

Drawbridge Preventive Maintenance Contract 2017-1
Statewide
Federal Project Number: NHP-0001(328)
CE No: 2206802
DP No: 17450

Bid Date: 1/9/2020

ADDENDUM NO. 1
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- The following CHANGES are made to the Proposal:

<u>ITEM NO.</u>	<u>REMARKS</u>	<u>ITEM DESCRIPTION</u>	<u>QUANTITY</u>	<u>UNIT</u>
0058 (MMB190M)	CHANGED ITEM DESCRIPTION	CLEANING/LUBRICATION DRAWBRIDGE SHEAVE ASSEMBLY	28	U
0087 (MMG050M)	ADDED	CLEANING AND LUBRICATION AUXILIARY WIRE ROPES AND SHEAVE ASSEMBLIES	8	EA
0029 (155024M)	DELETED	FIELD OFFICE TYPE B MAINTENANCE	39	MO
0030 (155006M)	DELETED	FIELD OFFICE TYPE B SETUP	1	U
0088 (155033M)	ADDED	FIELD OFFICE TYPE E MAINTENANCE	39	MO
0089 (155015M)	ADDED	FIELD OFFICE TYPE E SETUP	1	U

The date for receipt of Bids is CHANGED to January 16th, 2020.

These PROPOSAL changes are available from NJDOT Bid Express website as Amendment No. 1.

- The following CHANGES are made to the Special Provisions:

SECTION 102 – BIDDING REQUIREMENTS AND CONDITIONS

102.04 EXAMINATION OF CONTRACT AND PROJECT LIMITS

3. Existing Plans and As-Built.

THE ENTIRE SUBPART IS CHANGED TO:

The Department will provide a list of existing structures within the Project on the Plans. The Department will list the existing plans and as-builts used in the development of the Contract in the Special Provisions. The Bidder may inspect as-built plans of Department-owned facilities or order copies upon written request through the Engineering Documents Unit. Contour maps may be available for some Projects. Bidders may inspect such maps, or the Bidder may obtain copies for their use upon written request to the Engineering Documents Unit. The Bidder shall obtain plans of municipality-owned or county-owned facilities through the municipality or county.

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SECTION 108 – PROSECUTION AND COMPLETION

108.10 CONTRACT TIME

THE ENTIRE SUBPART IS CHANGED TO:

A. Achieve Completion on or before **March 31st, 2023**

SECTION 201 – CLEARING SITE

201.04 MEASUREMENT AND PAYMENT

THE FOLLOWING IS ADDED:

All construction specified under section 201.03 will be paid under the item CLEARING SITE.

THE FOLLOWING SECTION IS ADDED

SECTION 517 – SPAN LEVELING

517.01 DESCRIPTION

Perform indexing of the span operating machinery in each tower to provide load sharing between the corners of the lift span in each tower and to ensuring proper seating of the lift span for the following bridges:

- Route 7 over Passaic River Bridge – Structure # 0208-150
- Route 1& 9T over Hackensack River Bridge – Structure # 0905-152
- Route 1& 9T over Passaic River Bridge – Structure # 0705-151

Provide all labor, materials, plants, and incidentals required to perform the work in accordance with the Plans, Specifications, and the directions of the Engineer.

All indexing work shall be done under the direction of a Mechanical Engineer with a New Jersey Professional Engineer's license.

Indexing of each bridge shall be an iterative process and performed after the completion and acceptance of the rope tensioning and span balancing work and prior to performing the final dynamic strain gage testing.

517.02 PROCEDURE

The Contractor shall submit a complete procedure, including but limited to all necessary drawings or sketches for indexing each bridge for approval prior to start of work.

The Contractor's indexing procedure shall include as a minimum the following:

Below is the minimum suggested indexing procedure for the Route 1& 9T over Passaic River Bridge.

