

# **SPECIFICATIONS – JOB SPECIFIC**

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**SPECIFICATIONS - JOB SPECIFIC**  
RIC No. 2020-CB-053

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Remove Subsection 101.71, Substantial Completion, pages 1-9 of the RI Standard Specifications for Road and Bridge Construction in its entirety and replace it with the following:

**CODE 101.71**

**SUBSTANTIAL COMPLETION**

**101.71 SUBSTANTIAL COMPLETION.** Substantial completion is when the Work is completed so it can be safely and effectively used by the public. This may include the entire Project or a unit, or portion of the Work such as a structure, an interchange, or section of road or pavement

Except as provided by other provisions in the Contract, after notice by the Contractor, Substantial Completion occurs at the point when the Engineer determines that the following Work has been finished:

- 1) Demolition of the superstructure is completed;
- 2) Construction of the Temporary Utility Bridge

The parties may agree that any incomplete contract Work, including but not limited to erosion control measures, or Final Cleanup, not listed above shall be completed on the Punch List, which is defined in Section 101 in the Specifications.

Remove Subsection 105.02, Plans and Shop Drawings, pages 1-32 and 1-33 of the RI Standard Specifications for Road and Bridge Construction in its entirety and replace it with the following:

## **CODE 105.02**

### **PLANS AND SHOP DRAWINGS**

**105.02 PLANS AND SHOP DRAWINGS.** Plans shall be supplemented by Contractor-prepared Shop Drawings as necessary to control the Work and its prosecution. Shop Drawings consisting of details that are not included in the Plans but required for the Work shall be furnished to the Department. Copies of any calculations required or used to prepare the Shop Drawings shall be furnished with the submission. Manufacturer's engineering data for prefabricated material, including that for falsework and forms shall be furnished with each set of Shop Drawings.

- 1) The Contractor shall submit to the Department for approval or documentation, the necessary Shop Drawings in a timely manner so as not to adversely affect the Contractor's accepted schedule. The Contractor shall not perform work for items requiring shop drawings before receiving approval of the corresponding Shop Drawings. This approval shall neither confer upon the State nor relieve the Contractor of any responsibility for the accuracy and completeness of the drawings, conformity with Contract requirements and successful completion of the Contract. Prior to approval of the Contractor's shop drawing, the Contractor bears all risk and all costs of delays for items related to the respective shop drawing.
- 2) Shop Drawings illustrate the Contractor's way it intends to carry out the design concepts contained in the Contract and are not part of the Contract. The Contractor's submission of a Shop Drawing represents to the Engineer that the Contractor (i) coordinated the Shop Drawing with the Contract; (ii) verified and measured the field dimensions and other information; (iii) calculated all details, construction and performance criteria; and (iv) reviewed and accepted the Shop Drawings as its means and methods.
- 3) Submission of Shop Drawings. All shop drawings shall be submitted in a timely fashion such that the Contractor's accepted schedule will not be adversely impacted by the submittal process.

Shop drawing submittals shall be via PDF files submitted electronically by the Contractor into the Department's web-based Project Management Portal(PMP),per RIDOT procedure posted in the Documents Tab. Each shop drawing submittal shall be accompanied by design computations, cuts from manufacturers' catalogs, and/or all other supporting technical bulletins and data. Upon the Department's request, once shop drawings have been approved or approved as noted, the Contractor shall submit for the record four (4) hard copy sets of shop drawings to the Department.

- a) All Shop Drawings shall be stamped by a Rhode Island Registered Professional Engineer. The stamping of Shop Drawings shall be in accordance with the applicable requirements of the Rhode Island Board of Registration for Professional Engineers, or other Boards of Professional Registration, as applicable.

