Task 310 Plans, Specifications & Estimates
State Project No. 51-269
Federal-Aid Project No. PE:0177(001)
Reconstruction of South Main Street at
New Britain Avenue and Railroad Avenue
Farmington, Connecticut
August 22, 2017
Task 310 Plans, Specifications & Estimates
State Project No. 51-269
Federal-Aid Project No. PE:0177(001)
Reconstruction of South Main Street at New Britain Avenue and Railroad Avenue
Farmington, Connecticut
August 18, 2017

Prepared for:
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Farmington, Connecticut

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1.0 **PROJECT ENVIRONMENTAL SUMMARY**

Improvements are planned for the intersection of South Main Street and New Britain Avenue in the town of Farmington, Connecticut (Figure 1). Based upon a review of the preliminary construction plans, the construction activities will include full and partial takings of property and the installation of other improvements that could result in the disturbance of controlled material. Although a Task 110 – Corridor Study was not performed, several known potential "high risk" properties are located within the project area; therefore, a Task 210 – Subsurface Site Investigation was conducted.

The Task 210 – Subsurface Site Investigation, dated May 16, 2017, was conducted within the project limits to verify absence or presence and location of subsurface contamination, and to assess the potential pollutant soil, sediment and groundwater impacts to be encountered during excavation activities associated with the construction of the new roadway, utility and storm water conveyance modifications.

The results of the Task 210 identified two (2) low-level area of environmental concern (LLAOC) and one (1) area of environmental concern (AOEC). The LLAOC is where contaminants were detected in soil at concentrations below the applicable Connecticut Department of Energy and Environmental Protection (CTDEEP) Remediation Standard Regulation (RSR) standards, but above the laboratory detection limits. The AOEC is where contaminants were detected in soil at concentrations that exceed one or more of the applicable CTDEEP RSR criteria. The following is a summary of the areas of environmental concern identified at the project site (refer to ENV-1 for a depiction of the AOEC and LLAOCs).

- **AOEC#1** – Analytical results from the soil sample collected from GP-3 indicate a presence of leachable lead at a concentration above the GAPMC. In addition, several Polynuclear Aromatic Hydrocarbons (PAHs) were detected at low level concentrations.

- **LLAOC#1** – Analytical results from the soil sample collected from GP-4 indicate presence of low level concentrations of PAHs.

- **LLAOC#2** – Analytical results from the soil sample collected from GP-8 indicate a presence of low level concentrations of PAHs.

Groundwater was not encountered during the Task 210 subsurface investigation and is not expected to be encountered within the project limits during construction.

The CTDEEP mapping for the project area depicts the groundwater classification for the site as "GA," which indicates that the groundwater is suitable for consumption without treatment. The surrounding properties are connected to the Connecticut Water Company (CWC) public water distribution and municipal sewer system.

The project area is located within the Farmington River Basin (CTDEEP No. 4300), within the Connecticut Major Drainage Basin. The project is located approximately 120 feet south of the Farmington River. The Farmington River, near the project area, is classified by the CTDEEP as a Class "B" surface water body. Class "B" surface water has designated uses for recreation, fish and wildlife habitat, agricultural and
industrial supply, and other legitimate uses including navigation. The area is relatively flat, sloping slightly to the north toward the Farmington River. Surface water runoff from the project area likely flows to the north toward the Farmington River.
2.0 RECOMMENDED REMEDIATION METHODOLOGY

Based on the proposed construction and the results of the subsurface investigation, one AOEC has been identified where PAHs are present at concentrations that exceed the applicable CTDEEP RSR criteria, and two LLAOECs have been identified where contaminants were detected at concentrations below the applicable CTDEEP RSR criteria but above the laboratory detection limits.

The proposed remediation methodology for the AOEC and LLAOECs is controlled handling, management and disposal and/or re-use of material excavated. Excavated material from the AOEC shall be transported and stockpiled at a Waste Stockpile Area (WSA) for characterization prior to disposal and/or re-use.

Materials generated from the LLAOECs do not require special handling procedures and may be re-used within the project limits assuming:

1. Such soil is deemed to be structurally suitable for use as fill by the engineer.
2. Such soil is not placed below the water table.
3. Such soil is not placed in an area subject to erosion.

Material from the LLAOECs, which cannot be reused within the project limits, shall be transported to the WSA for characterization and off-site disposal.

All controlled materials shall be sampled and characterized for disposal and/or reuse in accordance with the contract specifications and CTDEEP RSRs.

Based on the proposed construction activities, it is anticipated that an area of approximately 2,100 square feet will be required for the WSA. The project will use an existing WSA located in Burlington, Connecticut for the project. The WSA will need to be renovated in accordance with the contract specifications.

2.1 Environmental Drawings and Specifications

The following are anticipated environmental specification sections, drawings, quantities and cost estimates:

**Drawings:**
- ENV-1 – Contaminated Soil Plan

**Specifications:**
- Notice to Contractor – Environmental Investigations
- Item No. 0101000A – Environmental Health and Safety
- Item No. 0101117A – Controlled Material Handling
- Item No. 0101128A – Securing, Construction and Dismantling of a Waste Stockpile and Treatment Area
- Item No. 0202315A – Disposal of Controlled Material
• Item No. 0202318A – Management of Reusable Controlled Material

2.2 Environmental Specification Quantities & Costs Estimates

The following table is a summary of specification quantities and costs estimates:

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Item</th>
<th>Unit</th>
<th>QTY</th>
<th>Unit Price</th>
<th>Total Cost</th>
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</tbody>
</table>

2.3 Health and Safety Requirements

Based on the results of the environmental investigations, proposed construction activities will pose a low to moderate risk of harm to site construction workers, inspectors and downwind receptors from exposure to environmental contaminants through inhalation of vapors or dust, dermal contact or ingestion. A site specific health and safety plan (HASP) shall be implemented to address the relative risks of exposure to documented hazards present within the AOEC and LLAOECs. The HASP shall establish health and safety protocols to address the environmental concerns directly related to site conditions and in accordance with applicable Federal and State regulations and the contract specifications.

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APPENDIX A

ENVIRONMENTAL SPECIFICATIONS
ITEM # 0101000A - ENVIRONMENTAL HEALTH AND SAFETY

Description:

Under this item, the Contractor shall establish protocols and provide procedures to protect the health and safety of its employees and subcontractors as related to the proposed construction activities performed within the Project Limits. Work under this Item consists of the development and implementation of a HASP that addresses the relative risk of exposure to potential hazards present within the Project limits, including those related to soil excavation and handling/removal of contaminated railroad ties. This also includes possible entry into confined spaces or excavations with the potential for vapors to accumulate. In addition to the former stated risks, the HASP must also address the associated risks with the excavation and handling of contaminated soil. The HASP shall establish health and safety protocols that address the relative risk of exposure to regulated substances in accordance with 29 CFR 1910.120 and 29 CFR 1926.65. Such protocols shall only address those potential concerns directly related to site conditions.

Note: The Engineer will prepare a site-specific HASP, which is compatible with the Contractor’s HASP.

Materials:

The Contractor must provide chemical protective clothing (CPC) and personal protective equipment (PPE) as stipulated in the Contractor’s HASP during the performance of work in areas identified as potentially posing a risk to worker health and safety for workers employed by the Contractor and all subcontractors.

Construction Methods:

1. Existing Information

The Contractor shall utilize all available information and existing records and data pertaining to chemical and physical hazards associated with any of the regulated substances identified in the environmental site investigation to develop the HASP. The documents containing this data are referenced in “Notice to Contractor – Environmental Investigations.” Note that as indicated in the Notice to Contractor for this project, the chemical data obtained at this site indicates impacts to soil or groundwater within the Project limits and may also represent soil impacts surrounding the USTs subject for removal.