1. Prior to start of work, perform one complete test opening to return the span to its natural resting position. Perform test opening in accordance with NJDOT requirements and restrictions.
2. With no vehicular traffic present on the bridge, hand-release the span drive motor and machinery brakes to ensure any windup that is present in the system is released. Hand-release brakes one at a time and allow the stored energy to slowly release. After all energy is released, set all brakes.
3. With no vehicular traffic present on the bridge, measure and record the clearances between the live load shoes and contact surface at all locations. All live load shoes should be in full contact. Contact is full if a 0.002-inch feeler gauge cannot be inserted between the shoe and the strike plate along the entire length of the live load shoe, at the contact surface. Identify the seated and non-seated corners of the span.
4. In one tower, drive the adjustment wedge near Coupling C1a on the seated side under Shaft S4 just enough to keep shaft aligned.
5. Disconnect the seated side of Coupling C1a. Measure, mark, and record the existing coupling alignment.

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6. With no vehicular traffic present on the bridge, drive the high (unseated) corner of the span down by means of the auxiliary motor until the shoe is seated. Measure, record, and confirm that live load shoe is now in full contact. Inform the Engineer, who will also verify contact.
7. Reconnect Coupling C1a.
 - a. If bolt holes in the coupling do not match, insert adjustment calipers in the most accessible hole from the solid side of coupling. Measure misalignment of holes by pushing indicator point towards handle. The number on opposite indicator point shows how many bolt holes and direction the sleeve must be turned to obtain alignment of holes.
 - b. Prior to reconnecting Coupling C1a, measure, record, and confirm coupling alignment has not changed from initial measurements.
 - c. Replace existing coupling bolts with new bolts in accordance with the manufacturer's recommendations.
 - d. Relubricate coupling in accordance with the manufacturer's recommendations.
8. Release adjustment wedges.
9. Repeat steps 4-8 for the other tower if required.
10. Perform one complete test opening to return the span to its natural resting position. Perform test opening in accordance with NJDOT requirements and restrictions.
11. Measure and record all live load shoe clearances. Confirm all live load shoes are now in full contact. Inform the Engineer, who will also verify contact.
12. For any live load shoe, not in full contact after indexing, add shims as required to the live load shoe to bring the shoe into full contact.

Below is the minimum suggested indexing procedure for the Route 1& 9T over Hackensack River Bridge

1. Prior to start of work, perform one complete test opening to return the span to its natural resting position. Perform test opening in accordance with NJDOT requirements and restrictions. Contractor shall verify and ensure there are no temporary shim installations at any of the live load assemblies prior to the work. Remove all temporary shim installations, if any, prior to the start of the indexing work.
2. With no vehicular traffic present on the bridge, hand-release the span drive motor and machinery brakes to ensure any windup that is present in the system is released. Hand-release brakes one at a time and allow the stored energy to slowly release. After all energy is released, set all brakes.
3. With no vehicular traffic present on the bridge, measure and record the clearances between the live load shoes and contact surface at all locations (upper moving component to wear ring at the fixed shoes and rocker to strike plate at the expansion shoes). All live load shoes should be in full contact. Contact is full if a 0.002-inch feeler gauge cannot be inserted between the shoe and the strike plate along the entire length of the live load shoe at the contact surface. Identify the seated and non-seated corners of the span.
4. Disconnect the seated side warp clutch. Measure, mark, and record existing clutch alignment.
5. With no vehicular traffic present on the bridge, drive the high corner of the span down by means of the auxiliary motor until shoe is seated. Measure, record, and confirm live load shoe is now in full contact. Inform the Engineer, who will also verify contact.
6. Reconnect the seated side warp clutch. Measure and record the new clutch alignment.
7. Repeat steps 4-6 for the other tower if required.
8. Perform one complete test opening to return the span to its natural resting position. Perform test opening in accordance with NJDOT requirements and restrictions.
9. Measure and record all live load shoe clearances. Confirm all live load shoes are now in full contact. Inform the Engineer, who will also verify contact.
10. For any live load shoe is not in full contact after indexing, add shims as required to the live load shoe to bring the shoe into full contact.