- 4) **Approval of Shop Drawings** All shop drawings will be reviewed and returned to the Contractor for appropriate action within 45 calendar days from receipt of the submission or resubmission, or as detailed in the Contract, with the exception of critical submittals that are flagged as demolition shop drawings as provided in Section 8 of the General Provisions/Contract Specific pages, all shop drawings shall be reviewed by the Engineer and returned to the Contractor for appropriate action. The Engineer shall review critical submittals within seven (7) calendar days.
  - a) Shop drawings that are found to be erroneous, lacking required Professional Engineer stamps, lacking information necessary to control construction, or not in conformance with accepted design criteria will be rejected and returned to the Contractor. The Contractor shall address the Engineer's comments and resubmit revised shop drawings.
  - b) Shop drawings designated "Approved-As-Noted" may be used by the Contractor to commence corresponding work subject to satisfying the written conditions of the approval; such shop drawings shall be revised according to the notes (as applicable) and transmitted to the Engineer within fourteen calendar days of such approval.
- 5) There shall be no claims for additional payment by the Contractor, nor will there be an extension of time under Section 108.03 for delays resulting from resubmissions due to incomplete Shop Drawings; for the time taken by the Contractor to submit revised Shop Drawings caused by an erroneous submission; or by a previous submission either lacking the information necessary to control construction; or for not conforming to accepted design criteria. In addition, the Engineer's review time of the revised Shop Drawings will not constitute justification for an extension of time.
- 6) The Contract price includes the cost of furnishing all Shop Drawings, including resubmissions

**CODE 108.1000**

**PROSECUTION AND PROGRESS**

In accordance with Section **108.08, Failure to Complete on Time, Para. A., Phased Completion, Interim Completion, and Substantial Completion** the following defines the Interim Completion, Substantial Completion Dates, and Liquidated Damages.

**1. Interim Completion Date #1 – Demolition of Bridge Superstructure**

The start of installation of temporary barrier across the bridge to barricade the demolition work shall be no later 5 Calendar days after NTP. The completion of the superstructure demolition shall be completed on or before **September 5, 2020**.

**2. Substantial Completion: October 15, 2020**

Substantial Completion per specification 101.71 and including all of the Works of the Temporary Utility Bridge.

Liquidated damages: \$ **1,500.00** per calendar day.

**CODE 109.06**

**PAYMENT FOR WORK**

**109.06 PAYMENT FOR WORK.**

In accordance with the Standard Specification, the Contractor shall utilize the Request for Payment templates supplied by the Department. The following pages are a depiction of the templates.

REQUEST FOR PAYMENT

From: (Contractor Name) (Address) (City, State, Zip) To: DOT.Accountspayable@dot.ri.gov  
 Invoice: (Invoice #) (Enter #)  
 PTSID # (Enter #)  
 Invoice date: MM/DD/YYYY  
 Period ending date: MM/DD/YYYY

Contract For: Insert Contract Name

Request for payment:

Original contract amount	\$ 346,320.00
Approved changes	\$ 75,000.00
Revised contract amount	\$ 421,320.00

Total Requested Todate

Approved This period	\$ 26,310.00
Retainage This period	\$ 10,980.00
Approved for Payment This period	\$ 549.00
Total Retainage todate	\$ 10,431.00
Remaining Contract to bill	\$ 1,315.50
	\$ 395,010.00

Project: (Project Name) (Location(s))  
 NTP: MM/DD/YYYY  
 Contract Completion: MM/DD/YYYY  
 Contract No.: RI 20\_\_-\_\_-\_\_  
 ATT: Resident Engineer

CHANGE ORDER SUMMARY	ADDITIONS	DEDUCTIONS
Changes approved in previous months by Owner	\$ 65,200.00	\$ 5,200.00
Total approved this month	\$ 15,000.00	
<b>TOTALS</b>	<b>\$ 80,200.00</b>	<b>\$ 5,200.00</b>
NET CHANGES by Change Order		\$ 75,000.00

Current Billing Requirements	Y/N
Detailed Invoice	
Certificates of Compliance	
Payrolls Received	
Subcontractor Payments	
EEO Certification	

I certify that, to the best of my knowledge, the Work performed and materials supplied under this invoice have been completed in accordance with the Contract (including all authorized changes). I certify that the payment requested in this invoice represents the actual value of the Work completed under the terms and requirements of the Contract (including all authorized changes). I understand that failure to notify the Resident Engineer/staff of any Work performed and included on this invoice will be considered null until adequate investigation/inspection by the State is completed and justified. I also certify that the Contractor (Contractor Name) has paid all subcontractors (by terms of their contracts) the amounts previously billed and paid by the owner. This certification is made in compliance with all federal and state laws and regulations for false statements including, but not limited, to 18 U.S.C. §1020, Fraud and False Statements, and 23 C.F.R. §635.119, False Statements. I am duly authorized to certify on behalf of (Contractor Name).

