



STATE OF DELAWARE  
**DEPARTMENT OF TRANSPORTATION**  
800 BAY ROAD  
P.O. Box 778  
DOVER, DELAWARE 19903

JENNIFER COHAN  
SECRETARY

**VIA OVERNIGHT DELIVERY**

November 21, 2018

Contract No. T201707005.01  
Federal Aid Project No. EBHOS-2018(36)  
Statewide Movable Bridge Preventative Maintenance

Ladies and Gentlemen:

Enclosed is Addendum No. 1 for the referenced contract consisting of the following:

1. The Bid Proposal Cover, revised, to be substituted for the same page in the Proposal.
2. Special Provision 615601-Monthly Maintenance at Bridge 1-687, has been revised and replaced.
3. One (1) page, Bid Proposal Form, page 3, revised, to be substituted for the same page in the Proposal. Item Numbers 615626, 615627 and 615628 have revised quantities.
4. Expedite File Disc, Amendments No. 1.

Please note the revisions listed above and submit your bid based upon this information.

Sincerely,

*~signature on file~*

Robert A. Kovacs  
Competitively Bid Contracts Coordinator  
Delaware Department of Transportation

# STATE OF DELAWARE



## DEPARTMENT OF TRANSPORTATION

### BID PROPOSAL

for

### CONTRACT T201707005.01

FEDERAL AID PROJECT NO. EBHOS-2018(36)

CFDA NO. 20.205

### Statewide Movable Bridge Preventative Maintenance

Statewide

ADVERTISEMENT DATE: November 5, 2018

COMPLETION TIME: 730 Calendar Days

SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION  
DELAWARE DEPARTMENT OF TRANSPORTATION  
AUGUST 2016

Bids will be received in the Bidder's Room at the Delaware Department of Transportation's Administration Building, 800 Bay Road, Dover, Delaware prior to 2:00 P.M. local time **December 4, 2018**

- 615601 - MONTHLY MAINTENANCE AT BRIDGE 1-687
- 615602 - QUARTERLY MAINTENANCE AT BRIDGE 1-687
- 615603 - SEMI-ANNUAL MAINTENANCE AT BRIDGE 1-687
- 615604 - ANNUAL MAINTENANCE AT BRIDGE 1-687
- 615605 - 5 YEAR MAINTENANCE AT BRIDGE 1-687
- 615607 - MONTHLY MAINTENANCE AT BRIDGE 1-688
- 615608 - QUARTERLY MAINTENANCE AT BRIDGE 1-688
- 615609 - SEMI-ANNUAL MAINTENANCE AT BRIDGE 1-688
- 615610 - ANNUAL MAINTENANCE AT BRIDGE 1-688
- 615611 - 2 YEAR MAINTENANCE AT BRIDGE 1-688
- 615612 - 5 YEAR MAINTENANCE AT BRIDGE 1-688
- 615614 - MONTHLY MAINTENANCE AT BRIDGE 1-693
- 615615 - QUARTERLY MAINTENANCE AT BRIDGE 1-693
- 615616 - SEMI-ANNUAL MAINTENANCE AT BRIDGE 1-693
- 615617 - ANNUAL MAINTENANCE AT BRIDGE 1-693
- 615618 - 5 YEAR MAINTENANCE AT BRIDGE 1-693
- 615620 - MONTHLY MAINTENANCE AT BRIDGE 2-021A
- 615621 - QUARTERLY MAINTENANCE AT BRIDGE 2-021A
- 615622 - SEMI-ANNUAL MAINTENANCE AT BRIDGE 2-021A
- 615623 - ANNUAL MAINTENANCE AT BRIDGE 2-021A
- 615624 - 5 YEAR MAINTENANCE AT BRIDGE 2-021A
- 615626 - MONTHLY MAINTENANCE AT BRIDGE 3-151
- 615627 - QUARTERLY MAINTENANCE AT BRIDGE 3-151
- 615628 - SEMI-ANNUAL MAINTENANCE AT BRIDGE 3-151
- 615629 - ANNUAL MAINTENANCE AT BRIDGE 3-151
- 615630 - 2 YEAR MAINTENANCE AT BRIDGE 3-151
- 615631 - 5 YEAR MAINTENANCE AT BRIDGE 3-151
- 615632 - MONTHLY MAINTENANCE AT BRIDGE 3-153
- 615633 - QUARTERLY MAINTENANCE AT BRIDGE 3-153
- 615634 - SEMI-ANNUAL MAINTENANCE AT BRIDGE 3-153
- 615635 - ANNUAL MAINTENANCE AT BRIDGE 3-153
- 615636 - 2 YEAR MAINTENANCE AT BRIDGE 3-153
- 615637 - MONTHLY MAINTENANCE AT BRIDGE 3-154
- 615638 - QUARTERLY MAINTENANCE AT BRIDGE 3-154
- 615639 - SEMI-ANNUAL MAINTENANCE AT BRIDGE 3-154
- 615640 - ANNUAL MAINTENANCE AT BRIDGE 3-154
- 615642 - MONTHLY MAINTENANCE AT BRIDGE 3-164
- 615643 - QUARTERLY MAINTENANCE AT BRIDGE 3-164
- 615644 - SEMI-ANNUAL MAINTENANCE AT BRIDGE 3-164
- 615645 - ANNUAL MAINTENANCE AT BRIDGE 3-164
- 615646 - 5 YEAR MAINTENANCE AT BRIDGE 3-164