Below is the minimum suggested indexing procedure for the Route 7 over Passaic River Bridge.

1. Prior to start of work, perform one complete test opening to return the span to its natural resting position. Perform test opening in accordance with NJDOT requirements.

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2. With no vehicular traffic present on the bridge, hand-release the span drive motor and machinery brakes to ensure any windup that is present in the system is released. Hand-release brakes one at a time and allow the stored energy to slowly release. After all energy is released, set all brakes.
3. With no vehicular traffic present on the bridge, measure and record the clearances between the live load shoe and contact surface at all locations. All live load shoes should be in full contact. Contact is full if a 0.002-inch feeler gauge cannot be inserted between the shoe and the strike plate along the entire length of the live load shoe. Identify the seated and non-seated corners of the span.
4. Shift the primary reducer lock out differential to the unlocked position.
5. With no vehicular traffic present on the bridge, drive the high corner of the span down by means of the auxiliary motor until shoe is seated. Measure, record, and confirm live load shoe is now in full contact. Inform the Engineer, who will also verify contact.
6. Shift the primary reducer lock out differential to the locked position.
7. Repeat steps 4-6 for the other tower if required.
8. Perform one complete test opening to return the span to its natural resting position. Perform test opening in accordance with NJDOT requirements.
9. Measure and record all live load shoe clearances. Confirm all live load shoes are now in full contact. Inform the Engineer, who will also verify contact.
10. For any live load shoe is not in full contact after indexing, add shims as required to the live load shoe to bring the shoe into full contact.
 - QUALITY CONTROL: The Contractor shall check the gear tooth contact at the pinion and ring gear using a bluing compound to confirm that the contact is on the same face. If not on same face identify reason and correct.
 - Check the warping clutches/wedges for slippage after they are disengaged or re-engaged.

517.03 COORDINATION

Coordinate all efforts, including requested work operation, lane closures, and bridge openings of the Lift Span at each bridge with the NJDOT Movable Bridge Engineering Group (MBEG), Movable Bridge Maintenance Group (MBMG), NJDOT Region North Traffic Operation, NJDOT Bridge Operations and the Engineer. In addition, coordinate and get approval for navigation/vehicular traffic restrictions required to perform the work.

- A. US Coast Guard for submission of construction shielding, means, and methods of construction that may affect navigation.
- B. NJDOT MBEG and MBMG
- C. Movable Bridge Operations, NJDOT traffic Region North, and local police for any anticipated bridge openings.

If required, submit promptly any advanced notice required, or operational delays during with the work, to the United States Coast Guard (USCG) and the Engineer for approval, with the approved criteria being clearly indicated within the Plan of Operations. The Contractor is fully responsible to the USCG for any unacceptable delays in operation resulting from their work. Any fines or penalties assessed by the USCG resulting from delays in operation of the span are the responsibility of the Contractor. The Contractor is also responsible to reimburse the Department for any fines or penalties assessed directly against the Department that have resulted from the Contractor's operations or actions. The Department reserves the right to withhold the amount from partial payments as a form of reimbursement.

517.04 BASIS OF PAYMENT

Payment for the work described under "Span Leveling" will be included in the Contract lump sum bid prices for Dynamic Strain Gage Testing and shall include all materials, labor, staging, coordination and approvals and all other ancillary requirements as described in the Contract Drawings and the Specifications that are not called out as separate pay items.

