

SEPTEMBER 5, 2019
REHABILITATION OF BRIDGE NO. 00032
I-95 OVER METRO-NORTH RAILROAD AND LOCAL STREETS
FEDERAL AID PROJECT NO. 0951(378)
STATE PROJECT NO. 135-334
CITY OF STAMFORD

ADDENDUM NO. 2

This Addendum addresses the following questions and answers contained on the “CT DOT QUESTIONS AND ANSWERS WEBSITE FOR ADVERTISED CONSTRUCTION PROJECTS”:

Question and Answer Nos. 2, 3, 4, 5, 6, 7, 10, 11, 13, 14, 19, 20, 22, 30, 32, 33, and 36.

SPECIAL PROVISIONS

NEW SPECIAL PROVISIONS

The following Special Provisions are hereby added to the Contract:

- ITEM NO. 0101143A – HANDLING AND DISPOSAL OF REGULATED ITEMS (ESTIMATED COST)
- ITEM NO. 0602911A – DRILLING HOLES AND GROUTING ANCHOR BOLTS

REVISED SPECIAL PROVISIONS

The following Special Provisions are hereby deleted in their entirety and replaced with the attached like-named Special Provisions:

- NOTICE TO CONTRACTOR – HAZARDOUS MATERIALS INVESTIGATIONS
- ITEM NO. 0521021A – STEEL-LAMINATED ELASTOMERIC BEARINGS
- ITEM NO. 0601272A – VARIABLE QUANTITY FULL DEPTH PATCH (HIGH EARLY STRENGTH CONCRETE)
- ITEM NO. 0602910A – DRILLING HOLES AND GROUTING DOWELS
- ITEM NO. 0913293A – TEMPORARY PROTECTIVE BARRIER (EXISTING BRIDGE)

CONTRACT ITEMS

NEW CONTRACT ITEMS

<u>ITEM NO.</u>	<u>DESCRIPTION</u>	<u>UNIT</u>	<u>QUANTITY</u>
0101143A	HANDLING AND DISPOSAL OF REGULATED ITEMS (ESTIMATED COST)	EST.	\$10,000
0602911A	DRILLING HOLES AND GROUTING ANCHOR BOLTS	EA.	586
0980001	CONSTRUCTION STAKING	L.S.	L.S.

REVISED CONTRACT ITEM

<u>ITEM NO.</u>	<u>DESCRIPTION</u>	<u>ORIGINAL QUANTITY</u>	<u>REVISED QUANTITY</u>
0602910A	DRILLING HOLES AND GROUTING DOWELS	376 EA.	68 EA.

PLANS

REVISED PLANS

The following Plan Sheets are hereby deleted and replaced with the like-numbered Plan Sheets appended by .A2:

02.01.A2, 04.04.A2, 04.13.A2, 04.15.A2, 04.16.A2, 04.17.A2, 04.18.A2, 04.19.A2, 04.20.A2, 04.22.A2, 04.24.A2, 04.36.A2, 04.43.A2, 04.45.A2, 04.46.A2, 04.50.A2

The Bid Proposal Form has been revised to reflect these changes.

The Detailed Estimate Sheet does not reflect these changes.

There will be no change in the number of calendar days due to this Addendum.

The foregoing is hereby made a part of the contract.

ITEM #0101143A – HANDLING AND DISPOSAL OF REGULATED ITEMS (ESTIMATED COST)

Description:

Work under this item shall include the management (handling and disposal) of regulated items and all associated work by persons who are employed by a CTDEEP permitted Spill Contractor and trained/certified in accordance with OSHA Hazard Communication regulations. Regulated items include hazardous and other materials and wastes, the disposal of which is restricted by Federal and/or State laws and regulations, and which may be a component of equipment or other items located on-site. Regulated items include those listed herein, or additional similar items identified on site by the Engineer. Work under this item does not include asbestos containing materials, lead paint, contaminated or hazardous soils.

Activities shall be performed in accordance with, but not limited to, the current revision of the USEPA & CTDEEP Hazardous Waste Regulations (40 CFR 260-282, 22a-209 and 22a-449(c)), USEPA PCB Regulations (40 CFR 761), USEPA Protection of Stratospheric Ozone (40 CFR 82), OSHA Hazard Communication (29 CFR 1910.1200), OSHA Hazardous Waste & Emergency Response Regulations (29 CFR 1910.120), USDOT Hazardous Materials Regulation (49 CFR 171-180), OSHA, RCRA, CERCLA, CAA, TSCA, and all other laws and regulations.

The work activities include the removal, handling, packing, labeling, transport, manifesting, and recycling or disposal of various regulated items at the Project site prior to beginning planned renovation/demolition activities.

The Contractor is solely responsible for verifying actual locations and quantities of the items with hazardous/regulated material/waste constituents and for their proper handling and disposal. The recycling or proper disposal, as appropriate, of all regulated items shall be completed prior to the initiation of any demolition or renovation activities.

Materials:

All materials shall be suitable for the management of regulated items and shall meet all applicable federal, state and local regulations. Such materials include, but are not limited to, proper containers, packing materials, labels, signs, shipping papers, personnel protective equipment (PPE) and spill kits.

Construction Methods:

(1) Allowable Disposal/Recycling Facilities

Disposal facilities for RCRA-hazardous, TSCA-hazardous, Connecticut Regulated, and Universal wastes shall be chosen from among those listed below. No other facility shall be used for these types of wastes without the written approval of the Engineer.

Advanced Disposal Services
Greentree Landfill
635 Toby Road
Kersey, PA 15846
Phone: (814) 265-1744 Fax: (814) 265-8745
MSW, C&D, asbestos, PCB remediation waste <50
ppm, petroleum contaminated soils, nonhazardous solid
wastes

Advanced Disposal
(managed by Interstate Waste Services)
7095 Glades Pike
Summerset, PA 15501
Phone: (814) 444-0112 Fax: (814) 444-0127
MSW, C&D debris, residual waste, sewer sludge,
incinerator ash, asbestos

Allied Waste Niagara Falls Landfill, LLC
5600 Niagara Falls Blvd.
Niagara, NY 14304
Phone: (716) 285-3344 Fax: (716) 285-3398
Non-hazardous waste, industrial solid waste, municipal
sewage treatment sludge, contaminated soil & debris,
asbestos waste, C&D debris, industrial process sludge

American Lamp Recycling, LLC
26 Industrial Way
Wappingers Falls, NY 12590
Phone: (845) 896-0058 Fax: (845) 896-1520
Mercury containing device, universal waste

