diagrams; schedules; performance charts; illustrations; calculations; schematic drawings; bills of material, delivery tickets, batch tickets, catalog cut sheets; capacity rating schedules; details; lists of previous installations; published installation, erection, application, and placing instructions; material safety data sheets (MSDS), and other descriptive data related to the Work of the Contract.

2) Modify manufacturer’s standard information to delete information which is not applicable to the work of the Contract and supplement the standard information with additional information applicable to this Contract.

b. Working Drawings:

1) For temporary items as may be required for construction, furnish completely dimensioned and annotated drawings and associated calculations which typically include information for items such as the following:

a) Support of excavation.

b) Support of utilities.

c) Ground water controls.

d) Forming and falsework.

2) Identify calculations by reference to the Working Drawing to which the calculations pertain.

3) Where appropriate, have a Professional Engineer licensed in the State of New York in an appropriate discipline for the submitted working drawings and calculations sign and seal the drawings.

2. Certificates:

a. Furnish Certificates of Compliance and Certified Material Test Reports as specified.

1) For those products for which no Product Data, Shop Drawings, Samples, or test reports are specified or required, and for other items requiring these documents, furnish certificates that certify that the products comply with the

requirements of the Contract.

2) Include a copy of each certificate with the product for which the certificate is prepared.

b. If the qualifications of individuals and organizations for performing some portion of the work are specified, furnish certificates authenticating the qualifications of these individuals and organizations for performing the work indicated for them.

c. Ensure that the Engineer receives certificates no later than 30 Days before the product so certified is to be installed or the service is to be performed.

3. Special Procedure Submittals:

a. If special plans, phasing, or other special procedures are required to be submitted by the Specifications, furnish submittals complying with the special requirements specified for the submittal in the individual Specification Sections.

4. Qualification Statements:

a. Provide qualification statements from applicators, fabricators, erectors, and installers that provide information, such as descriptions of their experience, lists of past projects, references, resumes, certifications, or certifications, as specified to prove that individuals or entities are qualified and capable of performing the Work they will be assigned under the Contract.

5. Test and Evaluation Reports:

a. Test Reports:

1) Furnish certified test reports of required tests, that state, verify, and analyze the results of the testing performed by an independent testing agency, and that demonstrate proof of compliance of the tested items with the Contract requirements.

b. Evaluation Reports:

1) Furnish evaluation reports from model code-writing organizations indicating the compliance of building materials and products with the model code.

6. Manufacturer's Instructions:

a. Furnish the manufacturer-prepared published or written instructions required to document the manufacturer's installation, erection, application, adjusting, testing, storage, maintenance, and other instructions for information as specified.

7. Manufacturer's Reports:

a. Furnish the manufacturer's field reports documenting the testing and verification actions taken by the manufacturer's representatives to verify compliance with the manufacturer's standards or instructions.

8. Maintenance Contracts:

a. Furnish maintenance contracts for the items indicated, for the durations specified, and having the scope required by the Contract Documents.

9. Operation and Maintenance Data:

a. Operation and Maintenance (O&M) Manuals:

1) Furnish Operation and Maintenance (O&M) Manuals in accordance with the requirements of Metro-North.

10. Bond and Warranty Documentation:

a. Furnish bonds and sample warranties requiring approval by the Engineer and furnish final executed warranties for review of their accuracy as specified by Metro-North.

11. Record Documentation:

a. Record documents include Shop Drawings, record drawings and specifications, addenda, Change Orders, Field Orders, and photographs.

b. Photographs:

1) Furnish photographs in accordance with the requirements of Section 01 32 00, Construction Progress Documentation, and other Sections as required.

c. As-built Documentation:

1) Furnish as-built documentation recording the actually constructed Work in accordance with the requirements of Metro-North, as required.

12. Software:

a. Furnish computer software, including backup copies when required, and program documentation to allow Metro-North Railroad to operate the computerized systems as specified.

E. Submittal Format:

1. Physical Form of Submittals:

a. Whenever possible, submit information electronically.

1) When the nature of the submittal is not conducive to being submitted electronically, such as material Samples, spare parts, or warranties, submit the physical item to the Engineer or other entity as required herein.

b. Markings made on submittals by the Contractor or by his suppliers or manufacturers, whether written or otherwise, must be in a color other than red.

1) Red is reserved for the exclusive use of the Engineer in marking Submittals.

c. Prepare drawings and record documents to a high standard of

quality, such as that set forth in the United States National CAD Standard (NCS), the ANSI Y14 Series, and/or other approved lower tier specifications defining equal drafting quality.

d. Furnish printed submittal information in the form of high resolution, letter quality originals or photocopies marked to identify the submittal and to indicate which information is specific to this Contract.

1) Furnish submittal pages and sheets sized 8-1/2 by 11 inches, or if larger, folded to 8-1/2 by 11 inches size so that any title blocks are clearly visible without one having to unfold the sheet.

2) Unless otherwise stated in the Contract Documents, furnish submittal drawings of similar size and scale as the plan sheets prepared and offered for sale to potential bidders, or a sheet provided on a different size media and using a proportional scale.

a) Fold submittal drawings similarly to printed submittal information and insert them in binder pockets as appropriate.

3) Bind each set of printed submittal information in hard cover, loose-leaf, 3-ring or 19-ring binders.

a) Provide binders that allow a minimum ring space of 1/2-inch when closed to facilitate opening and closing the binder and accessing and removing any sheet in the binder as necessary.

b) Provide a table of contents for each binder.

e. Electronic Media Submittals:

1) For submittals prepared on electronic media, furnish compact discs (CDs) containing a copy of the submittal data.

2) For documents submitted on electronic media, format the documents using software compatible with Microsoft Word 2016 ©, or XP ©, Microsoft Excel 2016 ©, and AutoCAD 2019 ©.

3) For software submittals on electronic media, furnish submittals formatted to use the software originator's standard operating system.

a) Microsoft Windows© is the preferred operating system if it is an option and is compatible with the product associated with the software.

f. For submittal format requirements regarding Operation and Maintenance (O&M) Manuals, comply with the requirements specified by Metro-North.

2. Submittal Identification:

a. Contract Identification Information:

1) Identify each submittal individually by permanently adhering the following Contract identification information, as applicable, to the submittal:

a) Owner's name.

b) Contract name.

c) Owner's contract number.

d) Contract location.

b. Submittal Numbering:

1) Uniquely identify each submittal by including an submittal identification number on the submittal developed as follows:

a) For a submittal specified in a Specification Section or other document in the Project Manual, begin the unique number with a capital "S" prefix and the number of the Specification Section or other document in the Project Manual in which the submittal is specified.

(i) For example, for a submittal specified by this Specification Section, the submittal number would begin with "S 01 33 00".

c. If an item is only defined on the Contract Drawings and not anywhere in the Specifications, substitute a capital "D" for the "S" prefix in the submittal number and use the Contract Drawing number in lieu of the Specification Section number.

d. For example, a submittal for electrical equipment appearing only on Contract Drawing E-140 would begin with "D E-140".

a) Next, add a hyphen and a sequential integer number for each subsequent submittal required within the Submittal Article of same Specification Section or other document in the Project Manual.

b) a) For example, the hyphenated number for a second required submittal within this Specification Section would be "-2", and the modified number would become "S 01 33 00-2".

c) b) If an item is only defined on the Contract Drawings and not anywhere in the Specifications, the modified number for the second required submittal on the E- 140 Contract Drawing would then be "D E-140-2".

2) To further differentiate various identifiable parts of a submittal, add two decimal places to the modified number to identify which part of the submittal is being indicated.

a) For example, to differentiate between a submittal

number for a color selection chart for paint and coatings from a color selection chart for fiberglass, add ".01"to the number for the paint and coatings color selection chart to make it "S 01 33 00-8.01", and add ".02"to the number for the fiberglass color selection chart to make it "S 01 33 00-8.02".

b) To indicate whether a submittal is the initial submittal for an item or a re-submittal that is required because the previous submittal for the item was returned from the Engineer with a review status that requires a re-submittal, add sequential alphabet letters as a suffix to the submittal number to indicate which submittal in the sequence is being identified.

(i) For example, if a previous submittal is not approved and must be resubmitted or additional information regarding the item must be provided, add an alphabetic suffix to the previous submittal number to index the suffix to the next letter of the alphabet and generate the submittal number for the re-submittal

e. For example, if the initial submission of the second required submittal in this Section, submittal number S 01 33 00-2.00, must be resubmitted several times, the submittal number for the first re-submittal would be "S 01 33 00-2.00A", the submittal number for the second re-submittal would be "S 01 33 00-2.00B", and so forth.

f. The submittal number for the resubmission of a submittal required only by a Contract Drawing is similarly revised; the submittal number for a re- submittal of submittal number D E-140-2.00 would be "D E-140-2.00A".

g. Identification of Products, Systems, and Services:

1) Although the Specification Section or Contract Drawing number in which a product, system, or service is specified is part of the submittal number, the products, systems, or services within the Section or on the Contract Drawing need to be further identified to specifically show which particular item is being submitted and for what purpose it will be used as follows:

a) Provide a brief written title or description, including such items as the model number, style number, serial number, or lot number, to clearly and uniquely identify the product, system, Sample, or service submitted and describe where it is to be used or where it is to perform.

(i) Indicate the Article, Paragraph, or Subparagraph references from Specification Sections and the Contract Drawing number

or numbers, revision number or numbers, and the dates of the Contract Drawings or revisions to correlate the submitted products with the Contract Documents.

(ii) Indicate the titles of details, sections, elevations, schedules, or other similar identifiers on the Contract Drawings that may help locate the source of the submittal.

b) Provide names, addresses, and phone numbers of the Contractor, Subcontractors, suppliers, vendors, manufacturers, and if applicable the seal and signature of a Professional Engineer currently registered in the State of New York for the involved discipline.

2) If catalogs, brochures, or catalog cut pages are submitted, provide each separate catalog, brochure, or single page with the identification required in Subparagraph 1.04.B.2.

a) If submitted catalogs or brochures contain multiple items for approval, identify each item separately.

(i) In this instance, include page and catalog item numbers as part of the product identification.

3) Identify all deviations from the Specifications and Contract Drawings on submittals.

h. Dates:

1) Indicate the date of the submittal and, if applicable, revision dates too.

i. Contractor's Certification Statement:

1) Verify that the Contractor's Certification Statement required by Paragraph 1.04.E is affixed to each submittal.

3. Space for Engineer's Stamp:

a. Provide a clear space approximately 3 inches high by 4 inches wide adjacent to the submittal identification information to receive the Engineer's stamp, on which the Engineer will indicate the status or disposition of the submittal following the Engineer's review.

F. Procedures for Submitting Information:

1. Unless specified otherwise, send submittals to the Engineer accompanied by a letter of transmittal that lists all items in the submittal:

a. If, because of standard shop practice or other reasons, submittals show variations from the Contract requirements, specifically identify these variations and the reasons for them in the letter of transmittal.

1) In the event the variations are acceptable to Metro-North Railroad, suitable action will be taken to properly adjust the

Contract.

2) In the event the variations are not accepted by Metro-North Railroad, the Contractor is not relieved of the responsibility for executing the Work in accordance with the Contract even though the submittals showing the variations may have been approved.

b. Submit the required submittals promptly so delays in performing the Work of the Contract are avoided.

c. Supplemental submittals initiated by the Contractor for consideration of corrective procedures must contain sufficient data to allow the Engineer to make an informed review and decision.

2. Number of Copies to Submit:

a. If the item is submitted electronically, only 1 “copy” needs to be submitted; if the nature of the item is not conducive to submittal electronically, follow the alternate requirements of Subparagraph 1.05.C.2.b.

b. For each submittal, submit the number of copies of the information as indicated below for the appropriate type of submittal or re-submittal:

1) For Product Data, certificates, design calculations, technical data, and test reports submit at least 6 copies of each item.

2) For Shop Drawings and Working Drawings, submit at least 1 reproducible and 5 prints of each.

3) For color selection charts and samples, submit 6 sets of each.

4) For Samples, submit at least the number of Samples specified in the Section specifying the requirement for the Samples; or, if no number is indicated there, submit at least 2 non-returnable Samples.

5) For submittal requirements regarding Contract closeout submittals, contact Metro-North Project Manager.

6) For submittal requirements regarding Operation and Maintenance (O&M) Manuals, contact Metro-North Project Manager for details.

7) For submittals returned with a RETURNED FOR CORRECTION disposition after review by the Engineer, re-submit a minimum of 6 corrected copies.

8) For submittals returned with a NOT APPROVED disposition after review by the Engineer, submit at least 6 copies of completely new submittals that show the non-conformances responsible for the rejection of the previous submittal have been eliminated.

c. Final Shop Drawings:

1) Within 10 days after receipt of the Engineer's approval, submit 1 copy of each mylar reproducible in a mailing tube and 2 prints of final shop drawings to the Engineer.

a) Mark each copy with the words "This drawing was approved by the Engineer on [date]."

b) Include space on the reproducible for Metro-North's drawing numbers and title blocks.

c) Folded mylar reproducible are unacceptable.

G. Review and Disposition of Submittals:

1. Engineer's Review:

a. Following receipt of a submittal from the Contractor, the Engineer will review the general content of the submittal for conformance to the requirements of the Contract Drawings and Specifications.

1) Review and approval of submittals by the Engineer is only for conformance with the Contract's design concept and for compliance with the information given in the Contract Documents.

2) The review and approval of a separate item does not indicate approval of an assembly in which the item functions.

3) Review and approval of a submittal by the Engineer does not relieve the Contractor of his responsibility for the accuracy of the submittal, for conformity of the submittal to the requirements of the Contract Drawings and Specifications, for compatibility of the described product with contiguous products and the rest of the system, for proper fit, or for completion of the Contract in accordance with the Contract Drawings and Specifications.

a) The Contractor is responsible for providing materials and work required by the Contract that may not have been indicated on the submittal when it was approved.

b) The Engineer is not responsible for coordinating submittal information, such as the size and location of equipment; openings for piping, ducts, and conduits; locations and sizes of concrete pads and anchor bolts; and similar Contract interfaces.

b. The Engineer's review and approval of submittals does not extend to the means, methods, techniques, sequences, or procedures of construction except where a specific means, method, technique, sequence, or procedure of construction is indicated in or required by the Contract Documents, or to facilitate mandated safety precautions or programs incident thereto.

c. Where a submittal pertinent to some part of the Work is required by the Specifications, and the part of the work related to that submittal

is performed prior to the Engineer's review and approval of the submittal, such work is performed at the Contractor's risk and is the sole responsibility of the Contractor.

2. Engineer's Disposition of Submittals:

a. After review by the Engineer, submittals will be returned marked with one of the following Review Status dispositions:

1) APPROVED:

a) When submittals are returned with an APPROVED disposition, it is understood that the submittals are considered to be in conformance with the Contract Documents.

b) Approval by the Engineer of submittals does not relieve the Contractor from responsibility for errors or discrepancies in such submittals or for compliance with the Contract Documents; neither does it relieve the Contractor of the responsibility for providing adequate quality control measures nor relieve the Contractor of the responsibility for providing proper and sufficient materials, equipment, and labor to complete the approved Work in accordance with the Contract Documents.

2) APPROVED WITH CHANGES NOTED:

a) When submittals are returned APPROVED WITH CHANGES NOTED disposition, it is understood that the submittals have been found to be in conformance with the Contract Documents, provided the changes noted by the Engineer are incorporated into the submittals.

b) Submittals returned with an APPROVED WITH CHANGES NOTED disposition do not require resubmission of the corrected information.

3) RETURNED FOR CORRECTION:

a) When submittals are returned noted with a RETURNED FOR CORRECTION disposition, it is understood that the Contractor must make the required corrections and resubmit corrected submittals to the Engineer before the submittal can be approved.

4) NOT APPROVED:

a) When submittals are returned with a NOT APPROVED disposition, it is understood that the Contractor must prepare completely new submittals and resubmit these submittals to the Engineer for approval before the item can be approved.

b. Unless otherwise stated in the Contract Documents, do not

commence any portion of the Work requiring approval of submittals until these submissions have been approved by the Engineer.

1) Should, for any reason, the Contract not be awarded, the Contractor will not be entitled to reimbursement for work performed prior to the Contract award.

2) Subsequent to award of the Contract, the Contractor will not be entitled to reimbursement for changes to submittals made necessary due to changes made to the Contract Documents unless the changes to the Contract Documents occur after approval of the submissions.

c. Unless otherwise stated in the Contract documents, review of submittals will begin only after the submission of a complete set of information required to complete a discrete item of work.

1) The review process will allow 2 work days for each drawing submitted or a minimum of 10 days, unless stated otherwise in the Contract Documents.

2) Do not submit materials directly to a reviewing unit unless prior approval of the Engineer is obtained.

3) Furnish complete copies of all submissions to the Engineer.

3. Number of Copies Returned to the Contractor:

a. Whenever possible, the Engineer will return 1 “copy” of submittal dispositions electronically.

1) When the nature of the submittal is not conducive to being returned electronically, such as material Samples, the physical item will be returned as otherwise specified herein.

b. When it is not possible to return submittal dispositions electronically the Engineer will return at least 2 copies of reviewed submittals to the Contractor under the following conditions or provisos:

1) If more than 2 reviewed copies are required, submit an additional number of copies above the number normally required equal to the additional number of copies desired be submitted to the Engineer.

a) Provide additional copies of prints from reproducibles, catalog cut sheets, and other types of submittals if needed for distribution to suppliers or Subcontractors.

b) The Engineer is responsible for providing copies to the field engineers, inspectors, and Metro-North Railroad from the normally required copies.

2) For submittals that require a reproducible to be submitted, the approved or corrected reproducible will be returned to the Contractor.

3) For construction progress documentation submittals, refer to Section 01 32 00, Construction Progress Documentation,

regarding the number of copies returned.

4) For Operation and Maintenance (O&M) Manual submittals, contact Metro-North, regarding the number of copies returned.

4. Re-submittal Requirements:

a. Amend and resubmit all submittals that are not approved by the Engineer.

1) Following receipt of submittals with an Engineer's Review Status disposition that requires a resubmission of the product, make the corrections to the submittals as required by the Engineer and return the number of copies of the corrected submittal information that are as specified in Subparagraph 1.04.C.2 as applicable, and submit new Samples as required, for review and approval.

b. Direct the attention of the reviewer to revisions, other than the corrections required by the Engineer on previous submittals, by specifically annotating them in writing.

5. Closeout Submittals:

a. At Project Closeout, make submittals in accordance with the procedures as required by Metro-North.

H. Contractor's Certification Statements:

1. Prior to formally sending each submittal to the Engineer for approval, perform the following checks and reviews:

a. Verify the materials, dimensions, catalog numbers, shop fits, field connections, related field measurements and field construction criteria, product availability in the quantities that are required, and similar data.

b. Review information that is available that has a direct effect on the products being submitted.

1) Check and coordinate each item with applicable, approved submittals from this Contract and, if applicable, from other related contracts and subcontracts.

2) Review the submittal information for accuracy, completeness, and compliance with the Contract requirements.

3) Review the submittal information for compatibility with the work of affected trades and subcontracts.

c. After performing the above checks and reviews, affix the following signed Certification Statement to each submittal to certify that the Contractor has checked the information contained in the submittal and found it to be satisfactory for meeting the requirements of the Contract Documents, and further that there will be no difficulty in erecting or installing the submitted items or completing the Contract as agreed:

d. "By this submittal, I hereby represent that I have determined and verified field measurements, field construction criteria, materials, dimensions, catalog numbers, and similar data; and I have checked and coordinated each item with the Contract Drawings, Specifications, other applicable approved Shop Drawings, and Contract requirements."

e. Failure of the Contractor to note his approval on a submittal is reason for the Engineer to return such submission to the Contractor un-reviewed.

f. If submittals appear not to have been properly checked by the Contractor even though the Contractor's approval has been noted thereon, the submittal will be returned to the Contractor un-reviewed.

I. Master Submittal List:

1. Submit the following information to the Engineer for approval in accordance with the requirements of this Section:

a. Master Submittal List

1) Within 30 Days after the award of the Contract, submit a Master Submittal List of proposed submittals to the Engineer for approval.

a) Indicate the submittal number for each submittal in accordance with Subparagraph 1.04.B.2.b and identify the products, systems, or services submitted in accordance with Subparagraph 1.04B.2.c.

b) Indicate the proposed date of each submission, and the quantity or number of copies for the various types of submittals, in this list.

c) Assign the submission dates in a sequence that is in accord with the importance of the Work to the progress of construction.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.01 SITE QUALITY CONTROL

A. Mandatory Submittal File:

1. Maintain a submittal file in the project field office that contains all current, up-to-date submittals.

B. Conforming Work to Approved Submittals:

1. Contract Work, materials, fabrication, and installation must conform to approved Contract submittals.

a. Do not allow any portion of work requiring an approved submittal to be started or materials to be fabricated or installed prior to receiving approval or qualified approval of the item.

b. Do not make changes to approved submittals unless those changes have been accepted and approved in writing by the Engineer.

c. Distribute approved submittals to Subcontractors and, if applicable, other contractors to make product information available for identifying and correcting conflicts before they adversely affect construction.

1) Should conflicts occur, first obtain the Engineer's approval of necessary revisions and adjustments to eliminate the conflicts, and then perform the revisions and adjustments to the work at no additional cost to Metro-North Railroad.

2. Fabrication performed, materials purchased, or on-site construction accomplished that does not conform to approved submittals is at the Contractor's risk.

3. Rejection of any submittal required by this Section is not an acceptable basis for any claim for delay.

4. Metro-North Railroad is not liable for expenses or delay due to corrections or remedies required to accomplish conformity.

END OF SECTION

SECTION – 01 33 60

SAFETY, HEALTH, & ENVIRONMENTAL CONTROL

Table of Contents

SECTION – 01 33 60

SAFETY, HEALTH & ENVIRONMENTAL CONTROL

PART 1 – GENERAL

1.01 GENERAL

A. Safety and security of customers, passengers, Railroad employees, employees of the Contractor and its Subcontractors, and other persons, as well as protection of property and the environment, shall be a primary responsibility and concern of the Contractor. Precautions shall be exercised at all times for the protection of person and property. The Contractor shall assume the full responsibility and obligation to provide a safe working environment at all times and shall maintain a safe, clean, and healthy worksite. The Contractor shall supply, install, and maintain all safety apparatus and equipment necessary to protect the welfare of his employees, the public, customers, and RR employees.

B. The Contractor shall comply with this specification section, Metro-North Railroad Operating Procedures and General Safety Instructions, and all applicable federal, State, and local laws, rules, regulations, codes, statutes, ordinances, and provisions including but not limited to, the Occupational Safety and Health Administration, the Federal Railroad Administration, the Environmental Protection Agency (Federal), New York State Department of Environmental Conservation (State), the National Fire Protection Association (NFPA), the National Electrical Code, the New York State Industrial Code, the New York State Uniform Fire Prevention and Building Code, and requirements of the local municipality in which the Work is performed.

C. Notwithstanding any remedies for maintaining a safe, clean, secure, and healthy work site, in the event that the Contractor's work environment chronically provides a site such that, there are significant safety or security concerns, this may constitute an Event of Default in accordance with Article 7.01 of the Contract Terms and Conditions.

1.02 PROJECT INCIDENCE RATES

A. Metro-North maintains a database of injuries occurring to Contractor employees, customers, and Railroad employees. Metro-North calculates Recordable and Lost Time injury incidence rates for comparison to the industry average rates maintained by the Bureau of Labor Statistics. These rates are updated monthly. Metro-North utilizes the industry classification of Specialty Trade Contractors (NAICS 238) for comparative analysis. The safety record of a project is based upon comparison of the calculated project incidence rate to the latest national average incident rate for Specialty trade Contractors.

B. Incidence rates are calculated utilizing the following formula. The Contractor shall review the project incidence rates with the work force during Worker Safety Meetings.

$$\text{Number of Recordable or Incident Rate} = \frac{\text{Lost Time Injuries}}{\text{Actual hours Worked}} \times \frac{200{,}000}{\text{(100 workers x 40 hours x 50 weeks)}}$$

Actual Hours Worked

(NOTE: Work hours are tallied from the WF-257 Work Force Utilization Reports submitted by the Contractor)

PART 2 – SAFETY & HEALTH REQUIREMENTS

2.01 EMPLOYEE CONDUCT & RESPONSIBILITY

A. The Contractor shall be responsible for the implementation and enforcement of safety and security rules and requirements.

B. To promote safety the Contractor shall hold regular safety meetings, ensure its and all Subcontractor employees are properly trained, and monitor job site safety via inspection at the start and completion of each shift as well as monitoring the job site for this purpose throughout the day. The Contractor shall correct and report any safety violations and convene investigative meetings, as directed by the Engineer.

C. Any Contractor personnel who in the Engineer's opinion violates or is not in conformance with the safety requirements may be prohibited from working on Railroad property. Metro-North will maintain records of such prohibitions and the individual will also be prohibited from working on all other Metro-North projects for the duration of this Contract.

D. The Engineer reserves the right to refuse access to the Site or require immediate removal from the Site any individual violating, or alleged to have violated, site safety or security regulations and Contractor agrees to obtain consent of its Subcontractors to a similar provision, and Contractor agrees to hold the Railroad harmless for taking such actions.

2.02 BAN AGAINST INTOXICANTS / FITNESS FOR DUTY - SAFE AND PROPER CONDUCT OF CONTRACTOR PERSONNEL

A. While on Metro-North property or otherwise performing work for the Contract, employees and Consultants of the Contractor and its Subcontractors shall conduct themselves in a safe and businesslike manner, conducive to the safe and efficient operation of the Railroad. In connection therewith, the Contractor shall prohibit the possession and use of alcoholic beverages and intoxicants by all Contractor and Subcontractor personnel. Any Contractor or Subcontractor personnel determined by Metro-North, in its sole discretion, to be in violation of the provision, including but not limited to those determined by Metro-North to have violated the ban against intoxicants, will be prohibited from working on the Contract for its duration.

B. The Contractor shall not permit a worker whose ability or alertness is impaired because of drugs, fatigue, illness, intoxication, or other conditions to work at the Site. The Contractor shall ensure that its supervisory staff and the supervisory staff of each Subcontractor perform a fitness for duty inspection on each worker reporting for work and throughout the day. The Contractor is encouraged to have a substance abuse program, pre- employment drug testing, and testing for cause.

2.03 METRO-NORTH CONTRACTOR SAFETY ORIENTATION

A. All Contract personnel working on Metro-North Railroad (MNR) Property or on a MNR project are to complete the computer-based training class entitled ‘Roadway Worker Procedures for Contract Employees’. It is the Contractor’s responsibility to schedule training and ensure workers complete the computer-based training (CBT) prior to the start of work. Contractor personnel will not be permitted to commence work until they present documentation demonstrating each worker has

completed the training. CBT cost will be at the Contractor's expense at an approximate cost of $25.00 per person [this fee is not paid to MNR and is subject to change without notice].

It is the Contractor's responsibility to provide a Site Safety Orientation for all contractor personnel prior to commencing work.

B. Documentation evidencing completion of the OSHA 10 hour or 30 hour Construction Safety course within five (5) years of the Contract award date shall be provided as a prerequisite for attending Metro-North's Roadway Worker Procedures for Contract Employees Working on Metro-North Property. Workers to provide documentation of OSHA training at initial MNR site orientation.

C. The requirements covered by this training are a condition of working on Metro-North Railroad property, Project, or Contract.

D. The training is valid for a period of one (1) year from the date of training. The training must be refreshed annually on or before the initial date of training. It is the Contractor's responsibility to ensure the training of its workforce is current and will be at the Contractor's expense.

2.04 METRO-NORTH SPECIFIC SAFETY REQUIREMENTS

A. The Contractor is hereby notified that the Railroad contains hazards not typical of other construction sites, including but not limited to, moving rail equipment and hazardous energy (i.e. Third Rail 750 volts DC, Overhead Catenary 12.5 kV to 25 kV AC). Employee awareness and management's vigilance are crucial to maintaining safety in this environment. The presence of a Metro-North Conductor-Flagman (if any) shall not relieve the Contractor of responsibility for taking all proper precautions, especially in the vicinity of tracks and high voltage electrical circuits.

B. Communication is paramount to safety, especially in the railroad environment. Where any language barrier exists with respect to other Contractor or Subcontractor employees, the Contractor will provide a qualified interpreter(s) who will be present whenever needed, in the opinion of the engineer, to enforce safe conduct of the Work including but not limited to, at each work site and during meetings and safety classes. The Contractor shall provide at least one (1) individual that is fluent in the English language and able to communicate effectively with the Engineer and/or Conductor Flagman and translate between non-English speaking or comprehending individuals and the Engineer and/or Conductor Flagman. This individual must be able to effect communication between the work force and the Engineer and/or Conductor Flagman. Should the Engineer and/or Conductor Flagman deem the communication ineffective or has a potential to jeopardize the safety of the work force, the Engineer and/or Conductor Flagman has the right to stop the work until the Contractor can provide effective communication, the cost of any resulting delays to be borne by the Contractor.

C. Mobile telephones and other electronic devices shall not be used while on or about the tracks, and/or while operating machinery or equipment. Mobile telephones and other electronic devices may not be used while in areas of risk, such as on ladders, or while actively engaged in the work. Refer to General Safety Instruction 300.3 and Operating Rule D6 for specific requirements.

D. Audio devices such as radios, stereos, personal music players, or other audible

devices are prohibited from use on Metro-North property. This includes audio devices within construction equipment.

E. All ladders shall meet or exceed OSHA requirements. Commercially available ladders used during the work shall be limited to those of fiberglass construction. Job site constructed ladders may be of wood construction.

F. All stairways and passageways shall be maintained free of obstructions unless specifically necessitated by the work and approved by the Engineer.

G. Eyewash stations shall be provided, maintained, and readily accessible at all construction sites regardless of the presence or use of corrosive materials. Large sites, or projects having remote work locations, shall have additional eyewash stations as necessary.

H. Should known or suspect hazardous materials be unearthed, uncovered, or otherwise discovered during the course of the work, the work in that area shall cease and the Engineer shall be immediately notified. Work impacting the known or suspect hazardous material shall not resume without the direction of the Engineer.

I. All materials, whether to be used for temporary or permanent construction, shall be fire resistant or fire retardant treated. Materials shall have the manufacturers labeling evidencing such. Materials shall come from the manufacturer pretreated. Application of fire retardants on the project site is prohibited.

2.05 SAFETY SUBMITTALS

A. The Contractor shall provide the following submittals:

1. Safety, Health, and Environmental Control Plan (SHECP)
2. Emergency Contact List
3. Subcontractor’s Notice of Intent to Comply with Project SHECP
4. Record of Employee Site Safety Orientation
5. Safe Work Plans
6. Daily Safety Reports
7. Monthly Site Safety Audit Reports
8. Resumes & Qualifications of Safety Engineer and Safety Supervisor
9. Forms and reports for the documentation and investigation of Incidents, Accidents, and Injuries
10. Record of Employee Safety Meeting (i.e. Tool Box Meetings)
11. Evidence of Employee Training (i.e. OSHA 10 hr Construction Safety, Fall Protection, Confined Space Entry & Attendant, Scaffold Erection & User)
12. Fall Protection Plan
13. Material Safety Data Sheets
14. Employee Roster / Daily Employee Sign In/Sign Out Log
15. Crane, Rigging, Hoisting Plan
16. Copies of Citations, Suits, or Complaints

2.06 SAFETY KICKOFF MEETING

A. The Contractor's Project Manager, Safety Engineer, and Safety Supervisor(s) shall attend a Safety Kickoff Meeting which will be convened by the Engineer within 45 calendar days of Award. The purpose of the meeting is to discuss the project related safety issues including the Contractor's Safety, Health and Environmental Control Plan, this specification, and the responsibilities of the Safety Engineer.

2.07 SAFETY, HEALTH, AND ENVIRONMENTAL CONTROL PLAN (SHECP)

A. The Contractor shall develop and maintain a written, Contract specific, Safety, Health, and Environmental Control Plan (SHECP) to:

1. Protect the lives and health of all persons,
2. Provide employees with information to enable them to work safely
3. Prevent damage to property and environment
4. Identify hazardous conditions and unsafe work practices
5. Provide a system for auditing work site safety and compliance with the established safety program
6. Avoid work interruptions or any delay to train services due to accidents

B. Within fifteen (15) days of the date of Award, the Contractor shall submit the SHECP to the Railroad. Work on the Site shall not be permitted to start until the full written plan, covering all required items, has been submitted and accepted, and Safe Work Plans (SWPs) for the upcoming construction activities meeting the requirements of Section 2.16 are submitted, reviewed, and revised accordingly.

C. The Safety Engineer shall be involved in the preparation and review of the SHECP as evidenced by their signature on the cover page of the document.

D. Failure of the SHECP to address the safety concerns specific to the Contract and its scope of work, and contain the information required by this section, shall be grounds for immediate rejection of the submittal.

E. The Contractor shall utilize the provided SHECP Checklist to prepare the SHECP. The Contractor shall complete the SHECP Checklist and attach it to the SHECP upon submittal. Failure of the SHECP submittal to contain a completed SHECP checklist shall be grounds for rejection of the submittal.

F. The SHECP shall be a written plan laying out the management organization and strategy to assure high levels of job site safety for all performed tasks. It shall define the personnel responsible for developing and assuring safe work practices for each major item of work or subcontract.

G. The Contractor shall revise and resubmit the SHECP based upon comments returned from the Engineer. As to facilitate the SHECP review process, should comments be returned to the Contractor, the Contractor shall address each comment individually and separately from revisions to the SHECP itself. A cover letter identifying each of the reviewer's comments and the Contractor's responses shall accompany the revised and resubmitted SHECP.

H. The Contractor shall take immediate action to prevent the recurrence of each incident, accident, or injury. In addition, the Contractor shall review the SHECP based on such an occurrence and revise as necessary. Upon any changes in work

conditions, the Contractor shall also revise the SHECP. The Contractor shall submit each revision of the SHECP to the Engineer for review.

I. The Contractor shall maintain a copy of the SHECP within the project field office. The Contractor's SHECP including each Subcontractor's Notice of Intent to Comply with the Contractor's SHECP shall be readily available for review by the Railroad.

J. The Contractor shall ensure that all Subcontractors and Suppliers comply with the Contractor's SHECP or submit their own programs that the Contractor shall be required to approve. Each Subcontractor shall comply with the Contractor's SHECP and shall provide written notification of its intent to adopt and comply with the Contractor's SHECP. If the Subcontractor elects to submit its own SHECP, it shall demonstrate that their program meets the requirements of this Section, be approved by the Safety Engineer, and be incorporated into the Contractor's SHECP. The Subcontractor's SHECP shall be submitted and approved prior to the start of the Subcontractor's work on the Site. The Contractor shall review the Subcontractor's and Supplier's agreements to ensure the flow down of all applicable safety requirements.

K. The following are the minimally required elements of the SHECP. The SHECP shall contain the following. Failure of the SHECP to contain the following information shall be grounds for rejection of the submittal. The Contractor may include information beyond what is required herein but shall limit it to information applicable to the Contract scope of work.

1. Cover page with Name of Contractor, Title of Contract, and Contract Number. Include plan revision number, date of revision, name, and signature of Safety Engineer responsible for the maintenance and enforcement of the SHECP.

2. Table of Contents that provides section numbers, title or description of the section contents, the page number of the section, and identification of the revision number and revision date of each section.

3. Safety Policy Statement signed by an Officer of the Contractor.

4. Organizational chart of Contractor and Subcontractor personnel responsible for implementing the SHECP and their duties and responsibilities. The chart shall show the reporting relationship and integration of the Safety Engineer with all personnel, including top-level managers, responsible for implementing the SHECP.

5. Description of the relationship between the Prime and Subcontractor(s) and the responsibility for management of site safety.

6. Identification of the Safety Engineer including their duties and responsibilities.

7. Identification of the Safety Supervisor including their duties and responsibilities.

8. Identification of the Competent Person(s) for each of the respective construction disciplines or specialties.

9. A statement regarding the responsibility of all employees to work safely, to not engage in unsafe behavior, and abide by safety rules.

10. A comprehensive description of the project and scope of work under the Contract. This section shall be of sufficient detail so that those not directly involved in the project, including reviewers of the SHECP, may attain sufficient knowledge to judge the applicability and adequacy of the SHECP contents.

11. A listing of the known and anticipated hazards to be encountered during the work.

12. A detailed Employee Safety Orientation Plan for all Contractor and Subcontractor personnel (see Section 2.12). The Contractor shall include a Record of Employee Safety Orientation form for employee acknowledgement / sign-off of having received such safety orientation.

13. Requirement for Worker Safety Meetings (i.e. Tool Box Meetings). Include Record of Worker Safety Meeting form to be used to document meetings. At a minimum, the Record of Worker Safety Meeting shall identify the date, topic(s) of discussion, and attendees.

14. Requirement for Safe Work Plans. Include example of Safe Work Plan form.

15. A description of the how the Contractor intends to monitor the work site and ensure that employees are following established policies, procedures, and work practices. Requirement for Daily Site Safety Inspections. Daily inspections for each work shift and inspections being recorded in a Daily Safety Report. Include a copy of the proposed Daily Safety Report as an attachment.

16. Requirement for Monthly Site Safety Audits. Include a copy of the example Monthly Site Safety Audit Report to be utilized.

17. Procedures for the Identification and Handling of Unsafe Conditions

18. A section dedicated to Slip, Trip, Fall hazards and abatement

19. Employee Fitness for Duty including monitoring of employee fitness, and handling of employees deemed unfit for duty.

20. Incident/Accident Response - Procedures for Handling and Reporting Injuries, Incidents, Accidents, and Near Misses. Include an Accident Investigation Procedure including a decision chart for identifying root causes. Include Accident Investigation Report form(s). Include a generic action plan for review, analysis, and immediate action necessary to prevent recurrences of all accidents or incidents (near misses). The Contractor shall review and if necessary, revise the SHECP based on the occurrence of serious accidents, incidents, injuries, or near misses, and upon any changes in job conditions, or as required by the Engineer.

21. An Emergency Preparedness and Response Plan to include the following:

    a. An Emergency Contact List which shall identify the proper numbers to call for all emergencies including fire, police, medical (hospital, clinic, ambulance), disruptions of train service, and the release of contaminants into the environment, in addition to the phone numbers of all involved parties including the Metro-North contacts and Contractor / Subcontractor contacts. Identify the location of

phones to be used for emergency notification.

b. A plan for the safe and effective response to medical emergencies for Contractor and Subcontractor personnel. Emergency medical services shall include first-aid treatment (including all necessary first aid supplies), and ambulance service (or other standing arrangement) for the immediate transport of injured workers to medical treatment.

c. Include emergency phone numbers for fire and life-safety emergency contacts.

d. Include the name, address, phone number, and driving directions and map(s) of local routes to the hospitals and/or other medical treatment facilities nearest to the project site.

e. An Evacuation Plan that identifies the emergency escape routes or available means of egress during an evacuation, designates the primary and secondary assembly (i.e. muster) areas for personnel, and a system by which each individual can be accounted for in the event of an evacuation, fire, or other such emergency. Include copy of the Employee Roster form or Daily Sign-in/Sign out Log.

f. Include requirement for an annual emergency preparedness drill(s).

g. The identification of potential environmental accidents and emergencies associated with site-specific construction activities. And the response procedures to construction site environmental accidents and emergencies and for the prevention and mitigation of the environmental impacts that may be associated with them.

h. Site security and control: The Contractor shall outline its plan for site security including prevention of unauthorized entry onto the project site and prevention of vandalism. The plan shall include all contractually required security items. This plan shall include where necessary: use of fencing, temporary enclosures, concrete barricades, surveillance cameras, guard service and worker identification.

i. Notification to Engineer and all appropriate agencies.

j. Annual reviews and revisions of the Emergency Preparedness and Response Plan, in particular after the occurrence of environmental accidents and emergency situations.

22. Outline of general safety rules and procedures for the performance of the Work. The Contractor shall ensure that all applicable safety regulations are addressed and included in this section. Examples for inclusion in this section are as follows:

a. Hazardous Communication (HAZCOM) Program,

b. Protection of Existing Public and Private Utilities (Utility Identification, Call Before You Dig),

c. Fall Protection Program,

d. Lock Out / Tag Out,

e. Arc – Flash Protection,

f. Hearing Conservation Program,

g. Respiratory Protection Program,

h. Confined Space Program,

i. Burning & Welding / Use and storage of compressed gases,

j. Powder Actuated Tools,

k. Hand & Power Tools,

l. Ladders & Scaffolds,

m. Handling, Containerization, & Storage of Flammable Materials/Liquids

23. Outline of site-specific safety rules and procedures for the performance of the Work. Examples for inclusion in this section are as follows:

    a. Plans for safe ingress and egress,

    b. Fall Protection Plan

    c. Maintenance & Protection of Traffic / Traffic Control Plans

    d. Protection of the Public, and Metro-North Customers and Employees,

    e. Plans for fire protection and emergency response, and

    f. Plans for Lead and Asbestos Abatement.

24. Employee Conduct, Handling of Employees / Subcontractors Failing to Abide by Safety Requirements, and Disciplinary Procedures for Violations of Safety Rules.

25. Procedure for identification and labeling of products, control of products and materials containing hazardous components, including provisions for maintenance of Material Safety Data Sheets (MSDS).

26. Environmental protection to be implemented by the Contractor during the performance of the Work, including but not limited to, noise control, prevention and/or control of air and water pollution, erosion and siltation control, removal of waste materials, storage of construction materials, protection against fire, minimum disturbance to pedestrian and vehicular traffic, maintaining use of public facilities, protection against fugitive emissions / dust control, on site storage of fuels/petroleum products, spill prevention, leak containment, and clean-up.

27. Procedures for the periodic review and revision of the SHECP.

28. Procedures for the organization and maintenance of safety related documentation

29. Any other related safety information.

2.08 SAFETY ENGINEER (FULL TIME)

A. The Contractor shall provide and assign a full time Safety Engineer to this project within fifteen (15) days of Notice of Award until physical completion of the work.

Within ten (10) days of Notice of Award, the Contractor shall submit a resume documenting the qualifications of the proposed candidate to the Engineer for approval. The individual serving in this capacity is often referred to as the Site safety, Safety Manager, Site Safety Manager, Site Safety Officer, Health & Safety Officer, On Site Safety Manager but shall be clearly identified as the "Safety Engineer" throughout all documentation.

B. The authority and responsibility of Safety Engineer shall be assigned to a single individual who is full time, on the project site while work is actively underway, qualified as described herein, and a management representative of the Contractor. The Safety Engineer's responsibility shall be limited to managing and monitoring site safety, site security, and environmental protection. The Contractor may subcontract this position to a qualified safety consultant.

C. The Safety Engineer (s) shall be present at the project site full time, for the duration of the work shift(s), upon demonstration that the Contractor's SHECP is being implemented and site safety is effectively being managed and monitored (at a minimum, the initial two weeks of active field work), the Contractor may submit a request to Metro-North Railroad to reduce the frequency of the Safety Engineer's presence at the project site(s) to three (3) times per week, and eventually two (2) times per week.

D. Upon demonstration by the Safety Engineer, the ability to satisfactorily manage site safety, other supervisory and technical tasks may be assigned to this individual, but his/her first duty is to provide for project safety as described in these specifications. Prior to assigning the Safety Engineer additional responsibilities, the Contractor shall submit in writing to the Engineer, a request to allow the Safety Engineer to assume additional responsibilities. If such approval is granted, Metro-North reserves the right to revoke the same in the event site safety is not being maintained.

E. Metro-North reserves the right to require the Contractor to replace the individual serving in the capacity of the Safety Engineer, at any time, for failure to perform the duties outlined in this section. The lack of accidents or employee injuries on a project shall not be utilized as the sole means of evaluating satisfactory performance of the Safety Engineer.

F. The Safety Engineer shall be present at the locations where the work is actively being performed. The Safety Engineer's regular work shift shall be the work shift with the greatest work activity or the shift with the most hazardous work activity. This may require the Safety Engineer to be present for day, evening, night, or weekend shifts. The Safety Engineer may be required to be present for multiple shifts if high hazard or high-risk work is occurring during multiple shifts. Failure to have a Safety Engineer or Safety Supervisor at a work area may result in a stoppage of work at that work area.

G. The Safety Engineer shall be given the authority to alter and implement changes to the Contractor's means and methods as necessary to benefit the safety of operations. In the event of an Unsafe Condition, the Safety Engineer shall have the authority to order the work to be stopped in the affected area until the Unsafe Condition is corrected.