2. General

The requirements set forth herein pertain to the provision of workers’ health and safety as it relates to proposed Project activities when performed in the presence of hazardous or regulated materials or otherwise environmentally sensitive conditions. THE PROVISION
OF WORKER HEALTH AND SAFETY PROTOCOLS WHICH ADDRESS POTENTIAL AND/OR ACTUAL RISK OF EXPOSURE TO SITE SPECIFIC HAZARDS POSED TO CONTRACTOR EMPLOYEES IS SOLELY THE RESPONSIBILITY OF THE CONTRACTOR.

The Contractor shall be responsible for the development, implementation and oversight of the HASP throughout the performance of work within the limits of the Project, as identified in the Contract Documents, and in other areas identified by the Engineer or by the HASP where site conditions may pose a risk to worker health and safety and/or the environment. **No physical aspects of the work on the Project shall begin until the HASP is reviewed by the Engineer and is determined to meet the requirements of the specifications. However, the Contract time, in accordance with Article 1.03.08, will begin on the date stipulated in the Notice to Proceed.**

3. Regulatory Requirements

All construction related activities performed by the Contractor within the limits of the Project or in other areas where site conditions may pose a risk to worker health and safety and/or the environment shall be performed in conformance with 29 CFR 1926, Safety and Health Regulations for Construction and 29 CFR 1910, Safety and Health Regulations for General Industry. Conformance to 29 CFR 1910.120, Hazardous Waste Site Operations and Emergency Response (HAZWOPER) may also be required, where appropriate.

4. Submittals

Three copies of the HASP shall be submitted to the Engineer within four (4) weeks after the Award of Contract or four (4) weeks prior to the start of any work on the Project, whichever is first, but not before the Award of the Contract.

The HASP shall be developed by a qualified person designated by the Contractor. This qualified person shall be a Certified Industrial Hygienist (CIH), Certified Hazardous Material Manager (CHMM), or a Certified Safety Professional (CSP). He/she shall have review and approval authority over the HASP and be identified as the Health and Safety Manager (HSM). The HASP shall bear the signature of said HSM indicating that the HASP meets the minimum requirements of 29 CFR 1910.120 and 29 CFR 1926.65.

The Engineer will review the HASP within four (4) weeks of submittal and provide written comments as to deficiencies in and/or exceptions to the plan, if any, to assure consistency with the specifications, applicable standards, policies and practices and appropriateness given potential or known site conditions. Items identified in the HASP which do not conform to the specifications will be brought to the attention of the Contractor, and the Contractor shall revise the HASP to correct the deficiencies and resubmit it to the Engineer for determination of compliance with this item. The Contractor shall not be allowed to commence work activities on the Project, as shown on the Plans, or where site conditions exist which may pose a risk to worker health and safety and/or the environment, until the HASP has been
reviewed and accepted by the Engineer. **No claim for delay in the progress of work will be considered for the Contractor’s failure to submit a HASP that conforms to the requirements of the Contract.**

5. **HASP Provisions**

1. **General Requirements**

The Contractor shall prepare a HASP covering all Project site work regulated by 29 CFR 1910.120(b)/1926.65(b) to be performed by the Contractor and all subcontractors under this Contract. The HASP shall establish in detail, the protocols necessary for the recognition, evaluation, and control of all hazards associated with each task performed under this Contract. The HASP shall address site-specific safety and health hazards of each phase of site operation and include the requirements and procedures for employee protection. The level of detail provided in the HASP shall be tailored to the type of work, complexity of operations to be performed, and hazards anticipated. Details about some activities may not be available when the initial HASP is prepared and submitted. Therefore, the HASP shall address, in as much detail as possible, all anticipated tasks, their related hazards and anticipated control measures.

The HASP shall interface with the Contractor’s Safety and Health Program. Any portions of the Safety and Health Program that are referenced in the HASP shall be included as appendices to the HASP. All topics regulated by the 29 CFR 1910.120(b)(4) and those listed below shall be addressed in the HASP. Where the use of a specific topic is not applicable to the Project, the HASP shall include a statement to justify its omission or reduced level of detail and establish that adequate consideration was given the topic.

2. **Elements**

   a. **Site Description and Contamination Characterization**

      The Contractor shall provide a site description and contaminant characterization in the HASP that meets the requirements of 29 CFR 1910.120/1926.65.

   b. **Safety and Health Risk Analysis/Activity Hazard Analysis**

      The HASP shall address the safety and health hazards on this site for every operation to be performed. The Contractor shall review existing records and data to identify potential chemical and physical hazards associated with the site and shall evaluate their impact on field operations. Sources, concentrations (if known), potential exposure pathways, and other factors as noted in CFR 1910.120/126.65, paragraph (c)(7) employed to assess risk shall be described. The Contractor shall develop and justify action levels for implementation of engineering controls and PPE upgrades and downgrades for controlling worker exposure to the identified hazards. If there is
no permissible exposure limit (PEL) or published exposure level for an identified hazard, available information from other published studies may be used as guidance. Any modification of an established PEL must be fully documented.

The HASP shall include a comprehensive section that discusses the tasks and objectives of the site operations and logistics and resources required to complete each task. The hazards associated with each task shall be identified. Hazard prevention techniques, procedures and/or equipment shall be identified to mitigate each of the hazards identified.

c. Staff Organization, Qualifications and Responsibilities

The HASP shall include a list of personnel expected to be engaged in site activities and certify that said personnel have completed the educational requirements stipulated in 29 CFR 1910.120 and 29 CFR 1926.65, are currently monitored under a medical surveillance program in compliance with those regulations, and that they are fit for work under “Level C” conditions.

The Contractor shall assign responsibilities for safety activities and procedures. An outline or flow chart of the safety chain of command shall be provided in the HASP. Qualifications, including education, experience, certifications, and training in safety and health for all personnel engaged in safety and health functions shall be documented in the HASP. Specific duties of each on-site team member should be identified. Typical team members include but are not limited to Team Leader, Scientific Advisor, Site Safety Officer, Public Information Officer, Security Officer, Record Keeper, Financial Officer, Field Team Leader, and Field Team members.

The HASP shall also include the name and qualifications of the individual proposed to serve as Health and Safety Officer (HSO). The HSO shall have full authority to carry out and ensure compliance with the HASP. The Contractor shall provide a competent HSO onsite who is capable of identifying existing and potential hazards in the surroundings or working conditions which are unsanitary, hazardous or dangerous to employees and who has authorization to take prompt corrective measures to eliminate or control them. The qualifications of the HSO shall include completion of OSHA 40-hour HAZWOPER training, including current 8-hour refresher training, and 8-hour HAZWOPER supervisory training; a minimum of one year of working experience with the regulated compounds that have been documented to exist within Project limits; a working knowledge of federal and state safety regulations; specialized training or documented experience (one year minimum) in personal and respiratory protective equipment program implementation; the proper use of air monitoring instruments, air sampling methods and procedures; and certification training in first aid and CPR by a recognized, approved organization such as the American Red Cross.
The primary duties of the HSO shall be those associated with worker health and safety. The Contractor’s HSO responsibilities shall be detailed in the written HASP and shall include, but not be limited to the following:

i. Directing and implementing the HASP.

ii. Ensuring that all Project personnel have been adequately trained in the recognition and avoidance of unsafe conditions and the regulations applicable to the work environment to control or eliminate any hazards or other exposure to illness or injury (29 CFR 1926.21). All personnel shall be adequately trained in procedures outlined in the Contractor’s written HASP.

iii. Authorizing Stop Work Orders, which shall be executed upon the determination of an imminent health and safety concern.

iv. Contacting the Contractor’s HSM and the Engineer immediately upon the issuance of a Stop Work order when the HSO has made the determination of an imminent health and safety concern.

v. Authorizing work to resume, upon approval from the Contractor’s HSM.

vi. Directing activities, as defined in the Contractor’s written HASP, during emergency situations; and

vii. Providing personal monitoring where applicable, and as identified in the HASP.

d. Employee Training Assignments

The Contractor shall develop a training program to inform employees, supplier’s representatives, and official visitors of the special hazards and procedures (including PPE, its uses and inspections) to control these hazards during field operations. Official visitors include but are not limited to, Federal Agency Representatives, State Agency Representatives, Municipal Agency Representatives, Contractors, subcontractors, etc. This program shall be consistent with the requirements of 29 CFR 1910.120 and 29 CFR 1926.65.

e. Personal Protective Equipment

The plan shall include the requirements and procedures for employee protection and should include a detailed section on respiratory protection. The Contractor shall describe in detail and provide appropriate PPE to insure that workers are not exposed to levels greater than the action level for identified hazards for each operation stated for each work zone. The level of protection shall be specific for each operation and shall be in compliance with all requirements of 29 CFR 1910 and 29 CFR 1926. The Contractor shall provide, maintain, and properly dispose of all PPE.
f. Medical Surveillance Program

All on-site Contractor personnel engaged in 29 CFR 1910.120/1926.65 operations shall have medical examinations meeting the requirements of 29 CFR 1910.120(f) prior to commencement of work.