**Description:**

**Common Provisions for Bridge Maintenance.**

This section shall give the general requirements which apply to all bridge cyclical maintenance work. Applicable sections of this Special Provision, including (but not limited to) Maintenance Schedule, Safety Procedures, Bridge Information & Access, and Maintenance Sequence & Procedures, shall also apply to the initial repair and any additional repair work.

**Operations and Maintenance Manuals.**

The required maintenance (including tasks, frequencies, and materials) for each bridge shall be as specified in the latest edition of Volume 2 of each bridge specific Operations and Maintenance Manual (O&M Manual) with the 2018 updates to Chapter 8.

The checklists located in Chapter 10 of the O&M Manuals shall not be used for this Contract. Updated Maintenance Checklists, which must be completed and submitted by the Contractor as work is completed, are located in Appendix B of the Contract. The maintenance tasks described within the Maintenance Checklists are meant to summarize the work to be performed. In the event of a discrepancy between the O&M Manuals and the Maintenance Checklists, the Contractor shall notify the Engineer, however all maintenance shall be as specified within Chapter 8 (and supplemented by Chapter 11) of the O&M Manuals.

### **Submissions.**

Expected submittals for the bridge maintenance work includes (but is not limited to) maintenance schedule, safety procedures, material catalog cut sheets, and completed Maintenance Checklists.

#### **A. Catalog Cuts.**

The Contractor shall submit catalog cuts of materials for approval prior to purchasing and performing maintenance. The following list of materials is not all encompassing and any material purchased for this Contract shall be submitted for review prior to purchasing.

1. Machinery Lubricants
2. Light Bulbs
3. Grease Fittings
4. Hygroscopic Breathers
5. Air Filters
6. Gaskets and Sealants
7. Electrical Components (i.e. fuses, etc.)
8. Paint
9. Replacement Parts

#### **B. Maintenance Schedule.**

The Contractor shall submit a schedule for all on-site work (including maintenance and all repair work) for the next calendar month to the Engineer by the 15th of each month. The schedule shall identify:

1. The dates and times at each work location.
2. Maintenance tasks to be completed and personnel to be on-site.
3. Whether any work shall require the bridge to be out of service. Identify the Lockout/Tagout Procedure and equipment to be temporarily placed out of service.
4. Equipment to be brought on site.
5. Identify the expected number of bridge openings or equipment operations to verify proper equipment operation as part of maintenance work.
6. If any shoulder or lane closures will be needed for the work, the Contractor is required to submit lane closure requests, for acceptance to the Engineer, by the 15th of each month for the next month in accordance with DeIDOT's policies.
7. The Contractor shall notify and receive approval from DeIDOT and the United States Coast Guard (USCG) at least 30 days in advance prior to working within the navigable channel, working from an under-bridge inspection vehicle or crane which affects the navigable channel, or performing work that will require a temporary deviation from the USCG bridge specified opening schedule.
8. Any required maintenance work that is not successfully completed within the month of the assigned intervals (monthly, quarterly, etc.) will not be accepted for payment. Liquidated damages, in accordance with Sections 108.08 and 108.09 of the DeIDOT Standard Specifications for Road and Bridge Construction, may be assigned to the Contractor by DeIDOT until the work is successfully completed.