Tradebe (Bridgeport United Recycling, Inc.)
50 Cross Street
Bridgeport, CT 06610
Phone: (203) 334-1666 Fax: (203) 334-1439
RCRA & CRW waste oil, fuel, wastewater

Clean Earth of Carteret
24 Middlesex Ave.,
Carteret, NJ 07008
Phone: (732) 541-8909 Fax: (732) 541-8505
Concrete, brick, block, street sweepings, stone, rock,
asphalt and petroleum contaminated soil

Clean Earth of Philadelphia, Inc.
3201 South 61 St.,
Philadelphia, PA 19153
Phone: (215) 724-5520 Fax: (215) 724-2939
Petroleum contaminated soil

Clean Earth of North Jersey, Inc. (aka CENJ)
135-334

115 Jacobus Ave,
South Kearny, NJ 07105
Phone: (973) 344-4004 Fax: (973) 344-8652
RCRA liquid and solid, asbestos

Clean Earth of Southeast Pennsylvania, Inc.
7 Steel Road,
Morrisville, PA 19067
Phone: (215) 428-1700 Fax: (215) 428-1704
Petroleum contaminated soil
Clean Harbors Environmental Services, Inc.
2247 South Hwy. 71,
Kimball, NE 69145
Phone: (308) 235-1012 Fax: (308) 235-4307
RCRA liquid, solid & sludge

Clean Harbors Environmental Services, Inc.
Cleveland Facility
2900 Rockefeller Ave.,
Cleveland, OH 44115
Phone: (216) 429-2401 Fax: (216) 883-1918
RCRA liquid: aqueous organic & inorganic wastewater

Clean Harbors Environmental Services, Inc.
Spring Grove Facility
4879 Spring Grove Ave.,
Cincinnati, OH 45232
Phone: (513) 681-6242 Fax: (513) 681-0869
RCRA liquid, solid & sludge: aqueous organic &
inorganic wastewater, PCB wastewater treatment

Clean Harbors of Baltimore, Inc.
1910 Russell St,
Baltimore, MD 21230
Phone: (410) 244-8200 Fax: (410) 752-2647
RCRA liquid: aqueous organic & inorganic wastewater

Clean Harbors of Braintree, Inc.
1 Hill Avenue,
Braintree, MA 02184
Phone: (781) 380-7134 Fax: (781) 380-7193
RCRA & TSCA liquid & solid

Clean Harbors of Connecticut, Inc.
51 Broderick Road,
Bristol, CT 06010
Phone: (860) 583-8917 Fax: (860) 583-1740
RCRA & CRW liquid

Clean Harbors of Woburn

(Murphy's Waste Oil Services, Inc.)
252 Salem Street,
Woburn, MA 01801
Phone: (781) 935-9066 Fax: (781) 935-8615
RCRA liquid: oil, oil/water mixtures; CRW oil filters,
oily soil & debris, F001/F002 contaminated oils,
antifreeze

Clinton Landfill
242 Church Street
Clinton, MA 01510
Phone: (978) 365-4110 Fax: (978) 365-4106
Comm-97 soils and other materials subject to a BUD
and additional review by MADEP (*2-week lead time
for review by MADEP)

Colonie Landfill (Waste Connections, Inc.)
1319 Loudon Rd,
Cohoes, New York 12047
Phone: (518) 783-2827 Fax: (518) 786-7331
Non-haz. wastes, special wastes, contaminated soil

Cumberland County Landfill
(aka Community Refuse Services
Managed by Interstate Waste Services)
135 Vaughn Road,
Shippensburg, PA 17257
Phone: (717) 729-2060 Fax: (717) 423-6822
Municipal solid waste, non-hazardous waste

ACV Enviro (aka Cycle Chem & General
Chemical Corp.)
217 South First Street,
Elizabeth, NJ 07206
Phone: (908) 355-5800 Fax: (908) 355-0562
RCRA, TSCA liquid and solid

Envirite of PA (US Ecology)
730 Vogelsong Road,
York, PA 17404
Phone: (717) 846-1900 Fax: (717) 854-6757
RCRA hazardous wastes

Environmental Quality Company:
Wayne Disposal Facility
(aka EQ Michigan Disposal Waste Treatment Plant
and Wayne Disposal Inc. Site #2)
49350 North I-94 Service Drive
Belleville, MI 48111
Phone: (734) 697-2200 Fax: (734) 699-3499
RCRA & TSCA liquid and solid

US Ecology (Environmental Quality Detroit Inc.)

1923 Frederick Street,
Detroit MI 48211
Phone: (734) 329-8017 Fax: (313) 923-3375
RCRA & CRW liquid wastewater
Environmental Soil Management of New York,
LLC (ESMI of New York)
304 Towpath Road,
Fort Edward, NY 12828
Phone: (518) 747-5500 Fax: (518) 747-1181
Petroleum contaminated soil

Environmental Soil Management of NH
67 International Dr.
Loudon, NH 03307
Phone: (603) 783-0228 Fax: (603) 783-0104
Petroleum contaminated soil

Triumvirate (Formerly EnviroSafe Corporation
Northeast & Jones Environmental Services)
263 Howard Street,
Lowell, MA 01852
Phone: (978) 453-7772 Fax: (978) 453-7775
RCRA & TSCA liquid and solid

Hazelton Creek Properties, LLC*
(Hazelton Mine Reclamation Project)
280 South Church St.,
Hazelton, PA 18201
Phone: (570) 574-1010 Fax: (570) 457-3395
Fresh, brackish or marine dredge material, coal ash,
cement kiln dust, lime kiln dust, co-gen ash, regulated
fill
*Please note that if this facility is to be used, each bin
letter will require an additional 10 day (or more) waiting
period on top of the 15 day lab period designated in the
specs to allow for PADEP review.