The HASP shall include certification of medical evaluation and clearance by the physician for each employee engaged in 29 CFR 1910.120/1926.65 operations at the site.

g. Exposure Monitoring / Air Sampling Program

The Contractor shall submit an Air Monitoring Plan as part of the HASP, which is consistent with 29 CFR 1910.120, paragraphs (b)(4)(ii)(E), (c)(6), and (h). The Contractor shall identify specific air sampling equipment, locations, and frequencies in the air-monitoring plan. Air and exposure monitoring requirements shall be specified in the Contractor’s HASP. The Contractor’s CIH shall specify exposure monitoring/air sampling requirements after a careful review of the contaminants of concern and planned site activities.

h. Site Layout and Control

The HASP shall include a map, work zone delineation (support, contamination, reduction and exclusion), on/off-site communications, site access controls, and security (physical and procedural).

i. Communications

Written procedures for routine and emergency communications procedures shall be included in the Contractor’s HASP.

j. Personal Hygiene, Personal Decontamination and Equipment Decontamination

Decontamination facilities and procedures for PPE, sampling equipment, and heavy equipment shall be discussed in detail in the HASP.

k. Emergency Equipment and First Aid Requirements

The Contractor shall provide appropriate emergency first aid kits and equipment suitable to treat exposure to the hazards identified, including chemical agents. The Contractor will provide personnel that have certified first aid/CPR training onsite at all times during site operations.
l. Emergency Response Plan and Spill Containment Program

The Contractor shall establish procedures in order to take emergency action in the event of immediate hazards (i.e., a chemical agent leak or spill, fire or personal injury). Personnel and facilities supplying support in emergency procedures will be identified. The emergency equipment to be present on-site and the Emergency Response Plan procedures, as required 29 CFR 1910.120, paragraph (1)(1)(ii) shall be specified in the Emergency Response Plan. The Emergency Response Plan shall be included as part of the HASP. This Emergency Response Plan shall include written directions to the closest hospital as well as a map showing the route to the hospital.

m. Logs, Reports and Record Keeping

The Contractor shall maintain safety inspections, logs, and reports, accident/incident reports, medical certifications, training logs, monitoring results, etc. All exposure and medical monitoring records are to be maintained according to 29 CFR 1910 and 29 CFR 1926. The format of these logs and reports shall be developed by the Contractor to include training logs, daily logs, weekly reports, safety meetings, medical surveillance records, and a phase-out report. These logs, records, and reports shall be maintained by the Contractor and be made available to the Engineer.

The Contractor shall immediately notify the Engineer of any accident/incident. Within two working days of any reportable accident, the Contractor shall complete and submit to the Engineer an accident report.

n. Confined Space Entry Procedures

Confined space entry procedures, both permit required and non permit required, shall be discussed in detail.

o. Pre-Entry Briefings

The HASP shall provide for pre-entry briefings to be held prior to initiating any site activity and at such other times as necessary to ensure that employees are apprised of the HASP and that this plan in being followed.

p. Inspections/Audits

The HSM or HSO shall conduct Inspections or audits to determine the effectiveness of the HASP. The Contractor shall correct any deficiencies in the effectiveness of the HASP.
6. HASP Implementation

The Contractor shall implement and maintain the HASP throughout the performance of work. In areas identified as having a potential risk to worker health and safety, and in any other areas deemed appropriate by the HSO, the Contractor shall be prepared to immediately implement the appropriate health and safety measures, including but not limited to the use of PPE, and engineering and administrative controls.

If the Engineer observes deficiencies in the Contractor’s operations with respect to the HASP, they shall be assembled in a written field directive and given to the Contractor. The Contractor shall immediately correct the deficiencies and respond, in writing, as to how each was corrected. Failure to bring the work area(s) and implementation procedures into compliance will result in a Stop Work Order and a written directive to discuss an appropriate resolution(s) to the matter. When the Contractor demonstrates compliance, the Engineer shall remove the Stop Work Order. If a Stop Work Order has been issued for cause, no delay claims on the part of the Contractor will be honored.

Disposable CPC/PPE (i.e. disposable coveralls, gloves, etc.) which come in direct contact with hazardous or potentially hazardous material shall be placed into 55 gallon USDOT 17-H drums and disposed of in accordance with federal, state, and local regulations. The drums shall be temporarily staged and secured within the WSA until the material is appropriately disposed.

7. HASP Revisions

The HASP shall be maintained onsite by the Contractor and shall be kept current with construction activities and site conditions under this Contract. The HASP shall be recognized as a flexible document which shall be subject to revisions and amendments, as required, in response to actual site conditions, changes in work methods and/or alterations in the relative risk present. All changes and modifications shall be signed by the Contractor’s HSM and shall require the review and acceptance by the Engineer prior to the implementation of such changes.

Should any unforeseen hazard become evident during the performance of the work, the HSO shall bring such hazard to the attention of the Contractor and the Engineer as soon as possible. In the interim, the Contractor shall take action, including Stop Work Orders and/or upgrading PPE as necessary to re-establish and maintain safe working conditions and to safeguard on-site personnel, visitors, the public and the environment. The HASP shall then be revised/amended to reflect the changed condition.

Method of Measurement:

1. Within thirty (30) calendar days of the award of the Contract, the Contractor shall submit to the Engineer for acceptance a breakdown of its lump sum bid price for this item detailing:
a) The development costs associated with preparing the HASP in accordance with these Specifications.

b) The cost per month for the duration of the Project to implement the HASP and provide the services of the HSM and the HSO.

2. If the lump sum bid price breakdown is unacceptable to the Engineer, substantiation showing that the submitted costs are reasonable shall be required.

3. Upon acceptance of the payment schedule by the Engineer, payments for work performed will be made as follows:

   a) The lump sum development cost will be certified for payment.

   b) The Contractor shall demonstrate to the Engineer monthly that the HASP has been kept current and is being implemented and the monthly cost will be certified for payment.

   c) Any month where the HASP is found not to be current or is not being implemented, the monthly payment for the Environmental Health and Safety Item shall be deferred to the next monthly payment estimate. If the HASP is not current or being implemented for more than thirty calendar days, there will be no monthly payment.

   d) Failure of the Contractor to implement the HASP in accordance with this Specification shall result in the withholding of all Contract payments.

**Basis of Payment:**

This work will be paid for at the Contract lump sum price for “ENVIRONMENTAL HEALTH AND SAFETY” which shall include all materials, tools, equipment and labor incidental to the completion of this item for the duration of the Project to maintain, revise, monitor and implement the HASP. Such costs include providing the services of the HSM and HSO, Contractor employee training, CPC, PPE, disposal of PPE and CPC, medical surveillance, decontamination facilities, engineering controls, monitoring and all other HASP protocols and procedures established to protect the Health and Safety for all on-site workers.

<table>
<thead>
<tr>
<th>Pay Item</th>
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<tr>
<td>Environmental Health and Safety</td>
<td>Lump Sum</td>
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ITEM NO. 0101117A - CONTROLLED MATERIALS HANDLING

Description:

Work under this Item is intended to provide specific operational and maintenance requirements at the existing waste stockpile area (WSA) located off Route 4, in Burlington, as designated on the Project Plan (ENV-02) and in accordance with Contract Documents. In addition, there are procedural requirements that the Contractor is to follow during the excavation of Controlled Materials from: (1) Area of Environmental Concern (AOEC); or (2) addressing surplus material excavated from the Low-Level AOEC (LLAOEC) that cannot be reused with the Project Limits.