9. Refer to the tables below for the planned initial repair and maintenance schedules. Refer to "Maintenance Sequence" section of this Special Provision for additional schedule information, including specific timing requirements for maintenance activities at several of the bridges.

Bridge Maintenance Schedule							
Month	Maintenance Interval for Year 1 of Maintenance Contract						
	Initial Repairs	Monthly	Quarterly	Semi-Annual	Annual	2 Year	5 Year
NTP January	1-687, 1-688, 1-693, 2-021A, <del>3-151</del> & 3-164	1-687, 1-688, 1-693, 2-021A, <del>3-151</del> & 3-164	<del>1-687</del> & 1-688				
February	1-687, 1-688, 1-693, 2-021A, <del>3-151</del> & 3-164	1-687, 1-688, 1-693, 2-021A, <del>3-151</del> & 3-164	1-693 & 2-021A				
March	1-687, 1-688, 1-693, 2-021A, <del>3-151</del> & 3-164	1-687, 1-688, 1-693, 2-021A, <del>3-151</del> & 3-164	<del>3-151</del> & <del>3-164</del> & <u>1-687</u>	<del>3-151</del> & <del>3-164</del> & <u>1-687</u>	<del>3-151</del> & <del>3-164</del> & <u>1-687</u>	<del>3-151</del>	<del>3-151</del> & <del>3-164</del> & <u>1-687</u>
April	1-687, 1-688, 1-693, 2-021A, <del>3-151</del> & 3-164	1-687, 1-688, 1-693, 2-021A, <del>3-151</del> & 3-164	<del>1-687</del> & 1-688	<del>1-687</del> & 1-688	<del>1-687</del> & 1-688	1-688	<del>1-687</del> & 1-688
May	1-687, 1-688, 1-693, 2-021A, <del>3-151</del> & 3-164	1-687, 1-688, 1-693, 2-021A, <del>3-151</del> & 3-164	1-693 & 2-021A	1-693 & 2-021A	1-693 & 2-021A		1-693 & 2-021A
June	1-687, 1-688, 1-693, 2-021A, <del>3-151</del> & 3-164	1-687, 1-688, 1-693, 2-021A, <del>3-151</del> & 3-164	<del>3-151</del> & <del>3-164</del> & <u>1-687</u>				
July	1-687, 1-688, 1-693, 2-021A, <del>3-151</del> & 3-164	1-687, 1-688, 1-693, 2-021A, <del>3-151</del> & 3-164	<del>1-687</del> & 1-688				

August	1-687, 1-688, 1-693, 2-021A, <del>3-151</del> & 3-164	1-687, 1-688, 1-693, 2-021A, <del>3-151</del> & 3-164	1-693 & 2-021A				
September	1-687, 1-688, 1-693, 2-021A, <del>3-151</del> & 3-164	1-687, 1-688, 1-693, 2-021A, <del>3-151</del> & 3-164	<del>3-151</del> & 3-164 & <u>1-687</u>	<del>3-151</del> & 3-164 & <u>1-687</u>			
October	1-687, 1-688, 1-693, 2-021A, 3-151 & 3-164	1-687, 1-688, 1-693, 2-021A, 3-151 & 3-164	<del>1-687</del> & 1-688 & <u>3-151</u>	<del>1-687</del> & 1-688 & <u>3-151</u>	3-151	<u>3-151</u>	<u>3-151</u>
November	1-687, 1-688, 1-693, 2-021A, 3-151 & 3-164	1-687, 1-688, 1-693, 2-021A, 3-151 & 3-164	1-693 & 2-021A	1-693 & 2-021A			
December	1-687, 1-688, 1-693, 2-021A, 3-151 & 3-164	1-687, 1-688, 1-693, 2-021A, 3-151 & 3-164	<del>3-151</del> & 3-164 & <u>1-687</u>				