Heritage Hazardous Waste Landfill (Heritage
Environmental Services, LLC)
4370 W County Rd 1275 N
Roachdale, IN 46172
Phone: (765) 435-2704 Fax: (315) 687-3898
Hazardous Wastes, Asbestos

Manchester Landfill
311 Olcutt St.,
Manchester, CT 06040
Phone: (860) 647-3248 Fax: (860) 647-3238
Municipal solid waste, non-hazardous waste,
contaminated soil

Northeast Lamp Recycling, Inc.
250 Main Street,

East Windsor, CT 06088
Phone: (860) 292-1992 Fax: (860) 292-1114
CRW solid waste, mercury containing devices &
universal waste
Stericycle (Northland Environmental, LLC)
(aka PSC Environmental Systems)
275 Allens Ave.,
Providence RI 02905
Phone: (401) 781-6340 Fax: (401) 781-9710
RCRA liquid and solid

Ontario County Landfill
(Managed by Casella Waste)
3555 Post Farm Road,
Stanley, NY 14561
Phone: (585) 526-4420 Fax: (585) 526-5459
Municipal solid waste, non-hazardous waste solid,
special wastes including asbestos, ash from
boilers/incinerators, contaminated soil, demo debris

Paradise Heating Oil, Inc.
Quimby Street,
Ossining, NY 10562
Phone: (631) 926-2576 Fax: (718) 294-2226
CRW waste oil liquid

Phoenix Soil, LLC
58 North Washington Street
Plainville, CT 06062
Phone: (860) 747-8888 Fax: (203) 757-4933
Contaminated Soil

Red Technologies Soil
232 Airline Avenue
Portland, CT 06980
Phone: (860) 342-1022 Fax: (860) 342-1042
Temporary Storage & Transfer of contaminated soil

Republic Services Conestoga Landfill
420 Quarry Road
Morgantown, PA 19543
Phone: (610) 286-6844 Fax: (610) 286-7048
MSW, C&D debris, residual waste, contaminated soil,
asbestos *Please note that if this facility is to be used,
each bin letter will require an additional 10 day (or
more) waiting period on top of the 15 day lab period
designated in the specs to allow for PADEP review.

Stericycle (Formerly Republic Environmental
Systems (aka Philip Services Corporation (PSC)
Republic)
2869 Sandstone Dr.,
Hatfield PA 19440

Phone: (215) 822-8995 Fax: (215) 997-1293
RCRA & TSCA industrial solid & sludge, aqueous
waste, contaminated soil, PCB waste, oil & petroleum
waste, organic waste
Soil Safe, Inc.
378 Route 130, Logan Township,
Bridgeport NJ 08085
Phone: (410) 872-3990 x1120
Fax: (410) 872-9082
Soil contaminated with petroleum or metals, some
industrial waste solids

The Southbridge Recycling & Disposal Park
165 Barefoot Rd.
Southbridge, MA 01550
Phone: (508) 765-9723, (603) 235-3597
Fax: (508) 765-6812
MSW, non-hazardous C & D waste, contaminated soil
for cover

Stablex Canada, Inc.
760 Industrial Blvd.
Blainville Quebec J7C 3V4
Phone: (450) 430-9230 Fax: (450) 430-4642
RCRA liquid and solid, industrial wastes

Ted Ondrick Company, LLC
58 Industrial Road,
Chicopee, MA 01020
Phone: (413) 592-2566 Fax: (413) 592-7451
Petroleum contaminated soil

Tradebe Treatment & Recycling
136 Gracey Ave.
Meriden, CT 06451
Phone: (203) 238-8114 Fax: (203) 238-6772
RCRA, CRW wastewater, oil, hazardous waste fuels,
hazardous and non-hazardous waste water

Tunnel Hill Reclamation
2500 Township Road, 205 Route 2
New Lexington, OH 43764
Phone: (914) 713-0203 Fax: (914) 713-0672
Municipal solid waste, non-hazardous waste,
contaminated soils

Waste Management
RCI Fitchburg Landfill
Fitchburg Princeton Road,
Westminister, MA 01473
Phone: (978) 355-6821 Fax: (978) 355-6317

Solid: MSW, non-hazardous waste, C&D, contaminated soil for use as cover material under MADEP COMM-97 policy

90 Rochester Neck Road, PO Box 7065
Rochester, NH 03839
Phone: (603) 330-2197 Fax: (603) 330-2130
Solid: MSW, C&D, PCB remediation waste (<50ppm), virgin petroleum contaminated soil, CRW solid waste

Turnkey Landfill (Waste Management of NH)
TLR III Refuse Disposal Facility

The category of material accepted by each facility listed above is for informational purposes only. The Contractor shall verify facility acceptance of each type of regulated item.

(2) Submittals

Thirty (30) days prior to commencement of work involving the management of regulated items, the Contractor shall submit to the Engineer for approval, the following documentation:

1. Hazard communication training for all employees performing this work.
2. Biohazardous Waste Compliance Plan as outlined in Section 3(c)
3. Names of the treatment facilities, recycling facilities and/or disposal facilities the Contractor intends to use to receive each type of regulated item.
4. Hazardous Material Transporter USDOT Certificate of Registration for each waste transporter.
5. Hazardous Material Transporter Permit for the State of Connecticut, the destination state(s), and all other applicable states for each waste transporter.

Contractor shall provide the Engineer with a minimum of 48 hours notice in advance of scheduling, changing or canceling work activities.

(3) Regulated Item Management Provisions

(a) General Requirements

The Contractor's OSHA Competent Person shall be in control on the job site at all times during hazardous material management work activities. This person must be capable of identifying existing hazards, possess the authority to implement corrective measures to reduce/eliminate the hazards, comply with applicable Federal, State and Local regulations that mandate work practices, and be capable of performing the work of this contract. All employees who perform regulated material management related work shall be properly trained and qualified to perform such duties.

All labor, materials, tools, equipment, services, testing, insurance, and incidentals which are necessary or required to perform the work in accordance with applicable governmental regulations, industry standards and codes, and these specifications, shall be provided by the Contractor.

Ladders and/or scaffolds shall be in compliance with OSHA requirements, and of adequate length, strength and sufficient quantity to support the scope of work. Use of ladders/scaffolds shall be in conformance with OSHA 29 CFR 1926 Subpart L and X requirements.

Work performed at heights exceeding six feet (6') shall be performed in accordance with the OSHA Fall Protection Standard 29 CFR 1926 Subpart M including the use of fall arrest systems as applicable.

Inventory data from investigative surveys throughout the buildings are included herein and are presented for informational purposes only. Under no circumstances shall this information be the sole means used by the Contractor for determining the quantities or extent of the regulated items to be managed. The Contractor shall be responsible for verification of all field conditions affecting performance of the work. The Contractor shall submit to the Engineer for concurrence any additional items not listed herein that it believes to be regulated items included under this item. However, compliance with applicable requirements is solely the responsibility of the Contractor.

The Engineer will provide a Project Monitor to monitor the activities of the Contractor and inspect the work required. Environmental sampling shall be conducted as deemed necessary by the Engineer. Spill areas shall be cleaned by the Contractor until accepted by the Engineer. The Engineer may sample the spill area to demonstrate Contractor compliance with an acceptable standard.

(b) Personnel Protection

Prior to commencing work, the Contractor shall provide hazard communication training to all employees as necessary in accordance with OSHA 29 CFR 1926.59 and 29 CFR 1910.1200 and instruct all workers in all aspects of personnel protection, work procedures, emergency procedures and use of equipment including procedures unique to this project. Worker health and safety protocols that address potential and/or actual risk of exposure to site specific hazards are solely the responsibility of the Contractor.

