SPECIFICATIONS – JOB SPECIFIC

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CODE 105.02 PLANS AND SHOP DRAWINGS

Unless otherwise modified elsewhere in the Contract Documents, Section 105.02 of the Rhode Island Standard Specifications is revised as follows:

Delete Subsection **105.02 PLANS AND SHOP DRAWINGS** in its entirety and replace with the following:

105.02 PLANS AND SHOP DRAWINGS. Plans will show details of all structures, lines, grades, typical cross sections of the roadway, location and design of all structures and a summary of items appearing on the Proposal. Bridge plans will either show all dimensions and details necessary for complete construction or such information that when supplemented by additional field data gathered by the Contractor will enable the Contractor to prepare complete shop drawings.

The Contractor shall keep one set of Plans available at the site at all times, and shall provide approved shop drawings to the Engineer upon request.

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 drawings shall consist of such detailed plans and associated information as required to control the work that are not included in the Plans furnished by the Department. They shall include, but not be limited to, erection plans, falsework plans, formwork plans, sheeting plans, cofferdam plans, bending diagrams for reinforcing steel, computations, stress sheets, manufacturer's data or any other supplementary plans or similar data required of the Contractor to control the work. All shop drawings submittals shall be complete, incorporating all associated components of work affecting the item for which the shop drawing is submitted. The Contractor is solely responsible for the completeness of all submissions. Incomplete shop drawings will be returned to the Contractor for resubmission.

The Contractor shall submit eight (8) sets of shop drawings to the Engineer and two sets simultaneously to the Design Consultant. Shop drawings shall be accompanied by eight (8) sets of design computations, cuts from manufacturers' catalogs, and/or all other supporting technical bulletins and data. The submission to the Design Consultant shall by courier or overnight delivery. The Design Consultant for this project is:

Commonwealth Engineers & Consultants, Inc.
400 Smith Street
Providence, Rhode Island 02908
Attention: Mr. David A. Titus, P.E.
Phone: 401–273-6600
Office Hours: 8:00 AM – 4:30 PM

Engineering shop drawings and design computations shall be stamped only 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.

All shop drawings will be reviewed by the Engineer and returned to the Contractor for appropriate action within forty five (45) calendar days of the submission.

Shop drawings that are found to be erroneous, lacking information necessary to control construction, or not in conformance with accepted design criteria will be disapproved and returned to the Contractor. The Contractor shall address the Engineer's comments and resubmit revised shop drawings.

Shop drawings must be approved by the Engineer prior to commencement of the work involved. Such review and approval does not relieve the Contractor of any responsibility under the Contract for the successful completion of the work to the satisfaction of the Engineer. The Engineer's responsibility is solely for the limited purpose of reviewing and approving the shop drawings for general conformance with the design intent of the project and general compliance with the information given in the Contract Documents. The Contractor retains sole responsibility for the accuracy of the shop drawings and all associated material; for confirming and correlating all quantities and dimensions; for selecting fabrication processes and techniques of construction; for means and methods of construction; for coordinating work with all other work; and for performing all work in a safe and satisfactory manner. There shall be no claims for additional payment by the Contractor nor will there be an extension of the project Completion Dates for any corrective actions necessary as a result of shop drawing errors and omissions.

Every copy of the shop drawings shall bear a stamp by the Contractor indicating that they are complete, have been checked and that the Contractor has determined and verified all materials, field measurements and field construction criteria related thereto, and has checked and coordinated the information contained within this submittal with the requirements of the Contract Documents and as required with all trades and all public agencies involved. Sole responsibility for the shop drawings shall remain with the Contractor. Each of the Contractor’s stamps shall be signed by the responsible authorized representative of the Contractor. Shop drawings submitted to the Engineer without the Contractor's stamp and signature will be considered incomplete and returned to the Contractor for conformance with this requirement.

There shall be no claims for additional payment by the Contractor, nor will there be an extension of the project Completion Dates 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 time taken by the Engineer to review the revised shop drawings will not constitute justification for an extension of the project Completion Dates.

The Contract price shall include the cost of furnishing all shop drawings.

Replace **Subsection 108.01; Subletting of Contract**, page 1-56 of the Standard Specifications for Road and Bridge Construction (Amended 2013) in its entirety with the following.

SECTION 108

PROSECUTION AND PROGRESS

108.01 SUBLETTING OF CONTRACT. The Contractor shall not sublet, sell, transfer, assign, or otherwise dispose of the Contract or any portion thereof, or of its right, title, or interest therein, without written consent of the Engineer. If the Engineer gives such consent, the Contractor will only be permitted to sublet a portion thereof. The Contractor shall perform with its own organization work amounting to not less than 40 percent of the adjusted contract cost. The adjusted contract cost is the total contract cost less the total cost of subcontract specialty items listed in the Proposal. Specialty Items are defined in **Subsection 101.63**.

No subcontracts or transfers of Contract shall relieve the Contractor of liability under the Contract and Bonds. A copy of written agreements with subcontractors must be submitted when making application to sublet any work under the Contract. The Contractor shall not require or withhold retainage from subcontractors. Furthermore, no agreements between the Contractor and its subcontractors or vendors shall create any "third party" relationships between said subcontractors or vendors and the State.

The Contractor shall provide written notice to, and obtain prior written consent from the Engineer, before allowing any subcontractor to sublet any portion of its work to a lower-tier contractor.

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 and Substantial Completion Dates and Associated Liquidated Damages:

Phase 1 (Interim) Completion: December 16, 2019

All Contract work shall be completed for Bridge No's. 772, 834, and 841 by the date listed above.

Liquidated Damages: $1,950 per calendar day.

Substantial Completion: December 15, 2020

All Contract work shall be completed, as defined by Section 101.71.

Liquidated Damages: $1,950.00 per calendar day.

CODE 109.07

PARTIAL PAYMENT OF LUMP SUM ITEMS

Section 109.07 of the RI Standard Specifications is replaced in its entirety with the following:

109.07 PARTIAL PAYMENT OF LUMP SUM ITEMS. Each bi-weekly period the Engineer and the Contractor will consult and subsequently agree on the progress of work performed under those lump sum items indicated in the Bid Schedule. Partial payments for the completed and accepted portions of such work will be made to the Contractor based on the Engineer's estimate of the value of said completed work.

Prior to award of the Contract, or in any case within ten (10) calendar days after the date of the Notice of Award, the Contractor shall submit to the Engineer for approval two copies of the breakdown of each lump sum bid item that appears in the Bid Schedule. The breakdown shall consist of the Contractor’s quantities, the unit prices and the units of measurement used in preparing the bid. All other additional costs (such as engineering, shop drawings, formwork, equipment, etc.) to complete those items of work shall be included and distributed in the breakdown of those listed items.

The Engineer will use the Lump Sum breakdowns submitted by the Contractor if they fairly represent the cost of the various items of work. If, in the opinion of the Engineer, the prices submitted by the Contractor do not fairly represent the cost of the various items of work, the Engineer may substitute other prices that do fairly represent the cost of such work.

Replace **Subsection 109.09; Acceptance and Final Payment**, pages 1-84 and 1-85 of the Standard Specifications for Road and Bridge Construction (Amended 2013) in its entirety with the following.

SECTION 109

MEASUREMENT AND PAYMENT

109.09 ACCEPTANCE AND FINAL PAYMENT. When the project has been accepted as provided in **Subsection 105.17**, the Engineer will prepare the final estimate of work performed. If the Contractor approves the final estimate or files no claim or objection to the quantities therein within 30 days of receiving the final estimate, the Department will process the estimate for final payment. With approval of the final estimate by the Contractor, payment will be made for the entire sum found to be due after deducting all previous payments and all amounts deducted under the provisions of the Contract.

If the Contractor files a claim in accordance with Contract requirements, it shall be submitted in writing in sufficient detail to enable the Engineer to ascertain the basis and amount of such claim. Upon final adjudication of the claim, any additional payment determined to be due the Contractor will be placed on a supplemental estimate and processed for payment.

All prior partial estimates and payments will be subject to correction in the final estimate and payment.

CODE 201.99 SITE PREPARATION - PROJECT WIDE

DESCRIPTION: This item of work shall conform to Section 201 of the Rhode Island Standard Specification for Road and Bridge Construction, including latest revisions and amendments, except as modified herein.

Site preparation shall consist of clearing and properly disposing of all existing undesirable material within the limits of the project to complete the work of this Contract and as specified herein these Special Provisions. This item also includes resetting and restoration of any affected areas disturbed by the Contractor during the site preparation and throughout the duration of this Contract.