Bridge Maintenance Schedule							
Month	Maintenance Interval for Year 2 of Maintenance Contract						
	Initial Repairs	Monthly	Quarterly	Semi-Annual	Annual	2 year	5 year
January	<u>3-151</u>	1-687, 1-688, 1-693, 2-021A, 3-151 & 3-164	<del>1-687</del> & 1-688 & <u>3-151</u>				
February	<u>3-151</u>	1-687, 1-688, 1-693, 2-021A, 3-151 & 3-164	1-693 & 2-021A				
March	<u>3-151</u>	1-687, 1-688, 1-693, 2-021A, 3-151 & 3-164	<del>3-151</del> & 3-164 & <u>1-687</u>	<del>3-151</del> & 3-164 & <u>1-687</u>	<del>3-151</del> & 3-164 & <u>1-687</u>		
April		1-687, 1-688, 1-693, 2-021A, 3-151 & 3-164	<del>1-687</del> & 1-688 & <u>3-151</u>	<del>1-687</del> & 1-688 & <u>3-151</u>	<del>1-687</del> & 1-688 & <u>3-151</u>		
May		1-687, 1-688, 1-693, 2-021A, 3-151 & 3-164	1-693 & 2-021A	1-693 & 2-021A	1-693 & 2-021A		

June	1-687, 1-688, 1-693, 2-021A, 3-151 & 3-164	3-151 & 3-164 & <u>1-687</u>				
July	1-687, 1-688, 1-693, 2-021A, 3-151 & 3-164	<del>1-687</del> & 1-688 & <u>3-151</u>				
August	1-687, 1-688, 1-693, 2-021A, 3-151 & 3-164	1-693 & 2-021A				
September	1-687, 1-688, 1-693, 2-021A, 3-151 & 3-164	3-151 & 3-164 & <u>1-687</u>	3-151 & 3-164 & <u>1-687</u>			
October	1-687, 1-688, 1-693, 2-021A, 3-151 & 3-164	<del>1-687</del> & 1-688 & <u>3-151</u>	<del>1-687</del> & 1-688 & <u>3-151</u>			
November	1-687, 1-688, 1-693, 2-021A, 3-151 & 3-164	1-693 & 2-021A	1-693 & 2-021A			
December	1-687, 1-688, 1-693, 2-021A, 3-151 & 3-164	3-151 & 3-164 & <u>1-687</u>				

Bridge Maintenance Schedule							
Month	Maintenance Interval for Year 3 of Maintenance Contract						
	Initial Repairs	Monthly	Quarterly	Semi-Annual	Annual	2 Year	5 Year
January		1-687, 1-688, 1-693, 2-021A, 3-151, 3-164, <u>3-153 &amp; 3-154</u>	<del>1-687</del> & 1-688 & <u>1-693</u>				
February		1-687, 1-688, 1-693, 2-021A, 3-151 & 3-164, <u>3-153 &amp; 3-154</u>	<del>1-693</del> , 2-021A, & 3-151, & <u>1-687</u>	<del>1-693</del> , 2-021A, & 3-151, & <u>1-687</u>	<del>1-693</del> , 2-021A, & 3-151, & <u>1-687</u>	3-151	
March		1-687, 1-688, 1-693, 2-021A, 3-151 & 3-164, <u>3-153 &amp; 3-154</u>	3-153, 3-154 & 3-164	3-153, 3-154 & 3-164	3-153, 3-154 & 3-164	3-153	