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SECTION 556 – SUBSTRUCTURE REHABILITATION

556.02 Materials

THE FOLLOWING IS ADDED:

(E) Methacrylate Flood Coat

Designated areas can be repaired with the following product or approved equals:

Transpo Industries, Inc. – Methacrylate Flood Coat
20 Jones Street
New Rochelle, NY 10801
914-636-1000
www.transpo.com

556.03 Construction

THE FOLLOWING IS ADDED:

(E) Methacrylate Flood Coat

Perform all related “Substructure Concrete Repair” and “Pressure Injection, Concrete Cracks” work prior to commencing work on this item. Work shall consist of applying two coats of high molecular weight methacrylate material to seal vertical surfaces as directed by the Resident Engineer. Application shall follow the manufacturer’s specifications. Surface preparation may be accomplished with pressure washing. Limits of work will be paid based upon measured area of work performed.

556.04 Measurement and Payment

THE FOLLOWING IS ADDED:

The Department will measure and make payment for Items as follows:

<i>Item</i>	<i>Pay Unit</i>
METHACRYLATE FLOOD COAT	SQUARE YARD

SECTION 557 - DRAWBRIDGE STRUCTURES

557.3 Construction

(A) Cleaning and Lubrication of Drawbridge Lift Cables

THE FOLLOWING IS CHANGED TO:

Clean and lubricate each wire rope lift cable. Vertical lift drawbridges utilize fiber core steel wire ropes; several individual wire ropes are grouped together at each bridge corner, with each grouping of wire ropes attached to the main lifting girder of the lift span at one end and to the bridge counterweight at the other. Cleaning and lubricating wire ropes will facilitate the removal of contaminants and moisture, reduces the friction between individual wire rope strands as they move over each other, and provides corrosion protection to the wire core, interior wire strands, and exterior surfaces. Clean each wire rope (starting at the maximum elevation of the cable, i.e., from the top down) via wire brush and petroleum solvent, allowing time for excess solvent to dry off, followed immediately by the application of lubricant to prevent flash rusting. Two types of lubricant shall be used; a penetrating lubricant containing a petroleum solvent is to be applied first in order to saturate the wire core followed by a coating

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lubricant to seal the outside of the cable from moisture. Asphaltic compounds and grease based lubricants are not permitted. A cleaning and lubrication procedure must be submitted for approval prior to beginning of any work.

Each bundle of cables shall be considered one cable and will be measured as such.

Provide a containment design to be approved by the Department prior to the commencement of Work. The contractor must ensure that all waste is contained and captured. No separate payment will be made for containment systems or water vessels to access the structure of any bridge. No separate payment will be made for the containment design or temporary shielding. No payment will be made until all cables have been cleaned, lubricated, and accepted by the Department.

Work requiring bridge opening will be limited to fifteen-minute intervals to minimize traffic impacts. The work schedule shall be approved by the Resident Engineer and Traffic Operations prior to the commencement of Work.

The number of main counterweight wire ropes requiring lubrication on each drawbridge is as follows

The number of main counterweight wire rope bundles requiring lubrication on each drawbridge is as follows:

No.	Rt.	Mile Post	Structure Number	Location	Main Counterweight Wire Ropes
101	1&9T	0.56	0705-151	US-1&9T over Passaic River	4
102	1&9T	1.72	0905-152	US-1&9T over Hackensack River	8
103	7	5.30	0208-150	NJ-7 over Passaic River	4
104	7	0.12	0909-150	NJ-7 over Hackensack River	4
105	280	14.5	0731-161	I-280 over Passaic River	8
106	46	70.05	0221-155	US-46 over Hackensack River	0

The number of auxiliary counterweight wire ropes requiring lubrication on each drawbridge is as follows:

No.	Rt.	Mile Post	Structure Number	Location	Main Counterweight Wire Ropes
101	1&9T	0.56	0705-151	US-1&9T over Passaic River	0
102	1&9T	1.72	0905-152	US-1&9T over Hackensack River	0
103	7	5.30	0208-150	NJ-7 over Passaic River	0
104	7	0.12	0909-150	NJ-7 over Hackensack River	0
105	280	14.5	0731-161	I-280 over Passaic River	0
106	46	70.05	0221-155	US-46 over Hackensack River	0