The Contractor shall provide respiratory protection that meets the requirements of OSHA as required in 29 CFR 1910.134 and 29 CFR 1926.1000. A formal respiratory protection program, including appropriate medical surveillance, must be implemented in accordance with OSHA standards. The Contractor shall, as necessary, conduct exposure assessment air sampling, analysis and reporting to ensure the workers are afforded appropriate respiratory protection.

The Contractor shall provide and require all workers to wear appropriate personnel protective equipment, including protective clothing and respiratory protection, as required, within regulated work areas which exceed OSHA Personnel Exposure Limits (PELs) or when handling hazardous materials.

(c) Regulated Item Management Work Procedures

The Contractor shall not begin work until the Project Monitor is on-site.

Prior to beginning work on-site, the Contractor shall prepare waste characterization profile forms for each type of waste stream to be generated and forward such forms to the Engineer for review, approval and signature. Upon approval, the Contractor shall forward such forms to the appropriate disposal facilities for acceptance.

The Contractor shall utilize all appropriate engineering controls and safety and protective equipment while performing the work in accordance with OSHA, USEPA, USDOT, CTDEEP and Connecticut Department of Public Health DPH regulations.

The Contractor shall employ work practices so as to minimize the disturbance of the constituents in the regulated items, and prevent breakage and spills. In the event of a spill, the Contractor shall cordon off the area and notify the Engineer. The Contractor is responsible to have spills and the effected areas decontaminated to the acceptance of the Engineer by personnel trained in hazardous waste operator emergency response.

The Contractor shall carefully and properly remove, handle, pack, label and manifest all of the regulated items in waste containers specified and suitable to contain the waste in accordance with all federal and state regulations.

Prior to transportation and recycling and/or disposal, all proper USEPA, OSHA, CTDEEP and USDOT labels and placards shall be affixed to the waste containers and hazardous materials shipping papers such as waste manifests/bills of lading shall be completed.

Bridge No. 00032, I-95 over MNRR & Local Street, Stamford, CT

Prior to rehabilitation work, properly remove, handle, pack, label, transport, manifest and recycle or dispose of the regulated items from those listed below:

The following hazardous/ regulated materials, wastes and items have been identified at Bridge No. 00032 and will be impacted by the bridge replacement work.

Homeless activity was observed in areas around Bridge No. 00032, including, but not limited to human waste, sharps, bedding/clothing, etc. with the potential for contamination with human fluids presenting a potential exposure to blood borne pathogens and a need for management/disposal as biohazardous waste.

- **Biohazardous/Blood Borne Pathogen (BBP) Waste – human fecal waste, sharps, bedding, clothing with potential for contamination with human fluids.**

The Contractor shall submit a Biohazardous Waste Compliance Work Plan to CTDOT outlining the exact procedures that will be used to perform the work and protect the employees performing the biohazardous waste work. No biohazardous work shall be started by the Contractor until the Engineer has been notified and the Work Plan has been approved by the Engineer.

Regular construction/demolition (C&D) or trash from site shall not be mixed in with the potential biohaz materials (sharps/needles. feces, etc.)

No soil removal will be considered for payment under this Item without the approval of the Engineer.

Upon discovery of any previously unidentified regulated items during renovation activities, the Contractor shall immediately notify the Engineer and work shall cease in that area until the Engineer can determine the extent of any impact and proper handling procedures are implemented.

Efforts shall be made to recycle the constituents of the regulated items rather than dispose of them in accordance with the waste minimization efforts required under RCRA.

RCRA hazardous waste shall not be stored on the job site in excess of 90 calendar days from the accumulation start date.

Connecticut Regulated Waste shall not be transported to a RCRA or TSCA permitted facility for disposal, unless otherwise allowed by the Engineer in writing.

All non-RCRA hazardous waste materials, regulated waste materials and recyclable waste items shall be manifested separately from RCRA and TSCA hazardous waste, and documented properly on non-hazardous waste manifests, waste shipment records, bills of lading or other appropriate shipping papers for transportation to the recycling and/or disposal facility.

The Contractor shall prepare each lab pack list and shipping document (manifests, waste shipment records, bills of lading, etc.) with all of the required information completed (including types of waste, proper shipping name, categories, packing numbers, amounts of waste, etc.) in accordance with applicable federal and state regulations. The document will be signed by an authorized agent representing ConnDOT as the Generator for each load that is packed to leave the site.

The Contractor shall forward the appropriate original copies of shipping papers to the Engineer the same day the regulated items leave the project site.

All vehicles departing the site transporting hazardous materials shall display proper USDOT placards, as appropriate for the type of waste being transported.

(d) Project Closeout Documents:

Within thirty (30) days after completion of the on-site project work, the Contractor shall submit to the Engineer copies of the following completed documents:

1. Hazardous Waste Manifests
2. Waste Shipment Records/Bills of Lading
3. Recycling Receipts

Documents 1. through 3. must include the signature of an authorized disposal facility representative acknowledging receipt of hazardous materials.

Method of Measurement:

The work of “Handling and Disposal of Regulated Items” shall be provided for in accordance with Article 1.04.05 – Extra Work.

Basis of Payment:

The work of “Handling and Disposal of Regulated Items” shall be paid for in accordance with Article 1.04.05 – Extra Work, which price shall include the management, removal, handling, packing, labeling, transport, manifesting, recycling or disposal of the regulated constituents in the specific equipment/items scheduled for impact at the project site, and all equipment, materials, tools and labor incidental to the work.

Final payment will not be made until completed copies of all Manifest(s), Waste Shipment Records, Bills of Lading and/or Recycling Receipts have been provided to the Engineer. Once completed and facility-signed copies have been received in their entirety, the Engineer will make the final payment.

<u>Pay Item</u>	<u>Pay Unit</u>
Handling and Disposal of Regulated Items	Estimated Cost

END OF SECTION

ITEM #0602911A – DRILLING HOLES AND GROUTING ANCHOR BOLTS

Description: Work under this item shall consist of drilling holes in concrete, grouting anchor bolts/threaded rods and nuts at the locations shown on the plans and installing the anchor system hardware, in accordance with the plans, the manufacturer's recommendations, and as directed by the Engineer.

Materials: Chemical anchor material shall be a resin compound specially formulated to anchor steel bars in holes drilled into concrete for the purpose of resisting tension pull-out. The adhesive bonding materials shall be selected from the Connecticut Department of Transportation Approved Product List.

A Materials Certificate shall be required for the adhesive bonding material in accordance with Article 1.06.07, certifying the conformance of this material to the requirements stated herein.