April		1-687, 1-688, 1-693, 2-021A, 3-151 & 3-164, <u>3-153 &amp; 3-154</u>	<del>1-687 &amp;</del> 1-688 & <u>1-693</u>	<del>1-687 &amp;</del> 1-688 & <u>1-693</u>	<del>1-687 &amp;</del> 1-688 & <u>1-693</u>	1-688	
May		1-687, 1-688, 1-693, 2-021A, 3-151 & 3-164, <u>3-153 &amp; 3-154</u>	<del>1-693,</del> 2-021A, & 3-151, & <u>1-687</u>				
June		1-687, 1-688, 1-693, 2-021A, 3-151 & 3-164, <u>3-153 &amp; 3-154</u>	3-153, 3-154 & 3-164				
July		1-687, 1-688, 1-693, 2-021A, 3-151 & 3-164, <u>3-153 &amp; 3-154</u>	<del>1-687 &amp;</del> 1-688 & <u>1-693</u>				
August		1-687, 1-688, 1-693, 2-021A, 3-151 & 3-164, <u>3-153 &amp; 3-154</u>	<del>1-693,</del> 2-021A, & 3-151, & <u>1-687</u>	<del>1-693,</del> 2-021A, & 3-151, & <u>1-687</u>			
September		1-687, 1-688, 1-693, 2-021A, 3-151 & 3-164, <u>3-153 &amp; 3-154</u>	3-153, 3-154 & 3-164	3-153, 3-154 & 3-164			
October		1-687, 1-688, 1-693, 2-021A, 3-151 & 3-164, <u>3-153 &amp; 3-154</u>	<del>1-687 &amp;</del> 1-688 & <u>1-693</u>	<del>1-687 &amp;</del> 1-688 & <u>1-693</u>			
November		1-687, 1-688, 1-693, 2-021A, 3-151 & 3-164, <u>3-153 &amp; 3-154</u>	<del>1-693,</del> 2-021A, & 3-151, & <u>1-687</u>				
December		1-687, 1-688, 1-693, 2-021A, 3-151 & 3-164, <u>3-153 &amp; 3-154</u>	3-153, 3-154 & 3-164				

Bridge Maintenance Schedule							
Month	Maintenance Interval for Year 4 of Maintenance Contract						
	Initial Repairs	Monthly	Quarterly	Semi-Annual	Annual	2 Year	5 Year
January		1-687, 1-688, 1-693, 2-021A, 3-151 & 3-164, <u>3-153 &amp; 3-154</u>	<del>1-687</del> & 1-688 & <u>1-693</u>				
February		1-687, 1-688, 1-693, 2-021A, 3-151 & 3-164, <u>3-153 &amp; 3-154</u>	<del>1-693</del> , 2-021A, & 3-151, & <u>1-687</u>	<del>1-693</del> , 2-021A, & 3-151, & <u>1-687</u>	<del>1-693</del> , 2-021A, & 3-151, & <u>1-687</u>		
March		1-687, 1-688, 1-693, 2-021A, 3-151 & 3-164, <u>3-153 &amp; 3-154</u>	3-153, 3-154 & 3-164	3-153, 3-154 & 3-164	3-153, 3-154 & 3-164		
April		1-687, 1-688, 1-693, 2-021A, 3-151 & 3-164, <u>3-153 &amp; 3-154</u>	<del>1-687</del> & 1-688 & <u>1-693</u>	<del>1-687</del> & 1-688 & <u>1-693</u>	<del>1-687</del> & 1-688 & <u>1-693</u>		
May		1-687, 1-688, 1-693, 2-021A, 3-151 & 3-164, <u>3-153 &amp; 3-154</u>	<del>1-693</del> , 2-021A, & 3-151, & <u>1-687</u>				
June		1-687, 1-688, 1-693, 2-021A, 3-151 & 3-164, <u>3-153 &amp; 3-154</u>	3-153, 3-154 & 3-164				
July		1-687, 1-688, 1-693, 2-021A, 3-151 & 3-164, <u>3-153 &amp; 3-154</u>	<del>1-687</del> & 1-688 & <u>1-693</u>				
August		1-687, 1-688, 1-693, 2-021A, 3-151 & 3-164, <u>3-153 &amp; 3-154</u>	<del>1-693</del> , 2-021A, & 3-151, & <u>1-687</u>	<del>1-693</del> , 2-021A, & 3-151, & <u>1-687</u>			
September		1-687, 1-688, 1-693, 2-021A, 3-151 & 3-164, <u>3-153 &amp; 3-154</u>	3-153, 3-154 & 3-164	3-153, 3-154 & 3-164			
October		1-687, 1-688, 1-693, 2-021A, 3-151 & 3-164, <u>3-153 &amp; 3-154</u>	<del>1-687</del> & 1-688 & <u>1-693</u>	<del>1-687</del> & 1-688 & <u>1-693</u>			