The number of operating wire ropes requiring lubrication on each drawbridge is as follows:

No.	Rt.	Mile Post	Structure Number	Location	Main Counterweight Wire Ropes
101	1&9T	0.56	0705-151	US-1&9T over Passaic River	0
102	1&9T	1.72	0905-152	US-1&9T over Hackensack River	0

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103	7	5.30	0208-150	NJ-7 over Passaic River	0
104	7	0.12	0909-150	NJ-7 over Hackensack River	0
105	280	14.5	0731-161	I-280 over Passaic River	0
106	46	70.05	0221-155	US-46 over Hackensack River	0

(B) Cleaning and Lubrication of Drawbridge Sheave Assembly
THE FOLLOWING IS CHANGED TO:

The number of auxiliary counterweight rope sheave assemblies requiring lubrication on each drawbridge is as follows:

No.	Rt.	Mile Post	Structure Number	Location	Sheave Assembly
101	1&9T	0.56	0705-151	US-1&9T over Passaic River	0
102	1&9T	1.72	0905-152	US-1&9T over Hackensack River	0
103	7	5.30	0208-150	NJ-7 over Passaic River	0
104	7	0.12	0909-150	NJ-7 over Hackensack River	0
105	280	14.5	0731-161	I-280 over Passaic River	0
106	46	70.05	0221-155	US-46 over Hackensack River	0

The number of auxiliary operating rope drums and sheave assemblies requiring lubrication on each drawbridge is as follows:

No.	Rt.	Mile Post	Structure Number	Location	Sheave Assembly
101	1&9T	0.56	0705-151	US-1&9T over Passaic River	0
102	1&9T	1.72	0905-152	US-1&9T over Hackensack River	0
103	7	5.30	0208-150	NJ-7 over Passaic River	0
104	7	0.12	0909-150	NJ-7 over Hackensack River	0
105	280	14.5	0731-161	I-280 over Passaic River	0
106	46	70.05	0221-155	US-46 over Hackensack River	0

THE FOLLOWING IS ADDED:

(H) Cleaning and Lubrication Auxiliary Wire Ropes and Sheave Assemblies

Clean and lubricate each auxiliary wire rope and sheave assemblies. Vertical lift drawbridges utilize fiber core steel wire ropes; several individual wire ropes are grouped together at each bridge corner, with each grouping of wire ropes attached to the main lifting girder of the lift span at one end and to the bridge counterweight at the other. Cleaning and lubricating wire ropes will facilitate the removal of contaminants and moisture, reduces the friction between individual wire rope strands as they move over each other, and provides corrosion protection to the wire core, interior wire strands, and exterior surfaces. Clean each wire rope (starting at the maximum elevation of the cable, i.e., from the top down) via wire brush and petroleum solvent, allowing time for excess solvent to dry off, followed immediately by the application of lubricant to prevent flash rusting. Two types of lubricant shall be used; a penetrating lubricant containing a petroleum solvent is to be applied first in order to saturate the wire core followed by a coating lubricant to seal the outside of the cable from moisture. Asphaltic compounds and grease based lubricants are not permitted. A cleaning and lubrication procedure must be submitted for approval prior to beginning of any work.

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Each bundle of cables and sheave assembly shall be considered one unit and will be measured as such.

Provide a containment design to be approved by the Department prior to the commencement of Work. The contractor must ensure that all waste is contained and captured. No separate payment will be made for containment systems or water vessels to access the structure of any bridge. No separate payment will be made for the containment design or temporary shielding. No payment will be made until all cables have been cleaned, lubricated, and accepted by the Department.

Work requiring bridge opening will be limited to fifteen-minute intervals to minimize traffic impacts. The work schedule shall be approved by the Resident Engineer and Traffic Operations prior to the commencement of Work.