H. The Contractor shall not change the approved Safety Engineer without prior written consent of the Railroad.

I. The responsibilities and duties of the Safety Engineer shall include the following:

1. Development of the Safety, Health and Environmental Control Plan (SHECP) and revise as required,
2. Implementation of the SHECP,
3. Monitoring of the Contractor's and each Subcontractor's implementation of and adherence to the SHECP,
4. Development and review of Safe Work Plans, and monitor the implementation of the same in the field
5. Ensure that all employees on site have completed the requisite Metro-North training and any other training as may be required by regulation
6. Conduct Employee Site Safety Orientations
7. Conduct Worker Safety Meetings and manage Subcontractor's Worker Safety Meetings
8. Conduct regular inspections of the work site(s) throughout the work shift to identify unsafe work practices and conditions and monitor implementation of controls and use of proper protective equipment. One (1) of these inspections shall be conducted at the beginning of the shift; within one (1) hour of shift commencement. Such inspections shall be structured to identify unsafe employee work practices and conditions and implement corrective actions. The findings and corrective actions shall be documented on the Daily Safety Report.
9. Prepare Daily Safety Reports (see Section 2.19)
10. Coordinate and participate in Monthly Site Safety Audits and Monthly Safety Meetings
11. Attendance at all safety related project meetings
12. Conduct incident/accident investigations, prepare and distribute associated reports and documentation, and review to ensure completeness
13. Maintain all safety related documentation

J. Qualifications

1. Required qualifications include the following:
   a. The Safety Engineer shall have not less than five (5) years of construction safety or construction safety related experience. The Safety Engineer must be familiar with the work being performed. The resume must include for a five (5) year period, a description of the duties, responsibilities, accomplishments, and safety record of preceding assignments from which the candidate has gained construction safety experience. Experience in construction and/or construction management does not satisfy the requirement for experience in construction safety.
   b. A sound working knowledge of Railroad, State, and Federal occupational safety and health regulations.
   c. Training in and working knowledge of the use of all necessary

health and safety monitoring equipment.

d. American Red Cross or equivalent standard first aid and adult cardiopulmonary resuscitation (CPR).

e. OSHA 40-hour Hazardous Waste Operations & Emergency Response (HAZWOPER) training in hazardous materials safety and health as stipulated in 29 CFR 1910.120 e(3), 8 hours of supervisory training as described in 29 CFR 1910.120 e(4), and 8 hours of refresher training as described in 29 CFR 1910.120 e(8).

f. Successful completion of one (1) or more of the following:

1) An ABIH Certified Industrial Hygienist (CIH) or ASSE Certified Safety Professional (CSP), or

2) A BCSP Construction Health and Safety Technician (CHST) or Occupational Health and Safety Technologist (OHST), or

3) Certification as a Site Safety Manager by the New York City Department of Buildings, or

4) OSHA #500 Trainer Course in Occupational Safety and Health Standards for the Construction Industry, or

5) OSHA #510 Occupational Safety and Health Standards for the Construction Industry, or

6) OSHA 30-hour Construction Safety and Health Training completed within (3) years of the date of Contract award by an OSHA Outreach Training Provider.

2.09 SAFETY SUPERVISOR

A. Whenever the Safety Engineer is not present, the duties and responsibilities of the Safety Engineer shall be assigned to a Safety Supervisor. The Safety Supervisor's primary responsibility shall be the management of all safety matters under his/her jurisdiction. Failure to have a Safety Engineer or Safety Supervisor at a work area may result in a stoppage of work at that work area.

B. The Contractor shall submit to the Railroad the names and duty tours of the proposed Safety Supervisors.

C. Within fifteen (15) days of Notice of Award, the Contractor shall submit a resume documenting the qualifications of the proposed candidate(s) to the Engineer for approval.

D. Qualifications

1. Required qualifications include the following:

a. The Safety Supervisor shall be familiar with the work being performed, shall be competent to instruct others, and shall be familiar with the SHECP.

b. The Safety Supervisor shall have not less than five (5) years of construction safety or construction safety related experience. The Safety Engineer must be familiar with the work being performed. The resume must include for a five (5) year period, a description of the duties, responsibilities, accomplishments, and safety record of

preceding assignments from which the candidate has gained construction safety experience. Experience in construction and/or construction management does not satisfy the requirement for experience in construction safety.

c. Successful completion of one (1) or more of the following:

1) An ABIH Certified Industrial Hygienist (CIH) or ASSE Certified Safety Professional (CSP), or

2) A BCSP Construction Health and Safety Technician (CHST) or Occupational Health and Safety Technologist (OHST), or

3) Certification as a Site Safety Manager by the New York City Department of Buildings, or

4) OSHA #500 Trainer Course in Occupational Safety and Health Standards for the Construction Industry, or

5) OSHA #510 Occupational Safety and Health Standards for the Construction Industry, or

6) OSHA 30-hour Construction Safety and Health Training completed within (3) years of the date of Contract award by an OSHA Outreach Training Provider.

2.10 EMPLOYEE TRAINING

A. The Contractor shall ensure the proper training of its employees and Subcontractor's employees. Employee training required specifically by OSHA, NYSDOT or other agency regulations shall be provided. Upon request of the Engineer, the Contractor shall submit evidence of such training.

B. All workers shall have completed the OSHA ten (10) hour Construction Safety Course within five (5) years of the Contract award date. All management personnel, including Project Managers, Superintendents, Foremen, and Competent Persons shall have completed the OSHA thirty (30) hour Construction Safety Course within five (5) years of the Contract award date. Only courses completed through OSHA recognized outreach training providers shall be acceptable. Evidence of such training shall be submitted to the Engineer and shall be a prerequisite for attending the Metro-North Contractor Safety Training required by Section 2.03.

2.11 EMPLOYEE SITE SAFETY ORIENTATION

A. Prior to working on the Site, the Contractor shall provide each employee with an effective Site Safety Orientation. The orientation shall be provided by the Safety Engineer, Safety Supervisor, Safety Manager, or other qualified management representative of the Contractor. The contents of the training shall include, but not be limited to, the following:

1. Introduction to the project site, scope of work, and key personnel;

2. Review of the company's Safety Policy;

3. Review of the SHECP and where it is maintained on site;

4. Review of plans supplemental to the SHECP (i.e. HAZCOM, Respiratory Protection Program, Fall Protection Program, Confined Space Entry

Program)

5. Review of the safety rules and requirements with a copy distributed to each employee;
6. Employee fitness for duty and substance abuse policy;
7. Worker responsibilities and disciplinary procedures for violation of safety rules,
8. Review of the Metro-North specific safety requirements, with a copy distributed to each employee;
9. Review of the Project Incidence Rates for Recordable and Lost Time Injuries inclusive of prior incidents, accidents, injuries, and near misses
10. Requirement for the immediate reporting of incidents, accidents, injuries, and near misses;
11. Site security procedures (i.e. photo ID, company logo/insignia on PPE, sign- in/sign-out log, “if you see something, say something”, be aware of suspicious behavior, specific procedures for secured facilities);
12. Emergency Preparedness and Response Plan including identification of medically trained personnel, and location of First Aid and medical facilities, emergency phone numbers;
13. Evacuation Plan
14. Identification of the Safety Engineer and Safety Supervisor(s) and their duties and responsibilities;
15. Procedures in place for the identification and control of job site hazards (i.e. individual’s responsibility to report unsafe conditions and work practices, daily safety inspections, safety audits)
16. Review of site-specific hazards, respective controls, and safe work practices;
17. Review of the public, customer, and Metro-North employee safety concerns, the separation and protection of work areas (i.e. signage, barricades, fencing, barriers)
18. Review of the availability and content of Safe Work Plans;
19. Attendance requirements for Daily Safety Briefings, and Weekly Worker Safety Meetings;
20. Personal Protective Equipment requirements;
21. Housekeeping requirements;
22. Fire prevention requirements;
23. Construction equipment and vehicle safety (i.e. seat belts, speed limit, equipment escort/flagging for movements)
24. Warning devices and safety postings.

B. The Contractor shall maintain written records of the Site Safety Orientation program and each individual’s acknowledgement of having completed the orientation. As documentation of orientation, the Contractor shall provide a written

Record of Employee Safety Orientation whereby each employee acknowledges having received such orientation. Upon completion of the employee's orientation, the employee shall complete the Record of Employee Safety Orientation form. An example of this form shall be included in the SHECP. Copies of the completed Record of Employee Safety Orientation shall be submitted to the Engineer within five (5) working days after the orientation. At a minimum, the record shall include the following:

1. An outline of the topics covered
2. The date the training was completed
3. A statement whereby the employee acknowledges having completed such orientation and agrees to abide by the safety requirements
4. The printed names and signatures of the following:
    a. Employee having received the orientation
    b. Safety Engineer or Safety Supervisor
    c. Individual providing the orientation (if other than the Safety Engineer or Safety Supervisor),
    d. Project Superintendent or Project Manager

2.12 DAILY SAFETY BRIEFING

A. An effective Safety Briefing shall be conducted at the start of each workday, or at any time during the work day when conditions change, or new tasks are initiated. All individuals involved in the task shall attend the Safety Briefing. An employee failing to attend a Safety Briefing shall not be permitted to perform any work until the employee has received the same instruction.

B. The briefing is a two-way communication tool to ensure that workers know what they will be doing, how it will be accomplished, have the ability to discuss better ways to do the job, and are alert and focused on the job.

C. Employees involved in the work shall be authorized and empowered to recommend changes to the means and methods to increase the safety of the operation. Employees should be encouraged to ask questions pertaining to things they are not confident about. The Contractor shall specifically inform employees of this authority.

D. The Safety Briefing should include:

1. A description of the job and basic steps involved
2. Assignment of tasks and responsibilities
3. A check that all involved are familiar with applicable Safe Work Plans
4. Existing and potential hazards applicable to that shift's work
5. Review of MSDS
6. Required tools, equipment, and materials
7. Necessary safeguards and procedures, including specific personal protective equipment required
8. Special conditions to watch for

9. When to stop and re-brief

10. Feedback and questions

2.13 WEEKLY WORKER SAFETY MEETINGS

A. Worker Safety Meetings shall be held no less than one (1) time each week. Each employee of the Contractor and each Subcontractor working at the Site shall attend Worker Safety Meetings.

B. The Worker Safety Meeting shall be conducted by the Safety Engineer or a Subcontractor's Competent Person. The Safety Engineer shall approve the content of each Subcontractor's Worker Safety Meeting.

C. The Worker Safety Meeting shall review safe working methods and applicable rules required for the safe performance of the work scheduled during the two (2) week period following the Worker Safety Meeting. Each Worker Safety Meeting shall include:

1. Instruction and discussion of Safe Work Plans applicable to the upcoming work,

2. Review of recent injuries, incidents, accidents, near misses

3. The Engineer reserves the right to direct the Contractor to cover additional information.

D. The Contractor shall notify the Engineer at least one (1) week in advance of each scheduled Worker Safety Meeting.

E. The Contractor shall prepare a written Record of Work Safety Meetings. An example of this form shall be included in the SHECP. Copies of the completed Record of Work Safety Meeting shall be submitted to the Engineer within five (5) working days after the Worker Safety Meeting. The record shall include the following:

1. The date and time the meeting was held

2. An outline of the topics discussed

3. The specific Safe Work Plans that were reviewed

4. The printed names and signatures of

a. All attendees

b. The individual chairing the meeting

c. Safety Engineer or Safety Supervisor

2.14 MONTHLY SAFETY MEETING

A. On a monthly basis while on site work is underway, the Contractor shall chair a Monthly Safety Meeting. The Contractor shall inform Metro-North of the meeting schedule (2) weeks in advance. An agenda and minutes of the meeting shall be prepared by the Contractor and submitted to the Engineer within five (5) working days after the meeting.

B. All Contractor personnel responsible for project safety including, management officers that are responsible for developing and maintaining company safety standards and policies (i.e. Corporate Safety Director), the Safety Engineer, the

Safety Supervisor, the Superintendent, Foremen, and Subcontractor's Competent Persons shall attend.

C. The agenda for the Monthly Safety Meeting shall minimally include the following:

1. Review of Incidents, Injuries, Accidents & Near Misses and Lessons Learned
2. Review of site safety audits and inspections completed since the last meeting
3. Review of the preceding month's Monthly Site Safety Audit
4. Review of work plans for upcoming operations (i.e. new processes or procedures, sharing of new means and methods, new equipment, or products, those requiring special precautions and/or PPE)
5. Development and review of Safe Work Plans
6. Safety program implementation (i.e. review of safety related project documentation for completeness, Incident/Accident/Injury Reports, New Employee Orientation, OSHA 10 hr Construction Safety, OSHA required training such as Fall Protection, Confined Space)
7. Dissemination of safety related information from Management to Work Force and vice versa (i.e. Safe Work Plans, Incident/Injury Reporting)

2.15 SAFE WORK PLANS

A. The Contractor shall prepare and submit a Safe Work Plan (SWP) for each of the primary construction tasks identified on the four (4) week Rolling Schedule. The SWP shall be structured to correlate with, and be integrated into, the four- week Rolling Schedule. By maintaining parallelism in document formats, a consistent, cohesive effort will effectively merge safety into the construction management process. (See example on following pages.)

B. The SWPs shall be transmitted to the Engineer one (1) week prior to the start of the work covered by the SWP. Failure to transmit SWPs may be grounds for not allowing the work to proceed and for withholding progress payments.

C. A SWP is a written work plan which identifies the tasks and corresponding subtasks to be completed, the method of work for performing each task, the hazards associated with the work, and the corresponding equipment and methods that will be used to control the hazards and prevent accidents. The SWP shall define a plan of action for each identified hazard including comprehensive prevention methods for exposures to workers, the public, property, and the environment. Access/egress and setup/breakdown under all expected environmental conditions shall be included.

D. SWP's shall address all foreseeable exposures to the work force, the public, and property. Absence of an applicable standard or regulation does not preclude the Contractor from providing appropriate controls within an SWP. Specific references in the SWP to codes standards and regulations are not necessary.

E. When controls are compliance based, such as for confined space entry, all applicable compliance information shall be included or appropriately referenced. Of particular concern are training items that will be required to educate the employees about exposures such as Worker Safety / Tool Box Meetings held to

discuss the hazard and accident prevention methods. More formal off-site training (fall protection, confined space, trenching, competent person, etc.) should be listed and documentation referenced or provided.

F. Work shall not begin until the SWP has been presented to and accepted by the Engineer. If the SWP does not adequately address all expected, foreseeable hazards posed by the work, the Engineer will require clarification or additional planning to ensure that work proceeds safely. The Contractor's Competent Person involved, shall demonstrate knowledge of the Competent Person responsibilities as defined by OSHA and how the plan will be effectively implemented, to the satisfaction of the Engineer.

G. The SWP shall include the following information and be prepared in accordance with the example shown on the following pages.

1. General Project Information (Contract, General Contractor, Contractor Performing Task)
2. SWP Number (i.e. 1, 2, 3), Date, Revision (i.e. 01, 02, 03)
3. Primary Task - Describe the scope of work
4. Method of Construction
5. List of equipment and products to be utilized, with product data sheets, material specifications, and Material Safety Data Sheets attached
6. Development Team (Preparers and Reviewers)
7. Competent Person(s) assigned to the task
8. Work Element(s)/Sub Tasks - Describe subtasks and activities of the Primary Task, as appropriate. Identify the equipment and methods of construction for the Work Element.
9. Hazard Description - Describe each foreseeable hazard for the Work Element
10. Hazard Control/Accident Prevention - Describe controls and procedures that will be implemented to reduce or eliminate each foreseeable hazard described above; reference attachments as necessary.
11. Training Required – Metro-North Roadway Worker Safety, Fall Protection, Confined Space, Equipment Operation (i.e. fork lift)
12. Specific PPE Required for Each Task – List the specific PPE required, beyond the standard minimally required PPE for all tasks (i.e. hard hat, safety vest, protective eyewear, work shoes)
13. Implementation / Review with Work Force

H. Priority should be given as follows in controlling hazards:

1. Substitution or change of method to eliminate hazard
2. Engineering controls
3. Provision of Personal Protective Equipment (PPE)
4. Management controls / training, such as a safety monitor for fall exposures.

I. Accident prevention procedures shall be based on industry standards including but

not limited to:

1. OSHA Standards
2. Mine Safety and Health (MSHA) Regulations
3. National Institute for Occupational Safety & Health (NIOSH)
4. American National Standards Institute (ANSI)
5. National Fire Protection Association (NFPA)
6. American Conference of Governmental Industrial Hygienists (ACGIH).

2.16 SAFE WORK PLAN

SECTION 1 – General Information			
Contract / Project Description:	Croton Harmon Yard Improvements – Phase IV	**SWP No.:**	1
General Contractor:	ABC Constructors	**Date:**	01/21/10
Contractor Performing Work:	DEF Excavating	**Revision No.:**	01
Primary Task:	Installation of Oil Water Separator. Excavate a pit approximately (10) feet long by (10) feet wide and (8) feet deep in the northwest corner of the yard near Track 4 and install oil water separator.		
Method of Construction:	Standard cut and cover excavation		

Equipment / Materials (Product Data Sheets & MSDS Attached):	
Cat 245 backhoe equipped with 1.5-yard toothed bucket and lifting hook will be used to excavate, place materials, and backfill	20- yard dump truck will be used to remove excavated material from the Work Area
An engineered shoring system will be used to protect against cave-in and to support the soil near the track bed on Track 4	Wire rope slings and shackles will be used to lower oil water separator and top section into pit
Gasoline powered tamper will be used to compact soil during backfilling	Shovels, rakes, and hand tools will be used for various tasks

SECTION 2 – Development Team					
Prepared By:	**Position/Title**	**Date**	**Reviewed By:**	**Position/Title**	**Date**
John Doe	Laborer	01/12/10	Jane Mayfield	Safety Engineer	01/19/10
Bob Catt	Equipment Operator	01/12/10			
Phil Spoil	Excavation Foreman	01/13/10			

SECTION 3 – Competent Person(s) Assigned			
Competent Person	**Discipline**	**Competent Person**	**Discipline**
Phil Spoil	Excavation	Bob Fume	Confined Space Entry
Clevis Shackle	Rigging		

SECTION 4 – Safety Analysis			
Work Element(s)/Sub Tasks:	**Hazard Description**	**Hazard Control/Accident Prevention**	**Specific Training & PPE Required**
Excavate – Dig pit for oil water separator	Potential collapse of excavation and related excavation hazards	Excavation will be shored utilizing a pre-engineered shoring system. Ladders will be provided for safe entry and egress. Ladder to extend 36” above excavation. A guardrail will be installed on top of the shoring system to protect against falls into the open excavation.	Fall Protection

SECTION 4 – Safety Analysis			
Work Element(s)/Sub Tasks:	**Hazard Description**	**Hazard Control/Accident Prevention**	**Specific Training & PPE Required**
Place Gravel – Place and level pea gravel in excavation	Hazards of moving vehicles.	The backhoe and dump truck are equipped with back up alarms. The swing area of the backhoe will be cordoned off with caution tape. A spotter will be provided while the truck is backing.	
Set Oil Water Separator – Lower precast unit in place and level Install Top Section – Set precast top section (manhole)	Crushing hazard while placing sections of oil water separator.	Tag lines will be used while lowering sections. Workers will not be permitted in pit until load had been safely landed. All wire rope slings and rigging has been specified for the lift and will be inspected daily.	

SECTION 4 – Safety Analysis			
Work Element(s)/Sub Tasks:	**Hazard Description**	**Hazard Control/Accident Prevention**	**Specific Training & PPE Required**
Connect Pipes Connect concrete drain pipes to unit Inspection Conduct final inspection and tests	Confined space exposures when entering oil water separator to make pipe connections and during final inspection.	Confined space procedures as outline in the Safety Health and Environmental Control Plan will be followed. Air monitoring will be performed prior to entry and throughout the course of work	Confined Space Monitoring Space Confined Rescue Equipment
		In the confined space. Rescue equipment will be maintained on site.	
Waterproofing – Apply mop down asphalt waterproofing	Exposures to hazardous materials while working with gasket materials and waterproofing.	MSDS sheets will be obtained on the materials and workers will be provided with the proper PPE as required in the MSDS.	Face Shield Rubber Gloves Protective Clothing Respiratory Protection
	Exposures to burns from hot asphalt waterproofing.	Each worker performing waterproofing operations will be required to wear cotton work clothes including long sleeve shirts. Each workers handling buckets of material and tending the kettle will be required to wear protective gloves and face shields.	
Backfill & Tamp - Restore site to finish grade	Hazards of moving vehicles.	The backhoe and dump truck are equipped with back up alarms. The swing area of the backhoe will be cordoned off with caution tape. A spotter will be provided while the truck is backing.	

SECTION 4 – Safety Analysis			
Work Element(s)/Sub Tasks:	**Hazard Description**	**Hazard Control/Accident Prevention**	**c Training & PPE Required**
All Tasks	Heat Exhaustion / Heat Stroke	Wear loose fitting, breathable clothing. Break periods and worker rotation may be necessary. Potable water will be provided, and consumption encouraged via toolbox talk about heat stroke exposures.	
	Miscellaneous exposures	Hard Hats, safety glasses and safety vests are minimally required PPE	
		As summer progresses, proper clothing requirements will be enforced. (No shorts, proper shoes, short sleeve shirts, no tank tops)	

SECTION 5 – Implementation / Review with Work Force					
Print Name	**Signature**	**Date**	**Print Name**	**Signature**	**Date**

2.17 DAILY EMPLOYEE SIGN IN / SIGN OUT LOG

A. In support of the Contractor's Emergency Action Plan and Evacuation Plan, the Contractor shall maintain a sign-in / sign-out log of all employees working on Metro-North property. The log shall be completed daily. The log shall be submitted to the Engineer daily; on the next shift following the previous shift. (See example on following pages.)

B. The heading of the log shall include the following information: Contract number, Project description, Location of the work, Work shift hours, Name and Emergency Contact Information for Designated Emergency Contact (DEC), Superintendent, or Team Leader.

C. The body of the log shall include the following information: Employee Printed Name, Name of Employer, Date & Time Entering Work Site with Signature, Date & Time Leaving Work Site with Signature.

D. The logs must be available to the MTA Police and the Engineer within two (2) hours of the shift start time.

E. During an emergency situation or evacuation, the logs must be available to emergency services forthwith.

PART 3 – DAILY FINAL INSPECTION OF WORK SITE

A. At the completion of each work shift and prior to vacating the site, the Contractor shall conduct a final inspection of the project site. The purpose of the inspection shall be to ensure the site is adequately secured prior to being vacated. The Contractor shall notify the Engineer of having completed such inspection.

B. At a minimum, the inspection shall include the following:

1. The soundness, stability and security of equipment and material installed during the shift,
2. Housekeeping / cleanliness of site,
3. Removal of equipment, tools and materials from areas open to the public, customers, and employees,
4. Temporary protections to safeguard the public (i.e. fencing, barricades, signage),
5. Temporary and security lighting,
6. Potential fire hazards (i.e. equipment left running, electrical),
7. Securing of materials (i.e. materials that may be displaced by wind and/or water),
8. Securing of the site, including temporary facilities and equipment (i.e. storage areas, equipment, field offices, security gates)

3.02 CONTROL CONTRACTOR EMPLOYEE SIGN IN / SIGN OUT LOG

Emergency Numbers	**MTA Police**	**Operations Command Center / Rail Traffic Controller**
	(888) 682 – 9117 or (212) 87 1000	**(212) 340 – 2050**

Contract Number / Project Description		**Contractor (Prime)**	
Work Location *(Give this Description to emergency services)*		**Field Office Location / Phone**	

Start	**Day** (circle)							**Date**		**Finish**	**Day** (circle)							**Date**	
	M	T	W	H	F	SA	SU	**05/24/10**	**2100**		M	T	W	H	F	SA	SU	**05/25/10**	**0500**

Contacts	**Contractor's Site Representative**	**Contractor's 24 hr Emergency**	**Metro North Project Manager**	**Metro-North Representative**
Name				
Cell Number				
Office Number				

Metro-North Authorization	Print Name		Signature	

3.03 CONTRACT EMPLOYEE SIGN IN / SIGN OUT LOG

Name (Print)	Safety Training Sticker #	Company	Date	me On Site	Signature	Date	me Off Site	Signature

3.04 DAILY SAFETY REPORT

A. A Daily Safety Report shall be completed for each work shift and work area by the Safety Engineer/Safety Supervisor and shall be transmitted daily to the Engineer. An example of the proposed format of the Daily Safety Report shall be provided in the SHECP.

B. The Daily Safety Report shall include, at a minimum, the following information:

1. A header providing the general project information;
    a. Contract Number
    b. Project Description,
    c. Date,
    d. Work shift times,
    e. Inspection times,
    f. Work area(s) inspected, and
    g. Weather conditions
2. Commendable actions or observations pertaining to worker safety
3. An entry for each safety deficiency that includes;
    a. Location and nature of deficiency,
    b. Time noted,
    c. Names of persons and firms that were notified* of the deficiency including time notified; and

        (*NOTE: Notification shall include at a minimum the parties exposed to the safety hazard, the parties responsible for creating the deficiency, and the parties responsible for correcting the deficiency.)
    d. Time and nature of corrective action(s)
4. An entry for each deficiency that was not corrected on the prior shift's Daily Safety Report until the deficiency is corrected;
5. A notation of each accident, incident, or injury reported including name of injured party or affected property owner; time of accident, incident, or injury, and description of accident, incident, or injury;
6. Notation of Safety Meetings conducted and attended including type of meeting and the name of each person in attendance;
7. A notation of visits by safety representatives of the Railroad, City, State or Federal Authorities, including name and phone number of representatives, time of visit, and department or authority represented; and
8. Printed name and signature of person completing the report

3.05 MONTHLY SITE SAFETY AUDIT

A. For the duration of the project, the Contractor shall perform at least one (1) comprehensive site safety audit every month during which there is on site activity.

B. The Monthly Site Safety Audit shall be performed by a team of individuals of the Contractor, and Subcontractor(s) that are responsible for project safety, including but not limited to, management officers that are responsible for developing and maintaining company safety standards and policies (i.e. Corporate Safety Director), the Safety Engineer, the Safety Supervisor, the Superintendent, Foremen, and Competent Persons. The Contractor shall inform Metro-North Railroad and Third-Party Construction Management of the meeting schedule (2) weeks in advance so they may attend. The Safety Engineer shall prepare a report of the findings of the audit (i.e. Monthly Site Safety Audit Report). A copy of the completed Monthly Site Safety Audit Report shall be submitted to the Engineer. The findings of the Monthly Site Safety Audit shall be reviewed during the Monthly Safety Meeting.

3.06 INCIDENT, INJURY, ACCIDENT, & NEAR MISS NOTIFICATION & REPORTING

A. In the event of any incident, accident, employee injury, or near miss, the Contractor shall adhere to the following notification and reporting requirements.

B. The Contractor shall instruct all of its employees and Subcontractor's employees that they are required to immediately notify their Supervisor of ALL incidents, injuries, accidents, illnesses, and near misses related to the work, no matter how insignificant they seem at the time.

C. Initial Notification Requirements

1. The Contractor shall immediately notify the Engineer of all incidents, injuries, accidents, and near misses involving personal injury, causing damage to property or the environment, affecting the safe movement of trains, or illnesses related to the work. The injured person's immediate supervisor, a representative of the third-party construction management firm, or other person who directly observes the incident, shall provide immediate telephone notification to Metro-North Construction Management. Telephone notification shall be provided to the following:

   a. The Metro-North Engineer and/or Project Manager, or Third-Party Construction Management Firm, and

   b. The Manager of the Owner Controlled Insurance Program (OCIP), as applicable.

2. Resident Engineers on projects managed by third party construction management firms may be designated as the first point of contact for the notification of incidents. A protocol must be established for the immediate notification of Metro-North Construction Management and/or Project Management by the Resident Engineer / third party construction management firm.

3. Near misses shall be reported to the Engineer and a Lessons Learned session shall be convened. Any Near Miss incident involving rail equipment requires a full investigative report.

4. If this Contract is covered under the Owner Controlled Insurance Program (OCIP), refer to OCIP specifications for additional information.

D. REPORTING REQUIREMENTS

1. Contractor Employee Injury

a. In the event an employee of the Contractor or an employee of a Subcontractor is injured on the Site, follow the reporting procedures below. The following applies to ALL injuries, whether deemed OSHA Recordable, or not:

1) The injured employee must immediately report the injury to the Contractor.

2) The Contractor must immediately report the injury to the Engineer and the OCIP Administrator (as applicable).

3) The Contractor must provide the information listed below to the Engineer within two (2) hours of the incident, or by the end of the work shift during which the incident occurred, whichever is earlier. Metro-North Construction Management requires this information in order to complete the Metro-North IR-1 Initial Report of Incident.

a) Date and Time of Incident

4) Reason for Incident Not Being Reported Immediately (if applicable)

5) Location of Incident

6) Brief Description of Incident

7) Name, Home Address, Daytime Phone, Evening Phone, and Date of Birth of Injured Person (Social Security Number not required)

8) Employer of the Injured Person

9) Description of Injury and Disposition

b. The Contractor shall transmit the following to the Engineer (and OCIP Administrator if the project is covered under the OCIP) within twenty-four (24) hours of the incident:

1) C-2 Employer's Report of Work-Related Injury/Illness

NOTE: The employer of the injured employee must complete the applicable workers' compensation claim form (C-2 in New York, C-10 in Connecticut). If the project is covered under the OCIP, the appropriate form shall be submitted to the On-Site Insurance Administrator within 24 hours. The On-Site Administrator will notify the appropriate Insurer, who will notify the Workers Compensation Board. Penalties are sanctioned to insurance carriers when reports to the Workers Compensation Board exceed ten (10) days.

2) Contractor's Accident/Injury Investigation Report, or OCIP Form 5 – Supervisor's Accident Investigation Report

c. All reports must be submitted within twenty-four (24) hours of each accident.

d. The Contractor shall make every effort to prevent further injury to others and to secure accident evidence and witness information.

e. The Contractor shall provide the following supporting documentation, if available.

1) Addendum to OCIP Form 5 - Witness List and Statement Form

2) Photographs of the accident site, machinery, and/or equipment involved in the accident

3) Description of the machinery or equipment involved in the accident

4) Police reports

5) Evidence of a suspicious claim

6) Other relevant information

2. Employee Requiring Medical Attention

a. The Contractor has the primary responsibility to accompany the injured employee to the nearest Hospital Emergency Room or Urgent Care Facility. The Contractor cannot direct the injured to a specific hospital or facility.

b. The attending physician should be instructed to give the injured employee a note indicating one of the following:

1) The employee is cleared to return to work

2) The employee requires additional medical treatment and will be disabled for a specified number of days.

c. The Contractor shall provide the following additional information pertaining to injuries as it becomes available.

1) Description of the Medical Treatment Provided

2) Diagnosis by Physician / Medical Practitioner

3) Medication Prescribed & Dosage (including over the counter medications)

4) If the injury will result in lost work days (i.e. Lost Time Injury)

5) If the individual will be placed on Restricted Duty.

3. Serious Injuries or Fatalities to Employees

a. "Serious Injuries" or fatalities to employees must be reported immediately by the Contractor via telephone to the Engineer and the OCIP Administrator (as applicable)

b. Serious Injuries include, but are not limited to:

1) Fatalities, or injuries that can cause death

2) Spinal Cord injuries

3) Burns to 10% of more of the body

4) Amputations or crushing injuries

5) Eye injuries causing partial or full loss of sight

6) Severe head injuries

7) Exposure to toxic substances

8) Any occupational disease

9) Any single occurrence involving three (3) or more individuals resulting in hospitalization

4. Reporting Procedures for Incidents Involving Third Party Injury, Property Damage, Environmental Pollution or Builders' Risk

a. "Serious Injuries" or fatalities to third parties must be reported immediately via telephone to the Engineer and the OCIP Administrator (as applicable).

b. The Contractor shall report all incidents, regardless of injuries sustained or property damage claimed, within twenty-four (24) hours to the Engineer and OCIP Administrator (if applicable).

c. The Contractor shall provide a completed Accident Investigation Report to the Engineer and OCIP Administrator (if applicable) (Form 5 – Supervisor's Accident Investigation Report for OCIP projects).

d. If the project is covered under the OCIP, the OCIP Administrator will report the claim to the appropriate Insurer.

e. The following documents must accompany the Accident Investigation Report or Form 5 – Supervisor's Accident Investigation Report (OCIP projects):

1) Photos of accident site

2) Witness Statements (Addendum to Form 5)

3) Police report, if applicable

5. Distribution of Correspondence

a. Correspondence pertaining to an injury, accident, incident, or near miss shall be distributed to the following:

1) Resident Engineer

2) Metro-North Capital Programs Senior Director

3) Metro-North Project Manager

4) Metro-North Project Manager's Departmental Director

5) Metro-North Engineer

6) Metro-North Engineer's Departmental Director

7) Metro-North Engineer's Departmental Deputy Director

8) Metro-North Manager, Construction Safety

9) Metro-North Safety Department

6. **COPIES OF ALL REPORTS ARE TO BE RETAINED IN THE CONTRACTOR'S RECORDS.

3.07 POST INCIDENT REVIEW

A. The Contractor shall conduct a Post Incident Review for all incidents that resulted in Recordable Injuries, $5,000 or more in property damage, and Near Misses that could have resulted in injury or property damage. The primary purpose of the Post Incident Review is to learn from the accident, determine the cause of the accident, and actions to be taken to prevent a recurrence of such an accident. The Contractor shall notify the Engineer of the meeting schedule to permit the Railroad to attend.

3.08 UNSAFE CONDITIONS

A. An Unsafe Condition is a condition that gives rise to the imminent possibility of injury to workers or the public, of serious damage to property or the environment, or of effecting the safe movement of trains.

B. The Contractor shall instruct its employees and Subcontractor's employees to immediately inform their Supervisor of any and all Unsafe Conditions.

C. When an Unsafe Condition exists at the Site, the work shall be stopped in the affected area until the Unsafe Condition is corrected. If the Contractor does not take corrective action immediately or within the time period specified by the Engineer, the Engineer reserves the right to take whatever action is required to correct the hazard or unsafe condition and back charge the Contractor for the costs associated with the remedial work.

3.09 MAINTENANCE OF SAFETY RECORDS

A. The Contractor shall maintain the following Safety Records for a period of not less than six (6) years after Construction Completion:

1. Safety, Health, and Environmental Control Plan;
2. Safe Work Plans;
3. Daily Safety Reports;
4. Monthly Safety Audit Reports;
5. Records of Worker Safety Meetings;
6. Records of Employee Training (i.e. Roadway Worker Safety, OSHA 10 Hour Construction Safety, Employee Site Safety Orientation, OSHA required training)
7. Competent Person Designations;
8. Material Safety Data Sheets;
9. OSHA Forms 300, 300A, and 301
10. Contractor's Accident/Injury Investigation Report, C-2 Employer's Report of Work-Related Injury/Illness, Form 5 Supervisor's Accident Report, Witness Statements/Addendum to Form 5;
11. Any permits required;
12. Written notice of Citations, Suits, or Complaints; and
13. Other compliance records as required by City, State, and Federal Agencies.

3.10 PROTECTION OF THE PUBLIC

A. The Contractor shall provide, erect, and maintain substantial, durable, and effective protective devices including but not limited to, barricades, protective enclosures, fences, bridging, platforms, ramps, road plates, sidewalks, guide rails, lights, traffic control devices, warning signs and signals, pedestrian detour signs, pedestrian information signs, cones, traffic barrels, and other protective devices as required by the Work or elsewhere in the Contract to adequately protect the Work and all individuals against injury to their person or damage to their property.

B. Protective devices shall be designed to protect the public and others on or adjacent to the Site from potential exposures created by the work. Such protective devices shall include but not be limited to; the use of welding screens to protect against welding flash, the use of solid barricades or tarps to protect against flying objects or debris created by cutting, chipping, or grinding, or the use of fully sealed enclosures to protect against exposures to hazardous vapors, fumes, or dusts.

C. The Contractor shall promptly replace any of the foregoing that must be removed temporarily during the progress of the Work. If replacement is not properly made, the Engineer shall have the right to effect such replacements at the expense of the Contractor.

D. Protective devices shall be designed to withstand the reasonably anticipated forces in or around the work area including but not limited to wind, vibration, runoff, and other natural or man-made conditions.

E. Protective devices shall be maintained in a clean and smooth condition so as not to cause cuts, nicks, splinters, or snag clothing. The use of double headed nails is prohibited.

F. Each protective device shall be dismantled and removed from the site by the Contractor when the device is no longer required and prior to demobilization.

G. Each protective device shall be constructed of properly identified fire rated materials. Combustible materials shall be fire retardant treated and contain markings evidencing such.

H. The Contractor shall provide boundary fencing around the perimeter of the construction site and staging areas. The boundary fencing shall be constructed as to segregate work areas from non-work areas. Boundary fencing shall be of chain link type and a minimum of eight feet (8’) in height. The Contractor shall install access gates or removable fence sections as necessary to maintain access to, and emergency egress from, the work area. The number and location of access points shall be determined by the Contractor and submitted to Metro-North Railroad for review. Additional access/egress points shall be added as necessary to maintain site safety and accessibility.

I. Locations of intermittent or short duration work may be protected by barricades and/or fences a minimum of four feet (4’) in height. Barricades or fences eight feet (8’) or higher shall be provided along work areas with moderate to heavy pedestrian traffic or along work areas where site security is required. Barricades and fences shall be rigid and capable of preventing unauthorized entry into the work area. Barricades and fences shall be maintained in a continuous unbroken line along the work area. Fencing shall be supported at regular intervals as to maintain its integrity. Caution tape or unsupported fencing shall not be considered

a rigid barricade.

J. Covers, plates, and bridging used to protect holes shall be constructed so as to reduce potential slip and trip hazards. All covers, plates, and bridging shall be secured against movement. Covers, plates, and bridging shall be installed in accordance with ADA Accessibility Guidelines for Buildings and Facilities (Appendix A to 36 CFR Part 1911). All such covers, plates and bridging shall be solid and coated with slip resistant materials so that the surface is at least as slip resistant as the surrounding walking surfaces. The perimeter of floor covers, and plates shall be painted yellow or another contrasting color approved by the Railroad.

3.11 SIGNAGE

A. All signs installed under this project or required by the work, including but not limited to those used for traffic control, traffic detour, pedestrian detour signs, pedestrian information signs, and general warning signs, shall meet DOT requirements for size, reflective sheeting, lettering, etc. in accordance with the Manual of Uniform Traffic Control Devices (MUTCD).

B. The Contractor shall install and maintain safety signage for the duration of the onsite work. Signage shall meet the requirements of 29 CFR 1910.145. Signage shall be installed along construction fencing, the outer boundaries of the project site, or at entrances to work areas. Signs shall be installed at intervals not to exceed one hundred lineal feet (100'). Signs shall be secured via mechanical fasteners in clearly visible locations.

C. A minimum of two (2) signs shall be required. One sign shall read "DANGER – CONSTRUCTION SITE – AUTHORIZED PERSONNEL ONLY" or approved similar language. One sign shall read "CAUTION – PERSONNEL PROTECTIVE EQUIPMENT REQUIRED BEYOND THIS POINT" or approved similar language. Signs shall be weatherproof and a minimum size of fourteen inches in length by ten inches in width (14" L x 10" W).

3.12 STORAGE AND OFFICE TRAILERS

A. Trailers shall be fully chocked and tied down to prevent overturning in high wind conditions. Storage and office trailers shall be equipped with auxiliary supports at each corner.

B. Office and storage trailers shall be electrically grounded.

C. Identification and emergency signage shall be installed on the exterior of office and storage trailers. Signs shall be constructed of weatherproof material, have a white background with black lettering, and shall be a minimum of five feet in length by three feet in width (5' L x 3' W). Signs shall identify the entity occupying the facility, the site address, and a telephone number to contact in the event of an emergency.

D. Office and storage trailers shall be equipped with the following Fire-Life Safety devices and equipment:

1. Office Trailers

a. Fire Alarm Panel (FAP) equipped with a dialer programmed to call MTA Police and the local fire department

b. Smoke detectors (tied into the FAP)

c. Pull stations (tied into the FAP) at all exit doors

d. Horn strobe

e. Fire extinguisher – 20 lb ABC type

f. Battery back-up emergency exit lights

g. Evacuation plan

h. Emergency contact list posted

2. Flammable & Combustible Storage

a. Smoke detectors (tied into the FAP)

b. Fire extinguisher – 20 lb ABC type

c. Battery back-up emergency exit lights

d. Exterior strobe light

3. Dry Storage (Tools, Nonflammable, & Noncombustible Materials)

a. Smoke detectors (tied into the FAP)

b. Fire extinguisher – 20 lb ABC type

c. Battery back-up emergency exit lights

d. Exterior strobe light

3.13 TEMPORARY CONSTRUCTION

A. All materials, whether to be used for temporary or permanent construction, shall be fire resistant, and when possible, non-combustible materials shall be chosen over combustible materials. Each temporary structure shall be constructed of fire resistant or fire-retardant treated material. All materials (i.e. lumber, plywood) shall be fire retardant treated and contain the manufacturer's stamps evidencing such. If the stamps are illegible or otherwise not provided, the material shall be immediately removed from the premises and replaced at no additional expense to Metro-North. On site application of fire retardants by the Contractor is prohibited, except when the material is not commercially available pretreated from the manufacturer.

B. Temporary construction barriers within occupied facilities used to segregate work areas from non-work areas shall be constructed as to provide a minimum of a two

C. (2) hour fire rating. Should local codes be more stringent, the more stringent code shall apply.

D. Temporary construction shall be properly, sturdily, and securely constructed as necessary to serve its intended purpose. Unless otherwise directed, temporary construction shall be designed and constructed to withstand a one hundred mile per hour (100 mph) wind load. Temporary construction shall be maintained throughout the work as not to pose a hazard to workers and the public. Temporary construction shall be properly braced, secured, and tied down as necessary to prevent displacement.

E. Temporary construction shall be dismantled and removed from the site by the Contractor when the device is no longer required and prior to demobilization.

F. The use of screw fasteners / bolts shall be the preferred method of joining in locations subject to wind stress (i.e. platforms).

G. Protection consisting of physical guards, covers, foam padding, etc. shall be provided on or around protruding objects (i.e. bolts). The use of double headed nails, or other fastening devices that create an unnecessary snag or impalement hazard, are prohibited from use unless properly guarded to eliminate the hazard.

3.14 PRODUCTS / MATERIALS CONTAINING HAZARDOUS AGENTS

A. When choosing between equally performing materials and/or products, the Contractor shall make every effort to use products that are less deleterious to worker health and those that are environmentally friendly. When equally performing products are available, waterborne products shall be chosen over solvent borne materials.

B. Care shall be taken when using products containing volatile organic compounds (VOC's) such as aromatic solvents. In addition to implementing proper worker protection, the Contractor shall provide adequate ventilation and separation of areas where VOC containing products are being used.

C. All products and/or materials containing hazardous agents shall be submitted to the Engineer for review. Products and/or materials containing hazardous agents shall not be used or incorporated into the work until reviewed and accepted by the Engineer.

D. The Contractor shall submit product data sheets, material specifications, and Material Safety Data Sheets for review. Physical samples shall be submitted upon request. The submittals shall be received well in advance of the scheduled usage or incorporation of the product as to allow sufficient time for review.

3.15 MATERIALS SUSPECT OF CONTAINING ASBESTOS, LEAD, PCB, MERCURY, OR OTHER TOXICS

A. The Contractor shall not disturb any materials suspect of containing asbestos, lead, PCB, mercury, or other toxic materials without the prior approval of the Engineer. If during the work, the Contractor identifies or otherwise uncovers such materials, the Contractor shall immediately notify the Engineer. The Contractor shall clear personnel from the area and cease work in the location of the suspect material until an assessment by qualified persons can be performed.

3.16 SAFETY DATA SHEETS

A. The Contractor shall submit to the Engineer current Material Safety Data Sheets (MSDS) for all materials to be stored, incorporated into, or used in the Work. Hard copies of MSDS shall be on file and at the ready at all times at the jobsite. MSDS shall be organized and/or catalogued as to facilitate reference during an emergency condition. The MSDS shall be readily available whenever required, in a convenient location, in close proximity to where the materials are used on the project. The Contractor's safety personnel and competent persons shall have ready access to the MSDS.

3.17 MATERIAL HANDLING, LABELING, STORAGE, USE & DISPOSAL

A. All materials brought onto the jobsite shall be labeled. Labeling shall include but is not limited to, identification of the material and manufacturer, caution labels, hazard labels, warning/danger labels, use and instruction labels, servicing

instructions, medical attention labels.

B. When bulk material is transferred from large storage containers to smaller point of use containers, at a minimum, the point of use containers shall be identified as to contents.

C. Products shall not be transferred into containers that are not designed to carry the product, or that are unsuitable for, or incompatible with, the product. At no time shall food containers (i.e. water bottles) be used for product containers.

D. The Contractor shall ensure that each hazardous material is clearly marked or labeled in accordance with either the NFPA 704 Hazard Warning System (NFR Diamond) or the new color bar format (HMIG labels) as specified in the OSHA Federal Hazard Communication Standard (29 CFR 1900.1200). Each Hazardous material shall be stored in accordance with manufacturer's recommendations, NFPA Standards, OSHA Standards, and all other storage provisions of this Contract.

E. Flammable materials shall be stored in approved containers, within flammable storage cabinets, and in accordance with NFPA guidelines.

F. The Contractor shall provide details on the handling, use, and storage of flammable solvents and solvent containing products, corrosive or acidic products, toxic chemicals, and other hazardous products.

3.18 FIRST AID, MEDICAL TREATMENT & MEDICALLY TRAINED PERSONNEL

A. The Contractor shall provide first aid equipment, supplies and competent administering of first aid as may be reasonably prescribed by good practice or as may be required by any law for the care of injured personnel.

B. The Contractor shall provide an individual(s) that is certified in administering First Aid, Cardio Pulmonary Resuscitation (CPR), and use of an Automatic External Defibrillator (AED).

C. The Contractor will not be allowed to commence Work until there is a sufficient supply of first aid equipment, medically trained personnel (i.e. first aid, CPR, and AED), and an operable Automatic External Defibrillator (AED) as determined by the Engineer, at all work locations for its employees and all Subcontractors. Any resultant delay will be charged to the Contractor.

D. First Aid stations of adequate size and contents shall be provided by the Contractor. Such shall be located within reasonable proximity to the work site. Large work sites may require multiple First Aid stations be established throughout the project. The Contractor shall conduct a hazard assessment to determine the appropriate contents and locations of the First Aid stations.

E. The Contractor shall provide, and make arrangements with local hospitals, medical clinics, or other medical facilities, for the medical treatment of persons that are injured or become ill during the work. Such facilities shall be clearly identified in the Contractor's Emergency Action and Evacuation Plan and include the addresses, phone numbers, and maps with driving directions to said facilities.

3.19 PERSONAL PROTECTIVE EQUIPMENT (PPE)

A. The Contractor shall provide, make readily available, and ensure the use of all Personal Protective Equipment (PPE) required or recommended for the work. Personal protective equipment as required shall include, but not be only limited to,

the appropriate/approved hard hats, safety shoes, gloves, goggles, eye/face shield protection, safety belts, harnesses, respirators, hearing protection, traffic safety vests, etc.