November		1-687, 1-688, 1-693, 2-021A, 3-151 & 3-164, <u>3-153 &amp; 3-154</u>	<del>1-693</del> , 2-021A, & 3-151, & <u>1-687</u>				
December		1-687, 1-688, 1-693, 2-021A, 3-151 & 3-164, <u>3-153 &amp; 3-154</u>	3-153, 3-154 & 3-164				

Bridge Maintenance Schedule							
Month	Maintenance Interval for Year 5 of Maintenance Contract						
	Initial Repairs	Monthly	Quarterly	Semi-Annual	Annual	2 Year	5 Year
January		1-687, 1-688, 1-693, 2-021A, 3-151 & 3-164, <u>3-153 &amp; 3-154</u>	<del>1-687</del> & 1-688 & <u>1-693</u>				
February		1-687, 1-688, 1-693, 2-021A, 3-151 & 3-164, <u>3-153 &amp; 3-154</u>	<del>1-693</del> , 2-021A, & 3-151, & <u>1-687</u>	<del>1-693</del> , 2-021A, & 3-151, & <u>1-687</u>	<del>1-693</del> , 2-021A, & 3-151, & <u>1-687</u>	3-151	
March		1-687, 1-688, 1-693, 2-021A, 3-151 & 3-164, <u>3-153 &amp; 3-154</u>	3-153, 3-154 & 3-164	3-153, 3-154 & 3-164	3-153, 3-154 & 3-164	3-153	
April		1-687, 1-688, 1-693, 2-021A, 3-151 & 3-164, <u>3-153 &amp; 3-154</u>	<del>1-687</del> & 1-688 & <u>1-693</u>	<del>1-687</del> & 1-688 & <u>1-693</u>	<del>1-687</del> & 1-688 & <u>1-693</u>	1-688	
May		1-687, 1-688, 1-693, 2-021A, 3-151 & 3-164, <u>3-153 &amp; 3-154</u>	<del>1-693</del> , 2-021A, & 3-151, & <u>1-687</u>				
June		1-687, 1-688, 1-693, 2-021A, 3-151 & 3-164, <u>3-153 &amp; 3-154</u>	3-153, 3-154 & 3-164				
July		1-687, 1-688, 1-693, 2-021A, 3-151 & 3-164, <u>3-153 &amp; 3-154</u>	<del>1-687</del> & 1-688 & <u>1-693</u>				

August		1-687, 1-688, 1-693, 2-021A, 3-151 & 3-164, <u>3-153 &amp; 3-154</u>	<del>1-693,</del> 2-021A, & 3-151, & <u>1-687</u>	<del>1-693,</del> 2-021A, & 3-151, & <u>1-687</u>			
September		1-687, 1-688, 1-693, 2-021A, 3-151 & 3-164, <u>3-153 &amp; 3-154</u>	3-153, 3-154 & 3-164	3-153, 3-154 & 3-164			
October		1-687, 1-688, 1-693, 2-021A, 3-151 & 3-164, <u>3-153 &amp; 3-154</u>	<del>1-687 &amp;</del> 1-688 & <u>1-693</u>	<del>1-687 &amp;</del> 1-688 & <u>1-693</u>			
November		1-687, 1-688, 1-693, 2-021A, 3-151 & 3-164, <u>3-153 &amp; 3-154</u>	<del>1-693,</del> 2-021A, & 3-151, & <u>1-687</u>				
December		1-687, 1-688, 1-693, 2-021A, 3-151 & 3-164, <u>3-153 &amp; 3-154</u>	3-153, 3-154 & 3-164				

**C. Safety Procedures.**

The Contractor shall submit a safety procedure for review that shall incorporate DelDOT's safety procedures while performing the work of this Contract.