This supplements all Specification Items that involve excavation and Contract Special Provisions for excavation wherever contaminated materials are encountered. All materials, excluding the existing pavement structure (asphalt and subbase), rock, ledge, miscellaneous debris, utilities, structures, and concrete, excavated within the AOEC or surplus excavated material from the LLAOEC that cannot be reused within the Project Limits are to be considered Controlled Materials. If the vertical limits of the existing subbase cannot be determined visually, subbase will be presumed to extend 12 inches below the bottom of the existing pavement. Work under this item shall include repair, replacement, and/or resetting of construction blocks, damaged asphalt, the existing anti-tracking pads and chain link fence and gate(s); cleaning of any existing catch basin(s) and pipes(s) at the WSA; stockpiling of the excavated materials at the WSA, and covering, securing, and maintaining the stockpiled materials throughout the duration of the Project.

Controlled Materials consisting of non-hazardous levels of regulated substances have been documented to exist within the Project Limits. Such contamination is documented in the reports listed in the “Notice to Contractor – Environmental Investigations”. Where contaminated soils are excavated, such soil will not be reusable as backfill, unless authorized by the Engineer in writing, and will require special handling, disposal, and documentation procedures.

Materials:

The required materials are detailed on the Project Plans. All materials shall conform to the requirements of the Contract.

Anti-tracking pad shall conform to the requirements of Item #210100.

Bituminous concrete pad shall conform to Section 4.06.02 of the Specifications.

Construction blocks shall be solid precast rectangular concrete 6 feet meters in length, 3 feet in height, and 2 feet in width.

Chain link fence and gate shall conform to Section 9.13 of the Specifications.
Hay bales shall confirm to the requirements of Section 2.18.02 of the Specifications.

Polyethylene plastic sheeting for underlayment shall be at least 30 mil thick. Polyethylene plastic sheeting for covering excavated material shall be a thickness of 10 mil. Both shall be at least 10 feet wide.

Roll-off/Storage containers shall be of watertight, steel-body construction, of the size specified and able to handle the storage and subsequent transportation of material to the disposal facility.

Covers for roll-off/storage containers shall be made of polyethylene plastic, or similar water-tight material, that is of sufficient size to completely cover top opening and can be securely fastened to the container.

Sandbags used to secure polyethylene covers shall be at least 30 pounds.

Bedding sand shall conform to Section 6.51.02 of the Specifications.

Construction sign shall conform to Section 12.20 of the Specifications.

Sorbent boom shall be 8 inches in diameter and 10 feet long and possess petrophilic and hydrophilic properties. Sorbent booms shall also have devices (i.e. clips, clasps, etc.) for connection to additional lengths of boom.

**Construction Methods:**

**A. General**

When Controlled Materials are encountered during the course of the work, health and safety provisions shall conform to the appropriate sections of the Contract. Provisions may include implementation of engineering controls, air and personal monitoring, the use of chemical protective clothing (CPC), personal protective equipment (PPE), and decontamination procedures.

Unless otherwise directed by the Engineer, materials removed from the excavation within the AOECs shall be transported directly from their point of origin on the Project to the WSA. The stockpiles of excavated Controlled Materials shall be maintained as shown on the Project Plans. The Contractor shall plan excavation activities within the AOECs in consideration of the capacity of the WSA and the material testing and disposal requirements of the applicable Contract item. **No claims for delay shall be considered based on the Contractor’s failure to coordinate excavation activities as specified herein.**

Controlled material excavated from the LLAOEC’s, if suitable, may be reused on-site in accordance with the following conditions: (1) such soil is deemed to be structurally suitable as fill by the Engineer; (2) such soil is not placed below the water table; (3) the CTDEEP groundwater classification of the area where the soil is to be reused as fill does not preclude said
use; and (4) such soil is not placed in an area subject to erosion. In the event that this material cannot be reused on-site or is excess material, it shall be transported to the WSA, characterized, and transported to a suitable treatment/recycling/disposal facility.

The Engineer will sample the stockpiled Controlled Materials at a frequency and for the constituents to meet the acceptance criteria of the treatment/recycling/disposal facilities submitted by the Contractor. The Contractor is hereby notified that laboratory turnaround time is expected to be fifteen (15) working days. Turnaround time is the period of time beginning when the Contractor notifies the Engineer, which facility it intends to use and that the stockpile is ready for sampling, and ending with the Contractor’s receipt of the laboratory analytical results. Any change of intended treatment/recycling/disposal facility may prompt the need to resample and will therefore restart the time required for laboratory turnaround. The laboratory will furnish such results to the Engineer. Upon receipt, the Engineer will make available to the Contractor the results of the final waste characterization determinations. No delay claim will be considered based upon the Contractor’s failure to accommodate the laboratory turnaround time as identified above.

B. Transportation and Stockpiling

In addition to following all pertinent federal, state, and local laws or regulatory agency policies, the Contractor shall adhere to the following precautions during transport of non-hazardous materials:

1. Transported Controlled Materials are to be covered prior to leaving the point of generation and are to remain covered until the arrival at the WSA;

2. All vehicles departing the site are properly logged to show the vehicle identification, driver’s name, time of departure, destination, and approximate volume and content of materials carried;

3. All vehicles shall have secure, watertight containers free of defects for material transportation;

4. No material shall leave the site until there is adequate lay down area prepared in the WSA; and,

5. Documentation must be maintained indicating that all applicable laws have been satisfied and that the materials have been successfully transported and received at the WSA.

All repairs to and re-establishment of the existing WSA, including anti-tracking pads, fence and placement of concrete blocks shall be completed and approved by the Engineer prior to the initiation of construction activities generating Controlled Materials. Polyethylene sheeting and other measures shall be implemented to divert rainfall away from the WSA.
No Controlled Materials shall be excavated or transported to the WSA until registration under the “General Permit for Contaminated Soil and/or Sediment Management (Staging and Transfer)” has been obtained by the Connecticut Department of Transportation (ConnDOT).

Placement of sorbent boom along the perimeter of the WSA shall be conducted when soil is saturated with petroleum product.

Excavated materials shall be staged as shown on the Project Plans or as directed by the Engineer.

C. WSA Maintenance

The Contractor shall provide all necessary materials, equipment, tools and labor for anticipated activities within the WSA. Such activities include, but are not limited to, handling and management of stockpiles and drummed CPC/PPE; uncovering and recovering stockpiles; maintenance of WSA; replacement of damaged components (i.e. sand bags, plastic polyethylene sheeting, construction blocks, chain link fence and gate, etc.); and waste inventory record management. The Contractor shall manage all materials in the WSA in such a way as to minimize tracking of potential contaminated materials across the site and off-site, and minimize dust generation.

Each stockpile shall be securely covered when not in active use with a cover of sufficient size to prevent generation of dust and infiltration of precipitation. The cover shall be maintained, as necessary, to prevent wind erosion.

The staged stockpiles shall be inspected at least daily by the Contractor to ensure that the cover and containment have not been damaged and that there is no apparent leakage from the pile. If the plastic cover has been damaged, or there is evidence of leakage from the piles, the Contractor shall immediately replace the cover or containment as needed to prevent the release of materials to the environment from the piles.

An inventory of stockpiled materials and drummed CPC/PPE shall be conducted on a daily basis. Inventory records shall indicate the approximate volume of material/drums stockpiled per day; the approximate volume of material/drums stockpiled to date; material/drums loaded and transported off-site for disposal; any materials loaded and transported for on-site reuse; and identification of stockpiles relative to their points of generation.

Following the removal of all stockpiled Controlled Materials, residuals shall be removed from surfaces of the WSA as directed by the Engineer. This operation shall be accomplished using dry methods such as shovels, brooms, mechanical sweepers or a combination thereof. Residuals shall be disposed of as Controlled Materials. If the results from dry methods are unsatisfactory to the Engineer, the Contractor shall modify decontamination procedures as required.