Site preparation shall also consist of items of work which will be required to provide and maintain equipment and material staging areas and any other incidental work as indicated herein this Special Provision.

CONSTRUCTION METHODS: Clearing of undesirable material shall include all vegetation and loose miscellaneous debris to ensure that all operations are conducted to comply with the contract documents.

The limits of vegetation and tree clearing shall extend only the minimum amount necessary to perform the work. The Contractor shall submit a plan depicting the limits of tree and vegetation clearing to the Engineer for review and approval prior to proceeding with the work. The submittal shall include a narrative describing the proposed means, methods and equipment necessary to accomplish the work which supports the proposed limits of vegetation and tree clearing depicted on the plan.

Contractor shall leave the tree and shrub stumps in place. The stumps shall not extend more than six inches above the existing ground.

Site preparation for the items of work which will be necessary to provide and maintain the construction access and staging areas are also included under this item of work.

During the site preparation operations, the Contractor shall take all necessary precautions to prevent any debris or foreign material from entering, fouling or polluting waterways and rivers.

Upon the completion of the work, all disturbed surfaces shall be restored to pre-construction condition and accepted by the Engineer. Restoration of trees and shrubs are not required.

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

BASIS OF PAYMENT: No separate payment will be made for this item. The costs for this work shall be included under the Mobilization Item.

CODE 209.9901
SEDIMENTATION CONTROL FOR CATCH BASINS

DESCRIPTION:

This work consists of furnishing, installing, maintaining and removing approved sediment control devices within existing and newly installed and in line drain structures within the limit of disturbance and as outlined on the Plans, as well as legally disposing of the sediment removed from the devices. All work and material shall be in accordance with the Rhode Island Department of Transportation Standard Specifications for Road and Bridge Construction, (Amended March 2018) and all revisions, these Special Provisions, and as described elsewhere in the Contract Document and as directed by the Engineer.

Approved sediment control devices include:

"Hi-Flow" **SILTSACK®** Sediment Control Device (or approved equivalent, meeting the requirements of this special provision) shall be required as directed by the Engineer or as shown in the Contract Documents. This device is intended for use in drain structures that include a frame and grate inlet.

The **SILTSACK®** Sediment Control Device is manufactured by:

ACF Environmental, Inc.
1801-A Willis Road
Richmond, Virginia 23237
Phone: 800-644-9223 or 800-644-9223; Fax: 804-743-7779

Acceptable Siltsack equivalents are manufactured by:

GSI Geo-Synthetics, Inc. (SiltTex®)
W239 N428 Pewaukee Road
Waukesha, WI 53188
Phone 800-444-5523

Dandy Products, Inc. (Dandy Curb Sack®)
P.O. Box 1980
Westerville, OH 43086
Phone 800-591-2284

MATERIALS:

The sedimentation control device shall be manufactured from a woven polypropylene and shall be sewn by a double needle machine, using a high strength nylon thread. The sedimentation control device seams shall have a certified average wide width strength per ASTM D-4884standards as follows:

Style	Test Method	Test Results
Hi-Flow	ASTM D-4884	114.6 lbs./in

The sedimentation control device will be manufactured to fit the opening of the catch basin or drop inlet in which it is used. The sedimentation control device will have the following features: at least two dump straps attached at the bottom to facilitate the emptying of the device. The sedimentation control device shall have lifting loops as an integral part of the system to be used to lift the sedimentation control device from the basin; the device shall have a contrasting color restraint cord approximately halfway up the sack to keep the sides away from the catch basin walls. This contrasting color cord is also a visual means of indicating when the sack shall be emptied.

The geotextile fabric shall be woven polypropylene fabric with the following properties:

Property	Test Method	Test Results
Grab Tensile	ASTM D-4632	390 lbs
Grab Elongation	ASTM D-4632	30%
Puncture	ASTM D-4833	140lbs
Mullen Burst	ASTM D-3786	600 P.S.I
Trapezoid Tear	ASTM D-4533	120 lbs
UV Resistance	ASTM D-4355	90%
Apparent Opening	ASTM D-4751	40 US Sieve
Flow Rate	ASTM D-4491	152 Gal/Min/Ft^2
Permittivity	ASTM D-4491	0.55 sec –1

CONSTRUCTION METHODS:

The installation of the Sedimentation Control Device for Catch Basins shall be in accordance with the manufacturer's guidelines.

Each sedimentation control device is full and shall be emptied at any time that the restraint cord is no longer visible. The Contractor shall perform routine and proper maintenance by inspecting all sedimentation control devices weekly and by emptying the contents at any time that the restraint cord is no longer visible. Material emptied

from any device shall not be placed in a manner so as to allow reentry into the device, and shall be disposed of legally. The Contractor shall provide written documentation of weekly inspections and a clean-out log to the Engineer and Stormwater Pollution Prevention Plan (SWPPP) inspector.

Any Sediment Control for Catch Basin shall be replaced at no additional cost to the State if any component becomes damaged such that, in the opinion of the Engineer, the sedimentation control device no longer functions optimally.

Once the area contributing drainage to each catch basin has been permanently stabilized in accordance with the SWPPP, to the satisfaction of the Engineer, the sediment control device for that inlet shall be promptly removed and become property of the contractor.

METHOD OF MEASUREMENT:

"ITEM CODE 209.9901 SEDIMENTATION CONTROL FOR CATCH BASINS" will be measured for payment by "Each" unit actually installed in accordance with this Special Provision and elsewhere in the Contract Documents, and/or as directed by the Engineer.

BASIS OF PAYMENT:

The accepted quantity of "ITEM CODE 209.9901 SEDIMENTATION CONTROL FOR CATCH BASINS" will be paid for at the contract unit price per "Each" as listed in the Proposal. The price so-stated will constitute full and complete compensation for all labor, materials, tools, equipment, and all incidentals required to finish the work as described in this Special Provision and elsewhere in the Contract Documents, complete in place and accepted by the Engineer.

SECTION 212.2000
MAINTENANCE AND CLEANING OF EROSION AND POLLUTION CONTROLS

DESCRIPTION:

Subsection 212.03.3; Failure to Maintain Erosion and Pollution Controls, of the Standard Specifications requires that a daily charge 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.

The charge for this Contract will be $ 500.00 per day, for each day that the Contractor is not in Compliance with Subsection 212.03.3 of the Specifications.

CODE 401.9901

PAY ADJUSTMENTS

401.01 DESCRIPTION. This specification provides a mechanism for the payment of performance incentives (positive pay adjustments) for binder content, voids, in-place density and rideability.

401.02 MATERIALS. N/A.

401.03 CONSTRUCTION METHODS. N/A.

401.04 METHOD OF MEASUREMENT. Pay adjustments will be measured using the "Method of Measurement" sections of the applicable HMA and rideability specifications.

401.05 BASIS OF PAYMENT. Pay adjustments will be paid using the respective contract unit price for HMA as listed in the proposal in conjunction with the pay adjustment requirements in the HMA and rideability specifications.

CODE 402.9901
FRICTION COURSE

DESCRIPTION: Friction Course shall be produced in accordance with Sections 401 and 402 of the Rhode Island Standard Specifications for Road and Bridge Construction with the following exceptions:

MATERIALS:

1) Performance Graded Binder

The binder shall meet the requirements of PG 64E-28 as specified in AASHTO M 320 and R 29 and shall incorporate at least 2.0% SBS polymer. The nonrecoverable creep compliance versus percent recovery of the binder shall fall above the curve in Figure X1.1 in Appendix X1 of AASHTO M 332 when plotted. Re-refined engine oil bottoms (REOB) shall not be used in the binder. The Contractor may use an approved warm mix additive (WMA) at a dosage rate recommended by the manufacturer. If a WMA is used it shall be provided at no additional cost to the State.

The mix design shall be a 50 blow Marshall mix meeting the following requirements:

2) Gradation and Asphalt Content Master Range

Sieve Size	Percent Passing
¾”	100
½”	95-100
3/8”	70-100
#4	25-45
#8	20-35
#30	8-15
#50	5-12
#200	2-6
%AC	5.0-7.0
Marshall Stability	750 Minimum
%Voids	5 Minimum
Flow	8-16

3) Mix Production – Lots and Sublots

The HMA shall be produced at 300^{o} F $\pm 20^{o}$ F.

A standard sublot is 600 tons for HMA sampled at the plant for each production run. A standard lot for each mix is ten sublots. A sample will be randomly selected and tested for each sublot. At least five sublots will be used when calculating pay adjustments.