1. The Contractor shall submit a lockout/tagout procedure that complies with NFPA 70E National Electric Code, OSHA requirements, and other applicable Codes and Specifications.
2. It is not the responsibility of DelDOT to upgrade the bridge(s) to meet the Contractor's safety policies. If the Contractor requires modifications to the current bridge access, the Contractor shall submit shop drawings of their modifications for review and comment. Any accepted modifications shall be at no cost to DelDOT.
3. The Contractor is responsible for providing the necessary access equipment for safely accessing components to perform all maintenance and repair tasks. The cost of the access equipment and personal protective equipment shall be at no additional cost to DelDOT. Refer to "Description" section of "Project Scope of Work" Special Provision regarding MOT for bridge maintenance and repair work.

**D. Maintenance Checklist (as they are completed).**

The Maintenance Checklists included in Appendix B shall be completed and submitted at the end of each month. The cost of completing and submitting all checklists will not be measured and paid, but are incidental to other items in this Contract.

**Field Verification & Revisions to Maintenance Items.**

In the event the Contractor determines a discrepancy in the quantity or location of maintenance items or requires clarification for maintenance activities, the Contractor shall perform the following:

- A. Notify the Engineer in writing within 5 days of identifying a discrepancy or request for verification. Provide the quantity, location, equipment access, etc. to clearly identify the component.
- B. The Engineer will provide direction to the Contractor within 10 days of receiving the written request.

### **Bridge Information & Access.**

The following information is provided to the Contractor to establish the bridge orientation, bridge access options, and procedure for bridge openings.

#### **A. Bridge Orientation.**

For the maintenance check lists, the following orientations shall be used to document the location completed tasks:

1. Bridge 1-687 - North/South bridge orientation and the control house is located at the southeast corner of the movable span.
2. Bridge 1-688 - North/South bridge orientation and the control house is located at the northwest corner of the movable span.
3. Bridge 1-693 - North/South bridge orientation and the control house is located at the northeast corner of the movable span.
4. Bridge 2-021A - North/South bridge orientation and the control house is located at the northwest corner of the movable span.
5. Bridge 3-151 - North/South bridge orientation and the control house is located at the northwest corner of the movable span.
6. Bridge 3-164 - East/West bridge orientation and the control house is located at the southwest corner of the movable span.

#### **B. Bridge Access.**

Any access methods required for the maintenance work (including but not limited to lane closures, under bridge inspection vehicles, barge/boat) is incidental to each maintenance item.

#### **C. Coordinate with Bridge Operations.**

The Contractor shall perform the work of this Contract knowing a bridge opening can occur at any time. Refer to "Construction Methods" section, "Bridge Openings" subsection of this Special Provision for the USCG specified bridge opening requirements.

#### **D. Maintenance Bridge Openings.**

With 10 working days' notice, the Contractor can request, from DelDOT, bridge operations for maintenance activities between the hours of 10 am and 3 pm Monday through Thursday. The allowable opening frequency and duration will be dependent upon traffic conditions during the opening. Maintenance openings cannot be performed in the rain/snow, traffic incidents and congestion, or as determined by the DelDOT.

#### **E. Working Hours.**

In general, working hours at the bridges shall be limited to 8 am to 4 pm, unless otherwise approved by DelDOT.

**F. Lane Closures and Bridge Closures.**

All shoulder or travel lane closures shall be performed at times directed by the District Engineer with direction from the District Safety Officer. Any deviation from the time restriction must be approved the District Engineer and District Safety Officer prior to the commencement of work. No lane or shoulder closures will be permitted on holidays or holiday weekends, unless approved by the District Engineer with consultation with DelDOT Safety Section. Several bridge closures (to pedestrian and vehicular traffic) will be necessary to perform several of the initial repairs (including but not limited to span lock shimming at Bridges 1-688 and 1-693, live load bearing repairs at Bridge 2-021A, and air buffer removal/installation at Bridge 2-021A). All bridge closure requests shall also be coordinated and approved by the District Engineer and District Safety Officer.