D. Dewatering

Dewatering activities are not expected as part of this project.
E. Decontamination

All equipment shall be provided to the work site free of contamination. The Engineer may prohibit from the site any equipment that in his opinion has not been thoroughly decontaminated prior to arrival. Any decontamination of the Contractor’s equipment prior to arrival at the site shall be at the expense of the Contractor. The Contractor is prohibited from decontaminating equipment on the Project that has not been thoroughly decontaminated prior to arrival.

The Contractor shall furnish labor, materials, tools, and equipment for decontamination of all equipment and supplies that are used to handle Controlled Materials. Decontamination shall be conducted at an area designated by the Engineer and may be required prior to equipment and supplies leaving the Project, between stages of the work, or between work in the AOECs or LLAOEC’s.

Dry decontamination procedures are recommended. Residuals from dry decontamination activities shall be collected and managed as Controlled Materials. If dry methods are unsatisfactory as determined by the Engineer, the Contractor shall modify decontamination procedures as required subject to the Engineer’s approval.

F. Dust Control

The Contractor shall implement a fugitive dust suppression program in accordance with the Contract to prevent the off-site migration of particulate matter and/or dust resulting from excavation, loading, and operations associated with Controlled Materials. It shall be the Contractor’s responsibility to supervise fugitive dust control measures and to monitor airborne particulate matter and included herein at no additional cost to the State. The Contractor shall:

1. Employ reasonable fugitive dust suppression techniques.

2. Visually observe the amounts of particulate and/or fugitive dust generated during the handling of Controlled Materials. If the apparent amount of fugitive dust and/or particulate matter is not acceptable to the Engineer, the Engineer may direct the Contractor to implement corrective measures at his discretion, including, but not limited to, the following:
   a. Apply water to pavement surfaces;
   b. Apply water to equipment and excavation faces; and
   c. Apply water during excavation, loading, and dumping.

G. Permit Compliance
The Contractor shall comply with the terms and conditions of the Connecticut Department of Energy and Environmental Protection (CTDEEP) “General Permit for Contaminated Soil and/or Sediment Management (Staging and Transfer)”, including the General Operating Conditions and the Specific Operating Conditions, except that the Engineer will conduct all soil/sediment characterization and perform all record keeping. In particular, the Contractor shall:

1. Construct, operate, maintain, and repair the WSA in conformance with the requirements of the General Permit.

2. Maintain a communications system capable of summoning fire, police, and/or other emergency service personnel.

3. Prevent unauthorized entry onto the stockpiles by the use of fences, gates, or other natural or artificial barriers.

4. Separate incidental excavation waste to the satisfaction of the receiving facility or to an extent that renders the contaminated soil and/or sediment suitable for its intended reuse.

5. Isolate and temporarily store incidental waste in a safe manner prior to off-site transport to a facility lawfully authorized to accept such waste.

6. Not store more that 100 cubic yards of incidental waste at any one time.

7. Sort, separate, and isolate all hazardous waste from contaminated soil and/or sediment.

8. Prevent or minimize the transfer or infiltration of contaminants from the stockpiles to the ground as detailed in “B. Transportation and Stockpiling” above.

9. Securely cover each stockpile of soil as detailed in “C. WSA Maintenance” above.

10. Minimize wind erosion and dust transport as detailed in “F. Dust Control” above.

11. Use anti-tracking measures at the WSA to ensure the vehicles do not track soil from the WSA onto a public roadway at any time.

12. Instruct the transporters of contaminated soil and/or sediment of best management practices for the transportation of such soil (properly covered loads, removing loose material from dump body, etc.).

13. Control all traffic related to the operation of the facility in such a way as to mitigate the queuing of vehicles off-site and excessive or unsafe traffic impact in the area where the facility is located.
14. Ensure that except as allowed in section 22a-174-18(b)(3)(C) of the Regulations of Connecticut State Agencies, trucks are not left idling for more than three (3) consecutive minutes.

Method of Measurement:

The work of “CONTROLLED MATERIAL HANDLING” will be measured for payment by the number of cubic yards of Controlled Material excavated within AOEC and surplus of excavated material from the LLAOECs taken to the WSA. This measurement shall be in accordance with and in addition to the quantity measured for payment of the applicable excavation item in Specification Sections 2.02, 2.03, 2.05, 2.06, or the Contract Special Provisions, as applicable. Excess excavations made by the Contractor beyond the payment limits specified in the Contract will not be measured for payment and the Contractor assumes all costs associated with the appropriate handling, management and disposal of this material.

The repair, replacement, and resetting of construction blocks, damaged asphalt, existing anti-tracking pads, and chain link fence and gates(s); and the cleaning of the existing catch basin (s) and pipe(s) will not be measured separately for payment.

Equipment decontamination, the collection of residuals, and the collection and disposal of liquids generated during equipment decontamination activities will not be measured separately for payment.

Basis of Payment:

This work shall be paid for at the Contract unit price, which shall include all materials, tools, labor, equipment, permits, and work needed to repair or replace construction blocks, damaged asphalt, existing anti-track pads, and chain link fence and gate(s); clean the existing catch basin(s) and pipe(s); install and maintain the construction sign; temporary stockpiling of Controlled Materials at the WSA; covering, securing, and maintaining the individual stockpiles within the WSA throughout the duration of the Project, and shall include site cleanup and abandonment.

This price shall also include equipment decontamination; the collection of residuals generated during decontamination and placement of such material in the WSA; and the collection and disposal of liquids generated during equipment decontamination activities.

All materials, tools, labor, and equipment associated with compliance with the “General Permit for Contaminated Soil and/or Sediment Management (Staging and Transfer)” will not be measured separately, but will be considered incidental to Item No. 0101117A, “Controlled Materials Handling”.

Handling and disposal of contaminated groundwater is not anticipated for this Project.

Payment for dust control activities shall be made under the appropriate Contract items.
<table>
<thead>
<tr>
<th>Pay Item</th>
<th>Pay Unit</th>
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<tbody>
<tr>
<td>Controlled Materials Handling</td>
<td>C.Y.</td>
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</tbody>
</table>
ITEM NO. 101128A - SECURING, CONSTRUCTION AND DISMANTLING OF A WASTE STOCKPILE AND TREATMENT AREA

Description:
Work under this Item shall consist of the securing, construction and dismantling of the temporary Waste Stockpile Area at the location designated on the Project Plans and in accordance with the Contract. All controlled materials excavated during construction activities shall be stockpiled in the WSA. The WSA shown on the Plans is to be used exclusively for temporary stockpiling of excavated materials from within Project AOEC or excess material from the LLAOECs for determination of disposal classification.

Materials:
The required materials are detailed on the Project Plans. All materials shall conform to the requirements of the Contract.

Construction blocks shall be solid precast rectangular concrete six feet in length, three in height, and two feet in depth.

Polyethylene plastic sheeting for underlayment shall be a thickness of 30 mil and minimum width of ten feet.

Sand bags used to secure polyethylene sheeting soil covers shall have a minimum weight of thirty pounds.

Bedding sand shall conform to Section 6.51.02 of the Specifications.

Processed Aggregate Base shall conform to Section 3.04 of the Specifications.

Hay bales shall conform to the requirements of Section 2.18 of the Specifications.

Bituminous Concrete shall conform to Section 4.06 of the Specifications.

Roll-off/Storage Containers shall be of watertight, steel-body construction, of the size specified and able to handle the storage and subsequent transportation of material to the disposal facility.

Precast Concrete Barrier Curb shall conform to Section 8.22 of the Specifications.
Construction Methods:

The existing WSA will be renovated prior to the initiation of construction activities generating Controlled Materials. The Contractor is responsible for the maintenance and protection of all utilities potentially affected during WSA renovation. The Contractor shall locate and mark all existing utilities potentially affected prior to initiating WSA renovation.