CONTRACTOR: (Contractor name) State Of RHODE ISLAND County Of PROVIDENCE

By: Subscribed and sworn to before me this \_\_\_ day of \_\_\_

Date: Notary Public My commission expires: \_\_\_









Attachment E-- Potential Extra Work

Invoice Date: #REF!

(Enter Project name)  
 (Project Specific Contract #)  
 (Project Specific Contract #)

Project Name:  
 R.I. Contract No.:  
 F.A.P. Nos.:

Number	Date Extra work Identified	Name	Contractor/subcontractor	Issue Description	RI Standard Specification Supporting Request for Extra Work	Extra Work Value	RI DOT Position	Date Issue Resolved	Change Order #	Item #	Amount Paid
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
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21											
22											
23											
24											
25											

**CODE 202.9912**

**LOAD, HAUL, MANAGE AND DISPOSE  
CONTAMINATED SOIL, ALL TYPES**

**DESCRIPTION:** This special provision is for the management, sampling and testing, special handling, loading, hauling and disposal of contaminated or hazardous soil encountered on the project limits. Contaminated soil is defined as all soils below the roadway subbase and adjacent soils required for utility work as part of this project. All work shall be performed in accordance with Rhode Island Department of Environmental Management (RIDEM) Remediation Regulations for recycling/ disposal, in accordance with the attached Soil Management Plan (SMP) and as directed by the Engineer.

**APPLICABLE LAWS AND REGULATIONS:** The loading, hauling and disposal of contaminated soil shall be conducted in accordance with the Environmental Protection Agency (EPA) and RIDEM regulations.

The Contractor shall ensure that compliance with applicable regulations are maintained during all loading, hauling, and disposal operations. The Contractor shall maintain an operations log during the loading, hauling, and disposal activities to include, but not be limited to, dates of activities, soil management observations, estimated volumes loaded and hauled for offsite recycling/ disposal, the recycling/ disposal facility the contaminated soil was transported to and paperwork documenting lawful off-site disposition. In addition to the above, the Contractor is responsible for erosion and pollution controls in accordance with local, State and Federal regulations as well as what is included in the Contract Documents. The Contractor shall submit a summary report to the RIDOT on a daily basis to document the operations associated with loading, hauling and transportation activities.

**CONTAMINATED SOIL LOADING, HAULING AND DISPOSAL:** The Contractor may choose and implement any effective and lawful method for loading, hauling and disposing of contaminated soil encountered, excavated and loaded provided the work is performed subject to the approval of the Engineer. The Contractor shall assume all responsibility for the adequacy of the methods, materials, documentation and equipment employed.

Excavated soils shall be direct loaded to disposal vehicles. Temporary staging will not be allowed.

Soils excavated from the site may not be re-used as fill on residential property. Excavated fill material shall not be re-used as fill on commercial or industrial properties unless it meets the Department's Method 1 Residential Direct Exposure Criteria for all constituents listed in Table 1 of the Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases (Remediation Regulations). Copies of the laboratory analysis results shall be maintained by the site owner and included in the annual inspection report for the site, or the closure report if applicable. In the event that the soil does not meet any of these criteria, the material must be properly managed and disposed of off site at a licensed facility.

Site soils, which are to be disposed of off-site, must be done so at a licensed facility in accordance with all local, state, and federal laws. Copies of the material shipping records associated with the

disposal of the material shall be maintained by the site owner and included in the annual inspection report for the site.

Best soil management practices should be employed at all times and regulated soils should be segregated into separate piles (or cells or containers) as appropriate based upon the results of analytical testing, when multiple reuse options are planned (e.g. reuse on-site, reuse at a Department approved Industrial/Commercial property, or disposal at a Department approved licensed facility).

All non-disposable equipment used during the soil disturbance activities will be properly decontaminated as appropriate prior to removal from the site. All disposable equipment used during the soil disturbance activities will be properly containerized and disposed of following completion of the work. All vehicles utilized during the work shall be properly decontaminated as appropriate prior to leaving the site.