1. The Contractor shall consult Metro-North Railroad for additional PPE requirements.

B. The Contractor shall have the responsibility for monitoring and enforcing compliance by all employees, including Subcontractors, with these provisions regarding the wearing and proper use of personal protective equipment. No person will be allowed on Railroad property, or the job site if off Railroad property, without the necessary PPE, including proper work clothing and work shoes/boots. Any Contractor employee not in compliance with having the appropriate personal protective equipment (PPE) will be forbidden to be on all Metro-North premises. Any resultant delay will be charged to the Contractor.

C. The Contractor shall enforce Metro-North's requirement for the use of the following Personal Protective Equipment. Unless otherwise directed, the following is the standard PPE that shall be worn at all times while within the construction work area, on or about the tracks, on or along the right-of-way, in train yards, or in maintenance facilities and shops.

1. Work Clothing – Work clothing shall be suitable for heavy construction work and at a minimum, consist of long pants and a short sleeve shirt (no tank tops or short trousers of any type). Long sleeve shirts shall be worn as necessary.

2. Foot Protection – Work boots with safety toe and ankle coverage. Work boots shall be at least six inches (6") high and be completely laced or buckled. The shoe shall have definite heels that are no more than one inch (1") in height.

3. Hard Hats - Hard hats shall be SEI Certified as meeting the ANSI Z89.1 1997 requirements for Type I Class E protection.

4. Eye Protection – meeting ANSI Z87.1

5. Safety Vests - Safety Vests shall be flame retardant, 360-degree reflective, high visibility orange, and 100% tear away. The Contractor's company name, logo, insignia, or the word "Contractor" shall be permanently printed on or sewn into the vest.

6. Hand Protection (Gloves) – Unless the finger dexterity required by the task precludes the use of gloves, hand protection (i.e. work glove) shall be required. Gloves shall be appropriate for the type of work.

D. Hard hats and safety glasses are mandatory at all times within construction work sites, on or about tracks, on or along the Right-of-Way, in maintenance facilities, shops, or yards, or on or about roadways.

E. Safety vests are mandatory at all times when on or about tracks, on or along the Right-of-Way, in maintenance facilities, shops, or yards, or on or about roadways.

F. In addition to the previously listed PPE, the Contractor shall provide, and require use of, other PPE (i.e. hearing protection, face protection, respiratory protection) as required by safety and health standards, recommended by product Material Safety Data Sheets, or recognized as standard protection for the task being

completed.

G. The Contractor will not be allowed to commence work until there is a sufficient supply, as determined by the Engineer, of PPE for its employees and its Subcontractors on the job site. Additionally, the Contractor shall maintain, at the job site, a sufficient supply of extra PPE that can be issued as a replacement should a worker's PPE become damaged or otherwise unusable.

3.20 SANITATION

A. The Contractor shall provide sanitary facilities for all employees on this project. The number of facilities provided shall be commensurate with the size of the work force. Facilities shall be located within a reasonable proximity to the work site. Facilities may have to be mobile or sited at multiple locations for projects involving transient operations or work spread over multiple sites. Locations of facilities shall be reviewed with the Engineer prior to placement. Facilities shall be kept in a clean and sanitary condition, and properly screened from public observation to the satisfaction of the Engineer. Same shall be removed when so directed.

3.21 HOUSEKEEPING

A. The Contractor shall provide for the regular housekeeping of all areas within the project limits. The Contractor is responsible for the regular cleaning of the site to maintain its appearance and safety of the workers and the public throughout the construction. This includes removal of all wastes resulting from the construction, rubbish, and debris whether it was generated by the Contractor or not.

B. The removal of general refuse such as food wrappers, drinking containers, newspapers, etc. shall be included in the housekeeping of the site.

C. The Contractor shall provide proper receptacles for waste disposal, whether they be roll-off containers for bulk disposal of construction wastes or smaller waste cans/barrels for common refuse.

D. Combustible debris shall be removed regularly and as necessary to prevent accumulations that may pose a fire hazard.

E. Specific care shall be taken to prevent impalement/puncture hazards created by lumber with protruding nails/screws. Such shall be removed or hammered flat.

F. Work areas shall be pre-cleaned of existing debris that may pose hazards prior to the start of construction work (i.e. organic debris such as leaves and newspapers that may cover broken bottles, sharps, etc. under platforms).

G. Equipment and materials shall be stored in a neat and orderly fashion and properly secured when not in use.

H. Walkways and walking surfaces shall be continuously monitored for objects and materials that may pose tripping and slipping hazards and shall be maintained free and clear of the same.

I. Employees performing housekeeping shall be provided proper personal protective equipment.

3.22 PROTECTION OF UNDERGROUND FACILITIES & UTILITY IDENTIFICATION

A. Excavation shall be conducted in accordance with 16 NYCRR Part 753. In conformance with 16 NYCRR Part 753, the Contractor must notify the local One Call Center to allow member agencies to mark locations of underground utilities

prior to commencing excavation. The Contractor shall take all necessary precautions to identify, locate and avoid contact with existing public utilities.

B. The Railroad maintains its own network of power, phone, signal, and gas utilities. In addition to public utilities, the Contractor shall provide for the location of Metro-North's utilities in accordance with Metro-North's Utility Location Protocol. The Contractor shall notify the Engineer a minimum of one (1) week in advance prior to excavating to allow for the identification of the Railroad's utilities.

C. Should the Contractor uncover, unearth, or otherwise identify a utility that was not previously identified, work impacting the utility shall cease until the utility is identified.

D. Existing utilities shall be taken out of service (i.e. de-energized, depressurized) and tested to verify the same, prior to being spliced into, demolished, removed, or otherwise disturbed.

E. The Contractor shall implement a means of positively identifying existing utilities to be disturbed during the work. A means of identifying the utility as "in service" or "out of service" shall be implemented and made known to project personnel.

F. All new buried utilities shall be properly identified with warning tapes specifically designed and manufactured for subgrade utility identification. Warning tapes shall run the entire length of the utility and shall be located above the buried utility.

1. The Contractor shall install a warning tape located a minimum of twelve inches (12") inches (300 millimeters) above all conduits, wires, cables, utility pipes, drainage pipes, underdrains, or other facility, unless the excavation's depth, other underground facilities, or other engineering considerations make this minimum separation unfeasible. The warning tape shall be of durable impervious material, designed to withstand extended underground exposure without material deterioration or fading of color. The tape shall be of the color assigned to the type of facility for surface markings and shall be durably imprinted with an appropriate warning message. The tape shall also comply with the specific requirements of the utility that owns the facility.

2. All tapes, unless otherwise directed by the specific utility, shall be detectable to a depth of at least three feet (3') with a commercial radio-type metal locator.

3. Assigned colors are:

a. Green—Storm and sanitary sewers and drainage systems, including force mains and other non-hazardous materials

b. Blue—Water

c. Orange—Communication lines or cables, including, but not limited to, those used in, or in connection with, telephone, telegraph, fire signals, cable television, civil defense, data systems, electronic controls, and other instrumentation

d. Red—Electrical power lines, electrical power conduits and other electrical power facilities, traffic signals and appurtenances and illumination facilities

e. Yellow—Gas, oil petroleum products, steam, compressed air,

compressed gases, and all other hazardous material except water

f. Brown—Other

g. Purple—Radioactive materials

3.23 EXCAVATION & TRENCHING

A. Excavation shall be conducted in accordance with New York State Code Rule 753 and Section 2.36.

B. Excavations shall be benched and/or sloped as necessary to protect against cave-in or collapse. When the site is not conducive to sloping or benching, appropriate shoring methods shall be implemented.

C. The Contractor shall provide an engineered shoring design to the Engineer. Shoring for excavations under roadway shall be designed to meet AASHTO loading.

D. Excavations, including trenches, remaining open or inactive for more than one work shift shall be protected. The perimeters of excavations, including trenches, shall be surrounded by high visibility temporary construction fencing. The fencing shall be maintained as necessary throughout the work. Excavations, trenches, and holes within pedestrian or vehicular travel ways that must remain accessible during the work shall be protected by bridges or cover plates. Cover plates shall be secured against displacement. (See Section 2.25 Protection of the Public for requirements).

E. Excavations six feet (6') or greater in depth with slopes steeper than 45 degrees shall also be provided with fall protection. In the event that providing this protection is not feasible or creates a greater hazard, the Engineer may at its discretion allow for a task specific variance from this policy. Requests for a task specific variance shall be transmitted in writing with justification for relief. The Engineer's acceptance must be received in writing prior to starting the specific task under the variance.

3.24 ELECTRICAL

A. In accordance with 29 CFR 1926.417, the Contractor shall implement Lockout / Tagout procedures.

B. Temporary electrical power and lighting shall be installed in accordance with latest National Electric Code and 29 CFR 1926 Subpart K. Temporary electrical apparatus shall be installed as to not create a hazard to the work force or general public.

C. All temporary electrical power and lighting shall be equipped with Ground Fault Circuit Interrupter (GFCI) protection. All other power sources, including portable generators (regardless of wattage), as well as extension cords plugged into permanent power sources, shall be protected by GFCI at the source.

D. All splices shall be contained within NEMA approved junction boxes.

E. Extension cords shall be inspected regularly for damage (i.e. compromised

F. insulation, missing ground prongs). Damaged cords shall be immediately removed from service and tagged as such or otherwise rendered unusable.

G. Assured grounding shall not be allowed as a means of electrical protection.

H. Energized electrical apparatus shall be adequately segregated, isolated, shielded,

or otherwise protected.

3.25 POWDER ACTUATED TOOLS

A. All operators of powder-actuated tools (i.e. Hilti, Ramset) shall be trained in their use by the tool manufacturer. Certificates or other evidence of such training shall be maintained in the field office.

B. The main store of power loads shall be kept in a locked metal ammunition box.

C. The box must bear a permanent sign having the words “DANGER AMMUNITION” in two inch (2”) wide letters on a red background.

D. At least one (1) 20 lbs. portable fire extinguisher shall be provided in the storage area.

3.26 CRANE OPERATION

A. The Contractor shall submit an Erection & Rigging Plan for all construction requiring the rigging and lifting of materials and/or equipment, including but not limited to, hoisting, and setting of steel members, prefabricated materials, structural panels, and precast concrete. The plan shall be of sufficient detail and include drawings, calculations, product data sheets/specifications, and identification of components.

B. Cranes shall meet the requirements of the most current ANSI B-30.5 Standard.

C. When a crane is operated in such a location that any part of the crane or its load in any position of boom or swing may come within ten (10) feet of a live power line or contact rail then:

1. The power line or contact rail shall be de-energized,
2. The power line or contact rail shall be insulated or isolated,
3. The crane shall be grounded with Number 2 AWG or larger single conductor, 600 volt covering, and resistance of 25 ohms or less, and
4. The power line and contact rail shall be protected from damage in an approved manner.

D. The Contractor shall notify the Engineer and transmit copies of the following documentation seven (7) days prior to bringing a crane on site:

1. Current Certification of Inspection,
2. License of crane operator,
3. Crane Manufacturer’s Load Chart for the Model and configuration of the crane, and
4. Certification (approved by P.E.) of ground support and submittal of grillage and design of ground support.

E. Contractor shall not hoist over a building without notification and permission of the

F. building owner.

G. Modifications or additions, which affect the safe operation of a crane, shall not be made without the manufacturer’s written permission.

H. All cranes assembled at the Site shall be inspected and tested by the crane

supplier or qualified personnel with proof of inspection and testing transmitted to the Engineer. All lifting devices shall be engineered and tested in the configured working load. The Contractor shall permanently attach or affix, clearly and visibly, the capacity chart of the lifting device.

I. Any welding performed on crane components shall be performed in accordance with the American Welding Society standards or the manufacturer's written specification.

3.27 ERECTION & RIGGING

A. The Contractor shall submit an Erection & Rigging Plan for all construction requiring the rigging and lifting of materials and/or equipment, including but not limited to, hoisting, and setting of steel members, prefabricated materials, structural panels, and precast concrete. The plan shall be of sufficient detail and include drawings, calculations, product data sheets/specifications, and identification of components.

B. All rigging shall meet the requirements of the most current ANSI B30.9 Standard.

C. Only qualified riggers shall be employed.

D. Contractor's wire rope, chains, and fiber slings shall have their manufacturer's safe working load identified and attached to each item. The Contractor shall have each sling inspected and certified as prescribed by law and regulations. Slings shall be inspected by a competent person prior to each use. Defective slings shall be taken out of service. Slings exhibiting visible damage, including but not limited to cuts, abrasion, chemical exposure, shall be deemed defective and removed from service. Safety latches shall be used.

E. Only Alloy lifting chains of Grade 8 or better shall be used for lifting purposes.

3.28 WELDING AND THERMAL CUTTING

A. Welding and cutting equipment and operations shall meet the requirements of the most current ANSI Z49.1 Standard, and the requirements of this section. Welders shall retain certifications from the American Welding Society (AWS) and if required, the local entity having jurisdiction.

B. Gas welding and cutting equipment shall be listed by Underwriters Laboratories, (UL) or by Factory Mutual Laboratories, (FM).

C. Prior to any welding, cutting, or burning, the Contractor shall obtain a Hot Work Permit from the Metro-North Office of Fire Prevention. Depending on the location a Permit may be required to be issued Daily, per Task or require a Daily Signature by the Contractor or MNR office of Fire Prevention. See Section 2.46 Fire Protection & Prevention for requirements.

D. In accordance with 1926.354, prior to thermal cutting or welding, existing coatings shall be removed.

E. The Contractor shall transmit a list of certified operators who will be performing

F. cutting and welding, with evidence of their training and certification. Welders and torch operators within New York City shall retain Fire Department of New York (FDNY) Certificates of Fitness.

G. Welding apparatus and equipment shall be inspected daily, prior to use. Defective apparatus and equipment shall not be used and shall be removed from service

until repaired or replaced.

H. Prior to the start of work, flammable and combustible materials shall be removed from the area of the hot work. When such materials cannot be removed, or are otherwise fixed, they shall be isolated from heat, flame, sparks, and molten metal by fire retardant materials.

I. Whenever the operator leaves the work area, the cylinder valves shall be closed. Torch valves shall be checked for leaks at the start of each shift. Only friction lighters or other approved devices shall be used to light torches.

J. Splices or repaired insulation on arc welding cables shall not be permitted within ten feet (10') of the electrode holder. Cables shall be positioned so as not to interfere or create obstructions on walkways, scaffolds, stairs, or ladders. Splices shall be equal to or greater than the original insulation on the cable.

K. Portable welding screens or shields shall be used to protect other workers and/or the public in the immediate area.

L. Local exhaust and/or mechanical ventilation shall be installed and maintained as necessary to prevent accumulation of fumes within the work area and contamination of adjacent occupied areas.

3.29 COMPRESSED GAS CYLINDERS

A. All compressed gas cylinders shall be stored, used, and handled in accordance with the Compressed Gas Association guidelines, NFPA Standards, the requirements of the Metro-North Office of Fire Prevention, and the requirements of this section. Prior to on-site storage, the Contractor shall inform the Metro- North Office of Fire Prevention of their intent to store compressed gas on site.

B. Each compressed gas cylinder shall be considered to be either in transport, storage, or use. The following conditions apply:

1. Gas cylinders shall be clearly identified as to contents.

2. Compressed gas cylinders shall be transported and used in portable welding carts with the cylinders securely chained or clamped to the cart. An operable dry chemical fire extinguisher rated not less than ten pounds (10 lbs.) of chemical shall be mounted on each portable welding cart in use.

3. Manifolds shall be removed when the cylinders are not in use.

4. Valve protector caps shall be screwed on in place except when the cylinders are in use.

5. Compressed gas cylinders shall be protected from sources of heat.

6. Cylinders shall be secured upright on a firm base and against toppling via a chain, steel cable, or non-combustible material that is capable of withstanding fire/open flame without burn through.

7. No more than five (5) cylinders of each gas type shall be stored on site. All

8. gas cylinders not in actual use, or proposed for immediate use, shall be removed from the site, and stored off site. Excessive or unreasonable storage of cylinders on the site is prohibited. Improperly stored cylinders shall be immediately removed from the work area. Empty gas cylinders shall be removed prior to or at the same time replacement cylinders are

brought on site.

9. Compressed gas cylinders in storage (full or empty) shall be stored in cylinder cages or sheds constructed of noncombustible materials specifically designed for such purpose. Storage areas shall be well ventilated and without electric lights or fixtures and shall be located as far from other buildings as is practicable.

10. The cylinder cages/sheds shall be secured (i.e. padlocked) as to prevent theft or tampering with the cylinders.

11. Storage areas shall be labeled.

12. Different types of gases shall not be stored together, or without proper separation, except when in use and when such proximity is required.

3.30 FIRE PROTECTION AND PREVENTION

A. The Contractor is responsible for providing all labor, material, and equipment for fire protection during the work including trained and qualified fire watches, fire extinguishing equipment, shields, screens, and protective blankets. The Contractor shall maintain fire protection equipment throughout the project.

B. All materials, whether to be used for temporary or permanent construction, shall be fire resistant, and when possible, non-combustible materials shall be chosen over combustible materials. Each temporary structure shall be constructed of fire resistant or fire-retardant treated material. All materials (i.e. lumber, plywood) shall be fire retardant treated and contain the manufacturer's stamps evidencing such. If the stamps are illegible or otherwise not provided, the material shall be immediately removed from the premises and replaced at no additional expense to Metro-North. On site application of fire retardants by the Contractor is prohibited, except when the material is not commercially available pretreated from the manufacturer.

C. Temporary barriers within occupied facilities used to segregate work areas from non-work areas shall be constructed as to provide a two (2) hour fire rating.

D. Combustible wastes/debris shall be removed on a regular basis as to not pose a fire hazard. The frequency for removal shall be based upon the rate of accumulation, but at no time shall exceed weekly removal from the premises.

E. The on-site storage of flammable materials is prohibited without the prior authorization of the Metro-North Office of Fire Prevention. Flammable materials shall be stored in approved containers in accordance with NFPA guidelines and requirements of the local fire authority. Flammable Liquids shall be stored in Factory Mutual (FM) approved safety cans equipped with self-closing lids and flame arrestors. Flammable or combustible liquids shall be stored within approved containers within closed, approved flammable storage cabinets. Flammable materials that will be stored on site in exterior locations shall be stored in approved containers, within flammable storage cabinets. Flammable materials to be stored within facilities shall be stored in approved containers, within flammable storage

F. cabinets, located in areas equipped with fire suppression.

G. Smoking is prohibited within all Metro-North facilities, including construction work areas.

H. Open flames and smoking shall be prohibited within one hundred feet (100') of

explosive or flammable materials.

I. The Contractor shall retain a Hot Work Permit, available through the Metro- North Office of Fire Prevention, for all work that generates heat, sparks, molten metal/slag, or requires an open flame. Such work includes but is not limited to, grinding, brazing, soldering/sweating, gas, and electric welding, cadwelding, torch cutting/burning, and temporary heat.

J. The Contractor shall provide appropriately trained personnel to act as Fire Guards or Fire Watches. Fire Watches shall be familiar with hazards that exist in the work area and be trained in the operation of each type of fire extinguisher on the work site. Fire Watches shall remain at the site of the hot work for the duration of the work and a minimum of sixty (60) minutes after completion of the hot work. The Contractor shall transmit a list of certified fire watch personnel, and evidence of their training and certification.

K. Fire extinguishers rated at 20 lbs. ABC or larger shall be in the immediate area whenever welding or cutting is being carried out. In addition, water shall be used to pre-dampen combustible materials prior to the start of the hot work. If available, a hose connected to a suitable water supply shall be maintained at the ready adjacent to the area of hot work. In the absence of a water supply, a pressurized water fire extinguisher shall be provided.

L. In addition to notifying the Engineer, the written permission of the water utility shall be obtained before shutting off water servicing a fire hydrant.

M. The Contractor shall not block roadways, hydrants, post indicator valves, or access to fire-fighting equipment without the prior notification and approval of the Metro-North Office of Fire Prevention, the local agency having jurisdiction over fire prevention/protection, and the Engineer.

N. Work stoppage and shutdown of equipment shall be mandatory upon alarm of fire. Personnel shall report to the designated assembly area(s).

3.31 FALL PROTECTION

A. The Contractor shall provide fall protection for all work exposing persons to an unprotected fall greater than six feet (6’), including steel erection. Excavations six feet (6’) or greater in depth with slopes steeper than forty-five degrees (45^{o}) shall also be provided with fall protection. In the event that providing this protection is not feasible or creates a greater hazard, the Railroad may at its discretion allow for a task specific variance from this policy. Requests for a task specific variance shall be transmitted in writing with justification for relief. The Railroad’s acceptance must be received in writing prior to starting the specific task under the variance.

B. The Contractor shall provide a site-specific Fall Protection Plan. The plan shall identify the method(s) of fall protection to be implemented at the site and shall be congruent with the nature of the work and anticipated usage. The Contractor shall provide a submittal including product data/catalogue cut sheets, engineering calculations, a procedure detailing the installation, and a procedure for its usage.

C. Personal fall arrest systems (i.e. anchorages, horizontal and vertical lifelines) shall be designed and stamped by a professional engineer.

D. For work on Railroad bridges the fall protection requirements of 49 CFR 214.101 shall be followed.

E. In accordance with 29 CFR 1926.503(a), persons exposed to fall hazards shall have completed training in the subject area. Documentation evidencing such training shall be submitted to the Engineer.

3.32 CONFINED OR ENCLOSED SPACES

A. The Contractor shall adhere to all requirements for entering a Confined Space as listed in OSHA 29 CFR 1910.146. Enclosed Spaces as defined in 29 CFR 1910.268-.269 shall be treated as Confined Spaces.

B. The Contractor shall prepare a Confined Space Entry Program identifying the confined spaces to be entered and procedures to be followed. The program shall be submitted to the Engineer for review prior to engaging in confined space entry.

C. Persons entering confined spaces (i.e. entrants) and/or persons monitoring confined space entry (i.e. attendants), shall be trained in accordance with the OSHA standard. Documentation evidencing such training shall be provided to the Engineer prior to engaging in confined space entry.

3.33 MOTOR VEHICLES & CONSTRUCTION EQUIPMENT

A. Company identification shall be clearly displayed on each vehicle.

B. Vehicles shall not block access for emergency equipment.

C. Pedestrians shall have the right of way at all times. The speed limit on Railroad property is 5 MPH unless otherwise posted.

D. Vehicle and equipment operators shall inspect and test essential controls, safety equipment, and safety devices before placing the vehicle or equipment in use. The Contractor shall conduct a daily safety inspection of motor vehicles and construction equipment. The daily safety inspection shall be documented via a checklist or other suitable form. Equipment, whether owned, leased, or rented, shall be removed from service if unsafe.

E. Modification of equipment affecting its safety shall not be performed unless approved in writing by the manufacturer.

F. All motor vehicle and construction equipment operators shall be trained for the type of vehicle or equipment they operate. Upon request, evidence of such training shall be provided to the Engineer.

G. Vehicles shall be equipped with backup lights and a reverse signal alarm. The alarm shall produce a 0.2 to 0.5 second audible warning within the initial three feet of backward movement of the vehicle on which it is mounted and at regular intervals thereafter of not more than three seconds, throughout the backward movement. The alarm shall automatically cut out when backward movement ceases. Sound intensity shall range from 90 to 100 dbs. at a distance of five feet from the alarm. Actuation shall be automatic by direct connection to any part of the equipment that moves or acts in a manner distinctive only of rearward movement of the vehicle, with no manual controls between the source of actuation and the alarm.

H. Glazing within cabs of construction equipment shall be intact and free from cracks or other defects. Equipment with broken glazing shall be removed from service until repaired. Glass shall be cleaned as necessary to maintain operator's visibility.

I. Only properly identified contactor work vehicles, and equipment that are necessary

to directly support the construction activities shall be permitted adjacent to the actual construction operations.

J. Construction employees shall park personal vehicles only in designated areas of the work site and shall enter the site only at points specifically designated by the Engineer. Personal vehicles will not be permitted adjacent to, or allowed to pass through, the areas of construction without Engineer's special permission and proper identification.

PART 4 – EXECUTION (NOT USED)

PART 5 – MEASUREMENT AND PAYMENT

5.01 MEASUREMENT

A. No measurement will be made for this work.

5.02 PAYMENT

A. No separate payment will be made for the work described in this specification. The costs associated with this work shall be included in the lump sum.

END OF SECTION

SECTION – 01 35 43

ENVIRONMENTAL PROTECTION

PART 1 – GENERAL

1.01 SECTION INCLUDES

A. The Contractor is responsible for protection of the environment and the preservation of natural resources within the project boundaries and outside the limits of permanent work. The Contractor is to restore to an equivalent or improved condition upon completion of work. Confine construction activities to within the limits of the work indicated or specified. Except in areas to be cleared, do not remove, cut, deface, injure, or destroy trees or shrubs. Do not fasten or attach ropes, cables, or guys to existing nearby trees for anchorages. Where such use of attached ropes, cables, or guys is authorized, the Contractor will be responsible for any resultant damage. Protect existing trees which are to remain, and which may be injured, bruised, defaced, or otherwise damaged by construction operations. These requirements are to be adhered to throughout the duration of the Work.

B. Protection of the environment including but not limited to; Dust and Air Monitoring Controls, Noise Control, Management and disposal of debris and other environmentally regulated materials, Spill Prevention and Response, Sediment and Erosion Control.

C. The Contractor must protect and preserve public and private property within and adjacent to the work site and use every precaution to prevent damage, injury, pollution, or destruction. Precautions should be made to protect trees and other plants that are to remain.

1.02 RELATED SECTIONS

A. Division 01 Specification Sections

B. Section 02 61 00 Sampling, Testing, Handling, Loading, Removal and Disposal of Soils

C. Section 02 84 30 Universal Waste and Miscellaneous Hazardous Materials

D. Section 31 20 00 Earth Moving

1.03 SUBMITTALS

A. Spill Prevention Plan

B. Dust and Air Monitoring Control Program: As directed by MNR.

C. Noise Surveys: To be done prior to the start of construction activities for the daytime and evening construction.

D. All plans and programs and surveys are to be submitted within thirty (30) calendar days after receipt of Notice of Award, the Contractor shall submit a Plan to the Engineer for approval. The plan should detail all measures and procedures to be under taken by the Contractor 30 days prior to starting construction activities.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.01 GENERAL

A. Comply with all applicable Federal, State, laws, ordinances, and regulations pertaining to environmental protection to include but not limited to the programs in the New York State Department of Environmental Conservation (DEC) Division of Environmental Remediation (DER) and Commissioner Policies (CP).

B. The Contractor must ensure that all other Contractors, Subcontractors, and other personnel performing work are fully aware of all permit conditions, plans and programs.

C. Equipment with factory-installed, anti-pollution and noise control devices should be proper maintenance and in working order prior to use.

D. All permits pertaining to the job and a copy of the final construction plans are to be kept on site and made available for inspection by the Engineer or any regulatory representatives. Regulatory representatives with the appropriate credentials and identification should be allowed on site at reasonable times to ensure compliance with all applicable laws and regulations. The Engineer is to be notified of any regulatory representatives visiting the work site.

E. The Contractor shall dispose of all waste, demolition, excavation material at a site approved for the disposal of such material in accordance with Section 01 74 19 – Construction Waste Management & Disposal.

3.02 NOISE CONTROL

A. All work must be in compliance with regulatory requirements for noise levels due to construction work. All practicable precautions and noise abatement measures must be implemented to reduce public exposure to noise.

B. The Contractor must conduct periodic noise surveys to verify compliance with construction noise lot line limits for both instantaneous (Lmax) and 20-minute averages noise readings (L20). The noise surveys must be conducted at the following frequency:

1. Background conditions just prior to the start of construction
2. At a representative period during the first month of site grading/excavation activities
3. During at least two other periods during construction
4. As warranted whenever noise levels are continuous and excessive, complaints are filed, or evidence of non-compliance is apparent.

C. Noise surveys are to be performed prior to the start of construction activities for the day, during daytime construction activities, and in the evening when construction planned activities are expected to produce excessive noise levels. Noise surveys must be measured using a calibrated general-purpose sound level meter. Measurements must be taken at the lot-lines facing surrounding residential locations (noise sensitive), commercial areas and industrial areas.

D. In the event that noise levels exceed limits, the noise abatement procedures are to be implemented to include but not limited to:

1. Shields or physical barriers to restrict transmission of noise

2. Soundproof housings or enclosures for noise-producing machinery
3. Use of electrically operated hoists unless otherwise permitted by the Engineer
4. Maximum sized intake and exhaust mufflers on internal combustion engines
5. Concrete crushers or pavement saws to assist with concrete deck removal, demolitions, or similar construction activity
6. Line hoppers and storage bins with sound-deadening material
7. Conducting the operation of dumping rock or other material and carrying it away in trucks so that noise is kept to a minimum
8. Routing of construction equipment and vehicles carrying rock, concrete, or other materials over streets that will cause the least disturbance to noise-sensitive locations.

E. Demolition, construction, and renovation activities are to be done in a manner to prevent and minimize critical nuisance vibration conditions. Activities are to be scheduled and conducted in a manner that will minimize the disturbance to the public areas adjacent to the work and occupants in the vicinity of the construction sites. The following mitigative measures should be implemented:

1. Use of deep saw-cuts to minimize the transmission of vibrations from pavement- breaking operations to foundations of nearby structures
2. Use of concrete cutters to assist with demolition of pavement, where practical
3. Use of vibratory or sound dampened impact drivers rather than conventional impact pile drivers where feasible for installation of retaining walls and other structural elements
4. Routing of truck traffic and heavy equipment to avoid impacts to sensitive receptors
5. Conducting vibration monitoring during highly disruptive construction activities

3.03 DUST AND AIR MONITORING CONTROLS

A. Dust and Air Monitoring Control Program: As directed by MNR, the Contractor shall develop and implement a program to control dust, particulates, odors, and volatile organic compounds (VOCs). The Program should:

1. Control and monitor airborne particulates (i.e. dust) and migration of the same from the work site all times to protect worker and public health and safety.
2. Controls are to be implemented during work hours, non-working hours, weekends, and holidays. Keep dust down in areas disturbed by operations and materials stockpiled for the project.
3. Inspect all vehicles for dirt prior to their leaving the work site. Dirt, soils, and rubble likely to be dislodged during transit is to be removed from the trucks
4. and other vehicles prior to leaving site.

5. Dry power brooming will not be permitted. Vacuuming, wet mopping, wet sweeping, or wet power brooming to be used.

B. The Contractor shall consider the use of the following dust control measures identified:

1. Applying water on haul roads.
2. Wetting equipment and excavation faces.
3. Spraying water on buckets during excavation and dumping.
4. Hauling materials in properly tarped or watertight containers.
5. Restricting vehicle speeds to 10 mph.
6. Covering excavated areas and material after excavation activity ceases.
7. Reducing the excavation size and/or number of excavations.

C. Air blowing will be permitted only for cleaning off non-particle debris, such as that from reinforcing bars. Sandblasting will not be permitted except as otherwise specified. Only wet cutting of stone, concrete, and asphalt will be permitted.

D. Dust and Air monitoring and control measures shall at all times comply with the requirements of the Health and Safety Plan and as directed by MNR.

E. Materials generated by any activity of the Work must not be burned on or off the site. This shall include but not be limited to land clearing material and demolition material.

F. On designated projects and sensitive cases, a separate Site-Specific Community Air Monitoring Plan may be required, as directed by MNR. The Contractor must address the need for downwind breathing zone (i.e., worker) and downwind support/clean zone boundary (i.e., community) monitoring to protect worker and public health and safety and to comply with the requirements of the NYSDEC DER-10, Appendix 1A, 'Air Monitoring Plan' and Appendix 1B "Fugitive Dust and Particulate".

1. The Contractor shall provide all necessary sampling devices, pumps, collection media and support equipment to perform the area and personnel air sampling recommended above. The sampling devices and pumps must be approved for use in combustible or flammable atmospheres.
2. The laboratory selected for sample analysis must be accredited by the AIHA for the analysis required. Sampling and analytical methods of NIOSH or OSHA must be used preferentially when such methods are available for the samples collected, and all appropriate QA and QC provisions regarding sampling collection, transport and holding times must be followed.
3. The Contractor shall submit, in writing, all data resulting from daily air monitoring to the Engineer, at a minimum, at the end of the work week. If at any time the instrumentation indicates an adverse change in conditions, the Health and Safety Officer must notify the Engineer immediately and follow up this report in writing by the close of business on that day. Changes made to Engineering and Work Practice Controls, Personnel Protective Equipment or Levels of Protection shall be described in this written report.

3.04 RODENT AND INSECT CONTROL

A. Collect and remove from work site, refuse and garbage that attract and foster the breeding of rodents.

B. Provide rodent-proof refuse containers; ensure proper use by construction workers. Dispose of food, food wrappings, and food containers within work site.

C. Monitor site conditions and implement controls to prevent the proliferation of insects such as mosquitoes, water bugs, cockroaches. Controls include but are not limited to, grading to prevent standing water, pumping of standing water, treatment via licensed exterminators, removal of food residue, dampness.

D. Perform rodent and insect control measures as ordered by the Engineer

3.05 DISCONNECTION OF ON SITE PIPING

A. The Contractor shall provide notification to the Engineer and Metro-North's Department of Environmental Compliance and Services prior to the disconnection of any piping, piping system or tank system. Notification is in effort is to minimize any potential for spills associated a tank or bulk storage of petroleum or any storm or sanitary piping or systems.

B. Pipelines that are not in service or are on standby service for extended periods must be properly capped, blank-flanged, and marked.

C. Notification is to be given in advance of any and all disconnections (both temporary and permanent) of any storm, sanitary, petroleum storage/delivery, or remedial system piping. At least one of the following individuals is to be contacted as soon as information is obtained indicating that such a disconnection is going to take place. Metro-North Railroad Department of Environmental Compliance Services – Sara Gianazza (914) 461-0591 (office), (917) 743-6126 (cell), Gianazza@mnr.org or Jeffrey Magyar (914) 461-0532 (office), (347) 416-1140, Magyar@mnr.org and the Resident Engineer.

D. Information to be provided:

1. Project name and Contractor contact information
2. Type of piping being disconnected
3. Location of disconnection
4. Date and time of proposed disconnection and expected duration
5. Reason for disconnection
6. Plan for shutting off flow, providing diversion piping, etc.

3.06 ENVIRONMENTAL PROTECTION REQUIREMENTS

A. Provide and maintain, during the life of the Contract, environmental protection as defined. The Contractor is to plan for and provide environmental protective measures to control pollution that develop during normal construction practice. The Contractor is to provide environmental protective measures required to correct conditions that develop during the construction of permanent or temporary environmental features associated with the project. Comply with applicable Federal, State, and local regulations pertaining to the environment, including water, air, solid waste, hazardous waste and substances, oily substances, and noise pollution.

B. Excavated Soil must follow requirements in Section 02 61 00 Testing, Removal and Disposal of Soil. Soil is to be sampled in-situ and/or moved directly to the stockpiling area for sampling. All excavated soils are to be tested and classified prior to removal and/or directly loaded for removal into a transport vehicle. The Contractor will comply with the following:

1. Contractor shall submit, in detail, the proposed areas, procedures to avoid commingling of soils and different materials from different excavations or soil/material that is removed after a classification sample is collected.

C. On-site stockpiled soil and material shall not impact the work of any other Contractor.

1. Stockpiles of excavated soil or material shall be constructed to include:

a. A chemically resistant geo-membrane liner. Liners shall be scrim reinforced, having a minimum weight of 40 pounds per 1,000 SF, and a permeability coefficient less than 10-8cm/sec. The ground surface on which the membrane is to be placed shall be free of rocks greater than ½ inch in diameter and any other items that could damage the membrane.

b. A geo-membrane cover to control dust and to prevent precipitation from entering the stockpile. Scrim reinforced membranes shall have a minimum weight of 26 pounds per 1,000 SF. The cover shall be anchored to prevent it from being removed by wind. Stockpiles shall be covered during non- working hours and during periods of no construction activity.

c. The temporary storage of excavated soil or other material in stockpiles shall comply with the dust monitoring and control requirements defined in the NYSDEC TAGM #4031, “Fugitive Dust Suppression and Particulate Monitoring Program.”

2. Stockpiles shall be surrounded by a berm, a minimum of 12 inches in height. Vehicle access points shall also be bermed.

3. Provide silt fencing and hay bales around stock piled soil or material in accordance with Division 01 General Requirements and Section 31 25 00 – Erosion and Sedimentation Controls.

4. No liquids shall be allowed to collect on this stockpile.

D. Transportation of excavated materials off site require the Contractor to provide transport vehicles that comply with requirements for hauling materials as outlined in NYSDEC regulations (i.e. 6 NYCRR Part 360 and 364). The Contractor is responsible for vehicles to have required permits and approvals.

1. All loaded transport vehicles must be cleaned prior to departure of the site to reduce the risk of losing soil and/or debris on public roads. Cleaning is to include but not be limited to: Wheels, tires, and under carriages.

E. Waste Manifest or Bill of Lading:

1. The Contractor shall provide manifests or bills of lading for the transport and disposal of materials from the project. The name of the generator, transporter and disposal facility is to be listed on each form. All other pertinent information shall be included on the manifest or bill of lading. A

copy of the partially completed manifest or bill of lading including the above information shall be submitted to the Engineer for approval prior to commencement of removal.

2. Formal waste manifests with duplicate copies are mandatory for transport and disposal of hazardous waste. For other non-hazardous regulated soils or material, a clear, informative bill of lading in a format pre-approved by Metro-North is acceptable.

3. The Engineer will sign the manifest and receive a preliminary copy of the partially completed form. The manifest will be signed by the transporter and carried to the approved disposal facility and completed when the disposal facility accepts the waste. A Certificate or Documentation of Disposal must be sent to the Engineer along with the completed manifest once the soil has been properly treated and/or disposed of.

4. The Contractor is responsible for preparing transportation vehicles with manifests or bill of ladings necessary for transporting all soil and materials. Each manifest or bill of lading will be signed by the Engineer. The Transporter must comply with all pertinent Federal, State and Local regulations regarding the transport of soils.

3.07 SPILL PREVENTION AND RESPONSE PLAN

A. The Contractor must take all necessary precautions to prevent and control the spill and spread of fuel and oil and must comply with the provisions of the approved Spill Prevention and Response Plan. See the Appendix A at the end of this specification for a sample 'Spill Prevention & Response Plan. The following requirements must be incorporated into the Spill Prevention and Response Plan submitted by the Contractor and approved by the Engineer.

B. Within thirty (30) calendar days after Notice of Award, the Contractor must submit a Spill Prevention and Response Plan for approval by the Engineer. The Plan must detail all site-specific measures and procedures to be undertaken by the Contractor to prevent a release to the environment of oil and other substances defined as contaminants or hazardous by Federal and State agencies. In addition, the plan must identify available on-site equipment and Contractor personnel who will be responsible for implementation of the plan should a spill occur:

1. Notification Procedures (Project Manager, Regulatory Agencies, NYSDEC).
2. Spill Prevention (Control and Countermeasures) Procedures
3. Spill Response (Containment and Cleanup) Procedures
4. Spill Response Equipment
5. Spill Response Coordination
6. Inspections and Records
7. Personnel Training
8. Post Spill Reporting - To address at a minimum:
    a. Estimate of the amount of hazardous material spilled
    b. Site plan showing the location of the spill area

c. Summary of the measures implemented to contain, cleanup and remove the spill area

d. Date and time when the spill occurred and was cleaned up

e. Extent and depth to which soils were excavated for off-site management

f. Results of any “post removal” soil sampling

g. Documentation of the appropriate off-site management of all wastes generated as a result of and in response to the spill

h. Documentation of the off-site management of the impacted soils

i. Other available supporting documentation

C. The Plan will also address, at a minimum, the following Pollution Prevention requirements:

1. All hazardous or polluting substances brought onto the job site shall be accompanied by a Material Safety Data Sheet (MSDS).

2. The recommendations of the MSDS will be followed in all respects, particularly with respect to storage requirements.

3. Provisions shall be made to prevent the migration or spillage of hazardous liquids such as fuels, solvents, or oils

4. Measures necessary to prevent oil and other environmentally regulated substances from entering the ground, drainage areas and piping systems. Precaution is to be taken during the dispensing or other handling of liquids at storage areas:

a. Use approved dispensing devices for the substances involved

b. Drip pans shall be used underneath all drum-pouring spouts.

c. Self-closing valves, dispensing devices

d. Pumps to minimize the possibility of spillage

D. The Plan must include a map of the site with locations of surface waters. The Plan must describe measures to orient and train personnel on measures to comply with the Plan. The Plan must also identify all agencies to be notified in the event of a spill and emergency contact phone numbers must be included for all agencies listed.

1. Discharge of fuel and oil from equipment or facility into public waters or onto land or water body shall not be permitted.

2. All fuel storage containers must be stored in designated areas that are secure and away from traffic hazards. Any petroleum storage tanks used temporarily by the Contractor must meet all of the NYS requirements and NFPA standards. Every effort must be taken to minimize the chance of spills. Machinery will be required to be refueled only in areas designed in the Plan, spill clean-up material must be readily available.

3. Tanks must comply with NYSDEC NYCRR Part 614.8 and meet or exceed design and manufacturing standards of UL No. 142. All tanks are to be labeled and color coded, provided with secondary containment (means to

drain if required), spill catchment basins for fill port, tank gauge for overfill protection, and cathodic protection if tank bottom is to rest directly on soil. Tank to be inspected weekly throughout the duration of the work.

4. The Contractor shall maintain an Emergency Spill Kit at the project site. The spill kit must be congruent with the potential size of a spill and compatible with the type of product that it will be used to contain. The spill kit(s) must be readily accessible and able to be quickly deployed. Large project sites, or sites with satellite work locations, may require more than one spill kit. The spill kit contents shall be maintained and replenished as necessary throughout the term of the Contract. Contractor personnel must be made aware of the Spill Kit(s) location(s). Personnel shall use such materials to contain a spill and absorb spillage and shall do everything possible to prevent the entry into drains or waterways

5. All Contractor personnel shall be made aware of the location of Emergency Spill Kits and in the event of a spill, shall use them to contain the spill and absorb the spillage, and shall do everything possible to prevent the entry of oil into drains or waterways.

6. Fuel hose, oil drums etc., must be checked regularly for drips or leaks, and shall be maintained and stored properly to prevent discharges. Proper security shall be maintained to discourage vandalism.

7. The Contractor shall immediately notify the Spill Prevention and Response Plan Administrator in the event of a spill, release of hazardous material, dusts, fumes, or vapors into the atmosphere; any fire involving hazardous materials; or the discovery of hazardous materials on the site.

8. The Plan Administrator and/or Contractor will implement the spill response procedure notifying all agencies and Metro-North Railroad's Department of Environmental Compliance and Services immediately or the Metro-North Railroad Rail Traffic Controller during off-hours. Notifications shall be provided to Metro-North Railroad Department of Environmental Compliance Services – Sara Gianazza (914) 461-0591 (office), (917) 743-6126 (cell), gianazza@mnr.org or Jeffrey Magyar (914) 461-0532 (office), (347) 416-1140 (cell), magyar@mnr.org, and the Resident Engineer.

9. Any reportable spill caused by a Contractor is to be reported to the NYSDEC by the Contractor, listing the Contractor as the spiller on Metro-North Railroad property. This call is to occur within two (2) hour of the spill. The Contractor is to notify Metro-North Railroad's Department of Environmental Compliance and Services immediately or Metro-North Railroad Rail Traffic Controller during off-hours.

10. The Contractor is responsible for responding to and cleaning up spills in accordance with the NYSDEC DER-10, NYSDEC CP-51, NYCRRR regulations. See Section 02 61 00, Testing Removal and Disposal of Soils. Contractor is responsible for preparing a final spill closure report. The Final Closure Report is to be submitted to MNR Environmental Compliance and Services for approval prior to submittal to NYSDEC.

E. The Plan must address the disconnection of sanitary, storm or petroleum storage/delivery systems

1. The Contractor shall notify the Engineer prior to disconnection of any petroleum storage or delivery, storm, sanitary or remedial system piping or tank system (excluding fill ports when fueling a tank).
2. Pipelines that are not in service or are on standby service for extended periods must be properly capped, blank-flanged, and marked/labeled. This effort is to minimize any potential for spills.
3. The Contractor shall provide the following information to the Engineer:
   a. Type of piping being disconnected
   b. Location of disconnection
   c. Date and time of proposed disconnection and expected duration
   d. Reason for disconnection
   e. Plan for shutting off flow, providing diversion piping, etc.

F. Spill Clean-up

1. The Contractor shall be responsible for reporting and shall bear all costs for immediate clean–up and disposal of spilled materials or liquids. The Contractor is responsible for responding to and cleaning up spills in accordance with the NYSDEC and NYCRRR regulations. The Contractor shall provide the Metro-North Department of Environmental Compliance and Services with all spill numbers and other pertinent information.
2. The Contractor is responsible for the Final Spill Closure Report. The Final Closure Report is to be submitted to MNR Environmental Compliance and Services for approval prior to submittal to NYSDEC.
3. Metro-North Railroad Department of Environmental Compliance and Services reserves the right to take over cleanup of Contractor spills at the Contractor's expense if cleanup is not performed in a reasonable and timely manner (within two weeks depending on spill size). Remediation of spills will be performed by Metro-North's On-Call Spill Clean-Up Contractor subject to the Terms and Conditions of the Contract. All of the costs of the remediation shall be borne by the Contractor including removal, transportation, and disposal of the contaminated materials.

THIS SPACE IS LEFT BLANK INTENTIONALLY.

APPENDIX A:

(Sample of Spill Prevention & Response Plan)

SPILL PREVENTION & RESPONSE PLAN

The purpose of this plan is to ensure that adequate pollution control and spill prevention will be provided for the above project. This plan provides information on the policy and procedures in the event of a hazardous material or petroleum spill or leak. (INSERT NAME OF CONTRACTOR) will comply with all applicable rules and regulations in preventing, containing, controlling, reporting, and cleaning up any spills.