If the quantity of HMA needed to finish a production run is projected by the Contractor to be less than the standard sublot size of 600 tons, the projected tonnage may be used to select a random sample. If the projected tonnage is not produced or a random sample is unable to be taken, the Engineer may select a sample at the end of the run or at the paver. If no sample is taken, the tonnage will be added to the previous sublot.

Additional samples may be taken at the discretion of the Engineer.

4) Adjustments to Lots

If less than five sublots are tested after the end of the final standard lot, they will be added to that lot. Five or more sublots tested after the end of the final standard lot will constitute a separate lot.

5) Plant Pay Adjustments

(a) Pay adjustments for deviation from the optimum binder content (established by the mix design) in Table 1 will apply:

Table 1 – OBC Pay Adjustments

Deviation from Optimum Binder Content	Pay Adjustment
Less than or equal to 0.1 %	+2%
0.2%	+1%
0.3%	0%
0.4%	-5%
0.5%	-15%
0.6%	-30%
0.7%	-40%
Greater than 0.7 %	-50% or Remove and Replace*

* The decision to make 50% payment or Remove and Replace will be made by the Engineer

Note: All deviation values will be rounded to the nearest 0.1% before applying pay adjustments.

(b) Calculation of Pay Adjustments for Production Binder Content

For each test, absolute deviations will be used when determining binder content pay adjustments. Absolute deviations are the values of deviation regardless of sign (±).

The average of the absolute deviations from the optimum binder content of all of the sublots in each lot will be used to determine the appropriate pay adjustments for the lots. No payment will be made for any pavement that is removed.

All other tolerances shall conform to the RI Standard Specifications.

CONSTRUCTION:

A material transfer vehicle shall be used for the placement of friction course in all travel lanes. Spreading of the mixture shall be performed carefully and the operation shall be continuous. In the event that unforeseen circumstances cause the paving operation to cease, a minimum of three loaded trucks will be on site before paving will be allowed to resume. Particular attention shall be given to the joints and all irregularities shall be removed before compacting.

After placement, the mixture shall be completely and uniformly compacted with powered vibratory or oscillatory steel drum rollers. A minimum of three rollers shall be operated to handle the output of the plant. Rolling shall continue until all roller marks are eliminated, the surface is of uniform texture and true to grade and cross section. At least three passes must be made at all locations on the mat. Each roller shall exert a minimum average force of 150 pounds per inch along the width of each drum. At least two of the rollers must have a minimum operating weight of 20,000 pounds as published by the manufacturer. The first pass with the specified roller shall be completed when the temperature of the layer is 280º F ±20º F.

Each lane may be paved so that a longitudinal drop-off remains until the next paving session. Unless otherwise permitted by the Engineer, each subsequent paving operation shall proceed adjacent to the previous. If high speed shoulders are paved separately from the lane, the shoulders shall be paved before lanes adjacent to the high speed lane. A 12” notched wedge joint maker shall be used. Notched wedge joints shall be sprayed with tack coat at a rate of 0.12 +0.02/-0.00 gallons per square yard. Transverse joints shall be manually brushed with tack coat. Signs conforming to the MUTCD shall be placed in advance of longitudinal drop offs.

The tack coat shall be RS-1 or RS-1h and shall be uniformly applied at a rate of 0.08 +0.02/-0.00 gallons per square yard to the underlying surface to be paved.

Weather Limitations: Friction course shall not be placed on a wet or damp surface or when the temperature of the surface to be paved, in the shade, is less than 55° F, measured prior to placement. It shall only be placed when the air temperature, in the

shade, is at least 55° F. If a WMA (warm mix additive) is used both the air and surface temperature in the shade shall be 45° F or greater.

If the Contractor mobilizes and the Weather Limitations come into effect the Contractor shall bear all costs associated with the stopping, delaying or canceling of operations.

METHOD OF MEASUREMENT:

Tolerance Limitation. Pavement will be considered acceptable when meeting the specifications. Pavement that is not accepted will be excluded from the tolerance allowance. When delivery tickets are directly collected by the Engineer from each truck prior to placing in the hopper, the delivery tickets may be used in the determination of total tonnage delivered and placed. Delivery tickets not collected directly by the Engineer prior to placing in the hopper will not be used to determine tonnage.

When delivery tickets are not used to determine tonnage, the accepted total tonnage delivered and placed will be calculated according to the following formula: [final surface course width] x [project length] x [specified pavement thickness] x [the average unit weight of all acceptance density cores] = contract tonnage. If density cores are not required then 96% of the average unit weight of the plant produced Marshall or Gyratory cores shall be used.

Payment will be made at full contract unit bid prices with pay adjustments for all accepted HMA up to 105% of the contract quantity tonnage. Accepted HMA quantities above 105% and up to 110% of the contract quantity tonnage will be paid at 50% of the contract unit bid prices with additional pay adjustments as applicable.

BASIS OF PAYMENT:

The accepted quantity of the HMA will be paid for at its respective contract unit price per ton as listed in the Proposal. The price so-stated constitutes full and complete compensation for all labor, materials and equipment, and for all incidentals required to finish the work, complete and accepted by the Engineer.

Positive pay adjustments for binder content will be applied to the unit bid price for the applicable item code using Section 401.9901. Negative pay adjustments for binder content will be applied to the unit bid price for the applicable item code using a Report of Change.

CODE 410.9901
FILL RUMBLE STRIP WITH TEMPORARY PATCHING MATERIAL

DESCRIPTION: This item of work shall consist of filling the existing rumble strips on Route 4 for crossover traffic to the limits shown on the Maintenance and Protection of Traffic Plans as directed by the Engineer, all in accordance with the Rhode Island Standard Specification for Road and Bridge Construction, including latest revisions and amendments, except as modified herein.

MATERIALS: The temporary patching material shall conform to the requirements for Class I-1 Surface Course as set forth in Sub section M.03.01 or to High Performance Cold Patching Material as set forth in Subsection M.03.04 of the Standard Specification.

CONSTRUCTION METHODS: The Contractor shall fill the pavement rumble strips by placing the asphalt patching material in depressed areas by hand leaving the area flush with the existing roadway pavement when complete. The rumble strip area shall be free of loose asphalt, debris and excess moisture. The compaction shall be done using a vibratory plate compactor or other appropriate equipment.

METHOD OF MEASUREMENT: "Item Code 410.9901 Fill Rumble Strip With Temporary Patching Material" will be measured by the number of linear feet of rumble strip actually filled in accordance with the Plans and/or as directed by the Engineer.

BASIS OF PAYMENT: The accepted quantity of "Item Code 410.9901 Fill Rumble Strip With Temporary Patching Material" will be paid for at the contract unit price per linear foot as listed in the Proposal. The price so stated constitutes full and complete compensation for all labor, materials and equipment, and for all incidentals required to finish the work, complete and accepted by the Engineer.

CODE 803.9910
REMOVE & DISPOSE PORTION OF EXISTING CONCRETE SUBSTRUCTURE

CODE 803.9920
REMOVE & DISPOSE PORTION OF EXISTING CONCRETE SUPERSTRUCTURE

DESCRIPTION:

The work under these items shall consist of the removal and disposal of existing reinforced concrete, associated structural steel embedded in the concrete and other related items, as described herein and to the limits as shown on the Contract Drawings.

Within the limits and at the locations indicated on the Contract Drawings, the "REMOVE & DISPOSE PORTION OF EXISTING CONCRETE SUBSTRUCTURE" item shall include:

- The removal and disposal of portions of existing reinforced concrete median barrier, return wall stem, parapet, pier cap, pylon, endpost, backwall, and approach slab. This item shall also include the removal and disposal of associated structural steel components and hardware embedded within or attached to the concrete within the limits indicated on the Drawings. Certain reinforcing steel is to remain in place and is shown on the Contract Drawings.

- This work shall also include saw cutting concrete, cutting reinforcing steel as shown on the plans and surface preparation of the reinforcing steel and concrete prior to the placement of new concrete.

The "REMOVE & DISPOSE PORTION OF EXISTING CONCRETE SUPERSTRUCTURE" item shall include the following:

- The removal and disposal of designated portions of existing reinforced concrete deck at roadway joints including all existing joint hardware cast within or attached to the concrete, all expansion joint materials, fillers and seals, sub-pavement drains, scuppers, scupper piping, and existing steel traffic plates all within the limits shown on the Contract Drawings. This will require the cutting of certain steel joint hardware for the partial removal of the expansion joint steel hardware.