The anchor bolts/threaded rods, washers, and nuts shall be hot dip galvanized and meet the requirements of section M.06.

Construction Methods:

The Contractor shall submit the following to the Engineer for review: type of drill, diameter of bit, method of cleaning holes and method of placement for the adhesive bonding material and anchor rod. Specifications and installation procedures shall be in accordance with the chemical anchor manufacturer's recommendations.

The hole diameter and the depth of embedment shall be based on the recommendations of the manufacturer of the chemical anchor proposed for use by the Contractor. The hole shall be sized to develop a pull-out capacity of a minimum of 125 percent of the tensile capacity of the anchor rod based on the nominal yield strength. The minimum compressive strength of the existing concrete shall be assumed to be 3,000 psi for purposes of calculating minimum embedment depths.

The Contractor shall drill holes into the concrete to the minimum depth required and at the locations shown on the plans. The Contractor shall notify the Engineer if obstructions are encountered during the drilling of a hole. If existing reinforcing steel is encountered during drilling, the holes may be relocated if ordered by the Engineer. Holes abandoned due to the presence of obstructions shall be filled with non-shrink grout.

Drilling methods shall not cause spalling, cracking, or other damage to the concrete. Those areas damaged by the Contractor shall be repaired by him in a manner suitable to the Engineer and at no additional cost to the State.

The Contractor shall take necessary precautions to prevent any materials, including drilling water, from falling onto the roadway or waterway below, as applicable.

Method of Measurement: This work will be measured for payment by the actual number of anchor bolts/threaded rods grouted into drilled holes each, completed and accepted. Holes abandoned due to the presence of reinforcing steel will not be measured for payment.

Basis of Payment: This work will be paid for at the contract unit price each for "Drilling Holes and Grouting Anchor Bolts", which price shall include drilling and preparing holes, applying adhesive bonding material, and installing anchor bolts/threaded rods and nuts including washers and nuts. It shall also include all material, and all equipment, tools and labor incidental thereto.

Abandoned holes shall be filled with non-shrink grout at no additional cost to the State.

Pay Item

Drilling Holes and Grouting Anchor Bolts

Pay Unit

ea.

NOTICE TO CONTRACTOR – HAZARDOUS MATERIALS INVESTIGATIONS

A limited hazardous materials site investigation has been conducted at Bridge No. 00032, I-95 over MNRR & Local Roads in Stamford, Connecticut. The scope of inspection was limited to the representative components projected for impact.

Results of the survey identified lead paint to be present on the structural steel/metal bridge components and metal railings of Bridge No. 00032.

Results obtained from TCLP waste stream sampling and analysis for leachable lead from the paint on the structural steel/metal bridge components and metal railings characterized the two paint waste streams at Bridge No. 00032 as CTDEEP/RCRA hazardous waste.

All steel and metal generated from work tasks (painted or not) shall be segregated and recycled as scrap metal at a scrap metal recycling facility. The recycling of scrap metal (regardless of lead paint concentration) is exempt from USEPA RCRA and CTDEEP Hazardous Waste Regulation.

Light grey barrier caulk, black tar expansion joints, tan abutment rocker paper & black road tar were sampled and found to be non-ACM.

Homeless activity was observed under Bridge No. 00032, therefore there is the potential for blood-borne pathogens (BBP) concerns (needles, sharps, potential human feces, etc.).

No bird/pigeon guano accumulations or hazardous/regulated items were identified.

The Contractor is hereby notified that these hazardous materials requiring special management or disposal procedures will be encountered during various construction activities conducted within the project limits. The Contractor will be required to implement appropriate health and safety measures for all construction activities impacting these materials. 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 ARE SOLELY THE RESPONSIBILITY OF THE CONTRACTOR.**

The Department, as Generator, will provide an authorized representative to sign all manifests and waste profile documentation required by disposal facilities for disposal of hazardous materials.

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

- Item No. 0020905A – Lead Compliance for Abrasive Blast Cleaning & Miscellaneous Tasks

- Item No. 0603222A – Disposal of Lead Debris from Abrasive Blast Cleaning
- Item No. 0101143A – Handling and Disposal of Regulated Items (Estimated Cost)

The Contractor is alerted to the fact that a Department environmental consultant may be on site for abatement and related activities, to collect environmental samples (if necessary), and to observe site conditions for the State.

Information pertaining to the results of the limited hazardous materials investigation discussed can be found in the document listed below. This document shall be available for review electronically.

- HazMat Inspection Letter, Bridge No. 00032, I-95 over MNRR & Local Roads, Stamford, CT, TRC Environmental Corporation, April 1, 2019.

ITEM #0521021A – STEEL-LAMINATED ELASTOMERIC BEARINGS

Description: Work under this item shall consist of furnishing and installing steel-laminated elastomeric bearings as shown on the plans, as directed by the Engineer and in accordance with these specifications.

Work under this item shall also include furnishing and installing any steel plates vulcanized to the elastomeric bearings as shown on plans.

Materials:

1. Elastomer: The elastomeric compound, used in the construction of the bearings, shall contain only virgin polychloroprene (Neoprene) as the raw polymer. The elastomer compound shall be low temperature grade 3 (as defined by the testing requirements), have a Shore "A" Durometer hardness as shown on the plans.

The elastomeric shims shall be neoprene, with a Shore "A" Durometer hardness of 60 and a low temperature grade 3, 1/16 inch and 1/8 inch thick.

Properties of the elastomer shall meet the requirements in Article 18.2.3.1 of the AASHTO LRFD Bridge Construction Specifications

2. Steel Laminates: The internal steel laminates, used for reinforcement, shall be a mild rolled steel conforming to ASTM A570M, Grade 250 or 275, ASTM A611, Grade C or D, or an approved equal.

3. Fabrication and Fabrication Tolerances: The fabrication and fabrication tolerances of elastomeric bearings shall conform to the requirements in Articles 18.1.4 and 18.2.4 of the AASHTO LRFD Bridge Construction Specifications.

If guide pins or other devices are used to control the side cover over the steel laminates, any exposed portions of the steel laminates shall be sealed by vulcanized patching.

4. Testing: The materials for the elastomeric bearing and the finished bearings themselves shall be subjected to testing. The testing shall conform to the requirements in Article 18.2.5 of the AASHTO LRFD Bridge Construction Specifications.

Test bearings, in addition to the bearings shown on the plans, shall be furnished for each type (size and thickness) of bearing for destructive testing.

5. Marking: Each steel-laminated elastomeric bearing shall have marked on it, with indelible ink, the following: the manufacturer's identification code or symbol, and the month and year of manufacture, the orientation, order number, lot number, bearing identification number, and elastomer type and grade (Neoprene, Grade 3). The markings should be placed on a side of the bearing that is visible after installation.