Special measures will be used to prevent contamination of the ground from the storage and movement of fuel, gasoline, oils, cleaning fluids, form oil, and other petroleum products and hazardous materials used during the project.

A. Liquids:

Nothing is to be disposed into a manhole or catch basin and no piping or sanitary or stormwater connections or disconnections are to be made without specific written permission from the Resident Engineer and metro-North Environmental Compliance Department.

The potential avenues for release for liquid materials include, but are not limited to:

1. Leaks in storage tanks and containers.
2. Leaks in hoses used during pumping operations.
3. Leaks resulting from disconnection of piping, piping system, or tank system.
4. Accidental spills occurring at the beginning or end of pumping operations residual liquids remaining in pumps and hoses.
5. Overspray from various processes.

Holding tanks, pumps, hoses, drums, containers, and connections will be inspected for leaks prior to usage. Additionally, operators must complete a daily equipment checklist prior to use of all equipment and machinery. Any equipment or machinery that is not functioning properly must be removed from service and returned only after all necessary repairs have been made. For example, if a hose leak develops, pumping operations will be stopped until the situation is corrected. If a tank leak develops, tank contents will be pumped into a second holding tank and the leaky tank repaired or replaced.

Holding tanks will be placed on polyethylene sheeting to contain any spilled materials. The edges of the liner will be draped over a wooden frame to create a catch basin capable of holding 110% of total contents within the bermed area.

Drums will be placed on containment pallets or wood pallets on a polyethylene sheeting and then covered to protect against inclement weather or standing water.

During pumping or handling of liquids, when there is a potential for spillage, measurers will be taken to contain potential spills using drip pans, polyethylene sheeting, or absorbent materials. Pumps and hoses will be placed on polyethylene sheeting to collect any spills during pumping operations. Pumping operations will be conducted carefully and monitored continually for leaks and spills.

Prior to any disconnection (both temporary and permanent) of any storm, sanitary, petroleum storage/delivery, or remedial system piping, advance notification will be given to metro-North.

Pipelines that are not in service or are on standby service for extended periods will be properly capped, blank-flanged, and marked.

Absorbent booms and materials will be available to contain the release of liquids in the event that the polyethylene containment is inadequate.

Used spill collection material (i.e. absorbent booms, polyethylene sheeting, ground cloths, etc.) will be disposed of in fifty-five (55) gallon drums. The fifty-five (55) gallon drums will then be disposed of as per applicable State and Federal regulations and in accordance with the Contract documents using transporters and disposal sites on Metro-North's approved list.

A. Equipment Maintenance:

Equipment maintenance will be performed over ground cloths or polyethylene sheeting to prevent contamination during routine maintenance.

B. Environmental Monitoring:

Visual site inspections will be conducted daily by the superintendent to assess the condition of the site. The perimeter of the site will be inspected to check for defects in the construction fence or sediment control devices if present. If any defects are noted, the problem will be corrected immediately.

Liquid containers and secondary containments will be inspected to assure that the containers have not leaked and are continually capable of containing the materials.

Surface and ground water will be monitored visually for surface sheens indicating petroleum contamination. There is no anticipation of encountering ground water, but in the event that ground water is encountered, it will be tested before being discharged and all necessary permits will be obtained, and protective measures put in place before dewatering will begin.

C. Spill Response Procedures:

Spill protection and proper safety procedures will be employed if a spill occurs on site. All employees working at the site will be trained with respect to:

1. Worker awareness
2. Spill response
3. Maintaining sufficient materials to handle a spill

At a minimum this training will include instruction in the following areas:

1. Movement to Safe Locations
2. Assessment of the Spill
3. Requesting Assistance
4. Sealing off the Spill
5. Identifying Potential Hazards (Material Safety Data Sheets are to be kept on site for all materials and are to be consulted for purposes of identifying appropriate clean up procedure).
6. Notification to Metro-North and Regulatory Agencies
7. Preparing a Plan of Action
8. Containing the Spill (if it is safe to do so)
9. Cleaning up the Spill

All field personnel are trained for spill control and emergency response and are familiar with the use and operation of PPE, respirators, first aid and fire protection equipment.

A. Initial Response:

1. In the event of a spill, all work in the immediate area near the spill will stop.
2. All possible sources of ignition, including anything that could produce a spark, flame or static electricity must be turned off.
3. The MSDS sheet for the spilled material should be consulted for cleanup procedures. If the MSDS is not available, then the spilled material should be considered hazardous.
4. Emergency phone numbers to use in the event of a spill are provided on the last page of this plan. All spills will be immediately reported to Metro-North Railroad Department of Environmental Compliance Services Sara Gianazza (914) 461-0591 (office), (917) 743-6126 (cell) or Jeffrey Magyar (914) 461-0532 (office), (347) 416-1140, and then to the Resident Engineer. All spills on Metro-North property must be reported to the Resident Engineer and the Metro-North Department of Environmental Compliance & Services within one and a half (1 ½ hours). The Metro-North Department of Environmental Compliance and Services is to be advised of all spills regardless of size.
5. If a spill occurs off the jobsite, and it goes into or has the potential to enter navigable waters, the National Spill Response Center will be notified.
6. NYSDEC requires that all releases of petroleum must be reported to the NYSDEC Spill Hotline unless ALL of the following conditions are met:
    a. The spill is known to be less than five (5) gallons; and
    b. The spill is contained and under the control of the spiller; and
    c. The spill has not and will not reach water or land; and
    d. The spill is cleaned up within two (2) hours of discovery.
    e. In such cases documentation that all of these conditions were met must be prepared with a copy supplied to the Resident Engineer and the Metro-North Department of Environmental Compliance & Services.

B. Site Evaluation and Personal Protection:

1. Prior to any action, an initial site evaluation will be performed to determine if emergency protective measures are necessary. The initial site evaluation if a relatively rapid screening process. The evaluation should consider the urgency of the situation, type of incident, proximity to waterways, availability of resources, and the level of protection required for personal safety.
2. Based on the available information the initial determinations will include:
    a. Imminent or potential hazard to public health and the environment.
    b. Immediate need for protective actions to prevent or reduce the impact on public health and environment

c. Actions required to protect the health and safety of the site personnel.

3. Of particular concern are the dangers of fire, explosion, oxygen, deficient atmosphere and contamination of waterways, airborne contaminants, or pooled hazardous substances that could affect workers during subsequent operations.

4. The levels of protection are based upon the degree of protection provided:

a. *Level A* – worn when the highest degree of skin, eye, and respiratory protection is required.

b. *Level B* – selected when the highest level of respiratory protection is required but a lesser degree of skin protection is required

c. *Level C* – used when the type of airborne substance is known, the concentration is measured, and the criteria for using an air-purifying respirator is met

d. *Level D* – used when there is no skin or respiratory hazard

5. The level of protection selected will be based primarily upon:

a. The type and concentration of the substance in the ambient air and its Toxicity.

b. The potential for exposure to airborne substances, liquid splashes, or other direct contact with the material due to the work being performed.

6. Materials on this project will be sampled and analyzed to be characterized for proper disposal. This will allow for the determination of the proper level of protection and special equipment.

C. Monitoring, Containment and Clean-up:

1. The immediate concerns of site personnel in physical or atmospheric conditions that could affect their safety. After careful evaluation of these conditions, priorities for monitoring the potential hazards will be established. Instruments used for performing normal project operations will be utilized for monitoring air conditions. These include personal and perimeter air monitors. One or more of the following instruments will be used: Photoionization Device – HNU, Triple Detector – MSA 361, and Escort Elf Air Sampling Pump.

2. A supply of spill containment products will be maintained on site. These materials will include:

a. Absorbent booms, mats, materials

b. Containment booms

c. Pipe and tank bandages and plugs

d. Polyethylene sheeting

3. In addition to using specific spill containment products noted above, standard health and safety supplies, and heavy equipment used during the normal operation of work will be utilized as necessary. These items include

pumps, pneumatic tools, and heavy equipment such as excavators, backhoes, and bulldozers.

D. Spill Containment:

1. In a spill occurs, workers will take immediate action to stop the leak or spill if safe to do so and make sure it poses no danger to human health and safety. Absorbent booms and materials will be deployed to contain the spilled materials on land or water. Excavation equipment will be used to prepare dikes and berms if necessary.

2. Containment of a release will include consideration of any conditions that will render the containment ineffective or unsafe. These include weather, local drainage, man-made conditions such as wells or storm drains, leakage from the containment devices and deployment of the devices.

3. Spill Clean-up:

4. Liquids will be pumped into holding tanks or NYSDOT approved salvage drums until the material can be analyzed for disposal.

5. (Note: use explosion proof pumps for flammable liquids).

6. Any visibly contaminated soil or other materials (e.g. ballast) will be removed, stockpiled on polyethylene sheeting, and covered to prevent any runoff from rainfall. The material will be sampled to characterize it for proper disposal.

E. Spill Report:

1. All spills will be documented in the field notes and reports in the daily reports. A spill report will be prepared and submitted to the Engineer and Metro-North Department of Environmental Compliance & Services within 24 hours.

2. The report will include:

a. Description of the material spilled (including identity, quantity, MSDS)

b. Exact time, location, and a description of the area involved

c. Receiving stream or waters

d. Cause of the incident, equipment and personnel involved

e. Injuries or property damage

f. Duration of discharge

g. Containment procedures initiated

h. Summary of any outside contact other than with the Engineer (e.g. with news media, government agencies, etc.)

i. Description of the clean-up procedures employed or to be employed including the disposal location of contaminated materials

j. Description of the actions taken to prevent a recurrence, including a detailed investigation of cause

k. A Spill Closure Report provided to Metro-North for review prior to

submittal to the regulatory agency.

THIS SPACE IS LEFT BLANK INTENTIONALLY.

EMERGENCY PHONE NUMBERS

(NOTE: THIS SECTION HAS TO BE ADJUSTED TO PROVIDE APPROPRIATE LOCATIONS AND CONTACT NUMBERS FOR THE SPECIFIC PROJECT, THE FOLLOWING ARE JUST EXAMPLES)

Fire, Police and Ambulance	911	
MTA Police	(888) 682-9117	
	X6911 (from in house phones only	
(INSERT LOCAL FIRE DEPARTMENT)	**(INSERT NUMBER)**	
(INSERT LOCAL POLICE DEPARTMENT)	**(INSERT NUMBER)**	
(INSERT LOCAL EMS)	**(INSERT NUMBER)**	
METRO-NORTH RAILROAD	**Main / Office Number**	**Cell Number**
Operations Control Center	(212) 340-2050 / 2015	
Environmental Compliance Services, Sara Gianazza	(914) 461-0591	(917) 743-6126
Environmental Compliance Services, Jeffrey Maygar	(914) 461-0532	(347) 416-1140
Metro-North Resident Engineer, **(INSERT NAME)**	**(INSERT NUMBER)**	**(INSERT NUMBER)**
Metro-North Project Manager, **(INSERT NAME)**	**(INSERT NUMBER)**	**(INSERT NUMBER)**
SPILL CONTRACTOR	**Main / Office Number**	**Cell Number**
(INSERT SPILL CONTRACTOR INFORMATION)	**(INSERT NUMBER)**	**(INSERT NUMBER)**
POISON CONTROL		
Poison Control Center	(800) 343-2722	
Chemtrec	(800) 424-9300	
AGENCIES		
NYSDEC Spill Hotline	(800) 457-7362	
National Spill Response Center	(800) 424-8802	
EPA Emergency Response Team	(908) 321-6660	
HOSPITAL		
(INSERT LOCAL HOSPITAL INFORMATION & ATTACH DRIVING DIRECTIONS)	**(INSERT NUMBER)**	

END OF SECTION

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION – 01 41 00

REGULATORY REQUIREMENTS

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

A. The Contract Drawings and other Contract Documents, including the General Conditions, Supplementary Conditions, and other Division 01 Specification Sections, apply to the Work of this Section.

1.02 RELATED SECTIONS

A. Section 01 31 00 – Project Management and Coordination.

B. Section 01 33 00 – Submittal Procedures.

1.03 SUMMARY

A. This Section specifies regulatory requirements for:

1. Construction Management Meeting.
2. Storm Water Pollution Prevention Plan (SWPPP).
3. Construction Management Plan.
4. Erosion Control Plan.
5. Demolition Permit.
6. Air Pollution Control Ordinance permits and certificates.
7. Licensed tradesmen.
8. Excavation and grading bonds.

B. State of New York permits, inspections, and approvals.

1. Storm Water Management Program.
2. Hazardous air pollution control.

C. United States Government permits, inspections, and approvals.

1. Periodic OSHA compliance inspections.
2. Controlling toxic substances and hazardous materials.

D. Obtaining legal agreements for patented devices, materials, and processes.

1.04 REFERENCES

A. Abbreviations and Acronyms:

1. ACM: Asbestos containing material.
2. ADA: Americans with Disabilities Act.
3. ADAAG: Americans with Disabilities Act Accessibility Guidelines.
4. AHERA: Asbestos Hazard Emergency Response Act.
5. ACM: Asbestos containing material.
6. BMPs: Best management practices.

7. CFR: Code of Federal Regulations.
8. EPA: Environmental Protection Agency.
9. IBC: ICC International Building Code
10. ICC: International Code Council.
11. NESHAPs: National Emission Standards for Hazardous Air Pollutants.
12. NPDES: National Pollutant Discharge Elimination System.
13. OSHA: Occupational Safety and Health Administration.
14. PACM: Presumed asbestos containing material.
15. PCBs: Polychlorinated Biphenyls.
16. RACM: Regulated asbestos containing material.
17. RCRA: Resource Conservation and Recovery Act.
18. ROW: Right-of Way.
19. SWPPP: Storm Water Pollution Prevention Plan.
20. U.S.C.: United States Code.
21. VOC: Volatile organic compounds.

B. Definitions:

1. Asbestos: The asbestiform varieties of serpentine (chrysotile), riebeckite (crocidolite), cummingtonite-grunerite, anthophyllite, and actinolite-tremolite.
2. Asbestos Containing Material (ACM):
   a. Category I Nonfriable Asbestos-Containing Material: Asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1 percent asbestos as determined using the Polarized Light Microscopy method specified in Appendix E of 40 CFR 63.
   b. Category II Nonfriable Asbestos-Containing Material: Any material, excluding Category I nonfriable asbestos-containing material, containing more than 1 percent asbestos as determined using the Polarized Light Microscopy method specified in Appendix E of 40 CFR 63, that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.
3. Authority Having Jurisdiction (AHJ): Building Code officials, zoning officials, inspectors, and government and regulatory agencies given the authority to protect the public's health, safety, and welfare.
4. Friable: Material that, when dry, can be crumbled, pulverized, or reduced to powder by hand pressure.
5. Friable Asbestos Material: Material containing more than 1 percent asbestos as determined using the Polarized Light Microscopy method specified in Appendix E of 40 CFR 63.
6. Polychlorinated Biphenyls (PCBs): 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, including, but are not limited to: dielectric fluids; solvents; oils; waste oils; heat transfer fluids; hydraulic fluids; paints or coatings; sludges; slurries; sediments; dredge spoils; soils; materials containing PCBs as a result of spills; and other chemical substances or combinations of substances, including impurities and byproducts and any byproduct, intermediate, or impurity manufactured at any point in a process.

7. Regulated Asbestos Containing Material (RACM): Any of the following categories of asbestos:

   a. Friable asbestos material.

   b. Category I nonfriable asbestos containing material (ACM) that has become friable.

   c. Category I nonfriable asbestos containing material (ACM) that will be or has been subjected to sanding, grinding, cutting, or abrading.

   d. Category II nonfriable asbestos containing material (ACM) that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on it during regulated demolition or renovation operations.

8. Right-of Way: Land expressly reserved for vehicle/pedestrian traffic or utilities.

9. Volatile Organic Compounds (VOC): Generally meant to refer to organic chemical compounds that have high enough vapor pressures under normal conditions to significantly vaporize and enter the atmosphere.

   a. The U.S. Environmental Protection Agency has composed the following definition for regulatory, not necessarily scientific, purposes: “VOC means any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, which participates in atmospheric photochemical reactions (and then lists several other exemptions).”

C. Reference Standards:

1. State of New York:

   a. New York State Department of Environmental Conservation (NYSDEC):

      1) Regulations. http://www.dec.ny.gov/regulations/regulations.html

         (i) State Pollution Discharge Elimination System (SPDES):

         (ii) Permit No. GP-0-10-001 – SPDES General Permit for Stormwater Discharges from Construction Activity.

   b. New York State Department of Transportation (NYSDOT):

1) NYSDOT Standard Specifications (U.S. Customary Units). https://www.dot.ny.gov/main/business-center/engineering/specifications.

2) New York State Standard Sheets (U.S. Customary Units). https://www.dot.ny.gov/main/business-center/engineering/cadd-info/drawings/standard-sheets-us.

3) New York State Supplement to the Manual on Uniform Traffic Control Devices for Streets and Highways (2009 Edition). https://www.dot.ny.gov/divisions/operating/oom/transportation-systems/traffic-operations-section/mutcd.

c. Official Compilation of the Rules and Regulations of the State of New York (NYCRR).

1) The New York State Department of Environmental Conservation (NYSDEC):

a) 6 NYCRR Part 201 General Provisions.

b) 6 NYCRR Part 203 Indirect Sources Of Air Contamination.

c) 6 NYCRR Part 231 Implementation Guidance.

2) The New York State Department of Health (NYSDOH):

a) 10 NYCRR Part 67 – NYS Regulations for Lead Poisoning Prevention and Control.

3) The New York State Department of Labor (NYSDOL):

a) 12 NYCRR Part 23 – Protection in Construction, Demolition and Excavation Operations.

b) 12 NYCRR Part 56 – Asbestos.

4) The New York State Department of Public Service (NYSDPS):

a) 16 NYCRR Part 753 – Protection of Underground Facilities.

2. United States Government:

a. Department of Justice:

1) 2010 ADA Standards for Accessible Design,

2) 28 CFR 35 – Nondiscrimination on the Basis of Disability in State and Local Government Services

3) 28 CFR 36 – Nondiscrimination on the Basis of Disability by Public Accommodations and in Commercial Facilities.

b. Environmental Protection Agency (EPA):

1) 40 CFR 123 and 124 – National Pollutant Discharge Elimination System Permit Application Regulations for Storm Water Discharges; Final Rule.

2) 40 CFR 9, 122, 123, and 124 – National Pollutant Discharge Elimination System-Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges; Final Rule

3) 40 CFR 61 National Emission Standards for Hazardous Air Pollutants.

4) 40 CFR 763 Asbestos-Containing Materials in Schools; Final Rule and Notice.

c. Federal Highway Administration (FHWA):

1) Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD) with New York State Supplement.

d. Federal Transit Administration (FTA):

1) 49 CFR 661 Buy America Requirements.

e. Occupational Safety and Health Administration (OSHA):

1) 29 CFR 1910 Occupational Health and Safety Standards.

2) 29 CFR 1926 Safety and Health Regulations for Construction.

f. United States Code:

1) 15 U.S.C. Section 2601 et seq.

a) Federal Toxic Substances Control Act [P.L. 94-469, P.L. 99-519, as amended].

b) Asbestos Hazard Emergency Response Act (AHERA).

2) 33 U.S.C. Section 1251 et seq.

a) Water Quality Act of 1987 [P.L. 100-4].

b) Clean Water Act of 1977 [P.L. 95-217].

c) Federal Water Pollution Control Act Amendments of 1972 [P.L. 95-500].

3) 42 U.S.C. Section 2000e et seq.

a) Equal Employment Opportunity:

(i) Civil Rights Act of 1964 [P.L. 88-352 (Title VII – Equal Employment Opportunity)], as amended.

4) 42 U.S.C. Section 6901 et seq.

a) Resource Conservation and Recovery Act (RCRA) [P.L. 94-580].

5) 42 U.S.C. Section 7401 et seq.

a) Air Pollution Prevention and Control.

(i) Clean Air Act [P.L. 95-95], as amended. 6)

42 U.S.C. Sections 12101–12213.

b) Equal Opportunity for Individuals with Disabilities.

(i) Americans with Disabilities Act of 1990 (ADA) [P.L. 101-336].

(ii) ADA Amendments Act of 2008 [P.L. 110-325].

6) 47 U.S.C. Section 225.

a) Telecommunications Services for Hearing Impaired and Speech-impaired Individuals.

(i) ADA Amendments Act of 2008 [P.L. 110-325, P.L. 104-104, Pub. L. 111-260]

7) 47 U.S.C. Section 611.

a) Closed-captioning of Public Service Announcements.

(i) Americans with Disabilities Act (ADA) [P.L. 98-549, P.L. 101-336].

8) 49 U.S.C. Section 5323(j).

a) Buy America Act [P.L. 103-429].

9) 49 U.S.C. Section 5333(b).

a) Federal Transit Act

1.05 ADMINISTRATIVE REQUIREMENTS

A. Preconstruction Conference:

1. At the Preconstruction Conference specified in Section 01 31 00 Project Management and Coordination, regulatory requirements will be discussed, including but not limited to:

a. Equal Employment Opportunity (EEO) and affirmative action requirements.

b. Requirements of labor provisions stipulated by the U.S. Department of Transportation (DOT) as required.

c. Laws, codes, traffic regulations, permit requirements, and other public agencies' regulations.

1) Buy America Act requirements.

2) New York State Executive Order No. 111.

3) Other laws, codes, regulations, and requirements.

1.06 QUALITY ASSURANCE

A. Regulatory Agency Sustainability Approvals:

1. Obtain, pay for, and comply with all necessary local, State, and Federal permits, licenses, and inspections.

2. State of New York Permits, Inspections, and Approvals:

a. The United States Environmental Protection Agency has delegated authority to the New York State Department of Environmental Conservation (NYSDEC) to issue permits for many sources subject to New Source Performance Standards (NSPS) or National Emission Standards for Hazardous Air Pollutants (NESHAPS) in accordance with Part 201 of the NYSDEC Regulations.

b. Hazardous Air Pollution Control:

1) The United states Environmental Protection Agency (EPA) has delegated implementation and enforcement of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) codified in 40 CFR 61 and 40 CFR 63 to the New York State Department of Environmental Conservation (NYSDEC).

3. United States Government Permits, Inspections, and Approvals:

a. Perform the Work of this Contract to at all times be in compliance with OSHA regulations in order to pass OSHA inspections which may be performed.

B. Qualifications:

1. Licensed Tradesmen:

a. Certain work may only be performed by licensed tradesmen who hold a valid County of Westchester license.

1) Plumbing:

a) A Master Plumber licensed by the Westchester County Board of Plumbing Examiners and registered with the Commissioner is required for any work requiring water piping, waste, vent and drain systems, and gas piping and gas appliance installations.

b) An automatic sprinkler system may be installed without a plumbing permit and by other than a licensed Master Plumber.

2) Electrical:

a) A licensed Master Electrician is required for any work involving electrical wiring, fixtures, and appliances (more than 50 volts).

3) Hoisting

4) Operating Engineers

1.07 SUBMITTALS

A. Informational Submittals:

1. Submit the following to the Engineer for information in accordance with the requirements of Section 01 33 00, Submittal Procedures:

a. Special Procedure Submittals as required:

1) Storm Water Pollution Prevention Plan (SWPPP).

2) Construction Management Plan.

a) Parking Plan.

b) Fugitive Dust Plan.

3) Approved Erosion Control Plan.

4) Demolition Permit.

5) Copies of excavation and grading bonds.

1.08 DELIVERY, STORAGE, AND HANDLING

A. Storage and Handling Requirements:

1. Hazardous Materials:

a. Do not handle or store hazardous materials without notifying the Fire and Police Departments.

2. Readily Combustible Materials:

a. Store readily combustible materials in a compact and orderly manner.

b. Do not store combustible materials closer than 2 feet to electric motors.

c. Do not pile or store combustible material against smoke pipes, flues furnaces, steam pipes, or similar hot items.

d. Store oily waste, rags, or greasy material in metal cans with metal covers.

e. Store painters' drop cloths, linseed oil, turpentine, thinners, open cans of paint, paint brushes soaking in any flammable liquid, and similar combustible coating materials in an approved paint locker or approved storage room.

f. Do not fill, store, or transport Class I or II flammable liquids in glass bottles, jugs, or containers.

B. Packaging Waste Management:

1. Readily Combustible Materials:

a. At the close of each day, bale and stack shavings, excelsior, rubbish, sacks, bags, litter, hay, straw, and combustible waste materials; and store them in suitable vaults, or in metal or metal-lined, covered, receptacles or bins.

1) In the open, do not store readily combustible materials more than 20 feet high, or less than 50 feet from the nearest building.

PART 2 – PRODUCTS

2.01 DESCRIPTION

A. Regulatory Requirements:

1. Metro-North:

a. Explosives and Blasting:

1) Explosives and blasting are not allowed by Metro-North in the performance of the Work of this Project.

2. State of New York:

a. Comply with the applicable Codes, regulations, and ordinances of the State of New York, including but not limited to:

1) Department of State's Codes.

2) New York State Department of Transportation (NYSDOT) Standard Specifications, Standard Sheets, and Supplement to the Manual on Uniform Traffic Control Devices for Streets and Highways.

3) Applicable Rules and Regulations of the State of New York (NYCRR).

3. United States Government:

a. Buy America Act:

1) Except for those products which are exempt under the specific statutory waivers stipulated in 49 CFR 661, all other products supplied under this Section must comply with the requirements of the Buy America Act.

b. Equal Employment Opportunity (EEO) and Affirmative Action Requirements.

1) In compliance with the Civil Rights Act of 1964, do not engage in workplace employment discrimination on the basis of race, color, religion, sex, national origin, status as a qualified individual with a disability, or protected veteran.

c. Toxic Substances:

1) Control toxic substances, hazardous materials, and harmful nuclear and x-ray radiation at the Site.

2) Comply with the Toxic Substance Control Act (TSCA).

a) Do not use toxic chemical substances, mixtures, equipment, containers, sealants, coatings, or dust-control agents except in accordance with the provisions of the Toxic Substances Control Act (TSCA) as interpreted by the rules and regulations of 40 CFR 761 for polychlorinated biphenyls (PCBs).

b) Immediately report in writing any toxic chemical substance, mixture, equipment, container, sealant,

coating, or dust- control agent found stored within the Project area and stop work in the area until arrangements for the removal of the toxic materials have been made, after which the Contractor may continue to work in the area.

4. Patented Devices, Materials, and Processes:

   a. If designs, devices, materials, or processes covered by patents or copyrights are employed to perform the Work, provide for their use by arranging suitable legal agreements with the patentee or owner of the items.

   b. Defend and hold harmless Metro-North and any affected third party from any and all claims for infringement by reason of the use of any such patented designs, devices, materials, or processes, or any trademark or copyright; and indemnify Metro-North for any costs, expenses, and damages which it may be obliged to pay by reason of any infringement at any time during the prosecution or after completion of the Work.

PART 3 – EXECUTION

3.01 PREPARATION

A. Protection of In-Place Conditions:

1. In accordance with the various municipality Construction Code requirements for each station, protect existing and adjacent public and private property from damage incidental to construction operations.

3.02 ERECTION, INSTALLATION, AND APPLICATION

A. Comply with all local, State, and Federal laws, codes, rules, and regulations applicable during construction activities.

1. Comply with the applicable OSHA workplace regulations and requirements.

2. Excavation:

   a. Comply with applicable requirements of OSHA; the State of New York statutes, especially 12 NYCRR Part 23 regarding excavation and NYCRR 16 Part 753 regarding underground utilities.

3. Illumination:

   1) Provide and maintain exterior lighting furnishing adequate illumination of driveways and lanes.

   2) Minimize glare and light spillage onto adjacent properties.

   3) Provide illumination foot candle levels prescribed by the Illuminating Engineering Society of North America's (IES) The Lighting Handbook for the particular application.

   4) Illumination is not required for parking areas fenced and barricaded and not used between sunset and sunrise.

4. Snow Removal:

a. Clean snow, ice, dirt, debris, and other foreign matter from sidewalks in front of or abutting or adjoining any public street, alley, park, and keep them free from these materials.

1) If the snowfall ceases or the foreign matter ceases to be deposited in the daytime, and he abutting or adjoining lot or premises is a place of business, or is within a "B," "BR," "CB," "UR," "OR," "CO" or "LI" District of the zoning ordinance, complete the removal within the 2 hours after the fall or deposit

2) If the snowfall ceases or the foreign matter ceases to be deposited in the daytime, and the abutting or adjoining lot or premises is within any other district of the zoning ordinance, complete the removal within 10 hours.

3) If the snowfall ceases or the foreign matter ceases to be deposited in the nighttime, and the abutting or adjoining lot or premises is a place of business, or is within a "B," "BR," "CB," "UR," "OR," "CO" or "LI" District of the zoning ordinance, complete the removal before 10:00 the next morning,

4) If the snowfall ceases or the foreign matter ceases to be deposited in the nighttime, and the abutting or adjoining lot or premises is within any other district of the zoning ordinance, complete the removal before 12:00 noon.

b. If the snow and ice on the sidewalk is frozen so hard that it cannot be removed without injury to the sidewalk, distribute ashes, sand, or some other approved abrasive material onto the sidewalk, and as soon as the weather permits, thoroughly clean the sidewalk.

c. Only place the fallen snow that has been removed from the sidewalk area in the gutter.

3.03 SITE QUALITY CONTROL

A. Site Inspections:

1. Periodic Inspection:

a. Periodic OSHA compliance inspections may be performed.

1) If an OSHA area compliance officer arrives at the Site and requests to see the person in charge to get permission to perform an inspection and evaluation of work place conditions, cooperate with and assist the OSHA area compliance officer.

B. Non-Conforming Work:

1. Stop-Work Order:

a. Upon notice by Stop-Work Order from Metro-North or any various municipality managers that work on any station that is being prosecuted contrary to the provisions of various Building Code, or in an unsafe and dangerous manner, immediately stop work.

b. The stop-work order will be in writing and will be given to the owner of the property involved, or to the owner's agent, or to the person doing the work; and will state the conditions under which work may be resumed.

END OF SECTION

SECTION – 01 43 00

QUALITY ASSURANCE

PART 1 – GENERAL

1.01 DESCRIPTION AND SCOPE

A. The Contractor, its subcontractors, and suppliers of critical equipment and systems shall be able to demonstrate, at any time during the procurement period, that their responsibilities under this Contract are accomplished through an effective and verifiable quality management system and systematic quality control at all locations of production or processing of items covered under this Contract.

B. The Contractor shall ensure, through its own procurement requirements, that suppliers and subcontractors implement applicable elements of its quality management system commensurate with the significance and complexity of the services each provides.

C. The Contractor shall:

1. Generate verifiable evidence of compliance or conformance with approved requirements.

2. Conduct internal assessments and management review to determine if the quality system is adequately implemented and effective.

3. Provide clear direction to its own organization, suppliers, and subcontractors to implement these Quality Management System Requirements and provide systematic and verifiable corrective action and preventive measures when patterns of nonconformity or product unsuited for the purpose intended are identified. Within the Contract period, such direction and status of implementation shall be reported to The Railroad periodically, until corrective/preventive action plans result in the acceptable level of quality.

D. Results of work may be deemed unacceptable if carried out prior to Railroad approval of submittals relevant to satisfying Contract technical requirements and these Quality Management System Requirements.

E. These requirements are complimentary, not alternative, to the requirements specified in the Contract. Any conflict should be brought to the attention of the Engineer.

F. References:

1. American National Standards Institute (ANSI)/American Society for Quality (ASQ[1]) Standard Q9001-2008 Quality Management Systems – Requirements

2. Building Code of New York State, sections 1701 – 1704, Structural Tests & Special Inspections

3. NY State Dept. of State, Div. of Code Enforcement and Administration,

[1] ASQ - American Society for Quality, 600 North Plankinton Avenue Milwaukee, WI 53203 USA or P.O. Box 3005 Milwaukee, WI 53201-3005 USA North America Tel.: 800.248.1946 (http://www.asq.org/).

Technical Bulletin January 1, 2003, 19 NYCRR 1221 – Building Code of New York State (BCNYS), Sections 1701-1704, Structural Tests & Special Inspections

4. ASTM-E329-11c, Standard Specification for Agencies Engaged in Construction Inspection, Resting, or Special Inspection, published Jan.-2012[2]

5. The Metro-North Code Compliance Manual[3]

6. Institute of Electrical and Electronics Engineers (IEEE) 1558-2004, Standard for Software Documentation for Rail Equipment and Systems

1.02 DEFINITIONS

A. For the purposes of this Quality Management System Requirements, the definitions given in the American National Standards Institute, ANSI/ISO/ASQ Q9001-2008 (or newer versions) Quality Management Systems – Requirements (henceforth called ISO-9001), and the following definitions apply:

1. The terms "Quality Assurance Program", "Quality Management System" (QMS), and "Quality System" are interchangeable.

2. The Quality Management System manual (Quality Manual) is the document that establishes a Contractor's company commitment to quality, objectives for quality, a description of the system, identifies stakeholder organizations and their responsibilities within the system, and policies for the systematic attainment of its quality objectives, including the use of documented requirements for accomplishing work.

3. Contract Quality Plan is the document that describes the processes and arrangements established to assure that products delivered, and services rendered meet Contract criteria and standards. This document addresses Contract- or customer-specific clarifications or processes different from the Contractor's company quality system that are necessary to meet Contract terms and requirements.

4. Quality Management System implementing procedures (or simply "procedures") are specific instructions for carrying out policies, processes, and arrangements established in the Quality Manual and Contract Quality Plan.

5. Acceptance criteria are the agreed-upon standards against which select observable characteristics in a product or process are compared to determine acceptance of results. Examples are:

   a. Contract Drawings and Specifications,

   b. Contractor's shop drawings, samples, work instructions and procedures, and inspection and test results,

   c. Regulatory, industry, and generally-accepted professional

[2] ASTM International, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA 19428-2959. United States

[3] Latest copy may be obtained from the Metro-North Code Compliance Group, Construction Management Department, and Capital Programs Div.

standards,

d. the Contractor's own internal standards, and

e. Other acceptance criteria agreed to with the Railroad.

6. BCNYS; Building Code of New York State

7. CEO, Code Enforcement Office; the Metro-North Code Compliance Group

8. RDP, a New York State Registered or Licensed Design Professional

9. CS&I Consultant, the Railroad's Construction Supervision & Inspection Consultant

10. SI Consultant, the agency providing the services of the SI Inspector; for the purpose of this specification, the CS&I Consultant is also the SI Consultant.

11. SI Inspector, Building Code Special Inspections compliance inspector(s)

12. Designer-of-Record, the Design Professional responsible for the design documents

13. SI, Special Inspection(s), verification activity required by the BCNYS Section 1702 of the materials, installation, fabrication, erection and placement of components and connections requiring special expertise to ensure compliance with approved construction documents and referenced standards.

14. For software and Software Quality Assurance, the definitions in IEEE 1558-2004, Standard for Software Documentation for Rail Equipment and Systems (henceforth called IEEE 1558) and its other referenced standards shall apply.

1.03 SUBMITTAL

A. Pre-Award: The Contractor shall submit the following with its proposal or as directed by the Railroad's contracting office, if specific direction is provided:

1. The Contractor's Quality Manual.

2. If available, the independent ISO registrar's certification that the quality system, as implemented, conforms to the requirements of ISO-9001.

B. Post-Award: Submit the following to The Railroad for review:

1. Test Laboratory Quality Management System and qualification documentation - 10 work days prior to engaging the services of a testing laboratory

1.04 RAILROAD'S QUALITY ASSURANCE

A. The Railroad will monitor compliance with design documents and with the processes established in the QSM and CQP and assess the effectiveness of the quality management system in driving the Contractor's team in achieving quality goals for the Contract.

B. In addition to conducting independent materials testing and Building Code Structural Tests and Special Inspections, the Railroad may, at its option, perform audits and other forms of oversight and assessments.

C. The Contractor shall provide access to its facilities, personnel, information,

products, and other objective evidence at all reasonable times.

D. The Contractor shall ensure through the Contractor's procurement documents that similar access is allowed by suppliers, subcontractors, and testing agencies.

E. Information, products, and other objective evidence in any condition, in-process or finished, acceptable or nonconforming, shall be made available to ensure a complete view of the state at which the Contractor has implemented its QSM and CQP.

F. The Railroad will notify the Contractor of any deficiencies identified during these activities in writing. If deficiencies are noted, the Contractor must ensure prompt and documented corrective action, including in that corrective action other items or processes similarly affected. The Contractor shall identify root cause and revise, amend, or clarify its CQP or procedures or those of its subcontractors, suppliers, and testing agencies, as applicable, also incorporating preventive measures.

G. The Railroad's quality assurance activities shall not negate, delete, lessen, or act instead of the Contractor's quality assurance responsibilities.

1.05 MATERIALS TESTING

A. Independent testing of construction materials for the purpose of Railroad acceptance of built structures is the responsibility of the Railroad's Construction Supervision & Inspection (CS&I) Consultant.

B. The Contractor and its subcontractors and suppliers shall support implementation of the Railroad's independent materials testing responsibilities.

C. Where the Contract requires materials test results for other than testing related to acceptance of built structures or BCNYS Special Inspections, the following information shall be provided:

1. Name and address and contact information of the laboratory where the test was conducted
2. Qualification documentation (i.e. - State license to conduct business as an independent testing agency, information from a U. S. testing laboratory accrediting body (see A.5.C, Qualifications of Testing Laboratories)
3. Identification of the individual who conducted the test
4. Identification of the laboratory supervisor who validated the test and its results
5. The date the test was conducted
6. The test equipment and measuring instrument used
7. The test standard or procedure used, and acceptance criteria applied
8. The data obtained by test, leading to the conclusion reported
9. The overall conclusion reached by the testing agency (i.e. – Pass or Fail)
10. The laboratory management personnel who authorized the release of the test report

D. Testing Laboratory Qualifications

1. Throughout their period of engagement, laboratories shall satisfy the

requirements of ISO/IEC-17025, General requirements for the competence of testing and calibration laboratories, as determined by a U. S. testing laboratory accrediting body[4,5].

2. Throughout their period of engagement, environmental laboratories shall be accredited by the state governmental agency that serves as accreditation body under the National Environmental Laboratory Accreditation Program (NELAP)[6].

1.06 BUILDING CODE SPECIAL INSPECTIONS

A. The Railroad has direct responsibility for Building Code Structural Tests and Special Inspections. Building Code Special Inspections will be conducted by the Railroad, through its Construction Supervision & Inspection Consultant.

B. The Railroad's Construction Supervision & Inspection Consultant will provide a Registered Design Profession (RDP), licensed and registered in the State where the construction work is located, who shall be responsible for the Railroad's Building Code Structural Tests and Special Inspections and Building Code Compliance inspections. This professional is hereinafter referred to as "The Building Code Compliance Inspector".

C. The Contractor and its subcontractors and suppliers shall support implementation of the Railroad's Building Code Structural Tests and Special Inspections responsibilities.

D. The Contractor and its subcontractors and suppliers shall support implementation of the Railroad's independent materials testing responsibilities.

PART 2 – PRODUCTS

A. The Contractor's Company Quality Manual

B. Contract Quality Plan

C. Contract Inspection and Test Plan (for general construction quality control)

D. Personnel qualification and/or certification for those who perform special processes (e.g. – non-destructive examination or testing) in the field

E. Calibration records for measuring or test equipment used in the field for special process and acceptance inspections and tests

PART 3 – EXECUTION

3.01 THE QUALITY MANUAL

A. The Contractor's Quality Management System documentation shall conform to the requirements of the American National Standards Institute's ANSI/ISO/ASQ

---

[4] National Voluntary Laboratory Accreditation Program, Laboratory Accreditation- NVLAP**,** 100 Bureau Drive, Stop 2140, Gaithersburg, MD 20899-2000; Email: nvlap@nist.gov

Phone: (301) 975-4016, http://ts.nist.gov/standards/scopes/programs.htm and the National Cooperation for Laboratory Accreditation (NACLA) (http://www.nacla.net/).

[5] OSHA Nationally Recognized Testing Laboratory (NRTL) Program (https://www.osha.gov/dts/otpca/nrtl/)

[6] In NY State, the accreditation body is the NY State Dept. of Health's Environmental Laboratory Approval Program (ELAP, **URL:** www.wadsworth.org/labcert/elap/elap.html)

Q9001-2015 Standard (also referred to as ISO-9001), Quality Management Systems – Requirements.

B. The Quality Manual shall also:

1. Identify its applicability to the location(s) where products and services to be provided in this Contract are manufactured or headquartered,
2. State the Contractor's policies regarding the control of development and/or installation of deliverable software and provide references, should details of this information exists in a separate document,
3. Include a roster or chart of personnel responsible for implementing the company's quality policies,
4. List or reference to implementing procedures governing activities important to the management of quality, such as:
   a. Control of Records
   b. Nonconformance Control
   c. Action to correct Quality Management System deficiencies
   d. Action to prevent Quality Management System deficiencies
   e. Internal audit
5. Bear evidence of approval by the authority in charge of the business unit.

C. Prior to award, the Contractor shall obtain the Railroad's agreement with amendments, exceptions, or modifications to the Contractor's company quality management policies and Software Quality Assurance Plan that are necessary for this Contract. These shall be incorporated into the Contractor's Contract Quality Plan.

D. Optional Quality Manual Template - At the end of this Section 01 43 00, QUALITY MANAGEMENT SYSTEM REQUIREMENTS is a template for preparing a Quality Manual. Contractors that do not have a documented Quality Manual or that have a manual reflecting a quality system that does not meet ISO 9001 may opt to use the template. Note: No representation is made regarding the acceptability outside Metro-North Railroad of a manual developed using this model.

3.02 CONTRACT QUALITY PLAN (CQP)

A. The Contractor shall implement a Contract Quality Plan to ensure that its work is adequately planned, coordinated, and in accordance with this Contract and the professional standard of care committed to by the Contractor's company management. At a minimum, it shall address:

B. Adjustments to the company quality management policies applicable only to the Contract Project Organization and Management

1. Include a roster or chart of personnel responsible for implementing the Contract Quality Plan's requirements.
2. Include a list of any Customer-specific procedures applicable to the Contract

C. Use of Written Procedures – Internal procedures for control over the quality of design documents and technical submittals (e.g. – inter-discipline review, review,

design change process, process for release of design documents for submittal to the Railroad, record keeping, internal audits, field inspections and surveys, correspondence control, etc.)

D. Procurement Control

1. Subcontract quality management system requirements
2. Subcontract quality oversight

E. Document Control

1. Approval of requirements documents prior to use
2. Contract Correspondence Control
3. Tracking of RFIs and Change Requests
4. Internal review of technical submittals
5. Shop Drawing Approval Process
6. Distribution to and control of approved construction documents (including changes) at the Jobsite

F. Design Development and Changes

1. Internal design development and review process
2. Process for obtaining Railroad input to design development and acceptance of design.
3. Design Changes and field modifications

G. Quality Control at The Jobsite

1. Contractor's own work
2. Subcontractor work
3. General Construction In-Process Quality Control
   a. Quality of purchased materials
   b. Special process control
   c. Quality control inspection and tests
4. Housekeeping
5. Facilitation and coordination of Railroad Building Code Structural Tests & Special Inspections

H. Nonconformance Control (including processing of rejected materials)

I. Internal Quality System Audits

J. Records Retention While Work Is in Progress

1. Loss prevention
2. Disaster recovery
3. Information pertinent to as-built records

K. Forms or template/format for quality management to be used on the Contract (e.g.

- Inspection Reports, Test Reports, and Nonconformance Reports).

3.03 CONTRACTOR'S INSPECTION AND TEST PLAN

A. The Contractor's Inspection and Test Plan shall cover verification of conformance to the technical specifications and general construction quality control. It shall provide the following information:

1. List all inspections and testing required in the Contract, including those required by referenced Codes and Standards.
2. The schedule of when the activity is expected to be carried out
3. The source of the inspection or test criteria (e.g. – drawings, specifications, inspection, or test procedure),
4. The status of these criteria documents (e.g. – approved, in process, etc.),
5. The party responsible for conducting the inspection or test
6. The Railroad's participation (e.g. – witness or conduct the inspection or test),
7. The status of the item after inspection or test (e.g. - passed, with open items pending, or failed), and
8. The status of final records (e.g. – In-progress, release transmittal ID/date of issue).

3.04 BUILDING CODE SPECIAL INSPECTIONS

A. Responsibilities of the Contractor:

1. Provide access to the approved Structural Tests and Special Inspections criteria. The Contractor/Engineer shall provide the SI with direct access to the Structural Tests and Special Inspection criteria agreed to with the Railroad.
2. Notify the SI. The holder of the building permit or their duly authorized agent shall notify the SI of individual inspections required. Adequate notice to the SI shall be provided so that all prerequisites (e.g. – Railroad-accepted design documents, and Railroad-approved shop drawings, utilities, and services) are in place or have been completed and the SI has time to become familiar with the specific items and acceptance criteria.
3. Provide safe access to the work to be inspected.
4. Provide support for the efficient and safe performance of SI activities. Provide jigs, fixtures, handling equipment, lighting, other equipment.
5. The Contractor shall ensure that its jobsite activities do not interfere with or negate completed Structural Tests and Special Inspections. Change to a
6. tested or inspected item, may be reason to retest or re-inspect. The authority for such determination shall be the Railroad's Project Manager or designee.
7. Field discrepancies. The Contractor shall implement approved remedial measures to noncomplying items. The Contractor shall obtain Railroad approval of remedial measures for items that do not comply with previously-approved drawings, including approval by the CEO where applicable.

8. Changes to Design Documents and Shop Drawings. The Contractor shall obtain Railroad approval of changes to previously-approved drawings, including approval by the CEO where applicable.

B. Cognizant representatives from the following organizations shall be present during Special Inspections:

1. The construction Contractor's and affected subcontractor's site supervision and construction inspectors.

2. Authorized field service representatives of suppliers of major equipment with safety-related functions.

C. Upon completion of Special Inspections, all authorized representatives shall:

1. Go over exception items, identifying those that are product or installation nonconformance, as appropriate.

2. Identify any other open items, determine the next step, assign responsibility, and establish action due date towards completing open action items.