- The removal and disposal of designated portions of existing reinforced concrete safety walk, sidewalk, parapet, and barrier, including all conduits, hardware, and other appurtenances embedded within limits of the concrete designated for removal and disposal.

- Maintaining certain reinforcing steel is to remain in place as indicated on the Contract Drawings.

- This work shall also include saw cutting concrete, cutting reinforcing steel, and cutting steel hardware as shown on the plans and surface preparation of the reinforcing steel and concrete prior to the placement of new concrete.

Care shall be taken to protect all utility lines, ducts and fittings designated to remain in place. Any damage to existing utility lines shall be repaired by the Contractor at his own expense and to the satisfaction of the Engineer and the respective utility companies.

In addition all respective utility companies are to be given a minimum of two (2) weeks advanced notice of concrete removal to be performed adjacent to their lines. The Contractor shall confirm the location and status of each Utility line (with the respective utility companies) prior to any concrete removal. Refer to “Utility and Municipal Notification and Coordination” in the Contract CS pages for further information.

CONSTRUCTION METHODS:

The Contractor shall phase and/or perform this work in accordance with the sequence of construction, the Maintenance and Protection of Traffic Plans found in the Contract Drawings, and the restrictions noted in the TMP and CS pages.

The boundaries of the concrete areas to be removed where indicated on the Contract Drawings or as directed by the Engineer, shall be saw cut square to a minimum depth of 1 inch (½ inch for decks). Concrete removal shall be by means of suitable power and hand tools which will not cause over-breakage. Care shall be taken during the removal of the designated portions of the structure to avoid damaging the portions that are to remain.

The pneumatic hammer used to remove concrete shall not be heavier than the nominal 30 pound class. Chipping hammers or mechanical chipping tools, to remove concrete within two inches beneath or around reinforcing steel to remain, shall not be heavier than nominal 15 pound class. These power-driven hand tools shall never be placed in direct contact with the reinforcing steel to remain.

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 corroded reinforcing bars to remain within the concrete removal boundaries shall be thoroughly cleaned by sandblasting or by other suitable methods approved by the Engineer in order to remove all rust. All newly exposed concrete surfaces shall be free of loose particles and other foreign material. They shall be cleaned and be left roughened by the use of sandblasting, compressed air, air and water blasting, steam, wire brushing, or by other suitable methods approved by the Engineer.

Special concrete removal methods shall be used during the locating of and removal of concrete around existing utilities to remain. These methods may be limited to chipping hammers or small pneumatic hammers which will pose minimal risk of damage to the utilities. The Contractor shall submit these special removal methods to the Engineer for approval prior to any concrete removal. The Contractor may, at the discretion of the Engineer, leave a minimal cover of existing concrete around the ducts (thereby leaving the ducts in place) provided that the new concrete section is of adequate thickness and that a suitable bonding agent is applied at the interface of the old and new concrete. Where the ducts are temporarily unsupported during construction, adequate support shall be provided at no additional payment.

All ducts (including inactive or empty ducts) which are damaged during the concrete removal shall be repaired to the satisfaction of the Engineer and the respective Utility Company at no additional cost. This repair work will include the installation of expansion fittings, sleeves, and other incidental hardware as required.

The Contractor shall insure that his removal and disposal operations do not cause damage to any existing structures or properties. Any resulting damages will be repaired to the satisfaction of the Engineer and property owner(s) at the expense of the Contractor.

The methods and equipment to be used for the removal and disposal, as described in this Special Provision, and the disclosure of the Contractor's proposed disposal area(s), shall be submitted by the Contractor to the Engineer for approval prior to the commencement of work. Said approval(s) shall in no way relieve the Contractor of sole liability for damages resulting from his operations.

The Contractor shall install temporary deck underside protective shielding prior to commencement of demolition. This work shall be in accordance with Item Code 803.0500 “TEMPORARY DECK UNDERSIDE & SIDE PROTECTIVE SHIELDING” included in the Standard Specifications and as modified by the Contract Drawings. The costs for this item shall be included for payment under Item Code 803.0500 “TEMPORARY DECK UNDERSIDE & SIDE PROTECTIVE SHIELDING”.

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, equipment types and locations, removal sequence, and all else necessary to clearly describe the work to be performed. 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.

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

METHOD OF MEASUREMENT:

“ITEM CODE 803.9910 REMOVE & DISPOSE PORTION OF EXISTING CONCRETE SUBSTRUCTURE”, and “ITEM CODE 803.9920 REMOVE & DISPOSE PORTION OF EXISTING CONCRETE SUPERSTRUCTURE” will be measured for payment by the "Cubic Yard" of concrete actually removed and disposed in accordance with this Special Provision and elsewhere in the Contract Documents and/or as directed by the Engineer.

BASIS OF PAYMENT:

The accepted quantities of “ITEM CODE 803.9910 REMOVE & DISPOSE PORTION OF EXISTING CONCRETE SUBSTRUCTURE", and "ITEM CODE 803.9920 REMOVE & DISPOSE PORTION OF EXISTING CONCRETE SUPERSTRUCTURE” will be paid for at the contract unit price per “Cubic Yard”, as listed in the Proposal. The price so-stated will constitute full and complete compensation for all labor, materials, tools, equipment, and all incidentals required to finish the work as described in this Special Provision and elsewhere in the Contract Documents, complete in place and accepted by the Engineer.

CODE 803.9925
REMOVE AND DISPOSE EXISTING STEEL BEARING – BRIDGE NO. 834

DESCRIPTION:

The work under this item shall consist of the removal and disposal of the existing bearing at the locations indicated on the plans. Details of the existing bearing are shown on the original construction drawings included in the Contract CD. This item of work will generally include the following:

1. Removal and disposal of all steel plates including sole plates, expansion plates, pivot plates, masonry plates, pintles, and all portions of the steel bearings, as well as anchor bolts, where indicated.

2. Removal of the bearing-to-beam flange welds by grinding. Other methods of weld removal are not permitted without prior approval of the Engineer. The removal of the bearing-to-beam weld may not be performed until just prior to the commencement of the jacking operation (Refer to specific "Temporary Jacking and Shoring of Beams" Special Provisions).

All materials associated with the existing bearings are to be properly disposed of after removal.

NOTE: All required field verifications of the existing beam elevations must be performed prior to any jacking associated with the bearing removal and disposal.

CONSTRUCTION METHODS:

The Contractor shall phase and/or perform all work in accordance with the approved Sequence of Construction and the Maintenance and Protection of Traffic Plans found in the Contract Drawings as well as the restrictions noted in the TMP and CS pages.

The Contractor shall insure that no bearings are removed prior to the jacking of all of the required beams off of the bearings. Beams shall be mechanically locked off at the jacks prior to the commencement of the bearing removal work. (See "Temporary Jacking and Shoring of Beams & Girders – Bridge No. 834" Special Provisions.)

The Contractor shall note that, as indicated in the "Temporary Jacking and Shoring of Beams & Girders – Bridge No. 834" Special Provisions, the maximum beam jacking height is restricted. The removal of the bearings may therefore require the cutting of certain components of the existing bearings (i.e., pintles and/or anchor bolts) as approved by the Engineer.

The Contractor shall insure that the removal operations do not cause damage to any of the existing structures to remain. Any resulting damage caused as a result of the Contractor's operation, will be repaired to the satisfaction of the Engineer at the expense of the Contractor.

METHOD OF MEASUREMENT:

Item 803.9925 "REMOVE AND DISPOSE EXISTING STEEL BEARING - BRIDGE NO. 834" will be measured for payment by the unit "Each" of each bearing removed and disposed, in accordance with the Contract Documents and/or as directed by the Engineer.

BASIS OF PAYMENT:

The accepted quantity of "REMOVE AND DISPOSE EXISTING STEEL BEARING – BRIDGE NO. 834" will be paid for at the contract unit price per "Each", as designated in the Proposal. The price 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.

CODE 803.9930
TEMPORARY SUPPORT OF EXISTING PARAPET, SAFETYWALK, AND DECK – BRIDGE NO. 772

DESCRIPTION: The work under this Code shall consist of field measuring, designing, furnishing, fabricating, installation, and removal & disposal of a temporary support system for a designated portion of the existing parapet, safety walk, and deck in the vicinity of the proposed joint repairs at the abutments on Bridge No. 772. The Contractor shall be responsible for the design of the temporary support. The temporary support system may consist of the installation of supplemental steel shapes bolted through the component requiring temporary support. All holes cored into existing components to remain shall be filled with an approved high strength non-shrink grout material after the completion of the work. All work shall be performed in accordance with the applicable requirements of the Rhode Island Standard Specifications.