During loading and hauling of contaminated soil the Contractor shall be required to control dust and sedimentation erosion. Erosion control devices shall be installed as shown on the Plans or as proposed by the Contractor and accepted by the Engineer.

Results from previous sampling are provided in Attachment F – Remedial Investigation. Any additional profiling for disposal of contaminated material, as required by the off-site receiving facility shall be the responsibility of the Contractor. All handling, storage, transporting and disposal of contaminated/ hazardous waste material shall be the responsibility of the Contractor. The Contractor shall submit material profiling data and any additional data obtained by the Contractor to the receiving facility and to the RIDOT prior to the removal and final disposal of the contaminated material from the site. At the completion of disposal, Contractor shall provide manifests documenting the proper disposal of contaminated soil.

**METHOD OF MEASUREMENT:** This item will not be measured for payment. The estimated distribution of quantities for this item is listed in the table below.

<b>LOAD, HAUL, MANAGE AND DISPOSE CONTAMINATED SOIL, ALL TYPES</b>	
<b>Location</b>	<b>Quantity</b>
Reservoir Avenue Road Bridge No. 327 – Northeast and Southeast approaches	37 CY

**BASIS OF PAYMENT:** No separate payment will be made for this item. Costs for this item shall be included in the lump sum bid prices of the appropriate items as listed in the Proposal.

**CODE 212.2000**

**CLEANING AND MAINTENANCE OF EROSION AND POLLUTION CONTROLS**

**The respective subsections of Section 212 of the Standard Specifications for Road and Bridge Construction are amended as follows:**

**212.01 DESCRIPTION.** [Add to end of section]

The work also consists of street sweeping as required to clean paved roadways inside and adjacent to the project. The street sweeping shall collect debris from construction vehicles before the solids can reach the drainage system.

**212.01.1 Applicable Controls.** [Add to end of section]

f. Street sweeping

**212.03.2 Other Requirements.** [Add to end of section]

c. Street sweeping. The roadways will be swept when directed by the Engineer, before a rainstorm and when debris is visible on the roadway.

**212.03.3 Failure to Maintain Erosion and Pollution Controls.** [Section is revised as follows]

A daily charge shall be deducted from monies due the Contractor in the event the Engineer decides that erosion and pollution controls are not in place or have not been adequately maintained. This shall include the failure to comply with the Storm Water Pollution Prevention Plan (SWPPP) provisions. The contractor shall be held responsible for any and all cost associated with fines and cleanup activities, over and above the penalty assessed herein resulting from contractor failure in this regard

For the first violation the charge for this Contract will be **\$1,000.00** per day. The charge of **\$1000.00** per day shall continue each consecutive calendar day thereafter until the deficiencies noted have been corrected to the complete satisfaction of the Engineer

**CODE 800.9960**  
**TEMPORARY UTILITY BRIDGE**

**DESCRIPTION:** The work under this item shall consist of constructing the temporary utility bridge on the west side of the Reservoir Avenue Bridge No. 327 and installation of the temporary gas line as shown on the plans. These Special Provisions shall supplement the relevant sections of the State of Rhode Island Standard Specifications for Road and Bridge Construction, Amended March 2018, including all applicable compilations of approved specifications (hereinafter referred to as the RI Standard Specifications), not replace them. All work shall be performed in accordance with the contract drawings, the RI Standard Specifications as modified by this Special Provision, and as directed by the Engineer. Where no specific requirement is directed for a component part of this item, the RI Standard Specifications shall apply, except for payment.

The work included for this item shall comprise all work pertaining to the construction of all superstructure components above the bridge beam seats consisting of:

1. Fabricating and furnishing the steel members as shown on the plans including steel beams, , diaphragms, connection plates, stiffener plates, protection plates, utility frames, lifting anchors, timber support post, base plates, drill and grout anchors, member connectors, foundation excavation, concrete foundations, foundation backfilling, welding, painting structural steel, steel HP columns and beams for bearing support, bolts, nuts, washers, miscellaneous metals, hardware, and any and all embedded or attached components.
2. The temporary utility bridge concept shown on the Contract Drawings shall be designed by the Contractor in accordance with this section. The design calculations, plans, and details of the temporary structure shall be submitted to the Engineer for acceptance prior to commencing any work. Design documents shall be stamped by a Professional Engineer licensed in the State of Rhode Island.
3. Installing the gas main utility and appurtenances onto the temporary utility support including steel utility supports, nonconductive adjustable roll guide supports, glass mesh FRP, threaded rods and lock nuts, and any and all attached components as required to complete the work and to secure the utility to its support.
4. Carefully removing sections of the historic pedestrian railing at the northeast corner of the bridge as required to place the temporary utility bridge on it's foundation support and storing the railing (for reinstallation by other) as directed by the Engineer.
5. Providing 3/4" thick plywood shielding/fence with in the outer frame of the historic pedestrian railing and around the gas main and utility bridge at the railing to secure the opening left by removing the historic pedestrian railing interior members.
6. The Contractor may submit for approval an alternative conceptual design and construction method of the temporary utility bridge. All elements of the alternative conceptual design, construction method, and installation shall be approved by the Engineer and Amtrak.

The Contractor shall excavate as required to install the foundations for the Temporary Utility Bridge foundation. This work shall be in accordance with the specification "Code 202.9912 Load, Haul, Manage And Dispose Contaminated Soil, All Types" except that no separate payment will be made for this item. The costs for this item shall be included for payment under Item Code 800.9960 "Temporary Utility Bridge".



**MATERIALS:**

The materials used shall be in accordance with the applicable sections of the RI Standard Specifications, Special Provisions, and plans for each respective item included in the construction of the superstructure.

**CONSTRUCTION METHODS:**

**A. Structural Steel Construction Methods.**

Refer to Section 824 Structural Steel Construction of the RI Standard Specifications.

**B. Timber Construction Methods.**

Refer to Section 806 Timber Construction of the RI Standard Specifications.

**C. Cast In-Place Concrete Construction Methods**

Refer to Section 808 Cast-In-Place Concrete Masonry of these special provisions.

**BASIS OF PAYMENT:** Item Code 800.9960 "TEMPORARY UTILITY BRIDGE " will be paid for at their respective contract "Lump Sum" prices as listed in the Proposal. The prices so stated shall constitute full and complete compensation for all labor, tools, materials and equipment, and all other incidentals required to complete the work as described in these Special Provisions and elsewhere in the Contract Documents, complete in place and accepted by the Engineer.

Payment for any and all materials, labor, tools and equipment that is required to complete the work shown on the Plans and are not specifically included for payment under another item shall be considered incidental to the work performed under this Item.

**CODE 803.9902**  
**REMOVE AND DISPOSE EXISTING BRIDGE SUPERSTRUCTURE**  
**RESERVOIR AVENUE ROAD BRIDGE NO. 327**

**DESCRIPTION:** The work under these items shall consist of the complete removal, handling, transportation, and legal disposal (including saw cuts) of portions of the existing bridge No. 327 to the limits indicated on the Contract Drawings and as described below. These Special Provisions shall supplement the requirements of Section 803 of the State of Rhode Island Standard Specifications for Road and Bridge Construction, Amended March 2018 (hereinafter referred to as the RI Standard Specifications), including all applicable compilations of approved specifications. All work shall be performed in accordance with the contract drawings, the RI Standard Specifications as modified by these Special Provisions, and as directed by the Engineer.

For the purpose of these Special Provisions, the portions of the existing bridge structure to be removed and disposed (to the limits indicated on the Contract Drawings) are in general described as follows:

**Superstructure:**

- The entire Bridge No. 327 superstructure from the North Abutment to the South Abutment including all components above the beam seats, bearings, roadway joints and all attached and embedded components.

The Contractor shall install temporary deck underside and side shielding when working over railroad. The existing underside shielding may be used to the extent possible. This work shall be in accordance with the specification “Temporary Deck Underside & Side Protective Shielding” except that no separate payment will be made for this item. The costs for this item shall be included for payment under Item Code 803.9902 “Remove and Dispose Existing Bridge Superstructure Reservoir Avenue Road Bridge 327”.

**MATERIALS:** Not Applicable.

**CONSTRUCTION METHODS:** The Contractor shall phase and/or perform this work in accordance with the approved sequence of construction and the restrictions noted in the CS pages.