The WSA shall be cleared of any debris and vegetation as directed by the Engineer. Any objectionable materials, which may result in damage to the polyethylene sheeting underlayment, shall be removed prior to stockpiling excavated controlled materials.

The Contractor shall comply with the terms and conditions of the CTDEEP “General Permit for Contaminated Soil and/or Sediment Management (Staging and Transfer)”, including the General Operating Conditions and the Specific Operating Conditions, except that the Engineer will conduct all soil/sediment characterization and perform all record keeping. In particular, the Contractor shall:

1. Construct and repair the WSA in conformance with the requirements of the General Permit.
2. Prevent unauthorized entry onto the stockpiles by the use of fences, gates, or other natural or artificial barriers.
3. Install anti-tracking measures at the WSA to ensure the vehicles do not track soil from the WSA onto a public roadway at any time.
4. Post and maintain a sign that is visible from a distance of at least 25’ at the WSA identifying the name of the permittee (State of CT, Department of Transportation), the DOT field office phone number, the hours of operation for the WSA, and the phrase, “Temporary Soil Staging Area”. Lettering shall be at least one inch (1”) high with a minimum overall sign dimension of four (4) feet wide by two (2) feet high. Such sign is only required if the capacity of the WSA is equal to or greater than 1,000 cubic yards. If initially the WSA capacity is less than 1,000 c.y. and the WSA capacity is subsequently increased, the Contractor shall post and maintain the required sign at no additional cost to the State, prior to stockpiling the additional material.

Following the removal of all stockpiled material, the Contractor shall use dry decontamination procedures for all surfaces of the WSA as directed by the Engineer. Residual materials shall be disposed of as Controlled Materials. If the results from dry methods are unsatisfactory to the Engineer, the Contractor shall modify decontamination procedures as required.

The Contractor shall be responsible for the collection and treatment/recycling/disposal of any liquid wastes that may be generated by its decontamination activities in accordance with applicable regulations.

Upon completion of the Project and following removal of all residual Controlled Materials, the Contractor shall return the area to original condition. The Contractor shall remove all materials
such as polyethylene sheeting and sand bags. Materials shall be disposed of by the Contractor as solid waste in accordance with the Contract and all Federal, State and local regulations.

Operation and maintenance of the WSA shall be included under Item 101117A “Controlled Material Handling”.

**Method of Measurement:**

This work will be measured for payment at the Lump Sum cost for securing, construction, and dismantling of a WSA.

**Basis of Payment:**

This work will be paid for at the Contract Lump Sum, which shall include all materials, tools, labor, equipment, permits, and work needed to secure, construct, decontaminate and dismantle the WSA, including all clearing, grubbing, grading, clean up, site restoration and seeding.

All materials, labor and equipment associated with compliance with the General Permit for Contaminated Soil and/or Sediment Management (Staging and Transfer) will not be measured separately, but will be considered incidental to the item “Securing, Construction and Dismantling of a Waste Stockpile and Treatment Area”.

<table>
<thead>
<tr>
<th>Pay Item</th>
<th>Pay Unit</th>
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<tbody>
<tr>
<td>Securing, Construction and Dismantling Of a Waste Stockpile and Treatment Area</td>
<td>L.S.</td>
</tr>
</tbody>
</table>
ITEM NO. 0202315A - DISPOSAL OF CONTROLLED MATERIALS

Description:

Work under this item shall consist of the loading, transportation and final off-site disposal/recycling/treatment of controlled materials (excluding dewatering fluids) that have been generated from various excavations within the AOEC or excess materials from the LLAOECs, brought to the WSA and determined to be contaminated with regulated substances at non-hazardous levels. This contamination is documented in the reports listed in the “Notice to Contractor – Environmental Investigations”. The controlled materials, after proper characterization by the Engineer, shall be taken from the WSA, loaded, transported to and treated/recycled/disposed of at a permitted treatment/recycle/disposal facility listed herein.

The Contractor must use one or more of the following Department-approved treatment/recycle/disposal facilities for the disposal of non-hazardous materials:

<table>
<thead>
<tr>
<th>ESMI of New Hampshire</th>
<th>ESMI of New York</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attn: Stephen Raper</td>
<td>Attn: Peter Hansen</td>
</tr>
<tr>
<td>67 International Drive</td>
<td>304 Towpath Road</td>
</tr>
<tr>
<td>Loudon, NH 03307</td>
<td>Ford Edward, New York 12828</td>
</tr>
<tr>
<td>Phone: (603) 783-0228</td>
<td>Phone: (518) 747-5500</td>
</tr>
<tr>
<td>Fax: (603) 783-0104</td>
<td>Fax: (518) 747-1181</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Soil Safe, Inc.</th>
<th>Cranston Sanitary Landfill</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attn: Paula Duca</td>
<td>Attn: Paul Mahoney</td>
</tr>
<tr>
<td>378 Route 130, Logan Township</td>
<td>1690 Pontiac Avenue</td>
</tr>
<tr>
<td>Bridgeport, NJ 08055</td>
<td>Cranston, RI 02920</td>
</tr>
<tr>
<td>Phone: (410) 872-3990 ext. 1121</td>
<td>Phone: (413) 552-3688</td>
</tr>
<tr>
<td>Fax: (410) 872-9082</td>
<td>Fax: (413) 552-3330</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hazleton Creek Properties</th>
<th>Waste Management – Chicopee Landfill</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attn: Allen Swantek</td>
<td>Attn: Thomas Murray</td>
</tr>
<tr>
<td>280 South Church Street</td>
<td>161 New Lombard Road</td>
</tr>
<tr>
<td>Hazleton, PA 18201</td>
<td>Chicopee, MA 01020</td>
</tr>
<tr>
<td>Phone: (570) 207-2000</td>
<td>Phone: (413) 534-8741</td>
</tr>
<tr>
<td>Fax: (570) 457-3395</td>
<td>Fax: (413) 552-3330</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Southbridge Recycling and Disposal Park</th>
<th>Ted Ondrick Company, LLC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attn: Scott Sampson</td>
<td>Attn: Dave Costanzo</td>
</tr>
<tr>
<td>165 Barefoot Road</td>
<td>58 Industrial Drive</td>
</tr>
<tr>
<td>Southbridge, MA 01550</td>
<td>Chicopee, MA 01020</td>
</tr>
<tr>
<td>Phone: (603) 235-3597</td>
<td>Phone: (413) 592-2566</td>
</tr>
<tr>
<td>Fax: (508) 765-6812</td>
<td>Fax: (413) 592-7451</td>
</tr>
</tbody>
</table>
Construction Methods:

A. Submittals

The apparent low bidder shall submit in writing, within fourteen days after Bid opening, (1) a letter listing the names of the treatment/recycle/disposal facilities (from the list above) which the bidder, if it is awarded the Contract, will use to receive controlled material from this Project, (2) a copy of the attached “Disposal Facility Material Acceptance Certification” form from each facility, which shall be signed by an authorized representative of each treatment/recycle/disposal facility, and (3) a copy of the facility acceptance criteria and facility sampling frequency requirements from each facility.

Any other Contractor which the Department may subsequently designate as the apparent low bidder shall make the aforementioned submissions within fourteen (14) days from the date on which the Department notifies the Contractor that it has become the apparent low bidder. If, however, the Department deems it is necessary for such a subsequent-designated Contractor to make said submissions within a shorter period of time, the Contractor shall make those submissions within the time designated by the Department.

Failure to comply with all of the above requirements may result in the rejection of the bid.

No facility may be substituted for the one(s) designated in the Contractor’s submittal without the Engineer’s prior approval. If the material cannot be accepted by any of the Contractor’s designated facilities, the Department will supply the Contractor with the name(s) of other acceptable facilities.
**Disposal Facility Materials Acceptance Certification**

Project Number __________________________________

Project Location__________________________________

Facility Name____________________________________    Telephone____________________

Facility Address__________________________________      Fax________________________

________________________________________________________________________

The Contractor has supplied the analytical data contained in the report concerning the site investigation performed by the Designer. I have personally reviewed this data and intend to accept the following:

Controlled materials as described in Item # 202315A Disposal of Controlled Materials for the subject Project at a cost of $______________ per ton for treatment/disposal and an additional $____________ per ton for transportation from the Project to the facility (if applicable).