MATERIALS: The materials to be used under this item code shall include the following:

- All structural steel shapes, plates and threaded rods shall conform to the latest provisions of AASHTO M270 (ASTM designation A709) grade 36 (minimum). The threaded rods shall be galvanized.

- All bolts and nuts shall be compatible in strength with the threaded rods, shall conform to the requirements of ASTM Designation A307 (minimum), and shall be galvanized.

- High strength non-shrink grout shall be on the latest RIDOT Approved Materials List and shall have a minimum compressive strength of 5000 psi at 28 days.

CONSTRUCTION METHODS: Prior to the start of the specified removal of a portion of the existing safety walk, curbing, and deck; the Contractor shall install the temporary support system as described herein. He shall maintain the support system throughout the work period for the joint repair, and he shall subsequently remove it after the completion of the work as directed by the Engineer.

Shop drawings showing the design and details of the proposed temporary support system shall be submitted for approval and shall bear the stamp of a Professional Engineer registered in the State of Rhode Island.

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

BASIS OF PAYMENT: Item Code 803.9930 “TEMPORARY SUPPORT OF EXISTING PARAPET, SAFETYWALK, AND DECK – BRIDGE NO. 772” will be paid for at the contract unit price per “LUMP SUM” as listed in the Proposal. The price so stated shall constitute full and complete compensation for all labor, tools, equipment, materials and

all other incidentals required to perform the work as described in these Special Provisions and elsewhere in the Contract Documents, complete and accepted by the Engineer.

CODE 805.9910
TEMPORARY SHORING AND BRACING – BACKWALL REPAIR

DESCRIPTION: The work under this code shall consist of designing, constructing, maintaining, removing and legally disposing of temporary shoring and bracing as required to retain excavations made for the removal and replacement of portions of the abutment backwall, approach slab, and deck. This shall include retaining excavations along construction phase lines as well. The work under this Item shall be in accordance with Section 805 of the Rhode Island Department of Transportation Standard Specifications for Road and Bridge Construction, amended 2013 including the latest revisions and as directed by the Engineer.

MATERIALS: There are no material requirements.

CONSTRUCTION METHOD: The Contractor's attention is directed to the required construction sequence and the temporary shoring necessary to accomplish the work in accordance with the Plans and Specifications.

The design and computations for all shoring and bracing shall be prepared and stamped by a Professional Engineer registered in the State of Rhode Island. The design and computations, including drawings, shall be submitted to the Engineer for approval.

This submittal shall include a detailed narrative outlining the construction sequence. The narrative shall detail the sequencing of the retaining system construction for each temporary shoring and bracing system.

The Contractor shall be solely responsible for conducting the work in a manner that protects existing and new structures or utilities from damage associated with the work. Any damage shall be promptly repaired or replaced by the Contractor to the satisfaction of the Owner of the damaged facility at no additional cost to the State.

The Contractor shall furnish and install shoring and bracing of sufficient length and adequate section modulus; and he shall provide adequate bracing for the loads and conditions involved to safely sustain the earth banks and any loads thereon. In addition to the earth loads, the shoring and bracing shall be designed for a minimum live load surcharge equivalent to two feet of soil and any other construction loading which the Contractor may anticipate.

The Engineer may order additional or stronger bracing and supports at any time when, in his opinion, sufficient and proper bracing and supports have not been provided. The Contractor shall provide the additional bracing and supports required without additional compensation.

The Engineer may also order additional temporary shoring when, in his opinion, field conditions make it necessary to properly protect the work under construction or any existing installation affected by the construction. It is expressly understood and agreed that the fact that the Engineer orders or fails to order such shoring or bracing shall not relieve the Contractor of sole and exclusive responsibility for any damage to adjacent structures and installations, either above or below ground, that may be caused by the installation or removal of the shoring, failure or yielding of the shoring or bracing, settling of the ground adjacent thereto, or other factors related to said shoring.

The Contractor shall maintain all excavations in good order during the construction of the work and shall take all actions necessary to prevent any movement of material either on the sides of open excavations or the sides of above-braced excavations.

The Contractor shall consider all area and space limitations in planning the installation of shoring to allow sufficient room for the equipment necessary for the installation of backwalls or other work in this area.

METHOD OF MEASUREMENT: "ITEM CODE 805.9910 TEMPORARY SHORING AND BRACING – BACKWALL REPAIR" will be measured for payment by the "Square Foot" of exposed area, measured from the bottom of excavation (corresponding to an elevation equal to the drawing designated bottom of the backwall to be removed) to the top of the roadway surface, in accordance with this Special Provision and elsewhere in the Contract Documents and/or as directed by the Engineer.

BASIS OF PAYMENT: The accepted quantity of "ITEM CODE 805.9910 TEMPORARY SHORING AND BRACING – BACKWALL REPAIR" will be paid for at the contract unit price per "Square Foot", as listed in the Proposal. The price so stated will constitute full and complete compensation for all labor, tools, materials, tools, equipment, and all incidentals required to finish the work as described in these Special Provisions and elsewhere in the Contract Documents, complete in place and accepted by the Engineer.

CODE 824.9920
STEEL BEAM / GIRDER REPAIRS – BRIDGE NO. 243
CODE 824.9921
STEEL BEAM / GIRDER REPAIRS – BRIDGE NO. 772

DESCRIPTION: This item of work shall consist of supplementing and/or strengthening corroded portions of the existing steel beams/girders with additional new structural elements, and in some cases removal and replacement of indicated portions of existing structural steel as indicated on the Contract Drawings and as specified in this Special Provision. The work under this item shall include removing and disposing portions of existing structural steel; furnishing, fabricating, erecting, and painting new structural elements; local deleading (including proper personnel protection and collection & disposal of paint removed); surface preparation; any miscellaneous shields, staging, access, scaffolding; field drilling; field bolting; temporary protective shielding for utilities; field measurements; shop drawings; and any other incidental items required to finish this work, complete in place and accepted by the Engineer, in accordance with the Contract Documents and as specified in this Special Provision.

MATERIALS: All structural steel components shall be in accordance with Section 824 of the RI Standard Specifications for Road and Bridge Construction, Amended 2013, including all revisions and the following:

- All welding shall be performed in accordance with the latest edition of the ANSI/AASHTO/AWS D1.5 Bridge Welding Code.
- All structural steel shall conform to AASHTO Description M270 Grade 36 (M270 Grade 50 is an acceptable substitute).
- All bolts shall be high strength bolts AASHTO Designation M164 (ASTM A325).
- All washers shall conform to the requirements of ASTM Designation F436. Nuts (unless designated otherwise) shall be heavy hexagonal nuts conforming to ASTM Designation A563.
- Epoxy resin paste shall be a high modulus, high strength, structural epoxy paste adhesive conforming to ASTM C-881 Types I, II, & IV, Grade 3, Classes B&C.

CONSTRUCTION METHODS: The Contractor's operation shall be in accordance with the Maintenance and Protection of Traffic Plan sheets included in the Contract Drawings and the restrictions noted in the TMP and CS pages.

The Contractor shall assure that no debris or any other foreign materials falls onto the ground beneath the structure. Should any debris fall to the ground despite this assurance, all work shall stop until such time as the debris has been recovered to the satisfaction of the Engineer, and a revised procedure of operation has been submitted by the Contractor to the Engineer for review and approval. Any damage or injury resulting from falling debris shall be the sole responsibility of the Contractor. Any delay caused as a result of cessation of work and approval of the revised procedure of operation shall not relieve the Contractor of any of his responsibilities under this

Contract, including the timely completion of work. Any additional costs incurred as a result of debris falling shall be borne solely by the Contractor.

Existing dimensions, material types, and member sizes, were obtained from the original Contract Drawings. Prior to fabrication of any steel component, the Contractor shall obtain field measurements of all dimensions and layout information which may affect his fabrication work. No separate payment will be made for these field measurements. This is considered incidental to this item. The Contractor shall submit detailed shop drawings in sufficient time to allow for review and approval by the Engineer prior to fabrication. The State will not be responsible for any additional time or cost to the Contractor as a result of the Contractor's errors in taking field measurements.