The Contractor shall ensure that the removal and disposal operations do not cause damage to the portions of the existing bridge structure to remain, nor to any existing structures or properties. Any resulting damages will be repaired to the satisfaction of the Engineer at the expense of the Contractor. No blasting or explosives will be allowed for the bridge demolition.

Care shall be taken to protect all utilities and adjacent structures. Any damage to existing utilities and existing structures that are not shown in the Contract Documents to be removed shall be repaired by the Contractor at his or her own expense to the satisfaction of the Engineer and the respective Utility Companies. All respective utility companies shall be given a minimum of forty-eight (48) hours, during business days, advanced notice of demolition activities to be performed adjacent to their utilities. This notice will also apply to any deactivation required by the Contractor.

The Contractor shall confirm the location and status of each utility line (with the respective utility companies) prior to any concrete removal.

The Contractor shall assume that all painted structural and metal bridge components are coated with lead-based paint and shall be handled in compliance with the latest rules, regulations, requirements, standards and/or procedures of the Occupational Safety and Health Administration, and the Rhode Island Department of Health and Environmental Lead Program. The Contractor shall obtain approval of its work plan from Rhode Island Department of Environmental Management (RIDEM) and/or the RIDOH. The Contractor shall provide documentation of this approval to the Engineer.

Regardless of the method of removal, if in the opinion of the Engineer the removal operation causes excessive damage to portions of the concrete which are to remain, the Contractor shall cease his operations until such time that an alternate removal method has been proposed by the Contractor and has been approved by the Engineer. No resulting delays due to "cease of operations" will result in claims for additional payment by the Contractor to the State, or an extension of the project completion date.

All removed materials shall be taken from the site and legally disposed as the work progresses. No storing or burying of material or debris on site will be permitted.

Prior to commencement of demolition activities, the Contractor shall prepare and submit to the Engineer for approval, detailed demolition plans signed and sealed by a Professional Engineer licensed in the State of Rhode Island. Said demolition plans shall include, but not be limited to, anticipated pick weights, rigging, equipment types and locations, removal sequence and effects on remaining structural elements, temporary support design, and all else necessary to clearly describe the work to be performed and method he proposes to use, in detail and the location where he intends to dispose of the demolition debris. An approved demolition plan as described above is required prior to commencement of any demolition activities. Approval(s) of demolition plans, procedures, etc. shall in no way relieve the Contractor of sole liability for damages resulting from the removal and disposal operations.

**METHOD OF MEASUREMENT:** Remove and Dispose Existing Bridge Superstructure – Reservoir Avenue Road Bridge No. 327 and Remove and Dispose Existing Bridge Substructure – Reservoir Avenue Road Bridge No. 327 shall be measured for payment as a “Lump Sum”, completed and accepted. The estimated distribution of quantities is listed in the tables below.

<b>Remove and Dispose Existing Bridge Superstructure</b>	
<b>Location</b>	<b>Quantity</b>
Reservoir Avenue Road Bridge No. 327 - steel	280 TONS

Reservoir Avenue Road Bridge No. 327 - concrete	380 CY
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**BASIS OF PAYMENT:** Item Code 803.9902 "REMOVE AND DISPOSE EXISTING BRIDGE SUPERSTRUCTURE RESERVOIR AVENUE ROAD BRIDGE NO. 327" will be paid for at their respective contract "Lump Sum" prices as listed in the Proposal. The prices so stated shall constitute full and complete compensation for all labor, tools, materials and equipment, and all other incidentals required to complete the work as described in these Special Provisions and elsewhere in the Contract Documents, complete in place and accepted by the Engineer.

Payment for any and all materials, labor, tools and equipment that is required to complete the work shown on the Plans and are not specifically included for payment under another item shall be considered incidental to the work performed under this Item.

**CODE 803.9903**  
**TEMPORARY DECK UNDERSIDE**  
**AND SIDE PROTECTIVE SHIELDING**

**DESCRIPTION:** This work shall consist of designing, furnishing, fabricating, erecting, maintaining, removing, and disposing of temporary deck underside and deck side protective shielding at locations shown on the Plans and/or as directed by the Engineer.