3. Acknowledge participation and understanding of the Nonconformance Reports and Open Action Items summary by signing each record.

4. Act in good faith to reach agreement regarding disposition and correction of nonconforming conditions.

3.05 BUILDING CODE SPECIAL INSPECTION RECORDS

A. Once all Nonconformance Reports have been closed and Open Action Items completed, the Building Code Compliance Inspector shall release the final inspection records to the Railroad's Project Manager, the Design Consultant, and Metro-North's Code Compliance Group. The Metro-North Code Compliance Group issues Certificates of Occupancy in accordance with the Metro-North Code Compliance Manual (Ref. 3).

B. These records shall also be retained in files intended for transmittal to the Railroad's project long-term records retention.

3.06 SOFTWARE QUALITY ASSURANCE

A. The level of Railroad involvement in software development is established by the designated Railroad Project Engineer. Through the Contract technical specifications or directive provided during the Contract period, the Engineer may modify the applicability of the requirements of IEEE 1558 in a manner appropriate for the scope and criticality of the work to safety or Project needs.

1. When Contract work includes development of new or modified software to fit an application specific to the Railroad, the Contractor shall submit software development and user documentation.

2. The Contractor shall implement Software Configuration Management during procurement, receipt, installation, and commissioning of systems shall be addressed.

B. Prior to placing software in service, the Contractor shall test software for operability and that it functions as expected.

C. Configuration Control

1. An appropriate document and data control methods shall be established to ensure that software products in development are identifiable and kept separate from software products intended for installation in a Railroad system.

    a. Software in development that is released for testing on equipment or systems prior to final release shall be identifiable and contain appropriate statements within the software code to indicate its release status to users.

    b. Software in development that is released for testing on Railroad equipment or systems prior to final release shall be:

        1) Authorized in writing by the Engineer,

        2) Replaced with the final, released version, with documentation complying with the appropriate type of implementation.

        3) An appropriate document and data control methods shall be established to ensure that the latest set of released-for-installation software products are identifiable and are the only products available for installation.

2. These configuration control requirements are in addition to any other requirements for software identification and traceability to hardware prescribed in other parts of the technical specifications.

3. The Contractor shall update these documents periodically until the end of the Contract period.

D. Commercial-Off-The Shelf (COTS) Equipment with Software

1. When software is included as part of Commercial-Off-The Shelf (COTS) equipment, software documentation shall conform to the requirements in IEEE-1558-2004 for Type 1 procurement:

    a. Details regarding the software identification, version and level shall be provided to the Railroad.

    b. User's Manuals and all other documentation from the original source of software shall be provided to the Railroad.

END OF SECTION

PART 4 – WORK STATEMENT ATTACHMENT A, APPENDIX OPTIONAL QUALITY MANUAL TEMPLATE

4.01 FOREWORD INTRODUCTION

A quality management system is intended to assure that construction services are provided safely, as specified, on schedule and at the agreed cost.

This Model Quality Management System Manual (Model QMS Manual) is a template designed for use by Contractors that want to develop their own company Quality Management System Manual (Company QMS Manual). This Sample QMS Manual is patterned after ISO 9001-2015 Quality Management System Requirements. However, this Sample QMS Manual is in no way intended to restrict the format of Quality Manuals submitted to Metro-North. You may develop your Company QMS Manual in any format that satisfies the requirements of ISO 9001- 2015.

The interpretations of ISO 9001- 2015 requirements in this Sample QMS Manual are general in nature: Metro-North Railroad makes no representation regarding its acceptability, accuracy, and correctness outside Metro-North. In addition, you must evaluate its contents as they apply to your own organizational structure. If you intend to use this sample as the basis for Third Party registration, the opinion of your registrar or reviewing agency takes precedence.

1. CONTRACT QUALITY PLANS

The quality management policies in your Company QMS Manual may need to be amended or modified in some suitable way for specific contracts to accommodate special Customer requirements, and to define organizational and administrative interfaces between The Company and The Customer. It is typical to call these amended or modified Quality Manuals "Contract Quality Plans". There have been a number of common practices regarding Quality Plans. Some practices have been to:

- Incorporate the modifications into a Contract-version of the Company QMS Manual,
- Issue the Company QMS Manual with an attached amendment containing the modifications applicable only to a specific contract, or
- Issue a separate document called "Contract Quality Plan" containing only the modifications and referencing a specific version of the Company QMS Manual as the base document and transmitting the base version of the Company QMS Manual with the Contract Quality Plan.

2. USE OF GENERIC TITLES

The title "Chief Operating Officer" (COO) refers to the position of the highest-ranking individual responsible for the day-to-day operation of the entire company. You may substitute the appropriate title for your company (e.g. - President).

The title "Construction Contract Officer" refers to the position of the highest-level individual responsible for the successful conclusion of a Construction Contract and satisfaction of the customer. You may substitute the appropriate title for your company (e.g. - Project Manager).

The title "Designated Responsible Officer" refers to the position of an individual at a Construction job site responsible for successful conclusion of construction work and satisfaction of the Customer. You may substitute the appropriate title for your company (e.g. - Site Superintendent).

In some cases, an explanation of the requirements of ISO 9001-2015 is given for clarity and to aid understanding. The explanation is in Italics and is not part of sample text.

We hope you find the Sample QMS Manual a useful step in your journey to achieve a high level of customer satisfaction and a more profitable future.

- END OF SECTION (SAMPLE QMS MANUAL HEREAFTER) -

(Insert company name here)

(Insert company headquarters street address here) (Insert City/Town, State and Postal Zip-code here)

QUALITY POLICY AND QUALITY MANAGEMENT SYSTEM DESCRIPTION OR

CONTRACT QUALITY PLAN OPTIONAL TEMPLATE

_____ _____

PRESIDENT DATE

_____ _____

(indicate actual company title) DATE

Senior management representative for quality

REVISION NO._____

EFFECTIVITY DATE _____

3. (COMPANY NAME) QUALITY MANAGEMENT SYSTEM MANUAL TABLE OF CONTENTS

PART 1 – SECTION 1 - QUALITY MANAGEMENT SYSTEM

PART 2 – SECTION 2 - MANAGEMENT RESPONSIBILITIES

PART 3 – SECTION 3 - RESOURCE MANAGEMENT

PART 4 – SECTION 4 - PRODUCT REALIZATION (PLANNING & PERFORMANCE OF WORK

PART 5 – SECTION 5 - MEASUREMENT, ANALYSIS, AND IMPROVEMENT

PART 6 – SECTION 6 - APPENDICES

(Insert company name here)

(Insert company headquarters street address here) (Insert City/Town, State and Postal Zip-code here)

PART 1 – SECTION 1 – QUALITY MANAGEMENT SYSTEM

(This QMS Section corresponds to Section 4 of the ISO 9001-2015 Standard. It describes the overall Quality Management System (QMS), and identifies those processes, procedures and other documents that ensure effective operation and control of processes.)

1.01 GENERAL REQUIREMENTS

The ***(insert company name here)***, henceforth known as "The Company", is committed to establishing, implementing, maintaining, and continually improving a QMS conforming with the requirements of the International Standard, ISO 9001-2015. This Manual documents the policies of that QMS.

The following are the key processes needed for the QMS to be effective and facilitate the production of a product or service that satisfies the customer. ***(Note this is not a complete list and should be modified to address your company structure and operations.)***

1. The Contracting Process

This is process starts with the review of the Request For Proposal (RFP) or Information For Bidders (IFB), through proposal or bid development, Customer's award of the Contract or notification of no award and ending with review of opened proposals or bids.

2. Design and Development

This is the process of inter-discipline and inter-organizational effort of transforming the Customer's Contract Technical Provisions into design and construction documents such as Design Specifications, drawings, shop fabrication details, inspections, and test procedures.

3. Shop Drawing Submittal, Review and Approval

This process starts with the Contract kick-off meeting. It includes the Contractor's process for obtaining Customer's input to and approval of technical submittals and deliverables, such as construction details, shop fabrication drawings, workmanship standards, special process procedures, and inspection and testing procedures.

4. Production Planning

This process consists of the development of the construction work breakdown structure, cost-loaded schedule, database and method for progress reporting, establishment of the system and rules for communication and coordination between the Company's project team and the Customer's project team.

5. Procurement

This process consists of identification, procurement, and traceability of materials, parts, components, equipment, and services, including the activities of selecting suppliers, subcontractors, testing agencies and consultants.

6. Construction

This process includes all activities defined in the Contract technical provisions, Contract drawings, and Customer-approved shop drawings.

7. Monitoring and Measuring

This includes several processes: product inspection at source, construction work inspection, in process testing, post-construction pre-operational testing, control of nonconforming conditions, and Quality system internal audits.

8. Customer Satisfaction and Quality System Improvement

This is a set of processes that includes corrective and preventive actions, company management review of quality system effectiveness and suitability, and response to customer returns, complaints, and feedback.

For each key process identified above, The Company will identify the criteria and methods to ensure the processes are effective, define the methods of monitoring measuring and analyzing these processes and establish commitment to their continuing improvement.

(Note: The criteria and methods referenced above, may be included in the Company QMS Manual, a Contract Quality Plan (See Foreword to this Sample QMS Manual) or, separately, in procedures, work instructions or process control documents.)

1.02 DOCUMENTATION REQUIREMENTS

1.03 GENERAL

The Company has established the following documentation for its QMS.

A. This Quality Management System (QMS) Manual

(List the types of written or electronic information that provides direction, guidelines, acceptance standards, processing standards, and similar requirements. What follows are typical written requirements that may be applicable to your company's operation. Remove those that are not applicable and add those that apply but may not have been listed here)

B. Quality Management System Procedures (administrative)

C. Project Management Procedures (including interface and coordination with Customers and regulatory agencies with jurisdiction over jobsites)

D. Government regulations

E. Customer contracts, including contract specifications and drawings

F. Industry standards

G. Procurement specifications

H. Processing Instructions (including construction process instructions)

I. Construction Work Packages

J. Measuring and test equipment calibration procedures

K. Inspection and test procedures

1. Records that demonstrate implementation and effectiveness of the QMS are identified in quality system documentation.

1.04 QUALITY MANAGEMENT SYSTEM MANUAL

This Company QMS Manual establishes the scope of the Quality Management System, defines the activities and functions over which it applies, and commits to complying (and any exclusion) with the International Standard ISO 9001-2015. It describes the sequence and interaction of the main administrative processes, which fall under the scope of the QMS and cites references to lower-tier quality system documents when more details are necessary.

The ***(insert the title of the individual who has primary responsibility for Company QMS Manual and for publishing and issuing copies to users)*** shall ensure that master version of the Company QMS Manual and copies sent to direct users are controlled documents. (See 1.2.3 "Control of Documents", following).

1.05 CONTROL OF DOCUMENTS

A documented procedure has been established to control documents required for the QMS. The written procedure detailing the Company's document control practices is listed in Appendix 6.1 of this Company QMS Manual. This procedure implements the following policies:

1. Written requirements that make up QMS (see Quality System requirements documentation in 1.2.1) shall:
    a. Exhibit those characteristics necessary to establish that any available copy is the correct document, approved, complete, and current.
    b. Be reviewed and signed by authorized personnel prior to release.
    c. Be sent to each user or to locations readily accessible to each user
    d. Be maintained current and useable in any location where copies are stored.
2. Personnel who work in activities governed by the QMS shall use only the latest, authorized, controlled issues of QMS documents.
3. Superseded versions of these documents shall not be held or stored in areas where inspection, test, or construction work is in-progress. Wherever these other versions are stored, they shall be marked clearly as not authorized for use (e.g. – "void", "superseded").

1.06 CONTROL QUALITY OF RECORDS

The applicable procedure, listed in Appendix 6.1 of this Company QMS Manual, to control the identification, review, approval, distribution, retention, and retrieval, protection, and disposition QMS records has been established. This procedure implements the following policies:

Records shall be verified for accuracy and completeness prior to final release and retention.

Records (e.g. - letters, memos) that require a response or action shall be directed to the individual authorized to respond or act.

The status of transmittals that require a response or action by shall be maintained. Records shall be stored in a suitable environment to prevent damage or deterioration and to prevent loss. Records shall be filed according to the established File Index.

Access to records shall be controlled. Removal of Records to a location other than the immediate area where the file is located shall be restricted to authorized persons.

Measures to identify removed files and their current location shall be maintained. Retention time of QMS records shall be established in a written procedure.

- END SECTION 1 -

PART 2 – SECTION 2 - MANAGEMENT RESPONSIBILITIES

(This QMS Section corresponds to Section 5 of ISO 9001-2015. It addresses commitment to quality, consideration of the customer, Quality Policy, planning work to deliver a quality product, administration of the Quality Program, and positioning for continuous improvement.)

2.01 MANAGEMENT COMMITMENT

A. At its highest management levels, the Company is committed to the development and improvement of the QMS by:

1. Communicating the importance of meeting customer, regulatory and legal requirements.
2. Establishment of a quality policy and objectives.
3. Conducting management reviews in accordance with Paragraph 2.6 of this Company QMS Manual
4. Ensuring the availability of resources necessary to implement company policies and attain its quality objectives.

2.02 CUSTOMER FOCUS

A. The Company ensures Customer satisfaction by:

1. Reviewing and clarifying Customer's Contract Requirements against Customer's and The Company's expectations.
2. Establishing close coordination in a systematic way through a Contract Quality Plan that provides necessary modifications to company standard operating procedures to accommodate Customer needs.
3. Assigning trained and qualified personnel to carry out project tasks, and continuously maintaining skill levels and qualification.
4. Breaking down work elements, budget, and available time in sufficient detail to track real progress and meet cost, quality, and schedule commitments.
5. Performing internal quality audits to encourage compliance with the QMS requirements and determine how effective these requirements are in assuring long- term profitability and Customer satisfaction.
6. Systematically identifying and resolving nonconforming conditions before they impact the Customer and using that information together with Customer feedback to improve the Company's ways of doing business.

2.03 QUALITY POLICY

A. The Company policy regarding the Quality of the goods and services we offer our customers is in Appendix 6.2 of this Company QMS Manual.

B. This Quality Policy is reviewed for relevancy and appropriateness of objectives; and communicated to those performing the work. The policy is posted at all work locations.

(Prepare a statement, called "Quality Policy", that is appropriate to your company's business objectives, include commitment to meeting Customer requirements, continuously improving the services provided, and the method of delivering these services. Attach that statement, as Appendix 6.2, to this company Quality Manual).

2.04 PLANNING

2.05 QUALITY OBJECTIVES

A. The Company's Quality Objectives are in Appendix 6.3 of this Company QMS Manual. The attainment of our Quality Objectives is part of our commitment to continuous improvement and Customer Satisfaction. The Quality Plan for any Construction Contract will identify quality objectives for that construction Contract.

2.06 QUALITY MANAGEMENT SYSTEM PLANNING

A. QMS planning is a yearly activity that occurs as part of the company's budget development process and results in obtaining management approval of staffing, budgets, and schedule to carry out:

1. Necessary modifications to the written requirements documents to incorporate lessons learned from quality system audits, corrective/preventive action issues, and management review,

2. Reallocation of staff responsibilities and hiring of additional personnel in order to efficiently and completely accomplish quality system (including Contract-related) activities, and

3. Procurement of necessary additional assets (e.g. - office space, equipment, service contracts, etc.) and services to maintain current assets in a state of good repair

4. Processes in this Company QMS Manual.

B. When conditions require change, the planning process allows change to occur in a controlled manner and integrity of the QMS is maintained. The COO authorizes changes to the QMS and assures the information is disseminated and adequate resources for implementation and control during the transition are available.

2.07 RESPONSIBILITY, AUTHORITY AND COMMUNICATION

2.08 RESPONSIBILITY AND AUTHORITY

A. The Company is organized in the following manner. *(Include Appendix 6.4, the organization chart for the company). (Insert title)* is responsible for maintaining the company Organization Charts (Appendix 6.4). The Contract Quality Plan will also include the Organization Chart for the Construction Contracted product or services.

B. The Company has assigned responsibilities and authority in the following manner.

(Use functional titles instead of names to reduce the number of Company QMS Manual revisions. Focus your description of activities on prevention of nonconforming conditions, problem identification, problem solution, verification of corrective action, and follow-up to ensure problem resolution. Correlate with the Organizational Chart.)

2.09 MANAGEMENT REPRESENTATIVE

A. The Company has assigned a management representative for Quality. He/she shall ensure the Quality system is established, maintained, and implemented and shall report to top management on a *twice-yearly basis* and make recommendations for Quality System improvements. Reports shall be issued in writing to Top Management and maintained in an open status until the resolution of outstanding items. The management representative for Quality shall be independent of direct project supervisory activities and assure that for each

Construction Contract assigned personnel are aware of customer requirements.

2.10 INTERNAL COMMUNICATION

A. The Company ensures effective communication including communication of the effectiveness of the QMS through one or more of the following:

B. Distribution and control of procedures, work instructions, flow diagrams, process diagrams, newsletters, and the establishment, monitoring and communication of quality goals and their status.

2.11 MANAGEMENT REVIEW

2.12 GENERAL

A. The Company top management shall review the QMS, quality policy and quality objectives twice a year and more often as needs dictate to ensure its suitability, adequacy, and effectiveness. Records of these reviews shall be maintained. The COO is responsible for the Management Review process.

2.13 REVIEW INPUT

A. Management Reviews shall utilize:

1. Internal and external Quality Audit results
2. customer performance evaluations (feedback)
3. Process performance and product conformance results
4. Preventive and corrective action status
5. Follow up on actions from previous Management Reviews
6. Other changes (i.e. business climate, scope of work changes, etc.) that could affect the QMS.

2.14 REVIEW OUTPUT

A. Results of company management's review of the QMS shall be recorded and address the following, as appropriate:

1. Improvements in the QMS and its processes
2. Improvements in product related to customer requirements
3. Resource needs
4. Action items shall be followed up at subsequent management reviews to ensure closure.

- END SECTION 2 -

PART 3 – SECTION 3 - RESOURCE MANAGEMENT

(This QMS Section corresponds to Section 6 of ISO 9001-2015. Its purpose is to assure that sufficient staff and assets are assigned to the work governed by the QMS and that staff is adequately prepared to perform the assigned tasks.)

3.01 PROVISION OF RESOURCES

A. The Construction Contract Officer and Designated Responsible Officer are responsible for assessing organizational and project needs within their specified scope, including oversight functions. Each shall identify sufficient resources necessary to deliver construction services as required by Contract and improve the QMS processes. When necessary, additional resources shall be provided.

3.02 HUMAN RESOURCES

3.03 GENERAL

A. The Company shall assign work to personnel who are competent on the basis of applicable education, training, skills, and experience. The Construction Contract Officer is responsible to review requirements to determine any special competency needs for personnel assigned to a specific Construction Contract and ensure the assignment of personnel who meet the requirements.

3.04 COMPETENCE, AWARENESS AND TRAINING THE COMPANY SHALL:

A. Identify competency needs for personnel performing activities affecting quality. The Company has developed position descriptions for those personnel performing activities affecting quality, which identify competency requirements. (Identify the appropriate position in your company) maintains the latest issue of such position descriptions.

B. Identify training needs, provide training to satisfy competency needs, and assure continuing training is provided as necessary (Note training can be formal, informal, on the job, union classes, apprenticeship, etc.).

C. Evaluate the effectiveness of the training provided. Individuals who are responsible to supervise personnel performing the work will evaluate effectiveness. One or more of the following will correct any noted deficiencies: additional On-the-Job-Training, closer supervision, formal re- training, and reassignment.

D. Ensure employees are aware of how their work activities contribute to the achievement of quality objectives. Our Quality Policy is posted at all work locations. Employee orientation contains a section that describes the important role each employee plays in achieving both our corporate and Construction Contract quality objectives.

E. (Describe how you achieve this. Consider newsletters, performance evaluations, project Kick-off meetings, Project position descriptions, project organization charts and other means of awareness enhancement).

F. Maintain records of education, training skills and experience. Human Resources is responsible to maintain appropriate records including records of training activities and the subject matter.

3.05 INFRASTRUCTURE

A. The Company provides a work environment suitable for it to achieve its business objectives and satisfy project requirements. The COO or designee is responsible

to assure necessary facilities, equipment, hardware, software, support/administrative services are available to each employee in order to assure they can be successful in their work.

3.06 WORK ENVIRONMENT

A. The Company has identified and is managing those factors of the work environment needed to assure work output is acceptable.

B. These factors may include, as applicable, safety plans and inspections, compliance with OSHA and applicable building codes, toolbox meetings, HAZMAT protective equipment, and specific requirements in Construction Contracts.

- END SECTION 3 –

PART 4 – SECTION 4 - PRODUCT REALIZATION (PLANNING AND PERFORMANCE OF WORK)

A. (This QMS section corresponds to Section 7 of ISO 9001-2015. It describes those activities related to the production of a product to ensure that it meets customer requirements. Products can be physical (e.g. – structures, equipment, parts, and materials) or intellectual (e.g. – studies, analysis, design plans and specifications, and software). Intellectual product may be of direct use to the customer or incorporated into a final product or service for the customer.)

4.02 PLANNING OF PRODUCT REALIZATION

A. The Company shall plan and document the product realization process. The documentation for the realization process may be described in a Contract Quality Plan, product design, and production process documents.

B. The Quality objectives for the work are identified in the Construction Contract and represent the customer requirements or in product specifications for standard product.

C. The process, process controls, documentation, and resources necessary to complete the work successfully shall be established and implemented.

D. Verification and validation are incorporated into the planning process and are described in the Contract Quality Plan or product testing documents. Acceptance criteria shall be developed, and product acceptance documented.

E. Records attesting to conformity of process and resulting product shall be maintained. Records will include:

1. Monitoring and Measuring Records
2. Internal Quality Audit results and closure
3. Product Acceptance Records
4. Records of Management Reviews

4.03 CUSTOMER RELATED PROCESSES

4.04 DETERMINATION OF REQUIREMENTS RELATED TO THE PRODUCT

A. The Company will carry out construction in accordance with the Construction Contract (or produce industry-standardized items strictly in accordance with the applicable industry standard). Where written Customer requirements are not provided, the Company will document requirements provided verbally by the Customer, as well as any additional requirements, such as regulatory and legal requirements, necessary to build structures (or produce product) acceptable to the Customer.

4.05 REVIEW OF REQUIREMENTS RELATED TO THE PRODUCT

A. The Company will review Construction Contracts and other forms of written Customer requirements with the Customer to ensure that the expectations are clear and understood. Relevant parts of the Customer's requirements will be reviewed with each party within the Company and Subcontractors to ensure that and that the Company and its Subcontractors have the capability of performing the work as specified.

B. Prior to signing a Construction Contract a review shall be performed to ensure any

agreed to changes have been incorporated. The review shall be documented. The process is under the supervision of the COO or designee.

C. Changes to Construction Contracts shall be processed and controlled in the same manner as the original Contract. Changes shall be documented and issued to all staff and Subcontractors responsible for its execution.

D. These processes are under the supervision of the COO, Project Sponsor, or designee. These reviews shall be documented.

4.06 CUSTOMER COMMUNICATION

A. The Company will establish and maintain communication with the customer regarding the Construction Contract and the work activities. The COO will assign a responsible officer to be the point of contact and coordination for the Construction Contracts. A communication process will be established agreeable to both parties and shall be uniformly implemented. Those responsible for liaison with the Customer shall keep the Customer informed of progress and special conditions that arise. Customer survey data will be used for standard products.

B. Customer feedback/complaints shall be evaluated, and response provided in writing.

4.07 DESIGN AND DEVELOPMENT

4.08 DESIGN AND DEVELOPMENT PLANNING

A. The Company shall develop a plan to control the design and address staging, review, verification, and validation activities, personnel responsibilities and authorities, interfaces between discipline and any update in this plan during production.

B. During the planning, the organization shall determine The design and development stages,

C. The review, verification and validation that are appropriate to each design and development stage, and

D. The responsibilities and authorities for design and development to ensure effective communication and clear assignment of responsibility.

4.09 DESIGN AND DEVELOPMENT INPUTS

A. Inputs relating to design requirements shall be determined and records maintained. These inputs shall include:

1. Functional and performance requirements
2. Applicable statutory and regulatory requirements
3. Where applicable, information derived from previous similar designs, and
4. Other requirements essential for design and development

B. The COO will assign a Contract Officer to review the Contract and determine functional and performance requirements, applicable statutory and regulatory requirements, investigate the applicability of a similar design, and any other requirements necessary to assure the Contract can be successfully completed. For Standard items the COO will assign a Responsible Officer to determine appropriate design and development inputs.

C. These inputs shall be reviewed for adequacy and be complete, unambiguous, and not in conflict. These inputs shall be in written form and, once reviewed and found acceptable, transmitted to the appropriate responsible designer.

4.10 DESIGN AND DEVELOPMENT OUTPUTS

A. Outputs are those deliverables required by the customer in the Contract or those specified for standard items or needed by our production department to manufacturer product and include, but are not limited to, studies, reports, analysis, scope development, designs, and specifications.

B. Outputs of the design process shall be in a form that enables verification against design inputs and shall be approved prior to release.

C. The assigned Contract Officer or Designated Responsible Officer is responsible for ensuring that design and development outputs:

D. Meet the design input requirements,

E. Provide appropriate information for purchasing, production and servicing, Contain or reference acceptance criteria for product or installation, and

F. Specify the characteristics of the product that are essential for its safe and proper use.

4.11 DESIGN AND DEVELOPMENT REVIEW

A. Design Documents are circulated for internal review and coordination of all units with input to the end product. The number of reviews is dependent on the complexity of the work and will be identified in the planning process.

B. The review process shall address the ability of the design to fulfill requirements and identify problem areas and proposed corrective actions.

C. Comments shall be addressed in written form, and records of resolution kept until completion of the Contract or per record keeping requirements for standard items. The management team member responsible for the design effort will ensure closure for all comments.

4.12 DESIGN AND DEVELOPMENT VERIFICATION

A. The assigned Contract officer or designee is responsible to assure the design output is consistent with the design inputs.

B. Verification will be performed to planned arrangements developed under 4.3.1. The Contract specific QMSM will address Contract specific applications.

4.13 DESIGN AND DEVELOPMENT VALIDATION

A. The Company has developed a system to assess if the design was constructible or capable of being manufactured and met customer requirements and was suitable for its intended use.

B. The results of FAI may be used, if applicable, for validation.

C. The results of the validation effort are recorded and used as part of our Corrective and Preventive Activities Program.

4.14 CONTROL OF DESIGN AND DEVELOPMENT

A. Changes General

B. Design and development changes shall be identified, and records maintained. The changes shall be reviewed, verified, and validated, as appropriate, and approved before implementation. The review of design and development changes shall include evaluation of the effect of the changes on constituent parts design already completed.

C. Requests from the construction site for clarifications and revisions to design documents shall be documented reviewed by the Designated Responsible Officer, the Contract Officer, and the Chief Estimator before being sent to the Customer for review and approval. Methods have been established to ensure revisions are reviewed to the same level as the original documents for the area of change. Records of these activities shall be maintained.

D. Upon receiving revised design documents, these documents shall be placed under document control to prevent inadvertent use. Superseded versions shall immediately be removed from controlled documents centers and specific work locations.

4.15 PURCHASING

4.16 PURCHASING PROCESS

A. Prior to engaging suppliers or Subcontractors to perform part of the Contract work or furnish materials, their capability to perform the assigned scope of services shall be evaluated. The performance of suppliers or Subcontractors engaged to accomplish parts of the Contract work or furnish materials shall be monitored and assessed ***(Indicate the frequency of evaluation)***. Records of these evaluations shall be maintained. Evaluation criteria shall be defined. The COO or Designated Responsible Officer shall oversee this process and is responsible for following up on identified areas of poor performance.

B. Records of supplier or Subcontractor performance shall be maintained. Suppliers or Subcontractors with a record of poor performance shall be excluded from future consideration.

4.17 PURCHASING INFORMATION

A. Purchase Orders define product requirements (e.g. - performance, functional, physical, inspections and test in sufficient detail to ensure that the furnished item meets the purchase order requirements. Purchase Orders will include appropriate QMS requirements. The assigned Construction Contract Officer, Responsible Officer or designee will review all supplier/ Subcontractor purchase orders prior to release.

4.18 VERIFICATION OF PURCHASED PRODUCT

A. The Company has a program to verify that systems, components, parts, and materials provided by suppliers meet the Purchase Order requirements. The Purchase Order identifies verification to be conducted. A Contract Inspection and Test Plan will identify all milestone inspection and tests required by Contract for suppliers of major equipment, components, or critical fabricated items.

4.19 PRODUCTION (CONSTRUCTION) AND SERVICE PROVISION

4.20 CONTROL OF PRODUCTION AND SERVICE PROVISION

A. The Company has established the following controls applicable to their work.

1. Activities are planned
2. Activities are scheduled
3. Acceptance criteria are defined
4. Adequate resources (tools, equipment, and trained personnel) are available to perform the work.
5. The work environment is safe and conforms to applicable Regulatory Requirements.
6. Methods are employed to monitor work against expected results
7. Applicable portions of the Construction Contract, procedures, work instructions, installation practices that are important to ensure quality work are available to the work force
8. Codes standards and other references are available to the work force
9. Standards of workmanship are defined
10. Where required, licensed, or certified personnel are assigned to perform activities requiring such license or certification
11. A program to monitor the effectiveness of these process controls is in place and implemented.
12. Criteria for release, approval, or acceptance are established

4.21 VALIDATION OF PROCESSES FOR PRODUCTION AND SERVICE

A. The validation of certain processes can only be determined when it is operated. These processes will be identified in specific for each Contract as part of a Contract Inspection and Test Plan.

B. The Company assures these processes can achieve planned results through one or more of the following:

1. Process qualification
2. Equipment and personnel qualification
3. Defined methods and procedures
4. Processing of production samples (i.e. - First Article Inspection)
5. ***(Others: Please state particulars regarding these).***

4.22 IDENTIFICATION AND TRACEABILITY

A. The Company has developed and maintains a system to identify its fabricated products and purchased materials so that these remain traceable to the original batch of raw materials used and the specifications to which these were fabricated. Items specially intended for a specific customer as identifiable as such. To the extent traceability is a Contract legal or regulatory requirement, the Company will apply this system using unique identification of product or batches.

B. The Company shall also identify the status of the fabricated products and materials with regard to monitoring and measurement results during construction.

4.23 CUSTOMER PROPERTY

(Note: This section is not applicable to the Contract Quality Plan, if no customer- supplied property is in the Contract.)

A. Customer property includes hardware (such as materials, parts, components, and equipment), software and other items provided by the Customer for the express purpose of producing items under the Contract. This includes real property provided for work staging, temporary storage, shop fabrication, and office space The Company shall develop and maintain a system to receive, log, and maintain Customer property, as appropriate. The Customer will be advised of any items that are unsuitable for use, lost or damaged from the time they are received until such property has served its intended purpose or returned to the Customer.

4.24 PRESERVATION OF PRODUCT

A. The Company shall establish, maintain, and implement a program for handling, storage, packaging, and preservation of items while in its custody, and for delivery of materials and equipment to the Customer. In particular, records shall be available to demonstrate how handling equipment is maintained in safe working order,

4.25 CONTROL OF MONITORING AND MEASURING DEVICES

A. The Company shall establish, maintain, and implement a program to identify, control and calibrate measurement and monitoring devices used to assure conformity of its products.

B. The Program shall contain the following elements:

1. Identification of equipment & instruments that require calibration to maintain capability
2. Listing of such equipment & instruments, frequency of calibration and evidence calibration took place
3. Availability and use of manufacturer’s instructions, codes, or national standards for calibration
4. A program of corrective action to repair or replace items which do not meet acceptance criteria.
5. A program to ensure measuring and monitoring devices are protected from damage deterioration and unauthorized alteration of settings.
6. A program of corrective action for previously accepted product if defective equipment and instruments were used to inspect or test the product.
7. Confirmation that computer software used as a basis of product acceptance is acceptable for the intended application. Confirm prior to use and as necessary thereafter.
8. Records to demonstrate calibration and verification.

- END SECTION 4 –

PART 5 – SECTION 5 – MEASUREMENT, ANALYSIS, AND IMPROVEMENT

(This section corresponds to Section 8 of ISO 9001-2015. It addresses the methods used to measure, report, and improve on both the performance and effectiveness of your processes and the ability of these processes to deliver products that satisfy the customer. It also addressed the need to collect and use data on customer satisfaction, nonconformance etc. to address improvement issues.)

5.01 GENERAL

A. The Company has defined, planned, and implemented measurement, monitoring, analysis, and other activities needed to assure conformity, and achieve product and construction service improvement. These activities include:

1. Customer satisfaction surveys
2. Internal Audits
3. In process reviews/inspections/tests/statistical techniques
4. Control of nonconformance
5. Data analysis
6. Corrective, preventive and improvement activities

5.02 MONITORING AND MEASUREMENT

5.03 CUSTOMER SATISFACTION

A. The Company has developed methods to obtain data and monitor customer satisfaction and/or dissatisfaction. The assigned Contract Officer, Designated Responsible Officer or designee shall be responsible to assure the data is included as part of the Management Review.

5.04 INTERNAL AUDIT

(Note: Reference to or inclusion of a documented procedure covering Internal Audit is required.)

A. The Company shall establish, maintain, and implement an Internal Quality Audit Program to verify that quality activities and related results comply with planned arrangements and to determine the effectiveness of their Contract Quality Plan and associated procedures. Procedure, listed in Appendix 6.1 of this Company QMS Manual, has been issued covering the Internal Quality Audit Program. The program has the following attributes:

1. Internal quality audits shall be scheduled based upon status and importance of the activity to be audited.
2. Those conducting the Internal Quality Audits shall be competent to conduct audits.
3. A person(s) independent of those directly engaged in the audited activities shall conduct the Internal Quality Audits
4. Reports of the results of Internal Quality Audits shall be generated and issued. Company management, shall receive copies of the Reports.
5. The Audited party is responsible to correct deficient areas promptly
6. Corrective Action shall be monitored and brought to closure

7. Follow-up Internal Quality Audits shall be conducted, as appropriate, to ensure implementation of Corrective Action and the results reported to top management.

8. The activities of Subconsultants/Subcontractors working under this Company QMS Manual shall be included in the Internal Quality Audit Program.

B. The COO is responsible to assure implementation of the Internal Quality Audit Program.

5.05 MONITORING AND MEASUREMENT OF PROCESSES

A. The product realization processes described in Section 4 of this Company QMS Manual necessary to achieve customer requirements are measured and monitored.

B. These methods shall confirm the continuing suitability of each process to satisfy its intended purpose. When planned results are not achieved corrective prevention actions shall be taken to assure conformity.

5.06 MONITORING AND MEASUREMENT OF PRODUCT

A. The Company shall establish, maintain, and implement a program to monitor and measure the characteristics of its products to verify product requirements have been met. This shall be documented in a Contract Inspection And Test Plan.

B. These efforts will take place at various stages of product development based upon a preplanned product production program. Monitoring and measuring data and records will be maintained. No product will be released until all planned arrangements are satisfactorily completed. Exceptions may be authorized by the Construction Contract Officer or Designated Responsible Officer and by concession of the customer. For standard product the customer shall be notified in writing of any exception. Records of exceptions shall be maintained.

5.07 CONTROL OF NONCONFORMING PRODUCT

(Note: Reference to or inclusion of a procedure addressing control of nonconforming conditions is required.)

A. The Company has a program to detect and correct nonconforming conditions relating to their product. This includes product provided by the Company or data, materials, sub-assemblies produced by others and incorporated into the product.

B. Nonconforming product will be identified to prevent unintended use or delivery. Corrected product will be subject to the same verification process as the original to demonstrate conformity to requirements.

C. The applicable procedure, listed in Appendix 6.1 of this Company QMS Manual, has been issued covering identification of nonconforming conditions, actions to preclude use of nonconforming product, use of nonconforming product by concession, record keeping, and maintaining status until disposition.

D. The Customer shall be advised of any product nonconformance detected after it has been delivered or put into use, or as required by Contract.

E. The Contract Officer or Designated Responsible Officer is responsible to assure this notification is issued.

5.08 ANALYSIS OF DATA

A. The Company collects and analyzes appropriate data to determine the suitability and effectiveness of its QMS and to identify where improvements can be made in the QMS.

B. The following data is gathered and analyzed:

1. Customer satisfaction/dissatisfaction
2. Conformity of product to requirements
3. Measuring & monitoring data
4. Trends of both positive and negative compliance
5. Internal Quality Audit Data

5.09 IMPROVEMENT

5.10 CONTINUAL IMPROVEMENT

A. The Company facilitates continual improvement of the QMS by assessing and acting upon the following:

1. Quality Policy changes
2. Goal/objective changes
3. Implementation of the results of management review
4. Audit findings analysis of nonconformance
5. Corrective and preventive actions implemented

5.11 CORRECTIVE ACTION

(Note: Reference to or inclusion of a documented procedure for corrective action is required.)

A. The Company has established a Corrective Action program to eliminate the cause of the nonconformity and thus prevent recurrence.

B. Corrective action will be appropriate to the severity of the nonconformity identified.

C. The applicable procedure, listed in Appendix 6.1 of this Company QMS Manual, addresses nonconformity identification (including customer complaints) cause determination, action to prevent recurrence, identifying and implementing the corrective action, recording results, determining if the corrective action was implemented and effective in resolving the nonconformity.

5.12 PREVENTIVE ACTION

(Note: Reference or inclusion of a documented procedure for preventive action is required.)

A. The Company has a Preventive Action Program, which anticipates the potential causes of nonconformities and works to reduce or eliminate these potential causes.

B. The applicable procedure, listed in Appendix 6.1 of this Company QMS Manual, identifies potential nonconformities, their probable cause, determination of preventive action needed, and implementation of preventive action, determining if preventive action was implemented and effective in preventing nonconformity.

5.13 THE COO OR DESIGNEE IS RESPONSIBLE FOR ASSURING IMPLEMENTATION OF

THE QMS IMPROVEMENT REQUIREMENTS.

- END SECTION 5 –

PART 6 – SECTION 6 – APPENDICES

6.01 LIST OF COMPANY QUALITY MANAGEMENT SYSTEM IMPLEMENTING PROCEDURES

6.02 QUALITY POLICY

A. (Note: The Quality Policy should address such issues as:

1. Company's commitment to satisfying Customers' needs means that there must be:
    a. Free and effective communication with the Customer to achieve a clear understanding of environment into which the product will be applied
    b. Elimination of nonconforming conditions
    c. Production in adequate quantities
    d. On time delivery
    e. Timely and effective field service.
2. A systematic management process must be applied to meet Customer needs.
3. The Company's belief that the combination of
    a. Adequately trained personnel
    b. Working with documented procedures
    c. Supported by adequately detailed product drawings and specifications,
    d. Provided with the appropriate materials, facilities, and tools
    e. Is the basis for a system that will produce products and services meeting Customers' needs
4. The Company's belief that management systems must be continuously examined and modified to ensure that it is effective in satisfying Customer needs in the midst of changes in business, regulatory, and social environments.
5. That management systems must be sponsored and championed by the highest levels of the Company management in order to underline the priority the company places it.

6.03 QUALITY OBJECTIVES

6.04 COMPANY ORGANIZATION CHART

SECTION – 01 50 00

TEMPORARY FACILITIES AND CONTROLS

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

A. The Contract Drawings and other Contract Documents, including the General Conditions, Supplementary Conditions, and other Division 01 Specification Sections, apply to the Work of this Section.

1.02 RELATED SECTIONS

A. Section 01 33 00 – Submittal Procedures.

B. Section 01 74 19 – Construction Waste Management and Disposal.

C. Section 31 10 00 – Site Clearing.

1.03 SUMMARY

A. This Section specifies:

1. Requirements for furnishing, installing, operating, and removing temporary facilities and controls including:

a. Temporary utilities:

1) Temporary electricity.

2) Temporary lighting.

3) Temporary telecommunications.

b. Construction facilities:

1) Field offices and sheds.

2) First aid facilities.

3) Temporary sanitary facilities

c. Construction vehicular access and parking:

1) Haul routes.

2) Traffic control.

3) Staging areas.

d. Temporary parking and sidewalk:

1) Temporary parking lot.

2) Temporary pedestrian crossing.

3) Temporary sidewalk.

e. Temporary barriers and enclosures:

1) Temporary barricades.

2) Temporary fencing.

3) Temporary protective walkways.

4) Temporary security barriers.

5) Temporary tree and plant protection.

f. Temporary controls:

1) Temporary erosion and sediment control.

2) Temporary pest control.

3) Temporary environmental controls.

4) Temporary storm water pollution control.

5) Site watering for dust control.

g. Project Identification:

1) Temporary Project Signage.

1.04 REFERENCES

A. Abbreviations and Acronyms:

1. ADA: Americans with Disabilities Act.
2. DSL: Digital subscriber line.
3. GPS: Geographic positioning system.
4. H.I.D.: High Intensity Discharge.
5. MUTCD: Manual on Uniform Traffic Control Devices for Streets and Highways.
6. NYSDEC: New York State Department of Environmental Conservation.
7. NYSDOT: New York State Department of Transportation.
8. OSHA: Occupational Safety and Health Administration.
9. SMS/MMS: Short Message Service/Multimedia Messaging Service.
10. SMO: Storm Water Management Officer.
11. SPDES: State Pollution Discharge Elimination System.
12. SWPPP: Storm Water Pollution Prevention Plan.

B. Reference Standards:

1. American Society of Heating, Refrigerating, and Air-Conditioning Engineers, Inc. (ASHRAE):
   a. ANSI/ASHRAE 62.1-2007 – Ventilation for Acceptable Indoor Air Quality.
   b. ANSI/ASHRAE/IESNA 90.1-2007 - Energy Standard for Buildings Except Low-Rise Residential Buildings.
2. American Society of State Highway and Transportation Officials (AASHTO):
   a. AASHTO M 80 - Coarse Aggregate for Portland Cement Concrete.
   b. AASHTO T 85 - Specific Gravity and Absorption of Course Aggregate.

3. American Society for Testing and Materials (ASTM):
   a. ASTM A 121 – Standard Specification for Metallic-Coated Carbon Steel Barbed Wire.
   b. ASTM A 392 – Standard Specification for Zinc-Coated Steel Chain-Link Fence Fabric.
   c. ASTM F 1083 – Standard Specification for Pipe, Steel, Hot-Dipped Zinc-Coated (Galvanized) Welded, for Fence Structures.
   d. ASTM D 3786 – Standard Test Method for Bursting Strength of Textile Fabrics – Diaphragm Bursting Strength Tester Method.
   e. ASTM D 4355 – Standard Test Method for Deterioration of Geotextiles from Exposure to Light, Moisture and Heat in a Xenon Arc Type Apparatus.
   f. ASTM D 4533 – Standard Test Method for Trapezoid Tearing Strength of Geotextiles.
   g. ASTM D 4632 – Standard Test Method for Grab Beaking Load and Elongation of Geotextiles.
   h. ASTM D 4751 – Standard Test Method for Determining Apparent Opening Size of a Geotextile.
   i. ASTM D 4833 – Standard Test Method of Index Puncture Resistance of Geomembranes and Related Products.
4. Associated General Contractors of America, Inc. (AGC):
   a. Manual of Accident Prevention in Construction.
5. National Fire Protection Association (NFPA):
   a. NFPA 1 – Fire Code.
   b. NFPA 10 – Standard for Portable Fire Extinguishers.
   c. NFPA 70 – National Electrical Code® (NEC).
6. State of New York:
   a. New York State Department of Environmental Conservation (NYSDEC):
      1) State Pollution Discharge Elimination System (SPDES):
         a) Permit No. GP-0-10-001 – SPDES General Permit for Stormwater Discharges from Construction Activity.
         b) Permit No. GP-0-10-002 – SPDES General Permit for Stormwater Discharges from Municipal Separate Storm Sewer Systems (MS4s).
   b. New York State Department of State:
      1) Division of Code Enforcement and Administration, http://publicecodes.cyberregs.com/st/ny/st/index.htm:
         a) Building Code of New York State.

b) Fire Code of New York State.

c) Mechanical Code of New York State.

c. New York State Department of Transportation (NYSDOT):

1) NYSDOT Standard Specifications (U.S. Customary Units).

2) New York State Standard Sheets (U.S. Customary Units).

3) New York State Supplement to the Manual on Uniform Traffic Control Devices for Streets and Highways (2009 Edition).

7. Tree Care Industry Association (TCIA)/American National Standards Institute (ANSI):

a. ANSI A300 (Part 1), Standards for Tree Care Operations - Tree, Shrub, and Other Woody Plant Maintenance – Standard Practices (Pruning).

b. NSI A300 (Part 2), Standards for Tree Care Operations - Tree, Shrub, and Other Woody Plant Maintenance – Standard Practices (Fertilization).

c. ANSI A300 (Part 3), Standards for Tree Care Operations - Tree, Shrub, and Other Woody Plant Maintenance – Standard Practices (Support Systems – Cabling, Bracing, and Guying Established Trees).

d. ANSI A300 (Part 4), Standards for Tree Care Operations - Tree, Shrub, and Other Woody Plant Maintenance – Standard Practices (Lightning Protection Systems).

e. ANSI A300 (Part 5), Standards for Tree Care Operations – Tree, Shrub, and Other Woody Plant Maintenance – Standard Practices (Management of Trees and Shrubs During Site Planning, Site Development, and Construction).

f. ANSI A300 (Part 6), Standards for Tree Care Operations - Tree, Shrub, and Other Woody Plant Maintenance – Standard Practices (Transplanting).

g. ANSI A300 (Part 7), Standards for Tree Care Operations - Tree, Shrub, and Other Woody Plant Maintenance – Standard Practices (Integrated Vegetation Management).

h. ANSI Z133.1, Safety Requirements for Arboriculture.