6. Certification: The Contractor shall furnish a Certified Test Report, confirming that the elastomeric bearings satisfy the requirements of these specifications, in conformance with the requirements set forth in Article 1.06.07.

Construction Methods: Before fabricating any materials, the Contractor shall submit shop drawings to the Engineer, for review and approval, in accordance with Subarticle 1.05.02. These drawings shall include, but not be limited to, the following information: manufacturers name, complete details of the bearings, material designations, nominal hardness of the elastomer, the quantity of bearings required, including test bearings, and the location of the bearing identification.

Bearing areas, upon which the elastomeric bearings will be set, shall be cleaned of all debris. Bearing areas, shall be carefully finished, by grinding, if necessary, to a smooth, even, level surface of the required elevation, and shall show no variations from a true plane greater than 1/16 inch over the entire area upon which the elastomeric bearings are to rest.

The elastomeric bearings shall be installed as shown on the plans. The elastomeric bearings shall be installed when the temperature of the ambient air and the bearings is between 40 deg. F to 85 deg. F and has been within this range for at least 2 hours.

Adhesive bonding of the elastomeric bearings to concrete surfaces is not permitted.

The elastomeric bearings shall bear uniformly on all surfaces under full dead load.

Method of Measurement: This work will be measured by the number of cubic inches of elastomeric bearings installed and accepted. No allowance shall be made for test bearings.

Steel plates to be vulcanized to the bearing pads are not to be measured for payment separately.

Basis of Payment: This work will be paid for at the contract unit price per cubic inch of "Steel-Laminated Elastomeric Bearings", complete in place, which price shall include all test bearings and adhesive, materials, testing, equipment, tools and labor incidental thereto.

Pay Item

Steel-Laminated Elastomeric Bearings

Pay Unit

c.i.

ITEM #0601272A – VARIABLE QUANTITY FULL DEPTH PATCH (HIGH EARLY STRENGTH CONCRETE)

Description: This item is a Variable Quantity item and shall include all the work specified.

This item shall consist of saw cutting concrete, removal of all deteriorated concrete for the full depth of the deck slab, and reconstructing the slab with new concrete, where directed by the Engineer and as hereinafter specified.

Work under this item shall also include the providing of a safe access to the structure for the delineation of the repair locations and review of the performed work. The Contractor shall not perform any repair work without prior approval of the Engineer for location, limits and types of repairs.

Materials: The materials shall conform to the following requirements:

1. High Early Strength Concrete – The high early strength concrete shall conform to one of the following:
 - A. The Contractor shall design and submit to the Engineer for approval a high early strength concrete mix. This mix shall be air-entrained, and shall be composed of Portland cement, fine and coarse aggregates, approved admixtures and additives, and water. The mix shall contain between 4% and 7% entrained air, and shall attain a 6-hour compressive strength of 2,500 psi. Additionally, the mix shall contain shrinkage compensating additives such that there will be no separation of the patched area from the parent concrete. This shrinkage-compensating additive shall be utilized so as to produce expansion in the high early strength concrete of no more than 0.3%.
 - B. In lieu of the above high early strength concrete mix, the Contractor may propose the use of a proprietary type mix that will meet the same physical requirements as those stated above. A mix design shall be submitted for this material, stating the percentage of each component to be utilized.
2. Regardless of the type of high early strength concrete proposed by the Contractor, substantive data that demonstrates the ability of the material to meet the specification requirements shall be submitted with the proposed mix design at least 2 weeks prior to its use.

Construction Methods: Construction methods shall conform to the following requirements:

1. Inspection of the Structural Slab: Before any existing concrete is removed from the structural slab, the Contractor will provide the Engineer clear access to the bridge deck. During this time, the Engineer will perform an inspection of the structural slab and designate areas where concrete removal will be required. Due to the nature of the operations, the inspection can be performed only after some existing materials, notably overlays and waterproofing systems, have first been removed from the structural slab. It shall be the responsibility of the Contractor to arrange the construction schedule so that the required operations may be performed without causing delay to the work.

No operations will be performed by the Engineer until after the following construction work has been completed:

- a) The existing bituminous overlay or concrete wearing course, if present, has been removed.
- b) The existing waterproofing system, if present, has been removed.

The removal of these materials will be paid for under other applicable items.

It shall be the responsibility of the Contractor to inform the Engineer, in writing, of the date that a structure will be available for inspection operations. Notification shall be given to the Engineer at least 7 days prior to the date that the area in question will be in a condition acceptable to the Engineer.

The Contractor is hereby informed that the following time period will be necessary to perform the required inspection operations:

One (1) working day with suitable weather conditions per each 6,000 square feet, or portion thereof, of structural slab area.

The Contractor will not be allowed to do any further work to the structural slab, until all necessary inspection operations have been performed, unless given permission by the Engineer. The Contractor shall include any costs related to the allowance for this inspection in the general cost of the work.

2. Removal of Deteriorated Concrete: All deteriorated concrete shall be removed within the limits shown on the plans and where ordered by the Engineer. The lateral limits of each area to be repaired will be delineated by the Engineer and suitably marked. Where several areas to be repaired are very close together, the Engineer may combine these individual patches into a large area. The outlines of each such area shall first be cut to a depth of 1/2 inch with an approved power-saw capable of making straight cuts. In the event that reinforcing steel is encountered within the upper 1/2-inch depth during sawing operations, the depth of saw-cut shall immediately be adjusted to a shallower depth so as not to damage the steel bars. If so directed by the Engineer, saw cutting shall again be carried down to the 1/2 inch depth at other locations of repair provided reinforcing steel is not again encountered. Where over-breakage occurs resulting in a featheredge, the featheredge be squared up to a vertical edge in an approved manner. Where sawing is impractical, the areas shall be outlined by chisel or other approved means.

The removal of concrete shall be by hydro-demolition or pneumatic hammer methods and shall be governed by the requirements set forth in the special provision Item "Variable Quantity Partial Depth Patch" and as directed by the Engineer.

The Contractor shall take adequate measures to prevent concrete debris from falling to any area below the structure and onto adjacent roadway lanes. All debris shall be promptly cleaned up and removed from the site. All material removed shall be satisfactorily disposed of by the Contractor.

Where existing reinforcing steel is damaged or has insufficient cover as determined by the Engineer, it shall be cut out and replaced with new reinforcing steel the same size, with a minimum length for lap splices as indicated on the plans or as directed by the Engineer.