The temporary deck underside and deck side protective shielding shall provide for the safe passage of vehicles, pedestrians, and shall provide protection for utilities. The use of the protective shielding is to ensure that no debris falls to the OCS and railroad tracks below the structure. This protective shielding is to be used for or in conjunction with deck demolition. It shall also be capable of serving as a full protection barrier for construction personnel. See Amtrak requirements in Appendix D of the General Provisions/Contract Specific pages, all shop drawings will be reviewed by the Engineer and Amtrak and returned to the Contractor for appropriate action.

All work shall be performed in accordance with the contract drawings, the Rhode Island Standard Specifications for Road and Bridge Construction, Amended March 2018, all applicable compilations of approved specifications, as modified by this special provision, and as directed by the Engineer.

**MATERIALS:** The temporary protective shield shall consist of platform hangers, timber plank system, debris net system or a combination of these or other systems that will effectively protect the ground surfaces, railroad equipment, or railroad tracks below from construction debris during demolition and construction activities. It shall be the Contractor's responsibility to design the Temporary Protective Shield System for this project. Shield shall be designed as a combined personnel/debris net.

At the discretion of the Contractor and as called for in the Contractor's design, deck underside and side protective shielding may be constructed from timber, steel, aluminum, debris net system or a combination of these or other systems that will effectively protect the ground surfaces below from construction. Debris nets shall not be allowed over spans with tracks and or overhead catenary system. It shall be the Contractor's responsibility to design the Temporary Protective Shield System for this project.

Steel and aluminum shall conform to the requirements of SECTION M.05; METALS of the Rhode Island Standard Specifications for Road and Bridge Construction, 2018 Edition, with all latest revisions.

Timber and hardware shall conform to the requirements of SECTIONS M.11 and M.05, respectively, of the Rhode Island Standard Specifications for Road and Bridge Construction, 2018 Edition, with all latest revisions. The material shall be structural lumber in accordance with the National Design Specifications for stress graded lumber recommended by the National Forest Products Association (NFPA). The grade shall be Fb=1200 psi minimum. Minimum lumber size for underside shielding shall be 3" x 8".

The materials and installation shall conform to CFT 1926.500 (OSHA Rules) and with ANSI A.10.11, "American National Standard for Construction and Demolition Operations – Personnel and Debris Nets. The combined-use nets shall have a minimum working rating of not less than 10,000 ft-lb. The Contractor shall determine the size, weight and height-of-fall of anticipated debris. The debris netting shall have a mesh of the size and strength sufficient to contain the expected debris without penetration when properly supported by the personnel net. The debris net shall not compromise the design, construction or performance of personnel nets.

**SUBMITTALS:**

1. Shop drawings.
2. Netting Qualifications Test per ANSI A 10.11, Part 8.2, if applicable.

The Contractor shall submit shop drawings and design calculations stamped by Professional Engineer registered in Rhode Island, in accordance with Subsection 105.2 "Plans and Shop Drawings". The Contractor shall also submit the design calculations for the system to be employed including an analysis of the load which will be added to the structure by the protective shield. The analysis shall assure that the system will not induce a load on the bridge that will create an overstress condition or compromise the structural integrity of the bridge. The shop drawings and calculations shall be submitted in sufficient time to allow for review and approval by the Engineer. In no case shall the protective shield encroach upon minimum bridge clearance.

**CONSTRUCTION METHODS:** The deck underside and side protective shielding shall be erected at the locations and to the limits indicated on the contract drawings and/or as directed by the Engineer. All work shall be performed in accordance with the Maintenance and Protection of Traffic Plans, and in accordance with the demolition and construction sequences shown on the Plans and as specified in the Contract Documents.