The existing steel surfaces shall be cleaned of all scale, rust, loose paint, and other loosely adherent foreign matter detrimental to achieving a level and uniform faying surface. The steel surface preparation shall be performed only in the general area of repair. The contact surfaces between the existing steel and new steel shall be cleaned, surface prepared and painted, as a minimum, with the primer coat prior to the installation of the supplemental steel. The cost of any localized de-leading to prepare the area shall be included under this item of work.

The removal and disposal of paint including the protection of personnel and the environment shall be in accordance with the latest Environmental Protection Agency and the RI Department of Environmental Management's regulations.

Except as noted on the plans, bolts shall be tightened in accordance with the "Turn of the Nut" method. Bolts indicated to not be fully tightened shall use lock nuts or double nuts.

The Contractor shall exercise due caution and take all necessary precautions to prevent damage to existing utilities. The Contractor shall design, furnish, fabricate, erect and remove temporary protective shielding to protect the existing utilities to the satisfaction of the Utility Company. The installation of temporary protection shall be in accordance with the Utility Company standard procedures and specifications, and shall be considered incidental to this item of work.

In the event that the existing steel to remain is damaged during any of the Contractors operations, the Contractor shall replace, repair, or reinforce the damaged area as may be necessary to restore the damage to pre-existing conditions. This work shall be performed by the Contractor as ordered by the Engineer at no additional cost to the State, including the design necessary to restore the steel to its original structural integrity. The design must be submitted to the State for review and approval and be stamped by a RI Professional Engineer.

New structural steel shall be painted in accordance with Section 825 of the RI Standard Specifications for Road and Bridge Construction, Amended 2013, including all revisions and shall be included for payment under this item of work.

METHOD OF MEASUREMENT: "ITEM CODE 824.9920 STEEL BEAM / GIRDER REPAIRS – BRIDGE NO. 243", and "ITEM CODE 824.9921 STEEL BEAM / GIRDER REPAIRS – BRIDGE NO. 772" will be measured for payment by the "Pound" of steel material actually furnished, fabricated, and installed in accordance with this Special Provision and elsewhere in the Contract Documents and/or as directed by the Engineer.

BASIS OF PAYMENT: The accepted quantity of "ITEM CODE 824.9920 STEEL BEAM / GIRDER REPAIRS – BRIDGE NO. 243", and "ITEM CODE 824.9921 STEEL BEAM / GIRDER REPAIRS – BRIDGE NO. 772" will be paid for at the contract unit price per "Pound" as listed in the Proposal. The prices so stated will constitute full and complete compensation for all labor, material, tools, equipment, and all incidentals required to finish the work as described in this Special Provision and elsewhere in the Contract Documents, complete in place and accepted by the Engineer.

CODE 824.9922
COVER PLATE END REPAIR – BRIDGE NO. 243

DESCRIPTION: This work shall consist of performing repairs to the existing beam cover plate ends at the locations indicated and as detailed on the contract drawings. These repairs shall consist of: Removing pack rust from between the bottom flange and partial-length cover plate termination; Removing existing cracked bottom flange to cover plate weld material (limits to be determined by non-destructive testing as described herein) and installing new weld material; Installing a polyurethane sealant within the void left by the pack rust removal.

MATERIALS:

- Polyurethane sealant in conformance with RIDOT Standard Specifications Section M.02.11.5 and compatible with the paint manufacturer's requirements.

CONSTRUCTION METHODS: Existing pack rust between the cover plate and bottom flange shall be cleared/chipped away using hand tools to the depth of separation between the plates or to the satisfaction of the Engineer.

After pack rust removal, the repair area shall be thoroughly cleaned of any loose material, rust, dirt, grease, etc., and prepared in accordance with polyurethane sealant manufacturer's instructions.

All welding shall be performed in accordance with the latest edition of the ANSI/AASHTO/AWS D1.5 Bridge Welding Code. For applications not included in that code, AWS D1.1 shall be used.

In order to accurately define the limits of the cracked welds, the Contractor shall retain the services of a certified testing agency to conduct visual inspection and non-destructive testing (either dye penetrant, magnetic particle, or ultrasonic testing) of the longitudinal cover plate welds at the locations indicated on the contract drawings.

After the limits of the cracks in the existing welds have been identified, the Contractor shall remove the cracked weld sections by grinding. Other methods of weld removal are not permitted without prior approval of the Engineer. Removal shall be performed with care to avoid damage to existing steel components to remain. After the grinding is completed and approved by the Engineer, the Contractor shall repair the connection by re-welding to restore the weld to its original size. Dye-penetrant, magnetic particle or ultrasonic testing of the re-welding shall also be performed to confirm the quality of the weld for acceptance of the repair.

In the event that the Contractor damages existing steel components to remain during removal operations, he shall replace, repair, or reinforce the damaged area as may be

needed to restore the steel component(s) to existing condition prior to damage. This work shall be performed by the Contractor as ordered by the Engineer at no additional cost to the State.

All areas shall be surface prepared (including localized de-leading) as required prior to any testing and welding operations.

Subsequent to completion of the weld repairs, the remaining voided area left by the removal of the pack rust shall be filled with a polyurethane sealant, applied in accordance with the manufacturer's requirements.

Installation of the bolted steel repair plates shown in the contract drawings shall be measured and paid for separately under "Item Code 824.9920 Steel Beam / Girder Repairs – Bridge No. 243".

METHOD OF MEASUREMENT: "ITEM CODE 824.9922 COVER PLATE END REPAIR – BRIDGE NO. 243" will be measured for payment by "Each" beam actually repaired, in accordance with this Special Provision and elsewhere in the Contract Documents and/or as directed by the Engineer.

BASIS OF PAYMENT: The accepted quantities for "ITEM CODE 824.9922 COVER PLATE END REPAIR – BRIDGE NO. 243" will be paid for at the contract unit price per "Each" as listed in the Proposal. The price so stated will constitute full and complete compensation for all labor, materials, tools, equipment, and all incidentals required to finish the work as described in this Special Provision and elsewhere in the Contract Documents, complete and accepted by the Engineer.

CODE 824.9925
END DIAPHRAGM CONNECTION REPAIR – BRIDGE NO. 243

DESCRIPTION: This work shall consist of repairing the end diaphragm-to-beam web connection by field drilling and field bolting at the locations indicated on the contract drawings or as directed by the Engineer. This work shall also include any miscellaneous staging, scaffolding or other items required to complete this work to the satisfaction of the Engineer.

MATERIALS: All structural steel components shall be in accordance with Section 824 of the RI Standard Specifications for Road and Bridge Construction, Amended 2013, including all revisions and the following:

- All structural steel shall conform to AASHTO Description M270 Grade 36 (M270 Grade 50 is an acceptable substitute).
- All bolts shall be high strength bolts AASHTO Designation M164 (ASTM A325).
- All washers shall conform to the requirements of ASTM Designation F436. Nuts (unless designated otherwise) shall be heavy hexagonal nuts conforming to ASTM Designation A563.

CONSTRUCTION METHODS:

The Contractor's operation shall be in accordance with the Maintenance and Protection of Traffic Plan sheets included in the Contract Drawings and the restrictions noted in the TMP and CS pages.

The Contractor shall assure that no debris or any other foreign materials falls onto the ground beneath the structure. Should any debris fall to the ground despite this assurance, all work shall stop until such time as the debris has been recovered to the satisfaction of the Engineer, and a revised procedure of operation has been submitted by the Contractor to the Engineer for review and approval. Any damage or injury resulting from falling debris shall be the sole responsibility of the Contractor. Any delay caused as a result of cessation of work and approval of the revised procedure of operation shall not relieve the Contractor of any of his responsibilities under this Contract, including the timely completion of work.

Existing dimensions, material types, and member sizes, were obtained from the original Contract Drawings. The Contractor shall obtain field measurements of all dimensions and layout information which may affect his work. No separate payment will be made for these field measurements. This is considered incidental to this item. The State will not be responsible for any additional time or cost to the Contractor as a result of the Contractors errors in taking field measurements.

Except as noted on the plans, bolts shall be tightened in accordance with the “Turn of the Nut” method. Bolts indicated to not be fully tightened shall use lock nuts or double nuts.

The Contractor shall exercise due caution and take all necessary precautions to prevent damage to existing AMTRAK facilities. The Contractor shall design, furnish, fabricate, erect and remove temporary protective shielding to protect the existing AMTRAK facilities to the satisfaction of AMTRAK. The installation of temporary protection shall be in accordance with AMTRAK standard procedures and specifications, and shall be considered incidental to this item of work.