3. Surface Preparation: Sound reinforcing steel which is in the proper position in the slab shall be left in place and cleaned of all concrete. The smaller fragments shall be removed with hand tools or by water blast cleaning.

The newly exposed reinforcing steel and concrete faces shall be cleaned of loose or powder-like rust, oil solvent, grease, dirt, dust, bitumen, loose particles, and foreign matter just prior to patching.

Existing concrete surfaces against which the new patch will be placed shall be dampened. All free water shall be removed from the surface.

Forms shall conform to the pertinent requirements of Subarticle 6.01.03-1.

The cleaned concrete surface area to receive patching material shall be wetted for a 1 hour period immediately prior to placement of the concrete patch. Any standing water shall be blown out with compressed air prior to application of binding grout and patch material.

After wetting of the deck patch area to receive patching, and removal of the standing water, cement binding grout shall be scrubbed into the concrete patch bonding surface with stiff bristled brushes. All bonding surfaces in the patch area shall receive a coating of bonding grout within a time period not to exceed 5 minutes prior to placement of the concrete patch material.

4. Mixing, Placing, and Finishing: Mixing and placing concrete shall be done in accordance with the applicable portions of Article 6.01.03. Mixing and placing shall not be executed unless the ambient temperature is above 40 °F and rising.

The concrete mix shall be properly placed to insure complete contact around all reinforcing steel and against existing concrete at patch edges and compacted to a level slightly above the surrounding deck surface. Vibrators of the appropriate size shall be used for all consolidation of the concrete, regardless of the size of the patch area, with no hand tamping or rodding allowed. Concrete may be moved horizontally with the aid of hand tools, but not with the use of vibrators (excess vibration shall be avoided).

Vibrating plates or vibrating screed shall be used on the surface of all patches for strike off and consolidation. After the concrete has been spread evenly and compacted to a level slightly above the adjacent concrete surface, the vibrating plate or screed shall be drawn over the surface at a uniform speed without stopping, in order to finish the surface smooth and even with adjacent concrete. The surface shall be float finished. Finishing operations shall be completed before initial set takes place.

5. Curing: Immediately after finishing of the patch area, a sheet of 4 mil polyethylene shall be placed over the repair area, in conjunction with insulating curing material. This material shall be a minimum of 2-inch thick closed cell extruded polystyrene insulation board that conforms with the requirements of ASTM C578. It shall have a minimum certified R-value of 10. The insulating material shall extend a minimum of 12 inches beyond the limits of the patch area, and shall be kept in intimate contact with the surrounding payment surface to prevent lifting of the material. It shall be weighted down with sandbags that weight at least 15 pounds each. The sandbags shall be placed a minimum of 2 feet on center around the patch area.

Cured patches, having a hollow sound when chain dragged or tapped (indicating delamination), shall be replaced by the Contractor at its expense until a patch acceptable to the Engineer is in place.

6. Tolerances in Finished Patch Surfaces: The surface profile of the patched area shall not vary more than 1/8 inch in a distance of 10 feet, when a 10 foot long straightedge is placed on the surface at any angle relative to the centerline of the bridge. Humps in the patch that exceed the 1/8 inch tolerance shall be ground down by approved machinery. Sags or depressions in the surface of the patch area that exceed 1/8 inch tolerance as determined by the Engineer shall be

repaired by removal of the concrete in the depression to a depth of 1 inch and repaired in the previously described manner.

- 7. **Testing:** The Contractor shall form, cure and test all concrete test cylinders under supervision of a representative of the Department. The dimensions, type of cylinder mold, number of cylinders, and method of curing shall be as directed by the Engineer.

The Contractor shall provide a portable compressive testing machine, on Site, for the purpose of testing all compressive strength cylinders. All testing shall be in accordance with the requirements of ASTM C39. NOTE: This compressive testing machine must be calibrated in accordance with the provisions of Section 5, ASTM C39.

- 8. **Time Schedule:** Traffic will not be allowed on any areas where the Contractor has placed and finished concrete until the material has properly cured as specified, and has developed the required strength of 2,500 psi as determined by the compressive strength test, or until the Engineer authorizes its opening to traffic.

All work shall proceed as required by the “Maintenance and Protection of Traffic” and “Prosecution and Progress” specifications elsewhere within the Contract.

Method of Measurement: This work will be measured for payment by the actual volume in cubic yards of replacement concrete, complete and accepted. No deduction will be made for the volume of reinforcing steel. Removal of concrete will not be measured for payment.

Basis of Payment: This work will be paid for at the Contract unit price per cubic yard for “Variable Quantity Full Depth Patch (High Early Strength Concrete)” complete in place, which price shall include sawcutting and removal of concrete, surface preparation, concrete replacement, all equipment, tools, labor and work incidental thereto.

The Contractor will be paid the guaranteed minimum quantity for this Variable Quantity item unless the final quantity authorized and accepted by the Engineer is greater than the guaranteed minimum estimated quantity or the work is deleted from the contract in its entirety in accordance with Article 1.09.05.

For quantities in excess of the guaranteed minimum quantity but less than the estimated maximum quantity, the Contractor will receive payments for the actual quantities authorized and accepted by the Engineer using the unit price bid.

For quantities exceeding the estimated maximum quantity, the Contractor shall request approval from the Engineer prior to proceeding with the additional work. Payment for quantities authorized by the Engineer in excess of the estimated maximum quantity will be paid in accordance with the special provision for Section 1.04.02 and 1.04.03 of the Standard Specifications Form 817 found in this Contract.

Pay Item	Pay Unit
Variable Quantity Full Depth Patch (High Early Strength Concrete)	c.y.

ITEM #0602910A – DRILLING HOLES AND GROUTING DOWELS

Description: Work under this item shall consist of drilling holes in concrete and grouting dowels at the locations shown on the plans, in accordance with the plans, the manufacturer's recommendations, and as directed by the Engineer.

Materials: The chemical anchoring material shall conform to Article M.03.07. The adhesive bonding material shall be a resin compound specially formulated to anchor steel bars in holes drilled into concrete for the purpose of resisting tension pull-out. The adhesive bonding materials shall be selected from the Connecticut Department of Transportation's Qualified Product List.

A Materials Certificate shall be required for the adhesive bonding material in accordance with Article 1.06.07, certifying the conformance of this material to the requirements stated herein.

Construction Methods: The Contractor shall drill holes into the concrete to the depth and at the locations shown on the plans.

The Contractor shall submit the following to the Engineer for approval: type of drill, diameter of bit, method of cleaning holes and method of placement of the adhesive bonding material. Specifications and recommendations for the aforementioned may be obtained from the manufacturer of the adhesive bonding material. The mass of the drill shall not exceed 20 lbs.