This intent to accept the material will be subject to and dependent upon the facility's subsequent evaluation of waste characterization determination documentation to be provided to the Contractor by the Engineer.

Authorized Facility Representative_________________________________ / ________________________

Printed/Typed Name                      Title

_______________________________ / __________________________

Signature                                          Date

Note: The facility shall attach the acceptance criteria and facility sampling frequency requirements to this document.

**DO NOT ALTER FORM IN ANY WAY. FORM MUST BE COMPLETED IN ENTIRETY.**
B. Material Disposal

The Engineer will sample materials stored at the WSA at a frequency established by the selected treatment/recycling/disposal facilities. The Contractor shall designate to the Engineer which facility it intends to use prior to samples being taken. The Contractor is hereby notified that laboratory turnaround time is expected to be fifteen (15) working days. Turnaround time is the period of time beginning when the Contractor notifies the Engineer which facility it intends to use and that the bin within the WSA is full and ready for sampling and ending with the Contractor’s receipt of the laboratory analytical results. Any change of intended treatment/recycling/disposal facility may prompt the need to resample and will therefore restart the time required for laboratory turnaround. The laboratory will furnish such results to the Engineer. Upon receipt, the Engineer will make available to the Contractor the results of the final waste characterization determinations. **No delay claim will be considered based upon the Contractor’s failure to accommodate the laboratory turnaround time as identified above.**

The Contractor shall obtain and complete all paperwork necessary to arrange for material disposal (such as disposal facility waste profile sheets). It is solely the Contractor’s responsibility to co-ordinate the disposal of controlled materials with its selected treatment/recycling/disposal facility(s). Upon receipt of the final approval from the facility, the Contractor shall arrange for the loading, transport and treatment/recycling/disposal of the materials in accordance with all Federal and State regulations. **No claim will be considered based on the failure of the Contractor’s selected disposal facility(s) to meet the Contractor’s production rate or for the Contractor’s failure to select sufficient facilities to meet its production rate.**

All manifests or bills of lading utilized to accompany the transportation of the material shall be prepared by the Contractor and signed by an authorized Department representative, as Generator, for each truck load of material that leaves the site. The Contractor shall forward the appropriate original copies of all manifests or bills of lading to the Engineer the same day the material leaves the Project.

A load-specific certificate of treatment/recycling/disposal, signed by the authorized agent representing the disposal facility, shall be obtained by the Contractor and promptly delivered to the Engineer for each load.

C. Material Transportation

In addition to all pertinent Federal, State and local laws or regulatory agency polices, the Contractor shall adhere to the following precautions during the transport of controlled materials off-site:

- Transported controlled materials are to be covered sufficiently to preclude the loss of
material during transport prior to leaving the site and are to remain covered until the arrival at the selected treatment/recycling/disposal facility.

- All vehicles departing the site are to be properly logged to show the vehicle identification, driver’s name, time of departure, destination, and approximate volume, and contents of materials carried.

- No materials shall leave the site unless a treatment/recycling/disposal facility willing to accept all of the material being transported has agreed to accept the type and quantity of waste.

D. Equipment Decontamination

All equipment shall be provided to the work site free of gross contamination. The Engineer may prohibit from the site any equipment that in his opinion has not been thoroughly decontaminated prior to arrival. Any decontamination of the Contractor’s equipment prior to arrival at the site shall be at the expense of the Contractor. The Contractor is prohibited from decontaminating equipment on the Project that has not been thoroughly decontaminated prior to arrival.

The Contractor shall furnish labor, materials, tools and equipment for decontamination of all equipment and supplies that are used to handle Controlled Materials. Decontamination shall be conducted at an area designated by the Engineer and shall be required prior to equipment and supplies leaving the Project, between stages of the work, and between work in different AOEC’s.

The Contractor shall use dry decontamination procedures. Residuals from dry decontamination activities shall be collected and managed as Controlled Materials. If the results from dry methods are unsatisfactory to the Engineer, the Contractor shall modify decontamination procedures as required.

The Contractor shall be responsible for the collection and treatment/recycling/disposal of any liquid wastes that may be generated by its decontamination activities in accordance with applicable regulations.

Method of Measurement:

The work of “DISPOSAL OF CONTROLLED MATERIALS” will be measured for payment as the actual net weight in tons of material delivered to the treatment/recycling/disposal facility. Such determinations shall be made by measuring each hauling vehicle on the certified permanent scales at the treatment/recycling/disposal facility. Total weight will be the summation of weight bills issued by the facility specific to this Project. Excess excavations made by the Contractor beyond the payment limits specified in Specification Sections 2.02, 2.03, 2.05, 2.06, or the Contract Special Provisions (as appropriate) will not be measured for payment and the Contractor assumes responsibility for all costs associated with the appropriate handling, management and disposal of this material.
The disposal of excavated materials, originally anticipated to be controlled materials, but determined by characterization sampling not to contain concentrations of regulated chemicals (non-polluted or “clean” materials) will not be measured for payment under this item but will be considered as surplus excavated materials and will be paid in accordance with Article 1.04.05.

Any materials, which are determined through characterization sampling to be contaminated but reusable in accordance with the Remediation Standard Regulations, and which are reused within Project limits, will not be measured for payment under this item. This material will be paid for under Item 0202318A – Management of Reusable Controlled Material or in accordance with Article 1.04.05 in the item’s absence.

Equipment decontamination, the collection of residuals, and the collection and disposal of liquids generated during equipment decontamination activities will not be measured separately for payment.

**Basis of Payment:**

This work will be paid for at the Contract unit price, which shall include the loading and transportation of controlled materials from the WSA to the treatment/recycling/disposal facility; the fees paid to the facility for treatment/recycling/disposal; the preparation of all related paperwork; and all equipment, materials, tools, and labor incidental to this work. **This unit price will be applicable to all of the Contractor-selected disposal facilities and will not change for the duration of the Project.**

This price shall also include equipment decontamination; the collection of residuals generated during decontamination and placement of such material in the WSA; and the collection and disposal of liquids generated during equipment decontamination activities.

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<tr>
<th>Pay Item</th>
<th>Pay Unit</th>
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<tbody>
<tr>
<td>Disposal of Controlled Materials</td>
<td>Ton</td>
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</tbody>
</table>
ITEM NO. 0202318A MANAGEMENT OF REUSABLE CONTROLLED MATERIAL

Description:

Work under this item shall include all materials, equipment, tools and labor required to load, transport from the WSA, place, and compact reusable controlled materials in fill areas located within the Project limits. “Reusable controlled material” is soil that contains contaminant concentrations above analytical detection limits, but below the applicable regulatory criteria.

Construction Methods:

Controlled material stored within the WSA which is determined to be reusable following analytical testing shall be loaded, transported, placed and compacted at fill areas located within the Project limits in accordance with the following conditions: (1) such soil is deemed to be structurally suitable for use as fill by the Engineer; (2) such soil is not placed below the water table; 3) the DEP groundwater classification of the area where the soil is to be reused as fill does not preclude said reuse; and (4) such soil is not placed in an area subject to erosion.

Method of Measurement:

“Management of Reusable Controlled Material” will be measured for payment by the number of cubic yards of material loaded and transported from the WSA and placed at fill areas located within the Project limits in accordance with the Contract.

Basis of Payment:

“Management of Reusable Controlled Material” will be paid for at the Contract unit price, which shall include all materials, equipment, tools and labor necessary to load and transport reusable controlled materials from the WSA to fill areas located within the Project limits and to place and compact the reusable material. This price shall include any decontamination of soil handling equipment, and the treatment/recycling/disposal of wastes generated in conjunction with such decontamination.

No separate payment will be made for consolidating previously tested individual stockpiles that have been deemed reusable, but shall be considered incidental to the work.