In the event that the existing steel to remain is damaged during any of the Contractor’s operations, the Contractor shall replace, repair, or reinforce the damaged area as may be necessary to restore the damage to pre-existing conditions. This work shall be performed by the Contractor as ordered by the Engineer at no additional cost to the State, including the design necessary to restore the steel to its original structural integrity. The design must be submitted to the State for review and approval and be stamped by a RI Professional Engineer.

METHOD OF MEASUREMENT:

“ITEM CODE 824.9925 END DIAPHRAGM CONNECTION REPAIR – BRIDGE NO. 243” will be measured for payment by "Each" end diaphragm connection location actually repaired, in accordance with this Special Provision and elsewhere in the Contract Documents and/or as directed by the Engineer.

BASIS OF PAYMENT:

The accepted quantity of “ITEM CODE 824.9925 END DIAPHRAGM CONNECTION REPAIR – BRIDGE NO. 243” will be paid for at the contract unit price per “Each” as listed in the Proposal. The price so stated will constitute full and complete compensation for all labor, materials, tools, equipment, and all incidentals required to finish the work as described in this Special Provision and elsewhere in the Contract Documents, complete and accepted by the Engineer.

CODE 824.9930
TEMPORARY TRAFFIC PLATE – BRIDGE NO. 834

DESCRIPTION:

This item of work shall consist of the furnishing, installing, maintaining, and subsequent removal of temporary traffic plates bolted to the concrete deck, as required, for the reconstruction of the deck edge and joint at the abutments and pier. Temporary traffic plates are to be used to cover the deck opening during off-hours when the roadway is open to vehicular traffic. This item of work shall also include all blocking, inserts, anchor bolts, movement of the plates as may be necessary, and associated maintenance to finish the work, complete in place and accepted by the Engineer, in accordance with the Contract Documents and as specified in this Special Provision.

MATERIALS:

All materials shall conform to the following requirements:

1. Steel plates shall meet the requirements of AASHTO Designation M270 Grade 36. M270 Grade 50 is an acceptable alternative.
2. The concrete inserts shall be capable of developing the full strength of the bolt.

CONSTRUCTION METHODS:

The entire traffic plate system, including inserts, shall be furnished and installed in accordance with the Maintenance and Protection of Traffic Plan sheets included in the Contract Drawings and the restrictions noted in the TMP and CS pages.

The traffic plates shall be detailed such that removal and placement of the plates before commencement and after completion of the work is performed expeditiously and in such a manner as to not endanger vehicles and pedestrians.

The Contractor shall at all times maintain the plates, including the concrete inserts, as may be required for the duration of the work.

The bolt size and spacing shown in the Contract Drawings are minimum requirements. The Contractor shall submit shop drawings and supporting calculations detailing the temporary traffic plate thickness and bolting requirements, consistent with the proposed sequence of construction. The steel plate shall be detailed such that the heads of the bolts are flush with the top surface of the temporary plate. Shop drawings shall be prepared by a RI Professional Engineer.

The entire traffic plate system shall be dismantled after the completion of the work and any bolt holes in the deck/approach slab repaired using an approved non-shrink grout to the satisfaction of the Engineer. The steel plates shall become the property of the Contractor.

METHOD OF MEASUREMENT:

This item will not be measured for payment.

BASIS OF PAYMENT:

"ITEM CODE 824.9930 "TEMPORARY TRAFFIC PLATE – BRIDGE NO. 834" will be paid for at the contract unit price per "Lump Sum" as listed in the Proposal. The price so stated will constitute full and complete compensation for all labor, materials, tools, equipment, and all incidentals required to finish the work as described in this Special Provision and elsewhere in the Contract Documents, complete in place and accepted by the Engineer.

CODE 824.9940
TEMPORARY JACKING AND SHORING OF BEAMS – BRIDGE NO. 834

DESCRIPTION: The work under this item shall consist of jacking and shoring beams in order to perform bearing removal & replacement, and structural concrete masonry repairs to the beam seat/pier face as indicated on the Contract Drawings and/or as directed by the Engineer. The work shall include designing, furnishing, fabricating, erecting, jacking and removing the temporary jacking and shoring assembly as required to perfom the repairs. The jacking and shoring assembly (jack, column, base plate and anchor bolts) shall be founded on top of the existing pier footing or on top of a cribbing system founded on the existing earth as determined by the Contractor's Engineer. The applicable beam/location of the jacking and shoring assemblies are indicated on the Contract Drawings.

This item of work shall also include the excavation and stockpiling of fill; the subsequent backfilling and compaction of the existing fill material; providing, placing and removing a cribbing system or anchorage to the existing pier footing; the restoration of the site to its original conditions upon the completion of the work; and all incidentals necessary to properly perform the work in accordance with the Contract Documents and as specified in this Special Provision, complete and accepted by the Engineer.

MATERIALS: Materials shall conform to the applicable requirements of Subsection 824.02 "Materials", M.05 "Metals", and M.11 "Timber" of the Rhode Island Standard Specifications for Road and Bridge Construction, amended 2013, including the latest revisions.

CONSTRUCTION METHODS: All work shall be performed in accordance with the phased sequence of construction and the Maintenance and Protection of Traffic Plans as well as the restrictions noted in the contract TMP and CS pages.

The Contractor shall assure that no debris or any other foreign material falls onto the ground beneath. Should any debris fall onto the ground, all work shall stop until such time as the debris has been recovered and a revised procedure of operation submitted for approval. Any delay caused as a result of cessation of work shall not relieve the Contractor of any responsibilities under this contract, including the timely completion of the work.

A qualified representative of the manufacturer of the jacks shall be present in the field to give the Contractor such technical site assistance as may be necessary to assure that the jacking is performed properly and safely.

At no time shall the beam jacking be performed unless the Engineer is present. The Contractor shall provide a minimum of two day advance notice to the Engineer, prior to the beam jacking.

In order to insure that the structure is supported on the jack for the least possible amount of time, the Contractor shall have all materials, equipment, tools, spare parts, and labor on hand prior to commencing with the jacking operation and beam seat/pier face repairs.

The Contractor shall submit to the Engineer, a record of the jacking loads encountered just prior to the dial lock-off or final shimming, clearly indicating the corresponding jack number, substructure location, and beam/girder number.

Care must be taken to minimize disturbance to the existing site conditions. All equipment, shoring and bracing systems shall be removed upon completion of the work, and the area restored to its original condition to the approval of the Engineer, at no additional cost to the State of Rhode Island.

Temporary excavation and/or filling, when required, shall be limited to the minimum amount which will be required to provide a work area to erect and maintain the shoring system. In areas where the soil is disturbed by the Contractor, compost filter sock (as directed by the Engineer) to control erosion will be required and shall be provided by the Contractor.

Whether the beam is jacked from a shoring system founded on top of the existing pier footing or on top of a cribbing system founded on the existing ground, the lateral stability of the system must be maintained throughout the jacking process.

The Contractor shall be responsible for submitting shop drawings showing the proposed method, details, and backup computations for review and approval by the Engineer. The proposed method, details and backup computations shall contain provisions for the shoring and bracing, including installation of stiffeners and beam jacking seats where required.

In addition to the above requirements, the following shall apply:

1. The Contractor shall carefully lower the structure by using the hydraulic system of the jacks.

2. Materials and equipment used to perform these operations shall be capable of supporting the beams under full load, including dead and live loads.

3. Minimum jack capacities shall be as indicated on the Contract Drawings.

4. The Contractor shall jack the structure only the height necessary to relieve the load from the bearing to accommodate the proposed work but not to exceed 1/16 inch.

5. Designs and shop drawings shall be submitted to the Engineer in accordance with the Special Provision entitled "Plans and Shop Drawings", and shall be sealed by an Engineer registered in the State of Rhode Island. The submission shall contain a description and plan of the proposed methods and materials in sufficient detail to permit evaluation of the system for structural adequacy. Specific jack related items to be submitted with the shop drawings include:

    a) A hydraulic schematic.
    b) General jacking procedure, including lowering of the structure.
    c) A Proof Test Certificate for the jacks, gauges, and fittings and all

accessories.
d) A certificate verifying 2% accuracy of all gages.
e) Catalog cut sheets and assembly drawings of each size of jack.
f) A theoretical conversion chart for converting pressures to loads.

6. The Contractor shall consider the possibility of the lead time, if any, to obtain the required jacks. Any resulting delays in operations will not result in claims for additional payment to the State of Rhode Island, nor an extension of the project completion date.

7. The hydraulic system of the jacks shall not be relied upon to sustain the jacking load once the lifting has been completed.