All shielding shall meet or exceed the following requirements:

1. It shall be the Contractor's responsibility, as part of this item of work, to design and detail the protective shielding to conform to all Federal, State, and Local laws and regulations, as well as to the requirements contained here in this Specification.
2. The shielding shall extend under all areas of concrete decks, safety walks, and safety barriers to be removed. It shall extend horizontally a minimum of 3 feet beyond the bridge railings or parapets, and it shall extend vertically to a point 2 feet above the top of the bridge parapet, or to a point 4 feet above the top of bridge safety walks or decks, whichever is higher.
3. The various components of the deck underside protective shielding system shall be designed for the anticipated weight of all material and debris to be supported, based on the Contractor's method and sequence of removal, but in no case shall it be designed for less than 150 pounds per square foot. Vertical shielding shall be designed for anticipated loads, or a minimum of 30 pounds per square foot, whichever is higher.
4. The shielding shall be placed and secured in a manner as to prevent it from being blown out by wind. If, in the opinion of the Engineer, the shielding is not secure, then the Contractor shall make corrections to secure the shielding in place or remove and reinstall it to the

- Engineer's satisfaction. The Contractor's Engineer shall provide written approval that the corrected measures have secured the shielding before the Engineers final acceptance.
5. Shielding shall be placed so as to maintain the existing vertical clearance under the bridges.
  6. The Contractor may utilize the existing beams as supports. However, the Contractor will not be permitted to drill or weld to any existing beam, unless otherwise noted in this section or on the Construction Drawings.
  7. The Protective Shield is intended to act as a barrier against construction materials falling below the work area. The shielding shall not contain any gaps or openings that would allow debris to pass through and shall be sufficiently strong to support any debris or section of demolished concrete from falling onto the roadway or walkway below.
  8. If the Contractor's operations damage any existing portions of the bridge that are not within the scope of the contract, such damage shall be repaired at the Contractor's expense, and to the satisfaction of the Engineer.
  9. The Protective Shield shall be in place prior to commencing any removal work.
  10. The protective shield shall be erected at a level below the construction area so as not to exceed the shield rating under the shield design load.
  11. For the debris net system selected, the care, maintenance and storage of protective shielding shall be in accordance with the manufacturer's recommendations if prefabricated. Due attention shall be given to factors affecting net life. Nets shall be inspected weekly. Nets shall be tested immediately following installation, relocation or major repair and when left in one location, at six-month intervals in accordance with ANSI A.10.11 Part 9.
  12. The debris nets shall not carry more than 5 psf of ice, snow or other weather-related material. Debris shall be removed daily to prevent potential overload of shielding.
  13. Protective shield shall be designed to safely withstand all loads that it will be subjected to. The allowable design stresses shall be in accordance with AASHTO Standard Specifications for Highway Bridges. The design shall also include a complete description of the equipment and construction methods proposed.
  14. In the event debris falls onto the railroad tracks below, the Contractor shall promptly remove the debris. The Contractor shall be liable for any consequences as a result of falling debris and shall correct any deficiencies in the shield as required. The Contractor shall correct the deficiencies in place or remove and reinstall it to the Engineer's satisfaction. The Contractor's Engineer shall provide written approval that the corrected measures have secured the shielding before the Engineers final acceptance.
  15. All locations of work shall have Temporary Protective Shield. Temporary Protective Shield shall be installed or removed only on approval of the Engineer.
  16. Temporary Protective Shield may be anchored to portions of the existing bridge structure exhibiting sound concrete or steel. Drilling through existing rebar to anchor the shield will not be permitted. The Contractor shall use a Pachometer or other suitable non-destructive means to locate existing rebar. Cost of locating rebar shall be included in the cost of Temporary Protective Shield.

Use of existing shielding is at the discretion of the Contractor. The requirements and design specifications shall apply to the suitability of the existing shielding. It will be the Contractor's responsibility to verify the suitability of the existing shielding.

All materials used in the shielding system shall become the property of the Contractor and shall be removed from the site at the completion of the Project.

All work shall be performed in accordance with the phased construction, as designated on the Plans.

**METHOD OF MEASUREMENT:** This item will not be measured for payment.

**BASIS OF PAYMENT:** No separate payment will be made for this item. Costs for this item shall be included in the lump sum bid prices of the appropriate items as listed in the Proposal.



**CODE 907.1000**

**DUST CONTROL**

**DESCRIPTION: Subsection 907.05.3: Failure to Comply,** of the Standard Specifications requires that a daily charge be deducted from monies due to the Contractor in the event the Engineer decides that dust has not been adequately controlled.

The Charge for this Contract will be **\$1000.00** per day.