8. Underwriters Laboratories, Inc. (UL):

a. UL Online Certifications Directory, http://www.ul.com/regulators/quickguide.html.

9. United States Government:

a. Americans with Disabilities Act. (Pub. L. 101–336, 104 Stat. 327, 42 U.S.C. 12101–12213 and 47 U.S.C. 225 and 611) [ADA].

b. United States Code:

1) 33 U.S.C. Section 1251 et seq.

a) Water Quality Act of 1987, Public Law 100-4.

b) Clean Water Act of 1977, Public Law 95-217.

c) Federal Water Pollution Control Act Amendments of 1972, Public Law 95-500.

c. Department of Justice:

1) 2010 ADA Standards for Accessible Design,

2) 28 CFR 35 – Nondiscrimination on the Basis of Disability in State and Local Government Services

3) 28 CFR 36 – Nondiscrimination on the Basis of Disability by Public Accommodations and in Commercial Facilities.

d. Environmental Protection Agency (EPA):

1) 40 CFR 123 and 124 – National Pollutant Discharge Elimination System Permit Application Regulations for Storm Water Discharges; Final Rule.

2) 40 CFR 9, 122, 123, and 124 – National Pollutant Discharge Elimination System-Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges; Final Rule

3) 40 CFR 61 National Emission Standards for Hazardous Air Pollutants.

e. Federal Highway Administration (FHWA):

1) Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD).

f. Occupational Safety and Health Administration (OSHA):

1) 29 CFR 1910 Occupational Health and Safety Standards.

2) 29 CFR 1926 Safety and Health Regulations for Construction.

1.05 ADMINISTRATIVE REQUIREMENTS

A. Coordination:

1. Notices:

a. Not less than 20 work days before closing each street, notify the Engineer in writing of the closing.

b. Not less than 14 days before prohibiting, stopping, and parking vehicles is required or work is to be performed on adjacent streets, notify the, Town of Somers and Traffic Department or Westchester County Transportation Engineer in writing; and submit a copy of each notice to the Engineer for information.

c. Not less than 7 days before impairing access to buildings adjacent to the station sites and use of public ways thereto, notify individual

owners, owners' agents, and tenants of in writing; and submit a copy of each notice to the Engineer for information.

1.06 QUALITY ASSURANCE

A. Regulatory Agency Sustainability Approvals:

1. State of New York:

a. Comply with the applicable rules, regulations, and programs of the New York State Department of Environmental Conservation (NYSDEC), particularly the following:

1) State Pollution Discharge Elimination System (SPDES).

a) Permit No. GP-0-10-001 – SPDES General Permit for Stormwater Discharges from Construction Activity.

b) Permit No. GP-0-10-002 – SPDES General Permit for Stormwater Discharges from Municipal Separate Storm Sewer Systems (MS4s).

2) Obtain the necessary permits from the New York State Department of Environmental Conservation (NYSDEC) to construct the Work of this Contract.

a) Abide by the Metro-North prepared Stormwater Pollution Prevention Plan (SWPPP).

b) Submit the SWPPP to NYSDEC for approval.

c) Do not start the work until the proposed erosion and sedimentation control plan has been approved by NYSDEC, and a permit for construction has been issued.

3) Comply with the requirements specified in the State Pollution Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activity, which governs the Work of this Section and prohibits the discharge to the waters of the State of any pollution materials whether from industrial or domestic sources.

4) Pay any fines assessed to the Contractor for violation of the regulatory rules, regulations, and programs at no increase in Contract Price.

5) Comply with the applicable rules, regulations, and programs of the New York State Department of Transportation (NYSDOT), Section 680 and Section 724 of the 2016 General NYCDOT Specifications.

6) Certifications:

2. Geotextile Certificates of Compliance:

1.07 SUBMITTALS

For each proposed geotextile material, submit certificates demonstrating that the material conforms to the requirements of this Specification.

A. Action Submittals:

1. Submit the following to the Engineer for approval in accordance with the requirements of Section 01 33 00, Submittal Procedures:

a. Product Data:

1) Products furnished for the Work of this Section.

2) List of pesticide, fungicide, and anti-desiccant materials, and application methods and documents proposed for use.

a) Shop Drawings:

3) Working Drawings showing the proposed temporary erosion and sediment controls.

4) Locations and details of protective fencing.

5) Temporary project signage message and layout.

b. Samples:

1) Geotextile fabric Samples.

c. Certificates:

1) Geotextile material certification.

d. Delegated Design Submittals:

1) Site Layout Plan.

2) Tree Protection Fencing Plan.

3) Evacuation Plan.

4) List of Emergency Contacts.

5) Traffic Control Plans (TCP) and updates.

6) Individual Lane and Sidewalk Closure Plans.

7) Tree Protection Fencing Plan.

8) Temporary Erosion and Water Pollution Control Plan.

9) Proposed field office layout.

B. Closeout Submittals:

1. Submit the following to the Engineer in accordance with the requirements of Metro-North:

a. Warranty Documentation:

1) Temporary Tree and Plant Protection Warranty.

1.08 WARRANTY

A. Special Warranty:

1. Furnish and submit a 90-day Temporary Tree and Plant Protection Warranty on the workmanship and materials provided under this Section to the Engineer.

B. Extended Correction Period:

1. Furnish and submit an unconditional 2-year Plant Warranty for all plants repaired or replaced as required under this Section to the Engineer.

PART 2 – PRODUCTS

2.01 DESCRIPTION

A. Regulatory Requirements:

1. Comply with the Laws, Codes, and Regulations pertaining to the work being performed at each station site.

2. United States Government:

a. All work is governed at all times by the applicable provisions of Federal Laws, including but not limited to, the following:

1) Americans with Disabilities Act.

2) Water Quality Act of 1987.

3) Clean Water Act of 1977.

4) Federal Water Pollution Control Act Amendments of 1972.

b. Comply with the applicable regulations of the Occupational Safety and Health Administration (OSHA).

3. State of New York:

a. Comply with the applicable requirements of the New York State Department of Environmental Conservation (NYSDEC).

b. Comply with the applicable requirements of the New York State Department of Transportation (NYSDOT).

c. Comply with the applicable requirements of the Building Code of New York State.

d. Comply with the applicable requirements of the Fire Code of New York State.

e. Comply with the applicable requirements of the Mechanical Code of New York State.

4. National Fire Protection Association (NFPA):

a. Comply with the safety provisions of the NFPA 1 pertaining to the Work and, particularly, in connection with any cutting or welding performed as part of the Work.

2.02 MATERIALS

A. Submit Product Data for the Products furnished for the Work of this Section to the Engineer for approval prior to their use.

B. Burlap:

1. Provide untreated burlap fabric.

C. Protective Fencing:

1. Fence Fabric:

a. Provide clean, new, and unblemished fence fabric with the following characteristics:

1) Height: 4 feet.

2) Material: Orange plastic fabric mesh.

b. Provide fence fabric in 50 feet long, minimum, continuous sections.

c. Provide the same type mesh fence fabric throughout the duration of the Contract.

d. Manufacturers:

1) Industrial Fabrics, Inc., HiVu® Barrier Fence, www.ind-fab.com.

2) Propex Fabrics, Inc., www.propexinc.com.

3) Tensar International, www.tensarcorp.com.

4) Approved equal.

2. Fence Posts:

a. Provide fence posts having the following characteristics:

1) Post Material: Painted lightweight steel (0.98 pounds per foot).

2) Type: Domestic tee stud with a metal flange at the bottom.

3) Length: 6 feet.

3. Fence Fabric Ties:

a. Provide ties consisting of 16 gage galvanized steel wire.

D. Heavy Duty Protective Fencing:

1. Provide heavy duty protective fencing.

a. Heavy duty protective fencing may include, but is not limited to, temporary chain link type fence, 6 feet high with precast concrete bases.

E. Pesticide, Fungicide, and Anti-Desiccant:

1. Provide materials approved by the governing regulatory agencies that are suitable for the identified needs.

2. Submit a list of pesticide, fungicide, and anti-desiccant materials proposed for use, and their application methods and documentation.

F. Topsoil:

1. Provide backfill as specified in Section 31 20 00 – Earth Moving, for backfill around plants as needed.

G. Silt Barrier Fence:

1. Geotextile Fabric:

a. Provide woven or non-woven fabric consisting of long chain, polymeric filaments, or yarns, such as polypropylene, polyethylene, polyester, polyamide, or polyvinylidene-chloride, formed into a stable network so the filaments or yarns retain their relative position to each other.

b. Provide fabrics inert to commonly encountered construction chemicals or substances and having at a minimum the physical requirements specified in Table 01 50 00-1 for each property when tested according to the test method listed for the property.

Table 01 50 00-1 Physical Properties of Geotextile

Properties	Test Method	Minimum Requirements
Grab Tensile Strength, Pounds.	ASTM D 4632	90
Grab Tensile Elongation, Percent	ASTM D 4632	15, minimum
Burst Strength, psi	ASTM D 3786	140
Puncture, lbs, (5/16 Inch Flat-End Rod)	ASTM D 4833	40
Trapezoid Tear Strength, Pounds	ASTM D 4533	30
Apparent Opening Size, Sieve Number	ASTM D 4751	Number 20, maximum
Ultraviolet Resistance Strength Retention, 0/0	ASTM D 4355	70 at 150 hours

1) Wire Mesh Support:

c. Provide either galvanized or aluminized, 14.5-gauge wire mesh arranged in a maximum grid of 6 inches by 6 inches.

d. Alternatively, an acceptable, equivalent plastic mesh may be used.

2. Posts:

a. Provide 2-inch, minimum, square wood posts; 1-1/4 inch by 1-inch steel T-sections or equivalent; or acceptable plastic posts with an equivalent section.

3. Fasteners:

a. Provide either 1 1/2-inch long Number 9 staples, or 17 gauge galvanized or aluminized steel tie wires of the appropriate length.

H. Hay Bales:

1. Provide seed-free hay bales approximately 36 inches long by 26 inches

wide by 18 inches high and bound with galvanized wire or nylon rope tied across the stem length.

I. Construction Entrances and Sediment Traps:

1. Aggregate:

a. Provide coarse aggregate conforming to the requirements for Size Number 1 as specified in AASHTO M 80.

J. Utility Materials:

1. Provide such materials as may be required for providing the temporary utility services specified herein.

K. Temporary Traffic Control Devices:

1. Furnish temporary traffic control devices that comply with the requirements specified in the Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD) and the New York State Supplement to the Manual on Uniform Traffic Control Devices for Streets and Highways (2009 Edition).

2. Temporary Concrete Barriers:

a. Furnish precast “Jersey Barrier” sections.

1) Concrete: 3,000 psi.

b. Provide 1/2” joint opening between adjoining precast sections

3. High Rise Warning Flag Unit:

a. Furnish high rise warning flag unit having 3 flags mounted 9 feet above the base.

4. Warning Lights and Flares:

a. Furnish warning lights and flares capable of alerting approaching traffic to hazards, unsafe conditions, and variances to normal traffic patterns.

5. Signs:

a. Furnish signs as indicated on the Contract Drawings, in the Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD), and in the referenced NYSDOT Publications.

6. Flagmen signs:

a. Furnish flagmen signs that are 24 inches across, octagonal in shape, and attached to a five-foot handle.

b. Furnish flagmen signs that have a stop sign on one side, and a slow sign on the other side.

1) Stop Signs:

a) Provide stop signs having white reflectorized letters not shorter than 8 inches that spell “STOP” on a reflectorized, red, octagonal background.

2) Slow Sign:

a) Provide slow signs having black letters not shorter than 8 inches that spell “SLOW” on a reflectorized, orange, diamond background.

b) Paint the area between the diamond and the edge of the flagmen sign black.

L. Other Materials:

1. Provide other materials as required and approved by the Engineer.

PART 3 – EXECUTION

3.01 EXAMINATION

A. Verification of Conditions:

1. Review the existing conditions at the Site and determine any additional necessary measures for the prevention of water pollution due to erosion.

2. Prior to the start of construction, conduct on-site inspections of plants and vegetation with the Project Arborist, and identify and inventory the plants and vegetation that are to remain in place during this area tour.

a. Field measure and stake Project improvements as needed for establishing the location of protective fencing.

b. In areas where the protective fencing will be located at a fixed distance from proposed Project improvements, field survey and stake improvement sites prior to the area tour with the Project Arborist.

B. Evaluation and Assessment:

1. In addition to performing the work described herein and indicated on the Contract Drawings, implement the additional measures determined necessary for the prevention of water pollution due to erosion discovered during the review of the Work Site.

3.02 PREPARATION

A. Protection of In-Place Conditions:

1. Existing Surfaces and Facilities:

a. Take positive action to protect all existing surfaces and facilities from any damage resulting from construction operations unless modifications to the surfaces or facilities are required as part of the Contract.

b. Protect all paving, landscaping, and utility facilities from damage caused by mobile and stationary equipment, including vehicles delivering materials to the site.

B. Surface Preparation:

1. Clear Existing Vegetation:

a. In accordance with the requirements of Section 31 10 00, Site Clearing, clear and remove existing vegetation as required to install Final location stakes and to install fence posts and fence fabric for

protecting tree and plant materials.

1) Keep clearing operations to the minimum needed for fence installation.

2) Do not clear tree and plant materials from within the area to be protected by the fence.

3) Perform clearing in a manner and to an extent approved by the Engineer.

b. Remove dead and damaged plants that the Project Arborists determine are a hazard or that are incapable of restoration.

C. Demolition / Removal:

1. Perform demolition and construction activities within protected areas in a manner that minimizes damage to tree roots and branches.

a. Use hand tools where necessary.

b. Make minimal use of construction equipment within the protected areas.

1) Use such equipment within the protected area only when approved and after consultation with the Project Arborist.

2) Provide 72 hours advanced notification prior to the use of the equipment within the protected areas.

3) Provide bridging materials, such as protective planking, in protected areas where such construction equipment operates.

c. When utilities must be installed within protected areas, bore under the protected areas whenever possible instead of digging open trenches through them.

3.03 TEMPORARY UTILITIES

A. Provide and pay for all temporary utilities required for this Contract including electrical power and lighting; and if required, water, drainage, and fire protection.

1. Include obtaining permits, providing the utility services, and connecting and disconnecting the utilities in the costs.

2. Unless otherwise specified, do not use Metro-North utilities.

B. Temporary Electricity:

1. Provide and maintain suitable temporary electrical systems and power facilities required for the proper performance of the Work until final completion and acceptance of the Work.

a. Provide UL-listed electrical equipment and wiring for temporary electricity.

b. Install temporary electricity in accordance with the requirements specified in NFPA 70 and of the Occupational Safety and Health Administration (OSHA)

2. Provide power service from temporary electric feeders from the local utility,

from engine generators, or from the Owner's existing power service.

a. If using the Owner's existing power service, do not disrupt Owner's need for continuous service, take measures to conserve energy, and provide separate metering and reimburse the Owner for the cost of energy used.

b. Complement existing power service capacity and characteristics as required.

3. Provide power outlets for construction operations, with branch wiring and distribution boxes located as required.

a. Provide adequate distribution equipment, wiring, and outlets to provide single phase branch circuits for power and lighting.

1) Provide 20 Ampere duplex outlets, single phase circuits for power tools for every 500 square feet of active work area.

2) Provide 20 Ampere, single phase branch circuits for lighting.

3) Permanent convenience receptacles may not be used during construction.

b. Provide flexible power cords as required.

4. Provide a main service disconnect and over-current protection at a convenient location, and meter.

C. Temporary Lighting:

1. Provide and maintain lighting for construction operations in accordance with the requirements specified in 29 CFR 1926.56, and that achieves a minimum lighting level of 2 Watts per square foot or 10 foot-candles.

a. Provide UL-listed electrical equipment and wiring for temporary lighting.

2. Security Lighting:

a. For exterior staging and storage areas, provide and maintain lighting for security after dark in accordance with the requirements specified in 29 CFR 1926.56, and having a minimum lighting level of 1 Watt per square foot.

b. Provide and maintain HID lighting having a minimum lighting level of 0.25 Watt per square foot for interior work areas after dark.

3. Position and aim lighting equipment so it will not shine directly on passing trains, vehicular traffic, or commercial or residential premises adjoining the Site.

4. Provide branch wiring from a power source to distribution boxes with lighting conductors, pigtails, and lamps as required.

a. Provide UL-listed electrical equipment and wiring for temporary lighting.

5. Comply with the requirements of ANSI/ASHRAE/IESNA 90.1-2007.

6. Maintain the lighting and provide routine repairs.

D. Other Temporary Utility Services:

1. Determine the need for other temporary services as may be required to prosecute the Work and make arrangements with utility companies and municipal agencies for such service.

3.04 CONSTRUCTION FACILITIES

A. Site Layout Plan:

1. No later than 10 Days after the effective date of the award, prepare a proposed Site Layout Plan.

a. Include Working Drawings showing at a minimum the location of construction fences; roadways and entrances; locations and sizes of all field offices, shops, buildings, and sheds; locations and sizes of all staging, storage, and lay down areas; waste and recycling containers, security fencing, stationary equipment, temporary utilities, and similar facilities.

b. The location of stationary equipment and the location of miscellaneous mobile equipment are subject to approval.

2. Within the 20 Days after receipt of the Notice-To-Proceed, submit the Site Layout Plan to the Engineer for approval.

B. First Aid Facilities:

1. Identify local medical facilities serving the area of the Project, and post directions to their locations and their contact information in the field office.

2. Provide a first aid kit kept in the field office and stocked with appropriate first aid supplies at all times

C. Temporary Sanitary Facilities:

1. Provide temporary sanitary facilities at the Site in accordance with the requirements specified in 29 CFR 1926.51.

3.05 CONSTRUCTION VEHICULAR ACCESS AND PARKING

A. Haul Routes:

1. Restrict construction vehicular traffic to the approved haul route as shown in the Contract Drawings.

2. Failure to comply with the haul route plan may make violators subject to legal action by governmental agencies, and where direct or indirect damage is done to public or private property will make the Contractor responsible to clean-up and repair the damage.

B. Temporary Parking Areas:

1. Grade the parking areas for drainage, and surface them with crushed stone if they are not already improved.

2. Provide three (3) designated parking spaces for use by Metro-North and Metro-North Consultant staff.

a. Keep the spaces clear of snow.

b. Do not park Contractor vehicles in the spaces, store materials in the

spaces, or otherwise make these parking spaces inaccessible for use by Metro-North.

C. Traffic Control:

1. Prior to submitting the bid for this Contract, contact the various municipalities holding jurisdiction of each of the stations to determine their traffic control requirements.

2. Furnish, install, maintain, and subsequently remove temporary traffic control devices and temporary traffic striping and markings; furnish flagmen; control, warn, guide, and protect vehicular and pedestrian traffic on streets and sidewalks affected by construction of the Contract, and that adjacent to the worksite; ensure unimpeded access to building, adjacent to the worksite; close portions of streets and sidewalks and prohibit vehicles from stopping and parking of on streets adjacent to the Site.

a. Ensure that construction operations will not impede vehicular and pedestrian traffic to the extent that public safety will be threatened, and passage of emergency vehicles will be restricted.

b. Do not obstruct public ways, including streets, sidewalks, and accesses to public and private properties and bus stops.

c. Do not reduce carrying capacity, except as indicated on reviewed and accepted Traffic Control Plans (TCP) specified herein.

d. Maintain pavement surfaces in a smooth riding plane where vehicular and pedestrian traffic is routed.

e. In excavated paved areas, backfill excavations and install temporary pavement immediately after the backfill has been placed.

1) Restore each section of permanent pavement and sidewalk as soon as is practicable after completion of the Work for which that section of pavement and sidewalk is removed.

f. Maintain existing traffic signal operation in continuous operation.

g. Prevent pedestrian access to the Site using devices such as fences, barricades, and flagging and security personnel.

h. During working hours, prevent vehicles from stopping and parking on streets adjacent to the portions of the Site where construction is being performed.

1) Erect “NO PARKING” and “NO STOPPING” signs at intervals of not more than 50 feet along public streets adjacent to the Project, and include messages giving times and days of no parking and no stopping.

a) Cardboard signs will not be permitted.

b) Remove the signs at the end of the posted time limit.

c) If additional work is required beyond the posted dates, change the signs to reflect the new dates and times.

d) If for any reason the Work will not be performed as

stated, change the dates and/or times on posted signs in a timely manner, and notify the various municipalities individual Traffic Departments and local police.

2) If vehicles are parked within the posted restrictive area, have the vehicle removed and relocated to a place of non-interference with the construction work.

a) Provide licensed tow truck drivers to remove illegally parked, abandoned, or disabled vehicles.

(i) Supervise and coordinate the tow truck operations.

b) Direct the tow truck driver to make and keep a list of all relocated vehicles showing the following information, and submit a written copy of the above information to the various municipality Traffic Departments for use in the vehicle retrieval process and to the Engineer for information:

(i) Vehicle license number.

(ii) Vehicle make and color.

(iii) Location vehicle was parked.

(iv) Location vehicle was relocated to.

c) The Contractor and/or the owner/operator of the licensed tow truck must agree to indemnify, defend, and hold harmless the various local municipalities and all of its officers and subordinates from all suits and actions as a result of towing any vehicles.

3. Traffic Control Plans (TCP):

a. Prepare a Traffic Control Plan (TCP) indicating proposed traffic control devices in accordance with the following:

1) NYSDOT Standard Specifications (U.S. Customary Units).

2) New York State Standard Sheets (U.S. Customary Units).

3) Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD)

4) New York State Supplement to the Manual on Uniform Traffic Control Devices for Streets and Highways (2009 Edition).

b. In the Traffic Control Plan (TCP), show and describe proposed locations and time durations of the following:

1) Pedestrian and public vehicular traffic routing.

2) Traffic blockage and lane reductions anticipated to be caused by construction operations.

3) Allowable on-street parking within the immediate vicinity of

worksite.

4) Access to the building immediately adjacent to worksite.

5) Driveways which will, and those which will not, be blocked by construction operations.

6) Temporary traffic control devices required on streets and sidewalks affected by construction.

7) Temporary commercial and industrial loading and unloading zones.

8) Modifications to street light locations and operation.

9) Modifications to traffic signal locations and operation.

10) Proposed haul routes.

c. Within 15 days of Notice to Proceed and before starting the Work, submit the Traffic Control Plan (TCP) to the various municipality Traffic Department of each station for approval, and as an application for permits to work in the public right-of-way; and submit another copy to the Engineer for information.

1) Costs, direct or indirect, not reflected in the bid, resulting from failure to reasonably anticipate such costs, will not be considered for payment.

d. Every time it becomes necessary to modify traffic operations or undertake a construction activity which creates a different traffic impact, prepare, and submit an updated Traffic Control Plan (TCP) to the various municipality Traffic Department for approval; and submit another copy to the Engineer for information.

4. Street Closing Plans:

a. All streets adjacent to each station must remain operational at all times. No full street closures will be allowed.

5. Individual Lane and Sidewalk Closure Plans:

a. Prepare an Individual Lane and Sidewalk Closure Plan indicating proposed traffic control devices that shows and describes the proposed location, hours and time duration of the closure, vehicular and pedestrian traffic routing and management, traffic control devices for implementing pedestrian and vehicular movement around the affected closure, dates the closure will start and be reopened, and details of barricades and protecting closure.

b. Not less than 15 work days before the actual lane and sidewalk

c. closing, submit the Individual Lane and Sidewalk Closure Plan to the various municipality Transportation Engineer for approval; and submit another copy to the Engineer for information.

d. Only close streets and sidewalks in accordance with the Individual Lane and Sidewalk Closure Plan.

e. Install sidewalk closure signs in an advanced location of the closed

portion of the sidewalk in order to permit safe crossing of the street at a crosswalk.

6. Temporary Traffic Control Devices:

   a. Before diverting traffic, post temporary traffic control devices along traveled ways where construction activities occur where indicated on the approved Traffic Control Plan (TCP).

   b. Place and maintain temporary traffic control devices throughout the construction period in those locations which will enable traffic to enter, traverse, and leave project area without hazard, and without abrupt and unwarranted changes in direction.

      1) Place drums as indicated.

      2) Place cones on not more than 25-foot centers.

      3) Modify temporary traffic control devices as shown on updated plans and remove them as soon as construction activities have been completed.

   c. Warning Lights:

      1) If approaching traffic needs to be alerted to hazards, unsafe conditions, and variances to normal traffic patterns; place warning lights and operate them between sunset and sunrise.

   d. Warning Flag Units:

      1) Where motorists' visibility of existing and temporary warning devices, traffic signals, and pedestrian crosswalks will either be limited or obscured, place and maintain high-rise warning flag units.

   e. Barricades and Cones:

      1) If personnel and equipment will be working within 5 feet of the edge of a traffic lane which will be bearing traffic, place and maintain barricades, cones, and similar protective devices.

7. Traffic Signs:

   a. Support and protect traffic signs, including street name signs, bus stop signs, regulatory, and directional signs, unless otherwise shown on the Contract Drawings.

      1) Repair or replace traffic signs damaged by construction operations or as directed by the Engineer.

   b. Where removal of traffic signs is required during construction, remove, store, and ultimately reinstall signs using hardware approved by the appropriate agency.

8. Construction Signs:

   a. As required and directed by the Engineer, furnish, erect, move, and remove construction signs to adequately and safely inform and

direct motorists and to satisfy legal requirements.

b. Keep construction signs clean, mounted at the required height on adequate supports, and placed in proper position and alignment so maximum visibility is provided both night and day.

1) Paint wood supports and the backs of plywood sign panels with 2 coats of white paint.

2) Furnish signs and markers that indicate actual existing conditions, and move, remove, relocate, or change them immediately as directed by the Engineer.

c. Mount construction signs in accordance with the referenced codes and standards.

1) Mount signs at least 5 feet high.

2) Under special conditions, signs may be mounted at a greater height to fit the situation on an approved TCP submission, or as directed by the Engineer.

d. All signs are the property of the Contractor, must be maintained in good condition for the duration of the Contract, and must be removed from the Site when the Contract is accepted.

e. Place the name of the Contractor someplace on the sign only for the purpose of identifying the sign's owner.

9. Flagmen:

a. Where opposing vehicular traffic must be diverted onto single traffic lanes, where traffic must change lanes abruptly, where construction equipment either enters or crosses traffic lanes and sidewalks, where construction equipment may intermittently encroach on traffic lanes and unprotected sidewalks and crosswalks, where construction operations would affect public safety and convenience, and where traffic regulation is needed because of the rerouting of vehicles around the worksite, furnish flagmen having flagman signs.

D. Staging Areas:

1. Provide staging areas for staging the materials and equipment not immediately required for the Work.

2. Grade the staging areas for drainage, and surface them with crushed stone if they are not already improved.

3.06 TEMPORARY PARKING AND SIDEWALK

A. Temporary Parking

1. Provide a temporary parking facility for public use as shown in the Contract Drawings.

a. Provide a minimum of 39 standard parking stalls and 2 ADA parking stalls.

b. Utilize existing asphalt pavement and infiltration basins. Install temporary pavement as needed.

c. Install concrete barrier around the perimeter of the parking lot for protection from the active work zone.

d. Install temporary lighting, signage, and pavement markings.

B. Temporary Pedestrian Crossing

1. Provide a temporary pedestrian crossing as shown in the Contract Drawings.

a. Install flashing beacon assembly signage and crosswalk pavement markings.

C. Temporary Sidewalk

1. Provide 5’ wide temporary sidewalk from the temporary parking lot to the southwest corner of the Route 202/Croton Falls Road intersection as shown in the Contract Drawings.

a. Install 3” depth asphalt pavement, temporary concrete barrier, and temporary timber curb.

b. Connect the temporary sidewalk flush to the permanent sidewalk at the southwest corner of the Route 202/Croton Falls Road intersection.

3.07 TEMPORARY BARRIERS AND ENCLOSURES

A. Temporary Barricades:

1. Provide temporary barriers and enclosures to protect existing facilities and adjacent properties from damage from construction operations.

2. Provide barricades required by governing authorities for public rights-of-way.

3. Always allow continued access for Metro-North patrons and its employees to access to and from each station platform during construction activities.

B. Temporary Fencing:

1. Where indicated, completely encircle the work areas on the Site with temporary fencing and leave no gaps in the fence panels.

a. Place temporary fencing a minimum of 4 feet away from any part of buildings or structures being secured unless doing so would create an encroachment upon, or damage to, adjacent private property.

b. Trim or cut back small tree limbs and shrubs as necessary to insure proper installation of the fencing.

c. Always allow continued access for Metro-North patrons and its employees to access to and from each station platform during construction activities.

2. When required for security purposes, provide a 7-foot high temporary chain link fence consisting of 6-foot high fence fabric affixed to fence posts with one foot high extensions supporting 3 strands of barbed wire along the top edge of the fence to deter persons from climbing over the fence, and extending to within a few inches of the surface supporting the fence to prevent persons from crawling under the fence.

3. Wire Fabric:
   a. Wire: 11 gauge or heavier steel wire galvanized in accordance with the requirements specified in ASTM A 392.
   b. Mesh Size: 2 inches, minimum.
   c. Break load Strength: 850 pounds force, minimum.
4. Fence Posts:
   a. Material: Galvanized steel schedule 40 pipe complying with the requirements specified in ASTM F 1083.
   b. Nominal Outside Diameter: 2 inches, minimum.
   c. Height: As required for the size fence indicated.
5. Post Bases:
   a. Provide appropriate bases for the surface supporting the fence, generally flat galvanized steel plate welded to the bottom of the fence posts or concrete formed around the fence posts.
   b. Provide a means to adequately anchor the posts to the surface supporting the fence so the fence cannot easily be moved out of place.

C. Temporary Protective Walkways:
1. Provide covered walkways required by governing authorities for public rights-of-way.
2. Provide temporary pedestrian passageways as detailed on the Contract Drawings and where indicated or required.
3. Always allow continued access for Metro-North patrons and its employees to access to and from each station platform during construction activities.

D. Temporary Security Barriers:
1. Provide temporary barriers and enclosures to prevent unauthorized entry to construction areas, vandalism, and theft.
2. Padlocks and Hasps:
   a. Provide a heavy-duty padlock and hasp for securing temporary doors.
   b. Manufacturers:
      1) American Lock, Number A1305, www.americanlock.com.
      2) Abus Lock, www.abuslock.com.

E. Temporary Tree and Plant Protection:
1. Tree Protection Fencing Plan:
   a. Prepare a Tree Protection Fencing Plan indicating the locations, extent, and perimeters of the trees and other vegetation to be protected as shown on the Contract Drawings and determined by onsite inspections.

1) Submit the Tree Protection Fencing Plan, including Shop Drawings showing the locations and details of protective fencing, to the Engineer for approval.

b. Install protective fencing after receiving approval of the Tree Protection Fencing Plan but before starting other construction activities.

c. The Owner reserves the right to require the Contractor to provide more substantial “heavy duty” protective fencing when, the vegetation is damaged or endangered by the Contractor’s or Subcontractor’s actions, or failure to take measures to protect the subject vegetation.

2. Protection of Existing Vegetation:

a. Identify, protect, and maintain existing vegetation within the protected areas indicated on the Contract Drawings during the Contract from the Notice-To-Proceed to Final Acceptance.

1) Perform the Work of this Section in accordance with the standards of the Tree Care Industry Association (TCIA).

2) Complete the installation of protective fencing prior to starting any other work in the vicinity of protected vegetation.

3) Do not perform any work within the protected areas unless approved.

4) Do not store materials within the protected areas.

5) Do not permit vehicle parking, foot traffic, or other activity not approved in writing within the protected areas.

b. Provide labor and new and undamaged materials that constitute “Best Practice” to meet the letter and intent of this Contract.

1) Follow the safety requirements of ANSI Z133.1.

3. Lay Out Protective Fencing:

a. In order to protect existing vegetation indicated as remaining in the Contract Drawings, lay out the location of protective fencing as suggested by the Project Arborist.

1) Field measure and stake the locations of project improvements as needed to establish the locations of protective fencing.

2) Prior to installing the tree protection fencing, lay out the proposed fencing locations as shown on the approved Tree Protection Fencing Plan submittal drawings with paint and/or stakes and string for review and approval.

3) Make adjustments in the fence locations and alignments as directed by the Program/Project Manager.

4. Install Protective Fence Posts:

a. Install metal fence posts plumb and evenly spaced a maximum of eight feet apart on center.

b. Insert the fence posts 18 to 24 inches into the ground and ensure that the installed post height above grade is within four inches of adjacent post heights.

5. Install Fence Fabric:

a. Use the longest continuous lengths of fence fabric possible for each application.

1) Terminate the ends of the fence fabric lengths at fence posts; and provide 12 inches, minimum, of full height overlap at each fence fabric end.

b. Stretch the fencing fabric tightly between fence posts.

c. Fasten the fence fabric firmly to the fence posts with the specified ties two inches below the top of each post, at the mid-point of each post, and at the point on each post three inches above the finish grade.

6. Install Heavy Duty Protective Fencing:

a. The conditions may require the substitution of more substantial heavy-duty protective fencing for the protective fencing at select locations.

b. Install heavy duty protective fencing at the locations indicated by the Project Arborist.

7. Excavating Around Trees and Shrubs:

a. Excavate around trees and shrubs within protected areas only where indicated on the Contract Drawings.

1) When work that may impact protected plants occurs, plan the work to assure minimal disturbance to the plants, follow good horticultural practices, and direct pruning and wound treatment in accordance with this Section.

8. Protecting Root Systems:

a. Protect root systems from damage due to run-off or spillage of noxious materials in solution during storage or construction activities.

1) Protect root systems from flooding or soil erosion.

2) Provide a minimum of 2 layers of untreated burlap as a covering over exposed root face areas.

b. Do not disturb or excavate protected root zone areas unless specifically authorized to do so.

1) Where trenching for utilities is required within protected areas, excavate under or over roots by hand digging under the authority of the Project Arborist.

2) If large roots are encountered, or if a condition potentially

fatal to the plant is observed, provide notification prior to continuing or commencing work.

3) Do not cut main lateral roots or taproots, those 2-1/2 inches in diameter or greater; however, smaller roots that interfere with the installation of new work may be cut.

a) Cut smaller roots with sharp pruning instruments, but do not break or chop roots.

b) Excavate root systems by hand in areas where new construction is required within protected areas.

c) Use a narrow-tine spading fork to expose roots.

d) Cut exposed roots back from the new construction.

4) Do not permit exposed roots to dry out before permanent backfills is placed.

a) Provide temporary earth cover, or pack the roots with peat moss, and wrap the roots with burlap.

b) Water and maintain the roots in a moist condition, and temporarily support and protect them from damage until they are permanently relocated and covered with backfill.

5) Provide imported topsoil backfill to cover exposed roots in soil cuts.

6) Do not overload root zones by placing backfill above the existing grade.

3.08 TEMPORARY CONTROLS

A. Temporary Erosion and Sediment Control:

1. Temporary Erosion and Water Pollution Control Plan:

a. Prepare a Temporary Erosion and Water Pollution Control Plan indicating all proposed temporary erosion and water pollution controls to the Engineer for approval.

1) Include Working Drawings showing the proposed temporary erosion and sediment controls.

a) Submit the Temporary Erosion and Water Pollution Control Plan to the Engineer for approval.

2. Provide temporary erosion and sediment control as required.

a. Protect grades and slopes susceptible to erosion.

b. Place seed free hay bales, construct silt barrier fence with geotextile fabric, and construct temporary berms, dikes, dams, or ditching and other control measures as may be required.

c. Subject to approval by the Engineer, install and maintain temporary erosion and sediment controls as indicated in the Contract Documents until permanent erosion control features are in place.

3. Hay Bale Installation:

   a. Install seed free hay bales to provide sedimentation control at the locations indicated on the Contract Drawings, at other locations throughout the work area as required to provide erosion protection, and as directed.

   b. Place bales as indicated on the Contract Drawings.

      1) If hay bale installation is not indicated, place hay bales in a row with the ends abutting one another.

      2) Anchor hay bales in place with 2 stakes driven through the bales and sunk a minimum of 1-1/2 feet into stabilized earth.

      3) Angle the initial stake to previously laid hay bales to force the bales together.

      4) Drive stakes to be flush with the top of the hay bale.

4. Silt Barrier Fence Installation:

   a. Construct silt barrier fence at the locations indicated or proposed on the Contract Drawings or Working Drawings.

   b. Construct the silt barrier fencing with or without wire-mesh support, and fasten the silt barrier to support posts as follows:

      1) Install posts and excavate a shallow trench on the protected side of the fence.

      2) Fasten the fabric securely to the top of the posts and wire-mesh, if applicable, at a maximum spacing of 30 inches.

         a) Make sure that sag of the fabric is kept to a minimum.

         b) Extend the fabric a minimum of 6 inches into the excavated trench, then backfill the trench with the excavated soil and compact.

5. Construction Entrance and Sediment Trap Construction:

   a. Construct each construction entrance and sediment trap as shown on the Contract Drawings and to the depths indicated.

B. Temporary Pest Control:

1. Provide measures to control birds, vermin, and insect pests at the Site so they do not present a health hazard or nuisance.

2. Provide rodent-proof refuse containers for “non-construction” refuse such as food waste and packaging materials.

C. Temporary Environmental Controls:

1. Provide temporary environmental controls to facilitate construction.

   a. Provide equipment required to furnish proper ambient conditions for applying, curing, or preserving materials as specified in other Sections; such as dehumidifiers to adjust the humidity, fans to furnish ventilation, or portable heaters to adjust the temperature as

specified in other Sections.

b. Provide the temporary enclosures required for encapsulating environmentally sensitive areas containing lead, asbestos, PCBs, mold, or other toxic or hazardous materials as specified in other Sections that describe procedures for their remediation or abatement.

2. Air Pollution:

a. Prevent polluting the air in violation of the requirements specified in Section 01 41 00 – Regulatory Requirements.

3. Noise Control:

a. Ensure that noise produced by equipment and construction operations does not exceed established regulatory limits stipulated in Section 01 41 00 – Regulatory Requirements.

b. Equip construction vehicles with operating noise control devices.

D. Temporary Storm Water Pollution Control:

1. During earthwork operations, take additional precautions as required and as directed by the Engineer to prevent water runoff from eroding completed work and to prevent surface water and sediment from leaving the Site, including the construction of retention basins, channels, or similar structures.

2. Clean paved areas of accumulated dirt and debris to prevent it being washed into low-lying areas or fouling storm sewers and catch basins.

3. Prevent concrete trucks being washed onsite.

4. Construct temporary drainage structure inlet filter protection as detailed on the Contract Drawings to prevent sediment from entering the drainage system by ponding water to allow sediment to fall out of suspension.

5. Surface water:

a. Do not allow water to collect on the Site.

b. Where required, provide positive means to remove water such as trenching or pumping.

E. Site Watering for Dust Control:

1. Control dust at all times.

a. Perform vacuuming, wet mopping, wet sweeping, or wet power brooming in lieu of dry power brooming or air blowing.

b. Perform only wet cutting of concrete block, concrete, and asphalt.

2. Treat material stockpiles and disturbed soil with dust suppressors, such as water or other palliatives, and/or provide covers to control dust.

3.09 PROJECT IDENTIFICATION

A. Temporary Project Signage:

1. Provide two field office signs each having a minimum of 70-character

spaces, and lettering styles, colors, and proportions as directed by the Engineer.

a. Construct the field office signs from a single 8 feet wide by 4 feet high sheet of exterior A-B grade plywood securely bolt-mounted to 4-inch by 4-inch posts constructed from pressure treated construction grade lumber set at a minimum depth of 4 feet below grade.

b. Paint both sides of the field office signs with one coat of primer-sealer finished with two coats of white semi-gloss enamel.

2. Securely mount the field office signs where directed by the Engineer, and so they are resistant to vandalism and theft.

3. Submit Shop Drawings showing the temporary project signage message and layout to the Engineer for approval.

3.10 REPAIR/RESTORATION

A. Complete, or, if necessary, restore permanent work which may have been delayed because of interference with the temporary service or facility.

B. Repair damaged Work, clean exposed surfaces, and replace Work which cannot be satisfactorily repaired.

1. Clean and repair damage caused by installation or use of temporary work.

C. Traffic Control:

1. Restore obstructed public ways, including streets, sidewalks, and accesses to public and private properties, to public and private uses when obstruction thereto is no longer necessary for prosecution of the Project.

D. Landscaping:

1. Restore all landscape areas and other surface improvements that were to remain in place, but that have been damaged by the Contractor's actions or omissions.

a. Restore landscape areas as nearly as possible to the original condition.

2. Repairing or Replacing Damaged Plants:

a. Where damage to vegetation has occurred, prune plants in accordance with Tree Care Industry Association (TCIA) standards to remove branches from the work area, and where needed to maintain the health of the plant.

1) Remove material in a manner that yields minimal impact and is approved.

b. Remove plants that were identified by the Owner to remain in place, but that are damaged during the course of the work to an extent that they cannot be repaired; and replace the damaged plants with new plants of the same type and value.

1) Remove and replace damaged plants as directed.

2) Base the value of plants that are to be replaced on the

criteria found in the Council of Tree and Landscape Appraisers' "Guide for Plant Appraisal", as evaluated by the Project Arborist.

c. Remove and replace damaged plants at no increase in the Contract Price.

1) Bear the cost of Consultants, administrative costs, coordination, permits, and other fees associated with the removal, replacement, or repair of existing plants resulting from damage due to insufficient or improper protection.

3.11 RE-INSTALLATION

A. Restore or re-install permanent facilities, used during construction, to the condition specified.

3.12 SITE QUALITY CONTROL

A. Site Tests:

1. The Engineer has the authority to order testing of the Contractor's construction plants and equipment; and to reject or condemn any plant, apparatus, or staging, which, in his opinion, is unsafe, improper, or inadequate.

a. Whether the Engineer exercises this authority or not, the Contractor is not relieved of his responsibility for the safe, proper, and lawful construction, maintenance, and use of such plant, apparatus, or staging.

B. Site Inspections:

1. Inspect the maintenance and protection of traffic (MPT) placed on a twice daily basis.

a. Inspect the MPT devices first thing to verify their integrity, and again at the end of the shift for the same purpose.

2. Inspect the sediment and erosion control and storm water controls protections and devices not less than once per week.

3. Inspect the sediment and erosion control and storm water controls protections and devices prior to predicted storm events, and again after storm events.

C. Non-Conforming Work:

1. Immediately upon discovering defective maintenance and protection of traffic (MPT) items, remedy the deficiencies.

2. Repair or replace defection sediment and erosion control protections within 24 hours.

3. Rework condemned construction plants or equipment to an acceptable condition or remove them from the Site and replace them within five (5) Days from the date of instruction of the Engineer.

3.13 CLEANING

A. Furnish daily janitorial and housekeeping services at the Work Site and perform

any required maintenance of facilities as deemed necessary by the Engineer.

1. Landscaping:

   a. Clean up the ground areas under plants remaining in place as directed.

   b. Wash off foliage that becomes soiled, or when directed to do so Project Arborist.

   c. Remove materials that fall or flow into protected areas.

      1) Provide protective barriers as needed or as directed by the Engineer or Project Arborist to prevent materials from falling or flowing into protected areas.

2. Construction Facilities:

   a. Remove snow in and around the field trailers and adjacent parking areas.

B. At Substantial Completion, clean and renovate permanent services and facilities that have been used to provide temporary services and facilities during the construction period, including but not limited to the following:

1. Replace air filters and clean the outside of ductwork and housings.

2. Replace significantly worn parts and parts that have been subject to unusual operating conditions.

3. Replace lamps in the lighting system that are burned out or noticeably dimmed by substantial hours of use.

C. Remove all temporary facilities and controls prior to Final Acceptance.

1. Upon completion of the Contract, remove all temporary facilities from the Site, except those designated to remain.

   a. Remove temporary utilities, equipment, facilities, and materials prior to submitting the Final Application for Payment.

   b. Remove any temporary underground installations to a minimum depth of 2 feet.

2. Temporary Utilities:

   a. Remove and dispose of the materials and equipment furnished for temporary utility services for this Contract as part of final cleanup, except as specified herein.

      1) All costs for this removal and disposal is the responsibility of the Contractor.

      2) Unless the Engineer requests that it be maintained for a longer period of time, remove each temporary service and facility promptly when the need for it or a substantial portion of it has ended, or when it has been replaced by the authorized use of a permanent facility, but no later than substantial completion.

3. Temporary Barriers and Enclosures:

a. Remove fencing and related materials as directed during the Final Acceptance process at the end of the Contract.

4. Temporary Controls:

a. When the silt barrier fence is no longer needed, remove the fence, and restore the area.

b. Remove temporary traffic control devices as soon as construction activities have been completed.

5. Project Identification:

a. Upon completion of the Work, remove and legally dispose of the temporary Project signage and posts, and backfill the post holes.

1) Turn all other signs over to Metro-North (METRO-NORTH).

a) The Contractor will be charged $250 for each sing not turned over to METRO-NORTH.

D. Waste Management:

1. Comply with the requirements of the approved Waste Management Plan specified in Section 01 74 00, Cleaning and Waste Management.

a. Frequently clean up refuse, rubbish, scrap materials, and debris caused by operations so that the Site presents a neat, orderly, and workmanlike appearance.

b. Provide daily collection of rubbish and clean up the Work and access areas.

c. Load and cover trucks in a manner that will prevent dropping material and debris while in transit.

2. Provide for the disposal of waste products, trash, debris, and similar materials not required for the performance of the Work.

a. Remove surplus materials, falsework, and other temporary structures including foundations.

b. Make arrangements to legally dispose of the refuse, rubbish, scrap materials, and debris caused by operations off-site.

3. Gather and dispose of spoils and vegetative waste, including dead and damaged plants and the trimmings accumulated from the operations to clear and remove existing vegetation.

4. Dispose of spoils and vegetative waste off-site in conformance with the regulations imposed by the local authorities, and in an area approved for such disposal by the local authorities.