The number of auxiliary counterweight wire ropes and sheave assemblies requiring lubrication on each drawbridge is as follows:

No.	Rt.	Mile Post	Structure Number	Location	Aux Wire Ropes & Sheave Assemblies
101	1&9T	0.56	0705-151	US-1&9T over Passaic River	0
102	1&9T	1.72	0905-152	US-1&9T over Hackensack River	4
103	7	5.30	0208-150	NJ-7 over Passaic River	0
104	7	0.12	0909-150	NJ-7 over Hackensack River	0
105	280	14.5	0731-161	I-280 over Passaic River	4
106	46	70.05	0221-155	US-46 over Hackensack River	0

557.4 MEASUREMENT AND PAYMENT

THE FOLLOWING IS ADDED:

The Department will measure and make payment for Items as follows:

<i>Item</i>	<i>Pay Unit</i>
CLEANING AND LUBRICATION AUXILIARY WIRE ROPES AND SHEAVE ASSEMBLIES	UNIT

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- The following are questions received from plan holders and the responses to those questions:

Questions Asked By: IEW Construction Group, Inc

Question No. 1: Item 58 Cleaning/Lubrication Sheave Assembly (Annual)

"Proposal Line Item # 58, Cleaning/Lubrication Drawbridge Sheave Assembly (Annual) has not been created within the Special Provisions. Special Provision Section 557.3 identifies the Item as Cleaning/Lubrication of Drawbridge Sheave Assembly to be performed once during the contract. Which is correct?"

Response to Question No. 1: "The Cleaning/Lubrication Drawbridge Sheave Assembly should be done once per contract as per special provision."

Question No. 2: Cleaning and Lubrication of Drawbridge Lift Cables

Special Provision Section 557.3 (A) identifies the Item Cleaning and Lubrication of Drawbridge Lift Cables to be performed once during the contract. Two hundred eighty-eight (288) main counterweight ropes, sixteen (16) auxiliary counterweight ropes, and sixteen (16) operating ropes have been identified on the tables provided within the Special Provisions; however, each bundle of cable is considered one cable. The table has overstated the measured unit. Is this correct?

Response to Question No. 2: See Addendum no. 1.

Question No. 3: Lane Rental Charge

"Special Provision Section 108.73 incorporates a Lane Rental charge. Will this charge be assessed for normal scheduled lane closings or just the hours extending beyond the available lane closing hours provided?"

Response to Question No. 3: These values will be used to assess damages if approved lane closure hours are not adhered

Question No. 4: Methacrylate Flood Coat

"Proposal Line Item # 53, Methacrylate Flood Coat is not created within the Special Provisions and has not been identified within the Standard Specifications. Please describe and identify the work associated with Proposal Line Item # 53."

Response to Question No. 4: See Addendum no. 1.

Question No. 5: As-built plans

"Subsection 102.04 of the Special Provisions indicates that structural plans, contour maps and as-built plans of the existing structures may be downloaded from Bid Express; however, no such documents are available. Please provide structural plans, contour maps and as-built plans of the six existing structures included in this contract."

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Response to Question No. 5: See Addendum no. 1.

Question No. 6: As-Builts

“Can existing as-built drawings pertaining to the contract work be provided?”

Response to Question No. 6: See Addendum no. 1

Question No. 7: Clearing Site

Special Provisions Section 201.3.2 added work requirements to the 2019 Standard Specification Items: Clearing Site, Bridge and Clearing Site, Structure. Neither Clearing Site Bridge nor Clearing Site, Structure are included within the Proposal. How will this added work be compensated?”

Response to Question No. 7: See Addendum no. 1

Questions Asked By: Agate Construction Co., Inc.

Question No. 13: DP 17450

“Please refer to Special Provisions Section 155 and Proposal Items 0029 and 0030. Special Provisions subsection 155.3.1 specifies a Type E Field Office while Proposal Items 0029 and 0030 refer to a Type B Field Office. Please clarify which type of field office is required.”

Response to Question No. 13: See Addendum no. 1