The reinforcing dowels shall be able to develop a pull-out resistance of 90 percent of their nominal yield strength when bonded at the embedment depths provided.

The Contractor shall provide the minimum cover for the dowels as shown on the plans.

If the existing reinforcing steel is encountered during drilling, the holes may be relocated only if approved by the Engineer.

Drilling methods shall not cause spalling, cracking, or other damage to the concrete. Those areas damaged by the Contractor shall be repaired by him in a manner suitable to the Engineer and at no expense to the State.

The Contractor shall take necessary precautions to prevent any materials from falling onto the train tracks below.

Method of Measurement: This work will be measured for payment by the actual number of dowels grouted into drilled holes, each completed and accepted.

Basis of Payment: This work will be paid for at the contract unit price each for "Drilling Holes and Grouting Dowels", which price shall include drilling and preparing holes, and applying adhesive bonding material in the hole. It shall also include all material, except dowels, and all

equipment, tools and labor incidental thereto.

Pay Item

Drilling Holes and Grouting Dowels

Pay Unit

ea.

ITEM #0913293A – TEMPORARY PROTECTIVE BARRIER (EXISTING BRIDGE)**Description:**

Work under this item shall consist of designing, furnishing, installing, maintaining and removing a protective barrier underneath the existing Bridge 00032 over the Metro-North Railroad during construction to the limits shown on the plans or directed by the Engineer.

The protective barrier shall be any type of an adequately braced structure which the Contractor elects to build that meet the requirements of this specification, utilizes a design similar to that shown on the plans and as approved by the Engineer.

The Contractor shall comply with all provisions of “Work on Railroad Property” contained elsewhere in these specifications.

Work under this item shall also include design, furnishing, installation and removal of temporary support brackets attached to pier 6 as shown on plans.

Materials:

Materials and equipment shall be of satisfactory quality to perform the work and shall not be used on the Project until and unless they have been reviewed and accepted by the Engineer.

Structural Steel shall conform to the requirements of Article M.06 of the Standard Specifications. Previously used steel may be used so long as it can be established in a manner satisfactory to the Engineer that it meets the requirements, including straightness, for new steel.

Commercially available prefabricated members may be used so long as their adequacy and suitability may be established in a manner satisfactory to the Engineer and are approved by the Engineer in writing.

Painting of the temporary support systems is not required, except for primer to provide Class "B" contact surfaces at bolted connections.

Non-shrink grout shall conform to Article M.03.05 of the Standard Specifications.

A Certified Test Report will be required in accordance with Article 1.06.07, certifying the conformance of the materials to the requirements set forth in this specification. Should the consignee noted on a Certified Text Report be other than the Prime Contractor, the Materials Certificates shall be required to identify the shipment.

Rigid walls for the horizontal and vertical components of the barrier shall be comprised of timber, plywood panels or corrugated panels of steel, aluminum or reinforced fiberglass. Flexible

containment walls constructed of fire retardant tarpaulin material shall be impermeable to air and water.

Materials used shall be capable of a minimum service life of two years under normal on the job exposure to weather, sunlight and handling, excluding damage from misuse, mishandling, and exposure to chemicals and airborne contaminants.

Construction Methods:

Construction methods shall conform to Article 6.03.03 of the Standard Specifications and to the following:

Modifications to the existing structural steel superstructure, including drilling holes, cutting and any other work required for structure modifications shall conform to the requirements of "Lead Compliance for Miscellaneous Exterior Tasks" and related special provisions.

All materials required for temporary support of the structure shall remain the property of the Contractor and shall be removed from the site after the work is completed, unless otherwise agreed to.

The temporary protection barrier shall be designed and constructed to prevent dust, debris, concrete, formwork, tools, paint or anything else from falling onto railroad property.

The temporary protection barrier shall be attached and braced to the existing structure, bonded and grounded (including during installation) and shall be installed outside the limits of the minimum horizontal and vertical clearances shown in the contract drawings.

The contractor shall develop the means and method to provide access for him to perform all work within the railroad property in accordance with the restrictions in the contract documents. The Contractor shall protect any existing facilities during the construction. Should any damage occur to any railroad property or the structure as a result of the Contractor's operations, the Contractor shall make all repairs at no cost to the State.

Temporary Protective Barrier Design Requirements:

Working drawings and design calculations for the temporary protective barrier shall be submitted in accordance with the requirements of 1.05.02-2b. The working drawings and design calculations shall be prepared, sealed, and signed by a Professional Engineer, licensed in the state of Connecticut. The furnishing of such plans shall not serve to relieve the Contractor of any part of the responsibility for the safety of the work or for the successful completion of the Project. These drawings shall include, but not be limited to complete details of the methods, materials and equipment he proposes to use, including the following:

- Contractor's proposed temporary protective barrier design calculations and drawings

- Layout plan with member sizes.
- Dimensions and details.
- Sequence of operations.
- Loads used in the design.
- Design Specification used in the design.
- Material specifications used in the design.
- Method of erection.
- Method grounding during erection and when complete.
- Method of protection of existing facilities.
- Details for all lifting equipment, support systems, fabrications and appurtenances.
- Type and grade of all materials.
- Modifications/rework to the existing or temporary structures required to accommodate the barrier.
- Details and location of work platforms and other means of access required to perform the work. All work platforms and ladders etc. shall be designed in accordance with OSHA requirements.

The protective barrier shall be designed for all loads as noted in the Railroad Specifications section of this special provisions.

The horizontal barrier beneath the existing superstructure shall be designed for a minimum live load as noted in railroad specifications. The horizontal barrier shall cover the entire area of the span over the railroad. The horizontal barrier shall also be designed to conform to any load restrictions noted on the plans.

The vertical barriers adjacent to the existing piers shall be designed to carry a minimum live load as noted in railroad specifications.

Upon approval of the Engineer, the temporary barrier shall be constructed in stages during track outages as described elsewhere in the contract documents and as permitted and supervised by a representative of Metro-North Railroad.

Construction of the temporary barrier shall be completed in its entirety prior to the beginning of work on the bridge adjacent to the railroad.

The Engineer will permit removal of the protective barriers where it is no longer required.

Method of Measurement:

The work under this item will not be measured for direct payment, but will be included in the Contract Lump Sum price.

Basis of Payment:

This work will be paid for at the contract lump sum for “Temporary Protective Barrier (Existing Bridge)” at the location indicated, complete in place, which price shall include all materials, tools, equipment and labor incidental thereto, including maintenance of the barrier, and removal of the barrier upon completion of the work.

Pay Item	Pay Unit
Temporary Protective Barrier (Existing Bridge)	LS