3.14 PROTECTION

A. Until final acceptance of the work by Metro-North, take charge and care of the temporary facilities and controls, and take reasonable precautions to protect them against injury or damage by action of the elements, theft, vandalism, or from any other cause, whether arising from the execution or from the non- execution of the Work.

1. Rebuild, repair, restore, and make good, to the satisfaction of the Engineer, injuries, or damages to any portion of the Work occasioned by any of the above causes before Final Acceptance, and bear the expense thereof at no cost to Metro-North.

B. Provide and maintain security services for the field office during the entire Contract period.

3.15 MAINTENANCE

A. Maintenance of Temporary Traffic Control Devices:

1. Within 24 hours after temporary traffic control devices have been damaged, defaced, or otherwise rendered unfit, repair or clean those devices, or replace those devices with new devices.

B. Maintenance of Temporary Project Signage:

1. Maintain the field office signs in good condition, free of markings and dirt, and free of obstructions.

a. Replace damaged stickers as necessary.

b. Clean signs using soap and water or with cleaning solvents that will not damage the surface of the signs.

C. Maintenance of Temporary Electricity and Temporary Lighting:

1. Maintain temporary electrical and lighting equipment and wiring in a safe condition, and use it in a manner that does not constitute a hazard to persons or property.

D. Maintenance of Temporary Parking Areas and Pedestrian Access:

1. Maintain temporary parking areas and pedestrian access throughout all seasons, including providing snow removal and salting.

2. Maintain surfaces to always be safe and puddle free.

E. Maintenance of Vegetation:

1. Care for and maintain existing vegetation within protected areas as indicated on the Contract Drawings.

a. Provide water and labor as needed for plant health, growth, and for washing down soiled foliage.

b. Provide fertilizer, deep root fertilization, pesticides, anti-desiccants, and other materials and labor as needed to maintain the existing plants in a healthy and growing condition.

c. Provide plant maintenance for the duration of the Contract, until Final Acceptance.

F. Maintenance of Protective Fencing:

1. Replace damaged or non-compliant protective fencing as required.

a. Remove and replace torn, deformed, or otherwise blemished mesh with sections of the minimum specified length.

b. Repair or replace damaged fencing immediately after damage

occurs.

2. Maintain tree protection fencing upright and in good condition throughout the Contract until Final Acceptance.

G. Maintenance of Field Offices and Sheds:

1. Maintain the temporary facilities in a proper, safe, and sanitary operating condition for the duration of the Contract.

a. Continuously maintain the field office and provide janitorial services on a daily basis throughout the Contract.

b. Keep toilet facilities equipped, clean, and sanitary at all times.

H. Maintenance of Temporary Erosion and Sediment Controls:

1. After installing silt barrier fence, satisfactorily maintain the barrier fence.

a. The temporary erosion and sediment control fence fabric may require periodic cleaning, by tapping the dry fabric from the downstream side.

b. Maintain hay bales until they are no longer needed.

2. Repair:

a. Remove hay bales which deteriorate, and replace removed bales with new bales.

b. When directed, remove, and replace barrier fence not functioning due to clogging, damage, or deterioration.

3. Maintain the stored areas of the construction entrance and sediment trap areas by replacing or cleaning fouled areas as required and as directed by the Engineer.

4. Maintain temporary erosion protection and surface water runoff controls until cuts, fills, embankments, permanent erosion protection, and final grading are completed.

a. Remove temporary sedimentation and erosion controls installed under this Contract when they are no longer required, when they interfere with construction, or when directed.

b. Receive approval prior to removing any temporary sedimentation and erosion controls.

END OF SECTION

SECTION – 01 55 26

MAINTENANCE OF TRAFFIC

PART 1 – GENERAL

1.01 MAINTENANCE OF TRAFFIC AND WORK AREA PROTECTION

A. Definitions

1. As used in this numbered Section, and this Section only, the terms used herein shall have the following meaning:

   a. The terms "Traffic Lane", "Lane", "Active Roadway", "Street" and "Roadway" shall mean, in addition to the normally traveled pavement areas, other areas including but not limited to ramp terminal gore areas, roadway shoulders and all other areas that may foreseeably be occupied by moving vehicles.

   b. "Slow-Moving Vehicles" shall mean vehicles or equipment that travel at or under a speed corresponding to 15 mph less than the posted speed limit.

   c. "Work Area" shall mean the area immediately surrounding the Work in progress, typically where workers are afoot, and/or the space within a Roadway where Work on the Roadway is being performed by the Contractor.

B. General Requirements

1. Conform to requirements of this numbered Section, the Contract Drawings, and the following:

   a. Portions of the latest editions, including all amendments thereto, of the Federal Highway Administration (FHWA): "Manual on Uniform Traffic Control Devices" (MUTCD) Part VI as hereinafter specified and applicable portions of the companion "Traffic Control Devices Handbook" (TCDH); "Standard Highway Signs"; and "Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects".

   b. The latest edition of the American Association of State Highway and Transportation Officials (AASHTO): "Roadside Design Guide", Chapter 9: "Traffic Barriers, Traffic Control Devices, and Other Safety Features for Work Zones"; and "Standard Specifications for Highway Bridges", as hereinafter specified.

   c. The requirements of the Americans with Disabilities Act (ADA) laws in all respects as specified in the "2010 Standards for Accessible Design".

   d. FHWA's "Portable Changeable Message Signs Handbook" (PCMS).

   e. Maintenance of traffic and Work Area protection features specified herein and as shown on Contract Drawings and/or sketches to be furnished to the Contractor.

   f. In the event of a technical conflict between a requirement in the

publications referenced herein and the Specifications and Contract Drawings, the requirements of the Specifications and Contract Drawings shall control.

g. There may be more than one Work Area within the confines of a closed Roadway or Traffic Lane. Each Work Area shall be individually protected as specified herein.

h. There may be other ongoing construction contracts within the vicinity of the Work Area. The Contractor shall not move, modify, or relocate any item associated with these other contracts without prior approval of and coordination with the Engineer.

i. Perform Work in such a manner and sequence as to interfere as little as possible with the passage of vehicles, pedestrians, and other kinds of public traffic.

j. All existing roadway items such as guiderail, pavement markings, curbs, signals, and signs damaged by the Contractor shall be restored by him to the satisfaction of the Engineer at no additional cost to the Metro-North Railroad.

C. Contractor-Furnished Materials and Equipment

1. Provide and maintain in good working order all materials, equipment, temporary construction signs and facilities required for proper maintenance of traffic and Work Area protection, as specified herein and/or shown on the Contract Drawings. All said equipment/devices shall remain the property of the Contractor, unless otherwise shown on the Contract Drawings.

2. All traffic control devices shall be properly installed prior to the commencement of the work to which they apply and shall be properly maintained by the Contractor thereafter. The devices shall remain in place as long as the conditions or restrictions to which they apply exist. Traffic control devices not applicable to existing conditions and restrictions shall be removed or covered over. Where roadway operations are implemented in stages, only those devices that apply to existing conditions and restrictions shall be in place.

3. All items provided under paragraph C.1 shall be new or undamaged previously used materials in serviceable condition conforming to requirements specified herein.

4. Provide and maintain in serviceable condition the following, where shown on the Contract Drawings:

a. Channelizing Devices

1) Cones.

2) Drums.

3) Type I, II and III Barricades.

b. Temporary Signs: Conform to requirements of Specification Section 01 55 27.

c. Temporary Sign Supports: All temporary maintenance of traffic and

Work Area protection sign supports, and mountings shall be constructed to hold the signs in their proper position and to resist swaying in the wind.

1) Wooden Sign Supports: Wood conforming to requirements of Specification Section 01 55 27.

2) Portable Sign Supports: "Windmaster" as manufactured by Marketing Displays, Inc., Farmington Hills, MI.; or approved equal.

5. Submit the following to the Engineer in accordance with "Shop Drawings, Catalog Cuts and Samples" of Division 1 – GENERAL PROVISIONS:

a. Catalog Cuts and Data Sheets: Complete manufacturer's data for all equipment and materials.

D. General Work Area Protection

1. Contractor shall designate a supervisory-level employee with requisite onsite experience to act as the Traffic Control Coordinator (TCC). The TCC shall supervise the Traffic Management crew who shall be properly trained, supplied, staffed, and equipped to deploy and remove the maintenance of traffic and Work Area protection elements required for each of the Contractor's construction activities, as shown on the Contract Drawings and in paragraph D.3 herein.

2. Traffic Maintenance crew training shall be specifically developed from this Section. The contents of Contractor's Training programs shall specifically include the Contract Drawings, Traffic Standard Details and all other requirements included on the Contract Drawings.

3. Prior to commencement of each day's Work, furnish and install where shown on the Contract Drawings, the traffic control delineations, guiding devices, signals, signs and pedestrian protection, roadway plates, barricades, and barriers. Periodically inspect, maintain, relocate, replace, cover, remove or reconstruct the devices. Maintain safe control of traffic flow and demarcate areas of Work at all times.

a. Ensure that construction material and equipment not removed from areas of Work during non-working periods are protected in such a manner that they shall not constitute a traffic hazard.

b. Do not park any vehicles other than construction vehicles required for construction operations within the demarcated protected areas of Work.

c. Promptly remove traffic control delineations, guiding devices, signals, signs, pedestrian protection, roadway plates, barricades, and barriers, where shown on the Contract Drawings, whenever operations under this Contract no longer require said Work Area protection.

d. Where shown on the Contract Drawings, existing permanent and temporary pavement markings, and traffic guides that conflict with markings and traffic guides to be installed shall be concurrently removed prior to placement of new pavement markings and traffic

guides as follows:

1) On wearing surfaces that will be subsequently replaced, resurfaced, or abandoned during the Work of this Contract, remove obsolete temporary marking tape, and remove or obliterate obsolete thermoplastic or paint markings by grinding, scraping or other means as approved by the Engineer so as to completely obscure all obsolete markings for the duration of the Work.

2) On finished wearing surfaces, completely remove temporary marking tape and completely remove obsolete permanent markings by grinding, scraping or other means as approved by the Engineer. Use of blackout paint or other coating material on any finished wearing surface is prohibited.

3) Grind or chip off all adhesive residue resulting from removed or relocated traffic guides.

e. Prior to the end of each work period and not less than twice a day on non-work days, the TCC shall visually inspect and maintain all elements of the maintenance of traffic and Work Area protection installations.

4. Throughout Progress of Work of This Numbered Section

a. Maintain visual and physical accessibility to fire hydrants. Provide 24-hour advance notice to the Engineer in the event of hydrant obstruction.

b. Conduct Work Area protection operations so that Traffic Lane ingress and egress to intersecting Roadways, adjacent structures or property, and bus and taxi stops, where present, can be maintained. Obtain the approval of the Engineer and provide 24-hour advance notice to the Engineer in the event that Work Area protection operations obstruct access to Work Areas.

5. Placement and Removal of Temporary Signs and Traffic Control Devices

a. Do not locate signs or other traffic delineations, guiding devices and signs in a manner that would: obstruct or interfere with motorists' view of approaching, merging, or intersecting traffic; obstruct other permanent signs or route markers; or mislead or misdirect the motorist.

b. Do not place traffic control signs under an overpass or elevated building, or within overpass or building shadow areas, unless otherwise shown on the Contract Drawings.

c. On Roadways passing below an overpass or elevated building, do not begin or end traffic cone or other delineation and guiding devices under or less than 100 feet from an overpass or building. Extend delineation and guiding devices as required to comply with this requirement.

d. The work for installation and removal of temporary traffic control

devices shown on the Contract Drawings shall be completed utilizing a moving maintenance and protection of traffic operation having a back-up vehicle with impact attenuator and FASU spaced a short distance from the operation (approximately 50 feet) as approved by the Engineer. Devices shall be installed in the direction of traffic and removed in the opposite direction of traffic.

6. Use Vehicle-strong Barriers where the Work Area contains open excavations or when materials and/or equipment are left in the Work Area without the presence of workers, unless otherwise shown on the Contract Drawings. Flare exposed ends of the barriers away from the Active Roadway by extending and terminating the barriers beyond the clear zone, in accordance with AASHTO's "Roadside Design Guide". Where flaring of the barriers beyond the clear zone cannot be achieved, protect the barrier end with Portable Impact Attenuators. Tapered barrier end section shall not be used unless approved by the Engineer.

7. Each Work Area not protected by Vehicle-strong Barriers shall be protected by a back-up truck when workers are present, unless otherwise shown on the Contract Drawings.

8. Vehicles used by the Contractor during performance of Work shall be considered as equipment vehicles and when not protected by a Vehicle-strong Barrier, said vehicle shall be protected by a back-up truck, unless otherwise shown on the Contract Drawings.

9. Construction material and equipment shall not be stored outside the Work Area, without approval by the Engineer.

10. Slow-Moving Vehicles traveling on a Roadway outside of demarcated protected Work Areas shall be followed (approximately 50 feet behind) by a vehicle displaying the same flashing hazard signal lights and sealed beam rotating yellow warning light as required for back-up trucks.

11. Traffic lanes and other areas closed by the Contractor shall be cleared of all materials, equipment, and debris to the satisfaction of the Engineer, prior to reopening the lanes to traffic.

E. Spare Materials and Equipment

1. Where shown on the Contract Drawings, initially furnish and subsequently maintain the quantities of spare materials and equipment at the construction site, or at another nearby location approved by the Engineer.

F. Notwithstanding provisions herein requiring or permitting the Metro-North Railroad to approve or disapprove of any traffic control or delineation and guiding device provided by the Contractor, the Contractor shall ensure the suitability and performance of all such traffic control devices such that inconvenience to the traveling public is held to an absolute minimum.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION – 01 55 27

PLYWOOD SIGN PANELS AND WOOD SIGN POSTS

PART 1 – GENERAL

1.01 SUMMARY

A. This Section specifies requirements for the following:

1. Plywood sign panels for use in temporary pedestrian, bicycle, and vehicular guide, warning, and regulatory roadway signs. Sign type usage is shown on the Contract Drawings.

2. Wood sign posts and footings for sign panel side-of-road installations.

1.02 REFERENCES

A. The following is a listing of the publications referenced in this Section: American Association of State Highway and Transportation Officials (AASHTO)

LTS-5-I2	Specifications for Structural Supports for Highway Signs, Luminaries, and Traffic Signals.
MASH	Manual for Assessing Safety Hardware.
AASHTO M 133	Specification for Preservatives and Pressure Treatment Processes for Timber.
AASHTO M 168	Specification for Wood Products.

American National Standards Institute (ANSI) / American Society of Mechanical Engineers (ASME)

ANSI/ASME B18.2.1	Square, Hex, Heavy Hex, and Askew Head Bolts and Hex, Heavy Hex, Hex Flange, Lobed Head, and Lag Screws (Inch Series).
ANSI/ASME B18.2.2	Nuts for General Applications: Machine Screw Nuts, Hex, Square, Hex Flange, and Coupling Nuts (Inch Series).
ANSI/ASME B1.13	Metric Screw Threads: M Profile.

American Society for Testing and Materials (ASTM International)

ASTM A 153	Specification for Zinc Coating (Hot Dip) on Iron and Steel Hardware.
ASTM A 325	Specification for Structural Bolts, Steel, Heat Treated, 120/105 ksi Minimum Tensile Strength.
ASTM A 490	Specification for Structural Bolts, Alloy Steel, Heat Treated, 150 ksi Minimum Tensile Strength.
ASTM B 209	Specification for Aluminum and Aluminum-Alloy Sheet and Plate.

ASTM B 211	Specification for Aluminum and Aluminum-Alloy Bar, Rod, and Wire.
ASTM B 221	Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.
ASTM D 245	Practice for Establishing Structural Grades and Related Allowable Properties for Visually Graded Lumber.
ASTM D 2555	Practice for Establishing Clear Wood Strength Values.
ASTM D 4956	Specification for Retroreflective Sheeting for Traffic Control.

American Traffic Safety Services Association (ATSSA)

Guidelines	Quality Guidelines for Temporary Traffic Control Devices and Features.

American Wood Protection Association (AWPA)

AWPA U1	Use Category System: User Specification for Treated Wood.

Federal Highway Administration (FHWA)

MUTCD	MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS.
SHS	STANDARD HIGHWAY SIGNS INCLUDING PAVEMENT MARKINGS AND STANDARD ALPHABETS.

US Department of Commerce (DOC) National Institute of Standards and Technology (NIST)

Voluntary Product Standard PS 1

Structural Plywood.

1.03 DESIGN AND PERFORMANCE REQUIREMENTS

A. Design of signs and sign structure shall provide sufficient strength to withstand the wind loading generated by a basic wind speed of 120 miles per hour as per AASHTO LTS 5 I2.

B. Sign supports and framing shall be designed to meet the required wind loading. Posts shall be designed for direct embedment in the soil by excavation and backfill, or by driving with hand or mechanical equipment.

C. Design shall be prepared and sealed by a Professional Engineer licensed in New York State.

1.04 QUALITY ASSURANCE

A. Each plywood sheet shall be grade marked and certified in accordance with NIST PS 1.

B. Temporary signs will be evaluated by the Engineer for acceptability in accordance with ATSSA's Quality Guidelines for Temporary Traffic Control Devices and Features.

C. Temporary sign supports shall conform to the requirements of the FHWA's MUTCD and AASHTO's MASH.

1.05 DELIVERY, STORAGE, AND HANDLING

A. All sign components and materials shall be transported and handled in a manner that shall cause no permanent deformation, injury, or damage. Store sign components and materials above ground.

B. When not in service, temporary signs and portable temporary sign supports shall be stored in such a manner and location that they do not interfere with or present a hazard to vehicular, bicycle or pedestrian traffic. No signs or supports shall be stored on the traveled way or sidewalk during non-working hours. Portable temporary sign supports stored on the roadside within the roadside recovery area, or any area that may be traversable by an errant vehicle, shall be laid flat such that no part of the support is more than 4 inches above the ground. No sign supports shall be leaned against or overhang the traffic side of traffic barriers. The faces of stored signs shall not be visible to traffic in any direction, regardless of the orientation of the sign.

1.06 SUBMITTALS

A. Refer to the requirements of Section 01 33 00 – Submittal Procedures.

PART 2 – PRODUCTS

2.01 MATERIALS

A. Plywood Sign Panels

1. Plywood sign panels shall be flat and shall not be bowed or warped and shall conform to NIST PS 1.

2. Plywood panels for temporary signs shall be exterior-type plywood with a medium density overlay, 5-ply, and A-C grade or better.

3. Thickness of plywood sign panels and plywood battens shall be not less than 1/2 inch. Backs and edges of temporary plywood sign panels shall be painted white.

B. Retroreflective Sheeting

1. Retroreflective sheeting shall be colored, flexible, weather resistant and shall have a smooth outer surface. If the retroreflective sheeting contains spherical lens elements, the lens elements shall be embedded within a transparent plastic, to produce a smooth, flat outer surface. All sheeting shall be of uniform appearance, free from ragged edges, cracks, scales, blisters, or other defects.

2. Prepare the surface of the sign panels for the application of the retroreflective sheeting in strict accordance with the recommendations of the manufacturer of the retroreflective sheeting.

3. Retroreflective sheeting shall be one of the following ASTM D 4956 types, as shown on the Contract Drawings:

a. ASTM Type I: A medium-intensity reflective sheeting also known as engineer grade. Use for pedestrian signs, except where high reflectivity is required, as shown on the Contract Drawings.

b. ASTM Type III: A high-intensity reflective sheeting also known as high intensity. Use for pedestrian signs, temporary delineators and other work zone devices with the exception of vehicular and bicycle construction signs.

c. ASTM Type IX: A very-high-intensity retroreflective sheeting having highest retroreflective characteristics at short road distances. Use for bicycle and pedestrian signs, temporary vehicle construction signs, delineators, construction zone devices and vertical panels.

d. ASTM Type XI: A full cube prismatic retroreflective sheeting with highest level of retroreflective characteristics. Use for permanent vehicular, pedestrian and bicycle signs.

4. Comply with sign design standards in the FHWA's MUTCD, including standards for retro reflectivity, illumination, and color.

C. Wood Sign Posts

1. Signs posts shall be constructed and installed in accordance with the FHWA's MUTCD and AASHTO's LTS-5-I2.

2. Wood sign posts shall be dry, No. 1 grade, S4S, Douglas Fir, Southern or Ponderosa Pine, Hemlock, Spruce or Western Larch conforming to the applicable requirements of AASHTO M 168. The posts shall be straight and true, free of splits, knots, and warps or of steel or aluminum components.

3. All wooden posts shall be treated in accordance with the applicable requirements of AASHTO M 133 and AWPA U1.

4. Posts shall be surfaced four sides, have a uniform cross-section, and shall be sized not less than 4 inches by 4 inches. The post shall be graded for the following stress grades in accordance with the grading rules developed from ASTM D 245 for the selected stress grades. Using the clear wood properties of ASTM D 2555, the bending stress of the post shall be not less than 1200 psi.

5. All 4 by 6-inch posts shall have two 1-1/2-inch diameter breakaway holes drilled through the center of the post parallel to the sign face 4 inches and 18 inches above grade and filled with flexible sealant. All 6 by 8-inch posts shall have two 3-inch diameter breakaway holes drilled through the center of the post parallel to the sign face 4 inches and 18 inches above grade and filled with flexible sealant.

D. Stiffeners, Brackets and Miscellaneous Hardware

1. Horizontal and vertical sign panel stiffeners (Z bars) and panel brackets shall be fabricated of aluminum Alloy 6061-T6 conforming to ASTM B 221.

2. Other miscellaneous aluminum hardware including bolts, nuts, washers, screws, rivets, pull-type lockbolts and serrated or knob stem blind rivets shall be fabricated to meet the requirements of ASTM B 209 and ASTM B 211 for Alloy 2024-T4 with No. 205 Alumilite Finish. Ensure that bolt heads and nuts are American National Standard, Regular Series, hexagonal,

semi-finished, conforming to ANSI/ASME B18.2.1 and B18.2.2, and that threads are American National Standard, Coarse Series, Class 2 Fit, conforming to ANSI/ASME B1.13. Finish bolts with an anodic coating

3. thickness of not less than 0.0002 inches and chromate seal. Use washers conforming to ASTM B 209, Alloy 2024-T3.

4. High strength steel bolts, nuts and washers used in steel-to-steel connections shall conform to ASTM A 325 or ASTM A 490. High-strength bolts, nuts and washers shall be galvanized in accordance with ASTM A 153. Steel bolts, nuts and washers used in contact with aluminum shall be coated with cadmium or a cadmium/tin combination. All cadmium and cadmium/tin coatings shall be given a chromate treatment in or with an aqueous solution of salts, acids, or both to produce a protective chromate coating.

E. Footings

1. Soil bearing plates shall be attached at the bottom of the post as required in 1.03, or as otherwise shown on the Contract Drawings.

2. Breakaway posts, if required, shall be as shown on the Contract Drawings. Breakaway posts and footings shall be designed in accordance with the requirements of 1.03, as described in 2.01 C.4, or as otherwise shown on the Contract Drawings.

3. Concrete footings, if required by 1.03, shall conform to 2.01 F.

4. Portable sign supports shall be as specified in "Maintenance of Traffic and Work Area Protection" of Division 1 – GENERAL PROVISIONS.

F. Concrete

1. All concrete footings for sign construction, as required by 1.03, shall conform to the requirements of Division 3 Section on concrete.

2.02 CONSTRUCTION FEATURES

A. Sign face text, symbol and border layouts shall be as shown on the Contract Drawings and shall conform to the requirements of the FHWA's MUTCD.

B. Sign characters shall be as shown on the Contract Drawings, or if not shown, shall be in accordance with the FHWA's SHS, and shall include letters, numerals, symbols, and borders.

C. Sign corner and border radii shall be as shown in the FHWA's SHS. If not shown in the SHS, sign corner and border radii shall be approximately one-eighth of the height of the sign but shall not exceed 12 inches. Sign borders shall be as shown in the FHWA's SHS. If not shown in the SHS, sign borders shall be of the same type character as the legend and shall be approximately the same width as the stroke width of the major lettering on the sign.

2.03 FABRICATION

A. Holes shall be drilled; cut edges shall be smooth and true, and free from burrs or ragged breaks. All fabrication except for cutting the lower ends of embedded posts shall be done in the shop. The plywood panels shall be clean, dry, and free from oils, dust, grit, or any other contaminants that would adversely affect the adhesion of the retroreflective sheeting.

B. In preparing sign panels for retroreflective sheeting, the entire Grade A surface to be covered shall be wiped down with a tack cloth to remove all saw dust and

C. sanding residue.

D. All panel and batten surfaces to be glued shall be slightly roughened and then glued with waterproof adhesive prior to assembly.

E. After panel preparation, the edges and back or rear surface of all sign panels and battens shall be painted with two coats of approved white exterior paint.

PART 3 – EXECUTION

3.01 INSTALLATION

A. Erect and remove signs as shown on the Contract Drawings, or as ordered by the Engineer, and in such a manner that the traveling public is informed and protected at all times.

B. Side-of-road ground mounted signs shall normally be erected so that the sign face is truly vertical to the profile line, and so the intersection angle measured between the sign face and the centerline of the travel lane which the sign serves is 93 degrees. Where lanes divide or curve, sign faces shall be oriented to be most effective both day and night, and to avoid the possibility of specular reflection.

C. Wood sign posts for side-of-road mounting shall be embedded in the soil to the depth in accordance with the design requirements in 1.03. The hole for the embedment shall be excavated using a manual post-hole digger or appropriately sized power-driven auger. After the hole has been excavated, align the post to the sign face direction, hold vertical in the hole, and tamp suitable excavated material in the annular space. Holes resulting from sign post removals shall be filled with suitable material to restore the areas to their original states as directed by the Engineer.

D. Securely fasten all signs to their supports with bolts, nuts, and washers of aluminum (2024-T4 alloy) or hot-dip galvanized steel in accordance with 2.01 D and in accordance with the design requirements in 1.03.

E. Use plywood battens and aluminum panel stiffeners as required by 1.03 and in conformance with the applicable requirements of 2.01.

F. Horizontal and vertical sign clearances shall be as shown on the Contract Drawings.

G. Other non-wood post mounting of plywood signs, such as overhead sign installations, shall be as shown on the Contract Drawings and as specified in 1.03 and 1.04.

H. Concrete footings, if required by 1.03, shall be placed in accordance with the requirements of Division 3 Section on concrete, and shall not extend more than 4 inches above grade.

3.02 FIELD QUALITY CONTROL

A. Field Inspections

1. Immediately prior to erection, all material will be inspected by the Engineer for damage that is attributable to improper transportation, handling, or storage procedures.

2. The Engineer will conduct an inspection of each completely erected sign in the daylight and at night for proper location, line, and grade of signs, vertical post alignment, condition, appearance, reflectorization and visibility.

3. As the Work progresses, the location, position, and condition of all signs shall be monitored by Contractor in accordance with the requirements of "Maintenance of Traffic and Work Area Protection" of Division 1 – GENERAL PROVISIONS.

END OF SECTION

THIS SPACE IS LEFT BLANK INTENTIONALLY.

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION – 01 57 23

TEMPORARY STORM WATER POLLUTION CONTROL

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

A. The Contract Drawings and other Contract Documents, including the General Conditions, Supplementary Conditions, and other Division 01 Specification Sections, apply to the Work of this Section.

1.02 SUMMARY

A. Section Includes:

1. Temporary stormwater pollution controls.

1.03 STORMWATER POLLUTION PREVENTION PLAN

A. The Stormwater Pollution Prevention Plan (SWPPP) is part of the Contract Documents and is bound into this Project Manual.

1.04 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site – 12 Croton Falls Road, Croton Falls, NY 10519.

1. Meet with Owner, Engineer, and earthwork subcontractor.
2. Review requirements of the SWPPP, including permitting process, worker training, and inspection and maintenance requirements.

1.05 INFORMATIONAL SUBMITTALS

A. Stormwater Pollution Prevention Plan (SWPPP): Within 15 days of date established for commencement of the Work, submit completed SWPPP.

B. EPA authorization under the EPA's "2017 Construction General Permit (CGP)."

C. Stormwater Pollution Prevention (SWPP) Training Log: For each individual performing Work under the SWPPP.

D. Inspection reports.

1.06 QUALITY ASSURANCE

A. Stormwater Pollution Prevention Plan Coordinator: Experienced individual or firm with a record of successful water pollution control management coordination of projects with similar requirements.

1. SWPPP Coordinator shall complete and finalize the SWPPP form.
2. SWPPP Coordinator shall be responsible for inspections and maintaining of all requirements of the SWPPP.

B. Installers: Trained as indicated in the SWPPP.

PART 2 – PRODUCTS

2.01 TEMPORARY STORMWATER POLLUTION CONTROLS

A. Provide temporary stormwater pollution controls as required by the SWPPP.

PART 3 – EXECUTION

3.01 INSTALLATION

A. Comply with all best management practices, general requirements, performance requirements, reporting requirements, and all other requirements included in the SWPPP.

B. Locate stormwater pollution controls in accordance with the SWPPP.

C. Conduct construction as required to comply with the SWPPP and that minimize possible contamination or pollution or other undesirable effects.

1. Inspect, repair, and maintain SWPPP controls during construction.

a. Inspect all SWPPP controls not less than every seven days, and after each occurrence of a storm event, as outlined in the SWPPP.

D. Remove SWPPP controls at completion of construction and restore and stabilize areas disturbed during construction.

END OF SECTION

SECTION – 01 71 00

EXAMINATION AND PREPARATION

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

A. The Contract Drawings and other Contract Documents, including the General Conditions, Supplementary Conditions, and other Division 01 Specification Sections, apply to the Work of this Section.

1.02 RELATED SECTIONS

A. Section 31 20 00 – Earth Moving.

1.03 SUMMARY

A. This Section specifies requirements for:

1. Acceptance of conditions.
2. Field engineering.
3. Protection of adjacent construction.

B. Requirements for demobilization are specified in Section 01 71 13 – Mobilization.

1.04 REFERENCES

A. Reference Standards:

1. ASTM International (ASTM):
   a. ASTM B36/B36M, Standard Specification for Brass Plate, Sheet, Strip, and Rolled Bar.
2. New York State Department of Transportation:
   a. Land Survey Standards and Procedure manual (February 2009)
3. Precast/Prestressed Concrete Institute (PCI)
   a. PCI MNL-116, Manual for Quality Control for Plants and Production of Structural Precast Concrete Products.

1.05 QUALITY ASSURANCE

A. Qualifications:

1. Surveyor Crew's Qualifications:
   a. Employ a survey crew qualified and able to perform the surveying and layout tasks necessary to properly perform the Work of this Section.
      1) The survey crew must be available for use with as little as 4 hours advance notice for the duration of the Contract.
   b. Employ a Professional Engineer or Land Surveyor registered in the State of New York to be directly responsible for the survey work required by this Contract.
      1) Submit the qualifications of the registered Professional Engineer or Land Surveyor to the Engineer for information.

1.06 SUBMITTALS

A. Action Submittals:

1. Submit the following to the Engineer for approval in accordance with Section 01 33 00 – Submittal Procedures:

a. Shop Drawings:

1) Concrete survey monuments.

b. Delegated Design Submittals:

1) Field engineering layouts.

c. Qualification Statements:

1) Land Surveyor qualifications.

B. Closeout Submittals:

1. Submit the following to the Engineer in accordance with the requirements of Metro-North:

a. Record Documentation:

1) Survey field books and stakeout data, including documentation verifying the accuracy of field survey work.

PART 2 – PRODUCTS

2.01 MATERIALS

A. Materials required for mobilization that are not to be part of the completed Contract will be determined by the Contractor, except that they must conform to any pertinent local or State Law, regulation, or code.

PART 3 – EXECUTION

3.01 PREPARATION

A. Demolition / Removal:

1. Remove obstructions from lines of sight when requested to do so by the Engineer.

3.02 ACCEPTANCE OF CONDITIONS

A. The Contractor is responsible for visiting and examining the Site to determine the conditions existing there prior to performing the Work, for inspecting areas where specific portions of the Work will be performed; and for notifying the Engineer of unsatisfactory conditions discovered during this inspection.

1. Specific requirements to examine, inspect, and verify existing conditions prior to performing specific portions of the Work are specified in individual Specification Sections, and the Contractor is responsible for performing these field inspections.

B. Failure to notify the Engineer of unsatisfactory conditions at Site following the required inspections constitutes acceptance of the existing conditions as not a hindrance to performing the Work as contracted.

1. Failure to execute the required field inspections, or to notify the Engineer

of unsatisfactory conditions discovered, does not relieve the Contractor from performing the Work.

3.03 FIELD ENGINEERING

A. Verification of Conditions:

1. Find the reference points that have been shown on the Contract Drawings and re-established in the field.

    a. At his discretion, the Engineer may direct the Contractor to relocate or replace the established reference points in accordance with the applicable requirements for additional work outlined in the Contract Documents.

2. Promptly notify the Engineer if it is found that any of the previously established reference points indicated have been destroyed or displaced.

    a. When directed by the Engineer, repair or replace previously established reference points, control monuments, and those primary control measurements that are damaged, destroyed, or displaced by the Contractor at no increase in Contract Price.

B. Furnish, install, monitor, and subsequently remove survey points establishing the line and grade and other field stake-out engineering for construction.

1. Furnish accurate surveyor instruments and other survey equipment suitable for performing the surveys required in accordance with recognized professional standards and maintain the survey equipment in proper condition and adjustment at all times.

2. Locate, stake, furnish, and install new concrete monuments.

    a. Construct survey monuments at locations shown on the Contract Drawings, or as directed by the Engineer.

3. Perform as-built surveys to comply with quality assurance, quality control, and acceptance testing requirements.

4. Check all surveys and layouts and calculations.

C. Surveying:

1. Temporarily cease construction activities which create hazards that may affect the work of the survey crew’s personnel.

2. Establish all survey control points and alignments required for control and guidance of construction operations.

    a. Perform the Work to the lines and grades shown on the Contract Drawings.

    b. Use approved local municipality approved identifications for existing benchmarks.

    c. Refer to the legal descriptions provided for developing other control points.

    d. The Surveyor is responsible for any lines, grades, or measurements which do not comply with the specified or proper tolerances, or which are otherwise defective, and for any resultant defects in the

work.

3. Provide any acceptance survey or surveys required for checking lines, grades, and measurements.

   a. Reference Points:

      1) Locate existing permanent benchmarks, control points, and similar reference points before beginning the Work.

      2) Preserve and protect benchmarks and control points during construction operations.

   b. Record Log:

      1) Produce and maintain a log of layout control work.

      2) Record deviations from required lines and levels.

      3) Include beginning and ending dates and times of surveys, weather conditions, the name and duty of each party member, and the types of instruments and tapes used.

      4) Make the Record Log available for reference.

4. Provide the Engineer with any assistance required for checking lines, grades, and measurements when requested to do so by the Engineer.

   a. The Engineer may at any time use line and grade points and markers established by the Surveyor.

      1) The Surveyor's surveys are a part of the Work and may be checked by the Engineer or representatives of the Engineer at any time.

         a) Conduct resurveys or check surveys to correct errors indicated by review of the field notes at no increase in the Contract Price.

      2) Provide assistance to the Engineer required for checking lines, grades, and measurements.

D. Layout of Work:

1. Lay out the Work from the baselines and bench marks indicated on the Contract Drawings, making all measurements in reference to these baselines and bench marks.

   a. Furnish all monuments, stakes, templates, platforms, equipment, tools, materials, and labor required to lay out any part of the Work from the baselines and bench marks established.

   b. Assume full responsibility for the dimensions and elevations taken from bench marks and baselines, and for setting lines and grades.

      1) Stakeout property lines and corners required for establishing the location of fences and other items of the Work referenced to the property lines and corners.

      2) Stakeout the temporary, permanent, and existing easements.

E. Concrete Survey Monuments:

1. When directed to do so, replace damaged or destroyed control monuments and those primary control monuments that must be relocated in order to perform the Work of this Contract at no increase in the Contract Price, and as follows:

a. Construct a survey monument at each location shown on the Contract Drawings, or as directed by the Engineer.

b. Excavate a hole for each survey monument in accordance with the requirements of Section 31 20 00, Earth Moving, except that the equipment may consist of an approved type auger.

c. In the presence of the Engineer, set the survey monument into the hole with the top surface of the monument horizontal and with the brass marker on top oriented in the exact position shown on the Contract Drawings, or as directed by the Engineer.

d. Subsequent to placing the survey monument into the hole, backfill the space between the walls of the hole and the monument in accordance with the requirements of Section 31 20 00, Earth Moving.

e. Set and backfill concrete monuments in the presence of the Engineer.

3.04 PROTECTION OF ADJACENT CONSTRUCTION

A. Protect buildings, foundations, bridges, and other structures located adjacent to the Site from damage.

1. Protect existing and adjoining public and private property from damage incidental to construction operations in accordance with municipality Construction Codes.

2. Where operations are adjacent to the property of railway, telegraph, telephone, water, sewer, electric, gas, cable, and other utilities; or adjacent to other facilities and property which if damaged might result in considerable expense, loss, inconvenience, injury, or death, do not commence the Work until necessary arrangements for protecting these facilities and property have been made.

3. Prevent earthwork and trenching operations from damaging adjacent facilities.

a. Unless authorized in writing by the Engineer, do not use water to settle backfill material in trenches adjacent to structures.

B. Safeguard and maintain conflicting utilities shown on the Contract Drawings, including overhead wires and cables and their supporting poles, whether or not they are inside or outside the trench.

1. If a conflicting utility not shown on the Contract Drawings is discovered during the course of the Work, notify the Engineer as soon as possible.

a. The Engineer will negotiate to have the owner of the conflicting utility relocate it, have others relocate the utility, change the alignment or grade of the trench to avoid the conflict, or declare the

work to resolve the conflict as extra work.

2. Provide permanent pipe supports for sewer, water, and other utility lines where shown on the Contract Drawings and at other locations as deemed necessary by the Engineer.

   a. Provide permanent pipe supports in accordance with the details shown on the Contract Drawings and local regulations.

3. Adequately support electronic, telephonic, telegraphic, electrical, oil, and gas lines encountered; and avoid damaging plastic pipe, pipe-way, and conduits during foundation preparation, bedding placement and backfilling operations.

   a. Support plastic pipe and electrical conduit continuously along the bottom of the pipe or conduit.

   b. Support metal pipe and electrical conduit either continuously or suspend the pipe or conduit from nylon webbing spaced at intervals not more than 10 feet apart.

C. Unless otherwise indicated in the Contract Documents, maintain all underground and overhead utilities in continuous service throughout the duration of the Contract, and take responsibility and accept liability for damages or interruptions of service caused by the construction.

1. If a utility or appurtenance is to be temporarily or permanently relocated or shut down, the Contractor is responsible for making the necessary arrangements and agreements with the owner of the utility and its reconstruction at no increase in the Contract Price.

   a. Reconstruct the utility or appurtenance and the property to its previous condition or better as soon as possible.

   b. The relocation or shut down and restoration cycle is subject to inspection and approval by both the Engineer and the owner of the utility.

D. Protect adjacent areas from damage resulting from installation, erection, or application of the Work.

1. Protect the Work of other trades, whether being coated or not, against damage from painting and coating operations.

2. Take the necessary measures to ensure that workers and work areas are protected from fire and health hazards resulting from handling, mixing, and applying coatings.

3.05 REPAIR/RESTORATION

A. At the conclusion of construction, remove temporary survey points no longer required for the progression of the Work or other contracts.

B. Upon completion of the Work, remove construction tools, apparatus, equipment, unused materials and supplies, construction plant, temporary facilities, and personnel from the Site.

3.06 RE-INSTALLATION

A. Re-install survey points removed to facilitate demolition or construction activities.

3.07 CLOSEOUT ACTIVITIES

A. Survey Field Books:

1. Generate, maintain, and preserve survey field books, electronic files, and stakeout data used to record survey data until Final Acceptance of the Work.

   a. At Final Acceptance of the Work, have the registered Surveyor or Engineer sign and seal the record of survey or the survey field books and stakeout data, and submit them to the Engineer in accordance with the requirements of Metro-North.

   b. The survey field books and stakeout data will become the property of the Metro-North.

2. Allow the Engineer access to the survey field books and stakeout data upon request during the course of the work.

3.08 PROTECTION

A. Control Monuments:

1. Protect horizontal and vertical control monuments previously established and indicated on the Contract Drawings.

END OF SECTION

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION – 01 71 13

MOBILIZATION

PART 1 – GENERAL

1.01 RELATED SECTIONS

A. Section 01 50 00 Temporary Facilities and Controls

B. The Contract Preliminary Design Documents includes the Performance and Design Criteria (PDC), Specifications, Drawings, Reference Documents and Attachments.

1.02 DESCRIPTION OF WORK

A. Mobilization and preparatory work includes, but is not limited to, the following:

1. Mobilization of construction equipment, materials, supplies, appurtenances, and the like, manned and ready for commencing and continuing the work.
2. Setting up of necessary general plant, including temporary storage areas, offices, and such sanitary and other facilities as are required by local or State Law or regulation, and described in Section 01 50 00 – Temporary Facilities and Controls.
3. Assembly and delivery to the sites of general plant, equipment, materials and supplies necessary for the prosecution of the work that is not intended to be incorporated in the Work.
4. The clearing of and preparation of the field office areas, including security and janitorial.
5. The complete assembly, in working order, of equipment necessary to perform the required work.
6. Personnel services required prior to commencing actual work
7. Providing necessary bonds, insurance, and pre-financing, as required.
8. All other preparatory work required to enable commencement of the actual work on construction items and staging.
9. Critical Path Method (CPM) schedules and field engineering layouts.
10. Install construction signage.
11. Erect fencing and barricades. Construction fencing shall segregate to the maximum extent possible the construction area from Metro-North operations.
12. All other preparatory work required to enable commencement of the actual work on construction item.

1.03 SUBMITTALS

A. The Contractor shall submit within twenty (20) working days after the date of Award, a layout of construction plant, showing locations of fences, roadways, buildings or sheds, field offices, Metro-North's field office and temporary offices (including interior layouts), temporary utility services, temporary platforms, and storage and laydown areas.

1.04 MOBILIZATION

A. The price for mobilization, as required by Article 3.03, "Detailed Cost Breakdown for Lump Sum Items" of the Contract Terms and Conditions, shall not exceed 4% of the total Contract Gross Sum Bid.

B. Payment will be made progressively for the line item price for mobilization as agreed upon in the Contract "Terms and Conditions", Article 3.03. The payment will be made in the form of three, equal monthly payments. The first payment shall be made thirty (30) calendar days after work begins as described in 1.02 Description of Work and shall be made based on the following submittals:

1. The cost reimbursement for bonds shall be made based on the actual invoice from the bonding company.
2. Payment for insurance(s) (actual cost of bonds paid on upon a submitted invoice).
3. Submission and acceptance of the construction plant layout.
4. Two subsequent monthly payments for mobilization will be made contingent upon Work continuing to progress on the project.

C. Note that no separate line item will be bid for mobilization. The lump sum bid price for the base Contract shall include the cost for this work, and invoicing for this work shall comply with the terms and conditions stated above.

D. Partial payments may be reduced for mobilization by an amount determined by the MNR representative, if in their determination, any of the following conditions apply:

1. The plant and/or equipment at the site are insufficient or not suitable for the performance of the Work.
2. The plant and/or equipment brought on site are not being utilized or sufficiently utilized for the prosecution of the Work.
3. The plant and/or equipment brought on site for the project and committed to the work for the project are removed from the project without the permission of MNR or their representative.

E. In the event of a reduction of partial payments as provided herein, the unpaid portion shall be paid in subsequent payment requests; payment is contingent upon the conditions which led to partial payment are rectified.

PART 2 – PRODUCTS

2.01 MATERIALS

A. Such materials as required for mobilization and that are not to be part of the completed Contract shall be as determined by the Contractor, except that they shall conform to any pertinent local or State Law, regulation, or code.

2.02 PLANT AND EQUIPMENT

A. General plant and equipment shall be of the capacity, type, quality, function and in the quantity necessary for the timely prosecution of the work.

PART 3 – EXECUTION

3.01 GENERAL

A. General plant, equipment, materials, supplies, temporary buildings, facilities, and other items necessary for mobilization shall be available at the work site at the times they are to be built, used, installed, or operated.

B. Partial Payment may be reduced by an amount determined by the Engineer if, in his determination, any of the following conditions apply:

1. The plant and equipment at the site are insufficient or are not suitable for the performance of the work.
2. The plant and equipment brought on the project are not being utilized or sufficiently utilized for the prosecution of the work.
3. The plant and equipment brought on the project and committed to the work are removed from the project without the permission of the Engineer

C. The work required to provide the above facilities and service for mobilization shall be done in a safe and workmanlike manner and shall conform to any pertinent local and State Law, regulation, or code. Good housekeeping consistent with safety shall be maintained.

3.02 FIELD OFFICE

A. The Engineer shall approve the general field office location, layout, and condition. The general layout, including equipment and parking, shall have sufficient capacity, in the opinion of the Engineer, to permit a rate of progress which will ensure completion of the work within the time stipulated in the Contract. The Engineer shall have the right to reject equipment and material if, in his opinion, it is unsafe, improper, or inadequate. Rejected general plant and apparatus shall be brought to acceptable condition or shall be removed from the job site.

3.03 DEMOBILIZATION

A. Upon completion of the work, remove general plant, excess materials, equipment, supplies, temporary facilities including field offices and other structures, utilities, signage, barricades, and fencing. Leave improved areas broom clean and restore unimproved areas to original condition.

B. Demobilization shall not be less than 1% of the total Contract award amount. Payment will not be made until after final completion is approved by Metro-North and after all general plant, equipment, materials, supplies, temporary buildings, facilities, and other items have been removed and a clean, broom-finish has been provided.

END OF SECTION

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION – 01 74 00

CLEANING AND WASTE MANAGEMENT

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

A. The Contract Drawings and other Contract Documents, including the General Conditions, Supplementary Conditions, and other Division 01 Specification Sections, apply to the Work of this Section.