8. The beam elevations shall be the same before and after the completion of work.

9. In the case of a failure of the hydraulic system of a jack, the beam shall be supported such that the jack can be replaced. All repairs as required by the Engineer (including associated design) shall be performed by the Contractor prior to further jacking, at no additional cost to the State. The Contractor shall provide one (1) emergency back-up jack on site in case of a failure of the jack.

10. The Contractor shall insure that the existing bearing is unrestrained in the vertical direction prior to jacking, such that the bearing provides no resistance to the jacking. The cost of freeing the bearing, if necessary, shall be included in the cost of this item.

11. The Contractor shall be warned that the existing bearings may become unstable once the weight of the structure has been transferred to the jack, and shall take necessary precautions to prevent the bearing from falling and causing damage or injury.

12. Plans of the existing structures are included on the contract advertising CD and are available at the Rhode Island Department of Transportation.

13. The Contractor shall thoroughly familiarize himself with the site conditions prior to commencing work.

14. Where applicable, the existing railings and guardrails adjacent to roadway expansion joints shall be disconnected prior to the jacking operation and be reinstalled at the completion of the work.

15. Survey work as directed shall be performed prior to the commencement of jacking.

16. Beveled bearing/shim plates shall be provided at locations where necessary.

17. The certified jack capacity and stroke shall be clearly indicated on each jack. The minimum stroke requirement shall be 2 inches for each jack.

18. Thermal movement and rotation of each beam shall be accommodated by the

use of PTFE pads and/or tilt saddles or by other approved means.

19. The shoring system must be designed for all applied lateral loads in accordance with the latest AASHTO Specifications. Details must be submitted to the Engineer for review and approval as part of the shop drawing submittals.

20. Materials and equipment used to perform the work shall be capable of safely supporting the beam full dead and live load.

21. At the locations where the beam is jacked for a beam seat/pier face repair, the shoring system shall be in place prior to the commencement of the work, and shall remain in place until the completion of all of the repair/rehabilitation work.

METHOD OF MEASUREMENT: "ITEM CODE 824.9940 TEMPORARY JACKING AND SHORING OF BEAMS – BRIDGE NO. 834", will be measured for payment by "Each" beam actually jacked and shored, in accordance with this Special Provision and elsewhere in the Contract Documents and/or as directed by the Engineer.

BASIS OF PAYMENT: The accepted quantities for "ITEM CODE 824.9940 TEMPORARY JACKING AND SHORING OF BEAMS – BRIDGE NO. 834", will be paid for at the contract unit price per "Each" as listed in the Proposal. The price so stated will constitute full and complete compensation for all labor, materials, tools, equipment, and all incidentals required to finish the work as described in this Special Provision and elsewhere in the Contract Documents, complete and accepted by the Engineer.

CODE 825.9920
REPAINTING EXISTING STRUCTURAL STEEL - BRIDGE NO. 243
CODE 825.9921
REPAINTING EXISTING STRUCTURAL STEEL - BRIDGE NO. 772

DESCRIPTION: The work under these items shall conform to Section 825 of the RI Standard Specifications for Road and Bridge Construction, Amended 2013, including all revisions, and shall consist of thorough cleaning; preparation of surfaces; and repainting of existing superstructure structural steel and related steel components to the limits indicated on the Contract Plans or as directed by the Engineer, all in accordance with this Special Provision.

This work shall include Personnel and Environmental Protection and Containment, Collection, Storage and Disposal of Debris and Spent Materials as described under Section 826 of the RI Standard Specifications, including all revisions.

MATERIALS: All materials shall conform to the RI Standard Specifications for Road and Bridge Construction, Amended 2013, including all revisions. Top coat color shall be as specified on the Contract Drawings and/or as directed by the Engineer.

CONSTRUCTION METHODS: Construction methods shall conform to the RI Standard Specifications for Road and Bridge Construction, Amended 2013, including all revisions.

The Contractor shall exercise due caution and take all necessary precautions to prevent damage to existing utilities during cleaning, surface preparation, and painting operations. Where specified on the Contract Plans and/or Contract Documents, the Contractor shall design, furnish, fabricate, erect and remove temporary protective shielding to protect the existing utilities to the satisfaction of the Utility Company. The installation of temporary protection shall be in accordance with the Utility Company standard procedures and specifications, and shall be considered incidental to this item of work.

METHOD OF MEASUREMENT: These items will not be measured for payment.

BASIS OF PAYMENT: **"**ITEM CODE 825.9920 REPAINTING EXISTING STRUCTURAL STEEL – BRIDGE NO. 243", and **"**ITEM CODE 825.9921 REPAINTING EXISTING STRUCTURAL STEEL – BRIDGE NO. 772", will be paid for at the contract unit price per "Lump Sum" as listed in the Proposal. The price so stated will constitute full and complete compensation for all labor, materials, tools, equipment, and all incidentals required to finish the work as described in this Special Provisions and elsewhere in the Contract Documents, complete in place and accepted by the Engineer.

Partial payments for this Lump Sum item will be made in accordance with Special Provision Code 109.07.

CODE 830.99

REMOVAL AND RESETTING OF BRIDGE RAILING/PROTECTIVE BARRIER/ BRIDGE-MOUNTED GUARDRAIL

DESCRIPTION: The work under this item shall consist of the removal, handling, hauling, temporary stockpiling, and resetting of the designated metal bridge railing, protective (Amtrak electrification) barrier, and bridge-mounted (W-shaped) steel beam guardrail sections at the locations shown on the Plans and/or as directed by the Engineer. Removal and resetting of bridge railing/protective barrier/guardrail shall be limited to the portions which the Contractor deems necessary to complete the repair work associated with the concrete deck/safety walk/sidewalk and parapet work shown in the Contract Documents. All hardware requiring replacement as a result of this work is considered incidental to this item.

Metal bridge railing, protective barrier, and bridge-mounted steel beam guardrail or any other railing/guardrail components damaged as a result of the Contractor's operations shall be replaced in kind by the Contractor at no additional cost to the State.

MATERIALS: Hardware and components requiring replacement shall match the existing components.

CONSTRUCTION METHODS: All construction shall be in conformance with the applicable requirements of Sections 830 and 901 of the Rhode Island Standard Specifications for Road and Bridge Construction, amended 2013, including the latest revisions.

All work shall be performed in accordance with the phased sequence of construction, the Maintenance and Protection of Traffic Plans, the time restrictions noted in the TMP and CS pages of the Contract Documents, and all Amtrak requirements noted in the Contract Plans, Specifications, and Appendix C "Amtrak Requirements" of the CS Pages.

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 unit bid price of the appropriate concrete item for which the work is required.

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CODE 937.1000
MAINTENANCE AND MOVEMENT OF TRAFFIC PROTECTION

DESCRIPTION. Subsection 937.05.2; Failure to Comply, part a. Maintenance, of the Standard Specifications, requires that a daily charge be deducted from monies due the Contractor for failure to adequately and safely maintain traffic control devices along any portion of the project.

The charge for this Contract will be $7,500.00 per day.

Subsection 937.05.2; Failure to Comply, part b. Movement, of the Standard Specifications, requires that an appropriate charge be deducted from monies due the Contractor for failure to remove and/or relocate traffic control devices for compliance with the traffic-related work restrictions included in the Transportation Management Plan or to otherwise meet changes in traffic conditions, construction operations, or other conditions affecting the safety and/or mobility of the traveling public. Failure to comply with this requirement will result in a charge of $2,000.00 per half hour per lane (paved shoulders will be counted as lanes) per direction of travel.

CODE 938.1000
PRICE ADJUSTMENTS

DESCRIPTION:

a. Liquid Asphalt Cement.* The Base Price of Liquid Asphalt Cement as required to implement **Subsection 938.03.1** of the Standard Specifications is $532.50 per ton as of 12/3/2018.

*In the case of modified asphalt binder, this price adjustment provision shall only apply to the neat liquid asphalt component. This provision shall not apply to the modifier component, manufacture, storage, transportation or other associated costs.

b. Diesel Fuel. The Base Price of Diesel Fuel as required to implement **Subsection 938.03.2** of the Standard Specifications is $1.9222 per gallon as of 12/3/2018.

CODE L02.1000
SEEDING FAILURE TO COMPLY

DESCRIPTION:

Subsection L.02.03.7; Paragraph C, Failure to Perform Care During Construction, of the Standard Specifications requires that a daily charge be deducted from monies due the Contractor in the event the Engineer decides that the Care During Construction has not been adequately performed.

The charge for this Contract will be $500.00 per day.