The disposal of any reusable controlled material that fails to meet material testing requirements for the intended use in accordance with the Contract requirements, as well as any excess reusable material, will be paid under Item 202315A, “Disposal of Controlled Material”.

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<thead>
<tr>
<th>Pay Item</th>
<th>Pay Unit</th>
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<tbody>
<tr>
<td>Management of Reusable Controlled Materials</td>
<td>C.Y.</td>
</tr>
</tbody>
</table>
ENVIRONMENTAL INVESTIGATIONS

Environmental site investigations have been conducted that involved the sampling and laboratory analysis of soil collected from various locations and depths within the project limits. The results of these investigations indicated the presence of detectable concentrations of polynuclear aromatic hydrocarbons (PAH) and lead in soils within the proposed construction areas. The Connecticut Department of Energy and Environmental Protection (CTDEEP) groundwater classification beneath the site is GA.

Based on these findings, one area of environmental concern (AOEC) for soil has been identified where contaminants were present at concentrations greater than applicable CTDEEP Remediation Standard Regulations (RSRs) criteria. In addition, two “Low Level” AOEC exist within the proposed project limits, where contaminants were detected at concentrations below applicable CTDEEP RSR criteria, but above laboratory reporting limits. The presence of these compounds at these concentrations will not require material-handling measures beyond those required for normal construction operations. The presence of these compounds at these concentrations will require disposition of soils excavated from these areas to be restricted as described herein. Refer to Figure 1 for depiction and designation of these areas.

The Contractor is hereby notified that controlled materials requiring special management or disposal procedures will be encountered during various construction activities conducted within the project limits. Therefore, the Contractor will be required to implement appropriate health and safety measures for all construction activities to be performed within the AOEC(s). These measures shall include, but are not limited to, air monitoring, engineering controls, personal protective equipment and decontamination, equipment decontamination and personnel training. WORKER HEALTH AND SAFETY PROTOCOLS WHICH ADDRESS POTENTIAL AND/OR ACTUAL RISK OF EXPOSURE TO SITE SPECIFIC HAZARDS IS SOLELY THE RESPONSIBILITY OF THE CONTRACTOR.

The Town of Farmington, as Generator, will provide an authorized representative to sign all manifests and waste profile documentation required by disposal facilities for disposal of contaminated soil, water, and controlled and hazardous materials.

The Sections which shall be reviewed by the Contractor include, but are not limited to, the following:

- Item No. 0101000A - Environmental Health and Safety
- Item No. 0101128A - Securing, Construction and Dismantling of a Waste Stockpile and Treatment Area
- Item No. 0101117A - Controlled Materials Handling
• Item No. 0202315A - Disposal of Controlled Materials

• Item No. 0202318A - Management of Reusable Controlled Material

The Contractor is alerted to the fact that a Department environmental consultant will be on site for excavation activities within the AOEC(s) and LLAOEC’s, to collect soil and groundwater samples (if necessary), and to observe site conditions for the State. **The WSA on the plans is to be used exclusively for temporary stockpiling of excavated materials from within project AOEC(s) for determination of disposal classification and excess materials generated from the LLAOEC’s for off-site disposal.**

Information pertaining to the results of the environmental investigations discussed can be found in the documents listed below. The results contained in the environmental investigation reports listed below show levels of various contaminants that the Contractor may encounter during construction. Actual levels found during construction may vary and such variations will not be considered a change in condition provided the material can still be disposed as non-hazardous at one or more of the disposal facilities listed in Item No. 0202315A - Disposal of Controlled Materials. These documents shall be available for review at the Office of Contracts, 2800 Berlin Turnpike, Newington, Connecticut.

**Task 210 – Subsurface Site Investigation – Reconstruction of South Main Street at New Britain Avenue and Railroad Avenue, Farmington, Connecticut. Milone & MacBroom, Inc., May 16, 2017.**
## 05 - ENVIRONMENTAL INDEX OF DRAWINGS

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**NOT TO SCALE**

S. GEHMAN
S. BRISTOL

DEPARTMENT OF TRANSPORTATION

STATE OF CONNECTICUT

INTERSECTION IMPROVEMENTS ON SOUTH MAIN STREET (ROUTE 177) AT NEW BRITAIN AVE. & MILL ST.

FARMINGTON
CONNECTICUT

05-ENVIRONMENTAL LIST OF DRAWINGS
1. The base map for this environmental plan was provided to MMI by CONNDOT.
2. This sheet is for environmental work associated only with State Project No. 51-269 for all other information, see other sheets.
3. The Contractor shall be responsible for construction, maintenance, repair, and removal of all components of the WSA and during WSA operations.
4. Polyethylene stockpile cover shall remain in place at all times other than during load-in or load-out operations.
5. All locations are approximate. Contractor shall coordinate with all associated utility companies/owners/distributors prior to initiating all work. Footing excavations from 10' above ground during construction, operation, and removal of the WSA. Any damage to existing utilities shall be repaired by the Contractor and to the satisfaction of the governing utility at no additional expense to the State.
6. Leaks/voids shall be installed at locations to allow stormwater to escape prior to storage in controlled manner. These leaks/voids shall be breaks in the runoff control barriers at indicated. These leaks/voids shall be slopes with hay bales placed on the surface of the existing pavement and where the stockpile is active.
7. The Contractor shall construct and maintain a sediment control system, as shown, at all times.

**NOTES:**
- The conditions of actual quantities shown on these sheets is based on limited investigations by the State and is not warranted to indicate the work which will be required.
- In no way do these sheets constitute the conditions of actual quantities shown on these sheets.
WASTE STOCKPILE AREA DETAIL

1. TYPICAL DOUBLE SWING GATES

2. WASTE STOCKPILE AREA DETAIL

GENERAL NOTES:
1. WASTE STOCKPILE AREA (WSA) INSTALLATION AND ALL REQUIRED MATERIALS ARE AS INDICATED ON THE WSA PLAN.
2. ANTI-TRACKING PAD SHALL BE INSTALLED AS SHOWN ON THE WSA PLAN AND IN ACCORDANCE WITH CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL.
3. WHERE FEASIBLE, A MINIMUM DISTANCE OF 10' IMMEDIATELY OUTSIDE THE PERIMETER OF THE WSA CONCRETE BLOCKS SHALL REMAIN CLEAR AND FREE OF ANY OBJECT TO PROVIDE ACCESS FOR MAINTENANCE.
4. HEIGHT OF THE CONCRETE BLOCKS STOCKPILED CONTROLLED MATERIAL AND CONFINEMENT OF SOIL SEDIMENT IS SHOWN ON THE WSA PLAN ON AS INDICATED ON THE WSA PLAN OR AS DIRECTED BY THE ENGINEER.
5. THE WSA SURFACE SHALL BE SUITABLY IMPERVIOUS TO PREVENT OR MINIMIZE THE TRANSFER OF DUST AND CONTAMINANTS FROM THE STOCKPILES TO THE GROUND. THE WSA SURFACE WILL VARY BASED ON PROJECT SPECIFICATIONS AND MAY BE CONSTRUCTED ON NEW OR EXISTING PAVEMENT, BEDDING SAND, OR OTHER MATERIAL AS SHOWN ON THE WSA PLAN OR THE AREAS OF ENVIRONMENTAL CONCERN PLANS.

SECTION A-A

SECTION B-B

NOTE:
A. CHAIN LINK FENCE MAY BE UTILIZED IN RESIDENTIAL NEIGHBORHOODS TO OMIT UNAUTHORIZED ACCESS TO STOCKPILES WHERE THERE IS LIMITED ACCESS. OTHER APPROPRIATE PREVENTATIVE MEASURES MAY BE ACHIEVED THROUGH THE USE OF OTHER MATERIAL OR ARTIFICIAL BARRIERS.
B. IN AREAS WHERE THERE IS LIMITED ACCESS, OTHER APPROPRIATE PREVENTATIVE MEASURES MAY BE ACHIEVED THROUGH THE USE OF OTHER MATERIAL OR ARTIFICIAL BARRIERS.