1.02 RELATED SECTIONS

A. Section 01 74 19 – Construction Waste Management and Disposal.

B. Section 02 82 00 – Lead Containing Materials.

1.03 SUMMARY

A. This Section specifies requirements for:

1. Maintaining a clean, orderly, and hazard-free work Site.
2. Managing waste during construction operations.
    a. Manage non-hazardous construction and demolition waste and materials.
    b. Manage hazardous construction and demolition waste and materials.
    c. Protect the environment, both onsite and offsite.
    d. Prevent environmental pollution and damage.
3. Performing a final cleaning prior to occupancy.

1.04 REFERENCES

A. Abbreviations and Acronyms:

1. ACA: Ammoniacal copper arsenate, a leach-resistant waterborne wood preservative.
2. CCA: Chromated copper arsenate, a leach-resistant waterborne wood preservative.
3. LEED: An acronym for the Leadership in Energy and Environmental Design Green Building Rating System™, a third-party certification program administered by the United States Green Building Council (USGBC), and the nationally accepted benchmark for the design, construction, and operation of high-performance green buildings.
4. MSDS: Material Safety Data Sheets.

B. Definitions:

1. Asbestos: The asbestiform varieties of serpentine (chrysotile), riebeckite (crocidolite), cummingtonite-grunerite, anthophyllite, and actinolite-tremolite.
2. Authority Having Jurisdiction (AHJ): Building Code officials, inspectors, and government and regulatory agencies given the authority to protect the

public's health, safety, and welfare.

3. Clean: To remove dirt, grime, trash, debris, and similar materials to achieve a level of cleanliness generally provided by skilled cleaners using commercial quality building maintenance equipment and materials.

4. Waste: Excess or unusable construction materials, packaging materials for construction products, the products of demolition or removal, and other materials generated during the construction process but not incorporated in the Work.

C. Reference Standards:

1. ASTM International (ASTM):

a. ASTM D5834 – Standard Guide for Source Reduction Reuse, Recycling, and Disposal of Solid and Corrugated Fiberboard (Cardboard) [withdrawn 2003].

b. ASTM D5509 – Standard Practice for Exposing Plastics to a Simulated Compost Environment [withdrawn 2002].

c. ASTM D6002 – Standard Guide for Assessing the Compostability of Environmentally Degradable Plastics [withdrawn].

d. ASTM E1609 – Standard Guide for Development and Implementation of a Pollution Prevention Program [withdrawn 2010].

e. ASTM E1971 – Standard Guide for Stewardship for the Cleaning of Commercial and Institutional Buildings.

2. MTA Metro-North:

a. Capital Programs Department/Operating Capital Projects Department:

1) Guideline H.48 – Sustainable Design/Design for the Environment Generic Recommendations and Guidelines.

3. New York State Government:

a. New York Code, Rules and Regulations (NYCRR):

1) The New York State Department of Environmental Conservation (DEC):

a) 6 NYCRR Part 638 – Green Building Tax Credit.

b. New York State Energy Research and Development Authority (NYSERDA):

1) New York State Executive Order No. 111 – "Green and Clean" State Buildings and Vehicles Guidelines.

c. New York State Tax Law:

1) Section 19 Green Building Tax Credit.

4. United States Government:

a. Department of Labor:

1) Occupational Safety and Health Administration (OSHA):

a) 29 CFR 1910 Occupational Health and Safety Standards.

b) 29 CFR 1926 Safety and Health Regulations for Construction.

5. United States Green Building Council (USGBC):

a. LEED 2009 for New Construction and Major Renovations, http://www.usgbc.org.

1.05 ADMINISTRATIVE REQUIREMENTS

A. Coordination:

1. Coordinate clean-up operations with the completion of the Work of other Specification Sections.

2. Provide on-site instruction of staff regarding appropriate separation, handling, recycling, salvage, reuse, and return methods to be used by all parties at appropriate stages of the Contract.

B. Pre-Installation Meetings:

1. At the Pre-Construction Conference specified under Section 01 31 00 – Project Management & Coordination, discuss the proposed Waste Management Plan specified herein to develop a mutual understanding relative to the details of environmental protection and waste management required for this Contract.

2. Prior to performing major demolition work as part of this Contract, discuss waste management issues related to the demolition activities at pre-demolition meetings which must be scheduled to discuss demolition, environmental, and waste management issues.

1.06 QUALITY ASSURANCE

A. Regulatory Agency Sustainability Approvals:

1. Comply with the requirements specified in New York State Executive Order No. 111.

B. Qualifications:

1. Testing and Inspection Agency's Qualifications:

a. Employ an independent Testing and Inspection Agency having the qualifications specified in Section 01 43 00 – Quality Assurance, and the following additional qualifications:

1) Capable of performing the reviews, inspections, and testing required by this Section to verify compliance with the Contract Documents; including but not limited to the following:

a) Inspecting, sampling, and testing proposed materials and production as required by the Engineer.

b) Capable of securing and testing samples of materials from stockpiles during the course of the work.

b. Submit the qualifications of the Testing and Inspection Agency to the Engineer for approval.

2. Janitorial Firm Qualifications:

a. Employ an experienced janitorial firm having at least 3 years demonstrated experience performing cleaning functions similar in scope to those required of it under this Contract.

b. Submit the qualifications of the janitorial firm to the Engineer for approval.

3. Waste Removal Firm Qualifications:

a. Employ a waste removal firm, licensed by the local jurisdiction to remove waste from within the jurisdiction, and having at least 5 years demonstrated experience performing waste removal functions similar in scope to those required under this Contract.

b. Submit the qualifications of the waste removal firm to the Engineer for approval.

1.07 SUBMITTALS

A. Action Submittals:

1. Submit the following to the Engineer for approval in accordance with Section 01 33 00 – Submittal Procedures:

a. Product Data:

1) Cleaning products.

b. Special Procedure Submittals:

1) Waste Management Plan.

c. Qualification Statements:

1) Testing and Inspection Agency’s qualifications.

2) Janitorial firm’s qualifications.

3) Waste removal firm’s qualifications.

B. Informational Submittals:

1. Submit the following to the Engineer for information in accordance with Section 01 33 00 – Submittal Procedures:

a. Manufacturer’s Instructions:

1) Cleaning product manufacturer’s instructions.

b. Site Quality Control Submittals:

1) Waste and debris testing test reports.

C. Closeout Submittals:

1. Submit the following to the Engineer in accordance with the requirements of Metro-North:

    a. Sustainable Design Closeout Documentation:

        1) Summary of Solid Waste Disposal and Diversion forms.

1.08 DELIVERY, STORAGE, AND HANDLING

A. Delivery and Acceptance Requirements:

1. Recycling or Reuse Facility Requirements:

    a. Arrange with the appropriate recycling or reuse facility for collection by or delivery to their facility.

        1) Transport recyclable materials to recycling facilities and reusable materials to reuse facilities for further processing in accordance with the requirements of the recycling or reuse facility.

        2) Deliver materials in accordance with recycling or reuse facility requirements such as, but not limited to, being free of dirt, adhesives, solvents, petroleum contamination, and other substances deleterious to the recycling process.

    b. The landfill facility has to be a firm on the Metro-North approved list.

2. Hazardous Waste Landfill Records:

    a. Submit documentation indicating the receipt and acceptance of the hazardous wastes by a landfill facility licensed to accept hazardous wastes for the record.

B. Storage and Handling Requirements:

1. Handling:

    a. Clean materials that are contaminated prior to placing them in collection containers.

    b. Do not disturb any materials suspect of containing hazardous materials with the prior approval of the Engineer.

    c. Handle hazardous materials and waste in accordance with the requirements specified in Section 02 82 00, Lead Containing Materials, and with the applicable Federal, State, and local regulations.

2. Do not allow waste material to be dropped or thrown from structures.

C. Storage and Protection:

1. Provide rodent-proof, covered refuse containers for non-construction refuse such as food, food waste, wrappers, and packaging materials to minimize attracting mammalian, reptilian, or insect pests.

    a. Empty the refuse containers daily, or more frequently as necessary to prevent the refuse from overflowing the containers.

    b. Remove the accumulated contents of the refuse containers from the Site daily.

2. Separate, store, protect, and handle recyclable and salvageable waste products identified at the Site in a way that maximizes recyclability and salvageability.

a. Provide clearly and appropriately identified containers, bins, and storage areas to facilitate effective waste management.

b. Provide non-hazardous barriers and enclosures around recyclable material storage areas.

c. Locate the containers, bins, and storage areas out of the way of construction traffic, but where adequate space exists for pick-up and delivery of waste materials by subcontractors and others.

d. Clean contaminated materials prior to placing them in collection containers.

e. Keep recycling and waste bin areas clean and neat.

3. Store volatile wastes in covered metal safety containers having appropriate warning and identification labels.

D. Packaging Waste Management:

1. Remove shipping, blocking, and bracing materials.

a. Remove the loose packing materials and protective wrapping such as shrink-wrap, wood crating, and packing from products as required.

2. Dispose of packaging waste in accordance with the requirements of the Waste Management Plan specified herein.

1.09 SITE CONDITIONS

A. Ambient Conditions:

1. If volatile and/or noxious substances are being used in spaces that are not naturally ventilated, provide artificial ventilation.

PART 2 – PRODUCTS

2.01 DESCRIPTION

A. Regulatory Requirements:

1. New York State Executive Order No. 111:

a. Comply with the requirements specified in New York State Executive Order No. 111.

1) Comply with the requirements specified in 6 NYCRR Part 638.

2) Comply with the requirements specified in New York State Green Building Tax Credit regulations.

2. Hazardous Waste and Hazardous Materials:

a. Handle hazardous waste and hazardous materials in accordance with applicable regulations.

b. Only disposal sites and transporters on the Metro-North

Department of Environmental Compliance and Services approved list can be used. Metro-North reserves the right to arrange for transport and disposal of the materials outside the Contract.

3. Metro-North:

   a. Comply with the requirements specified in Metro-North Capital Procedures and Guidelines: Environmental Guidelines H.48.

4. Comply with the requirements of the applicable local and State dust control ordinances.

5. During the course of the Work, comply with the OSHA requirements specified in 29 CFR 1910 and 29 CFR 1926, paying special attention to those regarding hazardous and toxic materials and substances, ventilation and other environmental controls, and disposal of waste materials.

6. See Specification 02 74 19 Construction Waste Management and Disposal for additional requirements.

2.02 MATERIALS

A. Cleaning Materials:

1. Furnish and apply the type of cleaning materials recommended by the manufacturer of the surfaces to be cleaned.

2. Furnish non-hazardous and biodegradable cleaning materials whenever possible.

3. Submit Product Data for each cleaning product furnished for use to the Engineer for approval.

4. Submit manufacturer's instructions for each cleaning product furnished for use to the Engineer for information.

B. Dust Suppressants:

1. Furnish environmentally safe, dust suppressants as specified in Section 01 50 00 – Temporary Facilities and Controls.

PART 3 – EXECUTION

3.01 EXAMINATION

A. Verification of Conditions:

1. Visit the Site to verify conditions at the Site prior to beginning the other onsite Work of this Contract.

2. Notify the Engineer of unexpected conditions discovered by the on-site visit prior to beginning the other on-site Work for this Contract.

B. Evaluation and Assessment:

1. Identify trash and other items at the Site which may need to be removed or abandoned in place prior to beginning the other Work of this Contract.

2. Identify materials which must be tested for hazardous content prior to demolition and removal operations.

3. Identify areas where waste receptacles and access corridors thereto may

be located for the duration of this Contract.

3.02 PREPARATION

A. Protection of In-Place Conditions:

1. Do not allow dust and other contaminants resulting from cleaning operations to precipitate onto newly painted surfaces and freshly placed concrete.

2. Avoid disturbing the natural weathering of exterior surfaces, unless otherwise indicated.

B. Surface Preparation:

1. Seal cracks and openings in substrates, and then clean the substrate surfaces prior to applying the next material or substance to the substrate.

C. Demolition / Removal:

1. Remove demolition debris in accordance with the approved Waste Management Plan prior to applying, constructing, erecting, or installing new Work in the affected areas.

a. Remove demolition debris and abandoned items from alteration areas.

3.03 REPAIR/RESTORATION

A. Repair, or remove and replace, items that are damaged.

1. Replace broken glass.

2. Touch-up damaged surfaces to the specified finish or to match the overall finish of the equipment or system component.

3.04 SITE QUALITY CONTROL

A. Site Tests:

1. Waste and Debris Testing for Hazardous Materials:

a. Have the Testing and Inspection Agency test solid waste and debris having the potential of being classified as hazardous waste at the point of generation of the waste stream to determine if special procedures for handling and disposing of it are required.

1) Material Safety Data Sheets (MSDS) are by themselves insufficient documentation to make this determination.

b. Submit copies of the test reports for the solid waste and debris testing to the Engineer for information.

B. Site Inspections:

1. At least once a week, inspect the Site to verify that progress cleaning is maintaining the Site in a safe and healthy condition, and that the Waste Management Plan is being properly implemented.

2. Inspect the Site prior to the “final” inspection of the Work by the Engineer to determine if it is properly cleaned and ready for the Engineer’s inspection and use by the Owner.

C. Non-Conforming Work:

1. If Site tests indicate solid waste and debris is hazardous waste, use the special hazardous waste procedures for handling and disposing this material.

2. If Site inspections indicate the Site is not maintained in a safe and healthy condition, the Waste Management Plan is not being properly implemented, or the Site is not properly cleaned and ready for the “final” inspection of the Work by the Engineer and use by the Owner, take remedial action to correct this situation.

3.05 CLEANING

A. Construction Materials Cleaning:

1. Prior to incorporating construction materials into the Work, clean them as necessary.

a. Provide special cleaning as specified in individual Specification Sections, or as required by manufacturer’s instructions.

2. At the completion of the Work of each trade, clean surfaces and make the surfaces ready for the Work of successive trades.

B. Progress Cleaning:

1. During the construction of the Work, clean the Site every workday or more often when directed to do so by the Engineer.

2. Prior to starting to finish interior surfaces, broom, vacuum, or otherwise clean the affected interior areas.

3. Keep the equipment, structures, grounds, and other areas on and adjacent to the Site free from accumulations of waste materials and trash resulting from the Contractor’s construction and demolition operations.

a. Once materials at the Site become unfit for use in the Contract Work, collect these waste materials, remove them from the Site, and legally dispose of them.

1) Place collected waste materials in metal containers or dumpsters.

2) Remove volatile wastes from the Site daily.

b. Maintain field trailers, buildings, and other facilities used to prosecute the Work neat and clear of refuse, rubbish, and debris accumulations to the satisfaction of the Engineer.

c. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other spaces to be enclosed prior to enclosing the spaces.

d. Remove debris from elevated portions of the building(s) by employing a chute, hoist, or other device that will convey the debris to grade level in a controlled descent.

1) If allowed by the Owner, elevators, stairs, or building entries may be used.

4. Control airborne dust and particles that may become a nuisance to the public or are deleterious to the performance of the Work.
    a. Broom and vacuum clean interior areas to eliminate dust.
    b. To suppress dust, periodically wet the soil in excavation and backfill work zones, and periodically wet dirt roads.
    c. When airborne particles are visible, and the Engineer orders application of a topical dust suppressant, apply the material the same day.
5. During construction of the Work, keep streets and pedestrian walkways clean and free of trash and construction debris.
    a. Keep paved roadways, streets, and pedestrian walkways, both on and adjacent to the Site, clean.
        1) Prevent construction equipment from tracking soil, dirt, and debris onto public roadways and right-of-way.
            a) Properly clean construction equipment before allowing it to leave the Site.
            b) Construct construction entrances in accordance with Section 01 50 00 – Temporary Facilities and Controls, and designed to facilitate the removal of soil and dirt from vehicles.
        2) Remove spillage resulting from hauling or construction operations along or across streets, roads, paths, and access routes.
            a) If dump trucks and other equipment are working on or adjacent to paved streets, keep the streets and adjacent pedestrian walkways clean using street sweepers or other means approved by the Engineer.
        3) Wash local streets that are soiled from construction activity.
6. Perform the specific cleaning operations as specified in other Sections.

C. Final Cleaning:

1. After the construction work is essentially completed but preceding the “final” inspection of the Work by the Engineer to determine if it is ready to be awarded the Certificate of Substantial Completion, clean and prepare the Site, including landscape development areas, to make it ready for the Engineer’s inspection and use by the Owner.
    a. Inspect interior and exterior surfaces, including concealed spaces, for cleanliness in preparation for requesting Substantial Completion and Final Acceptance.
    b. At the completion of alteration work in each area, perform a final cleaning and return the space to a condition suitable for use by the Owner.
2. Perform final cleaning of the Work at times approved by the Engineer by cleaning such surfaces or units of the Work to the normal clean condition.

a. Comply with safety standards and governing regulations for cleaning operations.

b. Remove dirt, dust, litter, debris, corrosion, solvents, discursive paint, stains, and extraneous markings from the facilities provided under this Contract.

c. Clean the Site, including landscape development areas, of litter and foreign substances.

1) Sweep paved areas to a broom-clean condition; and remove stains, petro-chemical spills, and other foreign deposits.

2) Rake grounds which are neither planted nor paved to a smooth, even textured surface.

3) Remove surplus materials, except those materials intended for maintenance.

4) Remove tools and equipment used for construction, except those to remain the Owner's property.

d. Comply with manufacturers' instructions for cleaning operations.

e. Clean exposed exterior hard surfaces, including metals, masonry, stone, concrete, painted surfaces, special coatings, and similar surfaces to a dirt-free condition.

1) Hose and scrub clean concrete flatwork, exposed vertical surfaces of concrete and masonry, and pavement and paved walks.

2) Remove mortar droppings from concrete slabs and pavement wherever they occur.

3) Wipe electrical equipment surfaces clean, removing excess lubrication and other grimy substances.

f. Clean debris from drainage systems.

1) Ensure that drainage systems are free and clear of debris and other obstructions.

3. Remove surplus materials, except those intended for maintenance.

4. Remove tools and equipment used during construction, except for the Owner's property.

a. Remove temporary protective devices and facilities, such as signs or barricades, previously installed to protect completed Work.

5. Remove construction and demolition waste and unused materials, dunnage, loose rock and stone, excess earth, and other debris and foreign substances resulting from the Work.

6. Additional examples of final cleaning include, but are not limited to, the following:

a. Remove temporary labels that are not required as permanent identification.

1) Remove detachable labels and tags, and file them with the manufacturer's specifications of that specific item for the Owner's record.

b. Remove strippable film and other protective coverings at the time of Substantial Completion.

c. Clean materials such as mirrors and window/door glass to remove noticeable dirt, stains, films, and smears.

1) Replace broken glass.

d. Clean exposed exterior and interior hard-surfaces, including metals, masonry, stone, concrete, painted surfaces, plastics, tile, wood, special coatings, and similar surfaces, to a dirt-free condition, free of dust, stains, films, and similar noticeable distracting substances.

1) Except as otherwise indicated, avoid the disturbance of natural weathering of exterior surfaces.

2) Restore soiled reflective surfaces to the original reflective condition.

e. Wipe the surfaces of mechanical and electrical equipment clean; and remove excess lubrication and other deleterious substances.

1) Touch-up damaged surfaces to match with the overall finish of the equipment/system component.

D. Removal of Protection:

1. Except as otherwise indicated or requested by the Engineer, remove temporary protective devices and facilities such as warning, regulatory, or guide signs which were installed during the course of the Work to protect previously completed Work during the remainder of the construction period.

E. Waste Management:

1. See Specification Section 02 74 19 Construction Waste Management and Disposal.

3.06 PROTECTION

A. Limiting Exposures:

1. Supervise construction operations to assure that no part of the completed or in-progress construction is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

2. Apply protective coverings where required to assure protection from damage or deterioration until Substantial Completion is accepted.

a. Protect completed Work from becoming fouled by overspray, dirt, dust, or debris.

3. Remove protective coverings when they are no longer needed.

4. Reuse or recycle plastic coverings if possible.

B. Remove or secure loose material on open decks and other exposed surfaces at

the end of each workday, or more often if required, to maintain a hazard- free Site.

1. Secure loose material in a manner that will prevent its dislodgement by wind or other forces.

3.07 MAINTENANCE

A. Maintenance Service:

1. Employ an experienced janitorial firm to provide cleaning services for field trailers, buildings, and other facilities, and for restocking consumable janitorial supplies required to maintain the Site in a clean and sanitary condition, during the life of this Contract.

2. Employ an experienced waste removal firm to remove refuse, rubbish, and debris accumulations to maintain the Site in a neat condition during the life of this Contract.

END OF SECTION

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION – 01 74 19

CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 – GENERAL

1.01 SECTION INCLUDES

A. Requirements for managing the material waste generated during construction site activities.

1.02 RELATED SECTIONS

A. Section 01 35 43 Environmental Protection

B. Section 02 61 00 Sampling, Testing, Handling, Loading, Removal and Disposal of Soils

C. Section 02 82 00 Lead Containing Materials

D. Section 02 84 30 Universal Waste and Miscellaneous Hazardous Materials

1.03 SUBMITTALS

A. Waste Management and Disposal Plan: Within thirty (30) calendar days after receipt of Notice of Award, the Contractor shall submit a Waste Management and Disposal Plan for approval by the Engineer. The Plan shall detail all measures and procedures to be undertaken by the Contractor to identify, characterize, manage, properly store, label, and dispose of wastes (solid, construction/demolition, hazardous, universal) generated during site activities. Where applicable and feasible, the Contractor shall attempt to maximize the quantity of waste material that is diverted from landfills through salvage, reuse, or recycling. See Section 3.04 for the Plan's requirements.

B. Waste Management Report: For each calendar year of the project, upon commencing significant construction operations and continuing through project completion, the Contractor must submit a record of the type and quantity, by weight, of each material that is disposed, salvaged, reused, or recycled on a yearly basis. See Section 3.05 for the Report's requirements.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.01 GENERAL

A. Waste material transporters and disposal sites for off-site disposal of waste material shall be approved by the Engineer prior to use by the Contractor. The Engineer has the right to disapprove any transporter or disposal site that does not meet his approval and to request the Contactor to propose alternate transporters and or disposal sites. Such requests shall not be used by the Contractor as a basis for a delay claim.

B. A list of acceptable transporters and disposal facilities are listed in Section 02 61 00 Sampling, Testing, Handling, Loading, Removal and Disposal of Soils; Part 2. These facilities have been audited and listed as approved Metro-North facilities. Any additional facilities are required to meet the same audit requirements as the approved facilities.

3.02 CONSTRUCTION & DEMOLITION DEBRIS, MATERIALS, UNIVERSAL WASTE AND HAZARDOUS WASTE

A. Hazardous waste is defined in 40 CFR Part 261, New York State ECL Section 27-09 or 6 NYCRR Part 371 (Identification and Listing of Hazardous Waste).

B. Hazardous and dangerous waste generated within the job site shall not be moved except in accordance with Federal and State regulations. If the presence of hazardous waste is confirmed, the Metro-North Department of Environmental Compliance and Services shall be advised promptly.

1. In no event shall hazardous waste remain on the site for more than 60 days from generation. All hazardous materials and or waste are to be stored in compatible and regulated storage containers/drums, provide the MSDS to the Engineer. All materials are to placard and stored in accordance with State and Federal regulations.

2. Copies of Weight Tickets, Manifest (for Hazardous Waste), Bill-of- Lading and Waste Profile Sheets; must be submitted to the Engineer for authorization prior to off-site disposal.

C. Signed Originals of Weight Tickets/Bill-of-Lading and/or Waste Profile Sheets; Waste Manifests (for Hazardous Waste) are to be turned over to the Metro-North Engineer after making copies of each following each waste shipment.

1. Metro-North Engineer will forward each signed original to Metro-North Department of Environmental Compliance and Services Asst. Director of Environmental Protection.

D. When applicable, the testing, handling and disposal of waste generated from the abatement of lead and asbestos containing material shall comply with requirements outlined in Specifications 02 82 00 – Lead Containing Materials.

E. When applicable, the testing, handling, and disposal of miscellaneous hazardous substances and universal wastes, such as PCB's, mercury, and fluorescent lighting, shall comply with the requirements outlined in Specification 02 84 00 – Universal Waste and Miscellaneous Hazardous Materials Removals.

F. When applicable, the testing, characterization, handling, and disposal of excess excavated soil shall comply with requirements outlined in Specification 02 61 00 – Sampling, Testing, Handling, Loading, Removal and Disposal of Soils.

3.03 WASTE MINIMIZATION

A. The project's goal is to salvage, re-use, or recycle at least 75% (by weight) of the waste generated on the project.

B. Potential strategies to minimize waste could be:

1. Use alternative techniques of waste disposal such as recycling, salvage and/or reuse that minimizes the amount of waste generated during the demolition/construction process from entering landfill disposal.

2. Prior to demolition, review for recycling, reuse and/or salvage the selective demolition of building components that can be recovered. Recoverable building components include but are not limited to the following: structural and architectural elements, bollards, fences, steel parts, stonework, utility poles, foundations, and concrete pavement.

3. Implement efficient management of processes that ensure the generation of as little waste as possible due to error, inaccurate planning, breakage, spills, mishandling, contamination, or other factors.

4. To the greatest extent possible, ensure that materials and equipment are delivered in packaging made of recyclable material in a reduced amount of packaging.

5. Establish a field office recycling program for paper, bottles, and cans generated by employees working on the project.

C. Provide containers for waste that is to be recycled clearly labeled as such with a list of acceptable and unacceptable materials. The list of acceptable materials must be the same as the materials to be recycled at the receiving material recovery facility or recycling processor.

D. Provide containers for waste that is to be disposed in a landfill clearly labeled as such.

E. Conduct regular visual inspections of waste handling procedures and the storage container site to ensure that wastes scheduled for recycling, salvage and reuse are not contaminated.

3.04 WASTE MANAGEMENT AND DISPOSAL PLAN

A. The Contractor shall be responsible for the development and implementation of a Waste Management, Minimization and Disposal Plan for the project.

B. The Waste Management, Minimization and Disposal Plan shall contain the following:

1. Waste handling strategy overview. Provide an overview of the means by which waste material will be gathered, stored, and managed on site and transported to its final disposition. This section shall also identify strategies that will be employed to minimize waste that is sent to landfills and identify the person(s) responsible for implementation and compliance with the Plan.

2. Waste Minimization – Identification and quantifying waste streams. Identify each type of waste stream including, but not limited to: general C&D, concrete, steel, soil, hazardous materials, salvaged material, etc. Estimate types and quantities by weight, or other pertinent unit of measure, of waste expected to be generated by the project. Calculate expected overall diversion rate from landfills.

   a. If the handling of a waste stream is governed and approved through a separate submittal (for example – Lead Site-Specific Work Plan), Contractor shall reference the separate plan in the Waste Management and Disposal Plan but is not required to describe in detail the handling and disposal of this waste stream in this plan.

3. Onsite waste collection. Provide location maps of storage containers in plan-view with a narrative description of the onsite waste collection process to include size of containers to be used, and designation for each container.

4. Transportation. Describe methods to transport wastes to interim storage and/or disposal sites. Identify vendors providing transportation of waste materials and facilities accepting waste material. Provide names, addresses, and telephone numbers of persons to contact.

5. Disposal. Identify all final disposal sites and include permits for approval. Provide names, addresses, and telephone numbers of persons to contact.

3.05 WASTE MANAGEMENT REPORTING

A. The Contractor shall maintain a current log of all waste removals from the project site and shall be able to provide it within 48 hours of a request. Each entry in the log must include date, type of material, quantity (in cubic yards or tons), transporter, disposal site, and whether it is being disposed as trash or being salvaged/reused/recycled.

B. The Waste Management Report shall contain the following:

1. At the end of each calendar year in which the project is active, submit a progress report that details:

a. reporting period,

b. types of material,

c. quantities (in cubic yards or tons),

d. transporters,

e. disposal locations,

f. characterizations of disposal in terms of salvage/re-use, recycled, or disposed to landfill.

g. Overall diversion rate for reporting period (total amount salvaged, re-used, and recycled divided by total waste generated.)

2. Include receipts issued by a disposal facility for the acceptance of waste disposed in a landfill or as issued by an approved recycling facility.

3. For salvaged materials, provide receipts for materials sold or donated to a third party.

4. For material salvaged or reused on site, provide estimated quantity calculations, measured by weight.

3.06 ATTACHMENTS

A. The following attachments are appended to this Section following the “END OF SECTION” marker:

1. MNR Capital Programs – Waste Management Plan Submittal Form

2. Summary of Solid Waste Disposal and Diversion Form.

END OF SECTION

Metro-North Railroad

Instructions: Complete pages 1 and 2 and submit with each waste management plan submittal (i.e. initial plan, plan revisions, annual reports, final report)

PART 4 – CAPITAL PROGRAMS

Waste Management Plan Submittal

Initially Prepared	Updated/Revised	Final Waste Management Report
Click here to enter a date.	Click here to enter a date.	Click here to enter a date.
Contract Number	Start Date	End Date
	Click here to enter a date.	Click here to enter a date.
Project		Metro-North Project Manager
Contractor (Name, Address, Telephone)	Superintendent	Waste Manager
Select which best describes project below		
New Construction ☐ Renovation / Rehabilitation		

A. PURPOSE

Metro-North Railroad is committed to reducing wastes resulting from our projects. To this end, the purpose of this Waste Management Plan is to:

1. Estimate the types and quantities of wastes that will be generated during this project
2. Identify the types of wastes and quantities that can be recycled or diverted from landfills
3. Identify waste handling procedures (containerization, separation)
4. Identify transporters
5. Identify the final destination of wastes (landfills, recycling facilities, TSDF's)
6. Estimate waste management costs

The following plan was prepared by AECOM and will be adhered to by AECOM and all of our subcontractors throughout this construction project. AECOM will be responsible for implementation of this plan, and document adherence to the same throughout the project. It is the responsibility of the AECOM Site Superintendent, Waste Manager, and the Subcontractors

supervisory personnel to ensure on-site execution of this plan. AECOM will contractually require all Subcontractors to comply with this plan. A copy of this Plan shall be included in all Subcontractor Agreements and require their participation in the waste reduction strategy. Subcontractors will be provided a site orientation to familiarize them with the on-site waste handling process.

B. RECYCLING/LANDFILL DIVERSION GOALS

This project will recycle, or divert from landfills, a minimum of Click here to enter Percentage to be diverted from landfills percent by weight of non-hazardous construction wastes.

Metro-North Railroad

PART 6 – PROGRAMS

Waste Management Plan Submittal

A. SUMMARY *(from Waste Management Calculator)*

	Quantity	Units	
Total Waste		Tons	Total waste generated during project
Total Diverted Waste		Tons	Materials diverted from landfills through salvage, reuse, or recycling
Diversion Rate		**%**	Percentage of waste diverted from landfills

Submitted By	Signature	Title	Date

ACKNOWLEDGEMENT

I have reviewed the Waste Management Plan for this project and understand the requirements of this plan.

General Contractor	Waste Manager	Signature	Date

Subcontractor Company Name	Team Leader / Foreman Name	Signature	Date

B. WASTE HANDLING STRATEGY OVERVIEW

Describe the following:

1. An overview of the project's waste management strategy
2. What actions will be undertaken to reduce landfilling of wastes through diversion of materials from landfills via reuse, salvage, recycling
3. Describe the types and quantities of waste involved in this project (specific wastes and quantities can be provided on the Waste Management Calculator Excel spreadsheet)
4. Identify the materials that can be reused, salvaged, or recycled
5. The percentage of wastes being diverted from landfilling/disposal
6. Identify recyclable materials, and describe how they will be handled on site, how they will be removed from the site, who will be transporting them, and their ultimate destination
7. Identify salvageable / reusable materials, and describe how they will be handled, any steps needed to clean or refurbish them for reuse, how they will be reused, and if removed from site, how they will be removed, who will be transporting them, and their ultimate destination
8. Procedures for the handling of all types of waste including detailed instructions for equipment needed when managing waste, as well as any safety procedures for workers.
9. Special instructions/procedures for managing a particular waste stream (i.e. demolition contractor – recycling of scrap steel, excavation contractor – excavation of contaminated soils, asbestos abatement contractor – asbestos wastes, painting contractor – lead wastes)
10. Procedures for handling regulated, toxic, or other hazardous wastes (i.e. asbestos, lead, mercury, PCB)
11. How wastes will be removed / transported from the site (transporters for specific materials can be identified on the Waste Management Calculator Excel spreadsheet)
12. Responsibilities for the coordination and scheduling of waste removal, and delivery of waste containers. Are any special arrangements needed (i.e. MNR conductor flagman, Yardmaster)?
13. How the waste prevention and recycling strategies will be reinforced throughout the project
14. Monitoring of proper waste segregation and containerization
15. Procedures for on-site collection and handling
16. Procedures for containerization/packaging of wastes
17. Procedures for on-site storage
18. Procedures for maintaining security of on-site storage
19. The locations and descriptions (size and type) of waste containers (include waste storage locations on site map in attachments)
20. Procedures for labeling of wastes
21. Procedures for collection, handling, containerization, and storage of liquid wastes and waste water
22. Procedures for collection, handling, containerization, and storage of Universal Wastes (i.e. fluorescent lamps, batteries, mercury containing equipment, electronics)
23. Reference the Spill Prevention & Response Plan
24. Reference the Annual (for multi-year projects) and Final Waste Management Reports and responsibility for maintaining the Waste Management Report
25. Provide affirmation about how your company will ensure the lawful transportation and disposal of wastes under your control

26. Provide statement that the project waste management procedures described complies with all laws governing the handling, containerization, and temporary site storage and transportation and disposal of wastes to be generated.

C. WASTE PREVENTION / REDUCTION STRATEGIES

Describe the following:

1. Waste minimization methods
2. Deconstruction (i.e. reuse)
3. Selective salvage during demolition
4. Reuse of materials on or off site
5. Methods to be implemented to promote separation of reusable and recyclable materials from wastes (i.e. on-site sorting, separate waste containers)
6. Means to prevent comingling of wastes (i.e. labeling / signage of containers)
7. Periodic inspections of containers to ensure wastes are going into proper containers

D. POLLUTION PREVENTION MEASURES

Describe the following:

1. On site controls to be implemented to prevent pollution from waste handling
2. Storm water pollution prevention / methods to prevent contaminated runoff / (i.e. secondary containment, covering of waste containers, covering of bulk materials, berm construction, silt fence)
3. Protection of surfaces from wastes (i.e. ground covers, tarpaulins, cutting oils, sawdust, metal cuttings)
4. Timely clean-up of wastes
5. Recovery of spills of waste materials
6. Housekeeping at regular intervals (i.e. responsibilities, frequency)

E. COMMUNICATION & EDUCATION

Describe the following:

1. Education of Subcontractors on the requirements of the Waste Management Plan
2. Coordination with Subcontractors to ensure the requirements of the Waste Management Plan are implemented
3. Orientation of the project management team and work force on the requirements of the Waste Management Plan (i.e. pre-construction conference, project orientation, coordination meetings)
4. Instruction of the workforce on the labeling / identification of waste containers along with a listing of acceptable/unacceptable materials, not to comingle wastes
5. Continued communication throughout the project to reinforce the waste minimization goals and strategies

F. WASTE MANAGEMENT REPORTING

Provide the schedule for submission of the Annual and Final Waste Management Reports.

G. IDENTIFICATION AND QUANTIFYING OF WASTE STREAMS

Utilize the attached Excel spreadsheet to define each waste type, quantity, on-site handling/containerization, transportation, and disposal site to be used during this project. This table shall be updated annually, and a final version submitted upon Contract completion.

H. SUMMARY OF TRANSPORTERS, SALVAGE, RECYCLERS & DISPOSAL FACILITIES

Provide the **Company Name, Address, Contact Person, and Phone Number** for the transporters, salvage companies, recycling companies, and disposal facilities to be used on this project. Proposed transporters and disposal facilities must be on Metro-North Railroad's latest approved list.

I. ATTACHMENTS

SITE PLAN

Insert site plan identifying waste storage locations. Include size of containers to be used, and designation for each container

TRANSPORTER PERMITS

Attach copies of permits held by transporters. Transporters must be on Metro-North Railroad's latest approved list.

DISPOSAL FACILITY PERMITS

Attach copies of permits held by disposal facilities. Disposal facilities must be on Metro- North Railroad's latest approved list.

MISCELLANEOUS DOCUMENTATION

Attach copies of disposal receipts, recycling receipts, salvaged materials receipts, scale tickets, manifests, bills of lading, etc. These shall be incorporated into the plan as they become available. All shall be provided with the final submission.

SUMMARY OF SOLID WASTE DISPOSAL AND DIVERSION

Project Name:_____ Project Number:_____

Contractor Name: _____

License Number:_____ Contractor Address: _____

Solid Waste Material	**Date Material Disposed/ Diverted**	**Amount Disposed/ Diverted** (ton or cubic yard)	**Municipal Solid Waste Facility** (name, address, & phone number)	**Recycling/ Reuse Facility** (name, address, & phone number)	**Comments** (if disposed, state why not diverted)
Appliances					
Asphalt					
Cardboard					
Carpet					
Concrete					
Gypsum Drywall					
Land Clearing/Soil					
Masonry					
Metals: Ferrous					
Metals: Non-ferrous					
Mixed/Co- mingled Waste					
Plastic					
Roofing: Asphalt-based					
Roofing: EPDM					
Salvaged/Surplus Materials for Reuse					

Wood: Landclearing Debris					
Wood: Scrap Lumber					
Other:					

Signature:_____ Date: _____

PART 7 – METRO-NORTH RAILROAD ENVIRONMENTAL COMPLIANCE & SERVICES

Approved waste management consultants, disposal facilities, transporters, and laboratories.

WASTE MANAGEMENT CONSULTANTS

WTS, Inc. 435 North 2nd Street Lewiston, NY 14092 716-754-5400 **Capabilities:** Full service waste management firm supplying sampling and analysis, waste characterization, waste profile preparation, logistics, transport and disposal, and preparations of manifests and bills of lading		

DISPOSAL FACILITIES

110 Sand and Gravel 170 Cabot Street W. Babylon, NY 11980 631-694-2822 **Capabilities:** Railroad ties, non-hazardous soil	**Advanced Greentree Landfill** 635 Toby Road Kearsey, PA 15846 814-231-1744 **Capabilities:** Landfill for non-regulated material	**AERC** 2591 Mitchell Avenue Allentown, PA 18103 610-797-7608 **Capabilities:** Universal waste and mercury recycling
Bayshore Recycling Corp. 75 Crow Mills Road PO Box 290 Keasbey, NJ 08832 732-738-6000 **Capabilities:** Non-hazardous petroleum contaminated soils	**Clean Earth of Carteret, Inc.** 24 Middlesex Road Carteret, NJ 07008 215-428-1700 **Capabilities:** Non-hazardous petroleum contaminated soil	**Clean Earth of New Castle** 94 Pyles Lane New Castle, DE 19720 302-427-6633 **Capabilities:** Non-hazardous petroleum contaminated soil

Clean Earth of North Jersey 115 Jacobus Avenue S. Kearney, NJ 07032 973-344-4004 **Capabilities:** Non-hazardous petroleum contaminated soil	**Clean Earth of Philadelphia** 3201 South 61st Street Philadelphia, PA 19153 215-734-1400 **Capabilities:** Non-hazardous petroleum contaminated soil	**Clean Harbors** 761 Middle Street Bristol, CT 06010 860-583-8917 **Capabilities:** Hazardous and non-hazardous waste disposal.
Clean Harbors of Braintree Inc. 1 Hill Avenue Braintree, MA 02184 781-380-7100 **Capabilities:** Hazardous and non-hazardous waste disposal.	**Clean Harbors of Deer Park TX** 2027 Independence Pkwy South LaPorte, TX 77571 207-450-9695 **Capabilities:** Hazardous and non-hazardous waste disposal.	**Clean Harbors of El Dorado LLC** 309 American Circle Union El Dorado, AR 71730 207-450-9695 **Capabilities:** Hazardous Incineration
Clean Harbors - Spring Grove 4879 Spring Grove Avenue Cincinnati OH 45232 513-681-5738 **Capabilities:** Hazardous and non-hazardous waste disposal.	**Clean Harbors PPM LLC** 1672 E. Highland Road Twinsburg, OH 44087 330-425-3825 **Capabilities:** Hazardous and non-hazardous waste disposal.	**CWM Chemical Services** 1150 Balmer Road Model City NY 14107 716-754-8231 **Capabilities:** Hazardous and non-hazardous waste disposal. PCB landfill (soil)
Clean Water of New York 3249 Richmond Terrace P.O. Box 030312 Staten Island, NY 10303 718-981-4600 **Capabilities:** Non-hazardous waste disposal.	**Deep Green** 1106 River Road New Windsor, NY 12553 845-562-9566 **Capabilities:** Non-hazardous petroleum contaminated soil	**E-Solutions USA** 200 Engineers Road Hauppauge, NY 11788 631-234-7362 **Capabilities:** Electronic Waste
East Coast Railroad Services 42 Argenio Drive New Windsor, NY 12553 845-565-7210	**East Penn Manufacturing Co., Inc.** Deka Road Lyon Station, PA 19536 610-682-6361	**EQ Detroit** 1923 Fredrick Street Detroit, MI 48211 800-592-5489

Capabilities: Recycling of wood and concrete railroad ties	**Capabilities:** Recycling of lead acid batteries	**Capabilities:** hazardous and non-hazardous waste treatment/disposal
EQ Michigan 49350 I-94 Service Drive Bellville, MI 48111 800-592-5489 **Capabilities:** Hazardous and non-hazardous waste disposal, PCB landfill	**EQ Pennsylvania** 730 Vogelsong Road York, PA 17404 800-592-5489 **Capabilities:** Hazardous and non-hazardous waste disposal	**EQ Transfer & Processing** 2000 Ferry Street Detroit, MI 48211 800-592-5489 **Capabilities:** Hazardous and non-hazardous waste disposal
High Acres Landfill 425 Perinton Parkway Fairport, NY 14450 800-333-6590 **Capabilities:**	**INMETCO** 245 Portersville Road Ellwood City, PA 16117 412-758-551 **Capabilities:** Recycling of nickel-cadmium and nickel metal hydride batteries	**Minerva Enterprises Landfill** 8955 Minerva Road S.E. Waynesburg, OH 44688 330-866-3435 **Capabilities:** C&D, Asbestos Debris & PCB bulk product material
Modern Disposal Services, Inc. 4746 Model City Road Model City, NY 14107 716-754-8226 **Capabilities:** Non-hazardous landfill	**Salem County Landfill** 52 McKillop Road Alloway NJ 08001 **Capabilities:** non-hazardous landfill	**Stericycle - Providence** 275 Allens Avenue Providence, RI 02905 401-781-6340 **Capabilities:** Hazardous and non-hazardous waste disposal, medical waste management
Stericycle – Hatfield 2869 Sandstone Drive Hatfield, PA 19440 215-822-8995 **Capabilities:** Hazardous and non-hazardous waste disposal, medical waste management	**Tradebe Northeast LLC** 136 Gracey Avenue Meriden, CT 06451 203-238-6754 **Capabilities:** Oil/water and wastewater treatment (hazardous and non-hazardous)	**Tradebe Norlite Corporation** 628 South Saratoga Street Cohoes, NY 12047 518-235-0401 **Capabilities:** Oil/water and wastewater treatment

Tradebe Treatment & Recycling 50 Cross Street Bridgeport, CT 06610 203-334-1666 **Capabilities:** Oil/water and wastewater treatment	**TCI of Alabama** 101 Parkway East Pell City, AL 31525 518-828-9979 **Capabilities:** PCB transformer and oil management	**TCI of NY, LLC** 39 Falls Industrial Park Road Hudson, NY 12534 518-828-9979 **Capabilities:** Transformer disposal
Interstate Batteries 10 John Walsh Boulevard Peekskill, NY 10566 914-737-6681 **Capabilities:** Recycle Lead Acid Batteries		

TRANSPORTERS AND SERVICE PROVIDERS

Miller Environmental Group 169 Stone Castle Road Rock Tavern, NY 12575 1-800-394-8606 *Multiple Locations* **Capabilities:** Hazardous and non-hazardous rolloff, vacuum truck and drum transportation as well as site services and load assistance	**Moran Environmental Group** 20 Commerce Road Newtown, CT 06740 203-270-0095 **Capabilities:** Hazardous and non-hazardous rolloff, vacuum truck and drum transportation as well as site services and load assistance	
Citiwaste LLC 100-02 Farragut Road Brooklyn, NY 11236 718-372-3887	**Freehold Cartage, Inc.** 825 Highway 33 Freehold, NJ 07728 732-462-1001	**HAZMAT Environmental Group** 60 Commerce Drive Buffalo, NY 14218 716-827-7217

MEDICAL WASTE MANAGEMENT AND TRANSPORTATION

J&D Trucking 3526 NW Blvd. Vineland, NJ 08360 856-362-3959	**Page, E.T.C., Inc.** 2758 Trombley Road Weedsport, NY 13166 800-233-2126	**PARS Environmental, Inc.** 500 Horizon Drive, Suite 540 Robbinsville, NJ 08691 800-959-1119
East Coast Railroad Services 42 Argenio Drive New Windsor, NY 12553 845-565-7210	**Tradebe Transportation** 136 Gracey Avenue Meriden, CT 06451 203-238-6754	
Cuenca Coronel Trucking, Inc. 74 Academy Street Belleville, NJ 07109 973-842-8937 *MBE and DBE paperwork on file*	**Trimvirate Environmental Inc.** 200 Inner Belt Road Somerville, MA 02143 617-628-8098	**Asbestos Transportation, Inc.** 2 Moriches Middle Island Road Shirley, NY 11967 631-924-5050

LABORATORIES

York Analytical Labs 120 Research Drive Stratford, CT 06615 203-325-1371	**American Analytical Laboratories** 56 Toldeo Street Farmingdale, NY 11735 631-454-6100	**EET Essential Environmental Technologies** 208 Route 109, Suite 101 Farmingdale, NY 11735 631-249-1456

THIS PAGE INTENTIONALLY LEFT BLANK