Signs and/or Portable Changeable Message Signs (PCMS) shall be used (as specified by the District Engineer and District Safety Officer) to warn traffic of any bridge closure to pedestrian and/or vehicular traffic. The location and setup of all PCMS shall be approved by DelDOT and in compliance with the DE MUTCD.

**Damaged and Replacement Parts.**

In the event the Contractor determines a component is worn, broken or damaged and can no longer provide reliable service, the Contractor shall perform the following:

- A. Notify the Engineer with an immediate phone call.
- B. Submit notification in writing to the Engineer within 24 hours.
- C. The Contractor shall identify the equipment that has failed, with sufficient information to identify the part, including at a minimum the location, alphanumeric tag, part description, manufacturer, part number, size, rating, and photos.

The Contractor shall inspect equipment as part of the maintenance work. Individual components or pieces of equipment may be identified and determined to have worn, broken, failed or be in poor condition, such that failure is imminent. This equipment shall be identified to the Engineer and included in the Maintenance Checklists. The Engineer shall determine whether this work is a maintenance scope item or whether it is a new repair. The Engineer will provide direction to the Contractor in writing and determine when the force accounts will be used for performing the repairs.

If the Engineer determines it is a new repair, the Contractor shall be either directed to use identical existing replacement spare parts on site or directed to purchase new identical replacement parts. If identical replacement parts are not available, the Contractor shall recommend 'or equal' parts and submit complete catalog cuts to the Engineer for review. The Contractor and the Engineer shall discuss and agree to complete testing requirements and scope of work. All work shall be done in accordance with AASHTO and the NEC.

The Contractor shall test the equipment upon completion of a repair and notify the Engineer 24 hours prior to testing. The work shall be completed and the finished product tested to the satisfaction of the Engineer.

**Materials:****Operations and Maintenance Materials.**

The Contractor shall furnish all materials to maintain the existing equipment as specified in the O&M Manuals. Materials shall include but not be limited to the following items: grease fittings, pipe plugs, gasket material, sealant, lubricants, oil absorbent pads/material, hygroscopic breathers, rags, cleaner, paint, temporary rigging, light bulbs, batteries, filters, fuses, miscellaneous fasteners, etc. The Contractor shall supply all tools, material, and equipment required to maintain the existing equipment in a safe and secure

manner. The cost of the required maintenance materials shall be included in the bid prices for each maintenance interval for each bridge. The Contractor shall field verify maintenance materials prior to submitting catalog cut sheets of all material to be used for maintaining the bridge equipment for acceptance. The Contractor shall add a copy of each approved catalog cut sheet to the O&M manual stored at each bridge.

### **Replacement Parts.**

All replacement parts, except those required as part of the cyclical maintenance work, shall not be included in the maintenance sections of this document but shall be documented and paid through force accounts. Replacement parts must be submitted to the Engineer for acceptance prior to ordering. The Contractor shall add a copy of each approved catalog cut sheet to the O&M manual stored at each bridge.

### **Auxiliary System Testing.**

Where maintenance tasks specify that the bridge shall be operated using a portable generator (Bridges 1-687, 1-688, 2-021A, and 3-151) or a portable air compressor (Bridge 3-151), the Contractor shall be responsible for furnishing all necessary equipment to perform the test operations. The costs for the Contractor to furnish and operate the equipment (including any incidental material required such as fuel, cords, additional hoses, etc.) shall be included in the bid prices for each applicable maintenance interval for each bridge. Refer to Volume 1 of the Operations and Maintenance manuals for additional information including operating requirements, procedures for connecting the components to the bridge systems, etc. The minimum sizes listed below shall supersede any information provided in the O&M manuals unless otherwise noted. Lane closures may be required to connect and operate the generator or air compressor.

<b>Bridge</b>	<b>Component</b>	<b>Requirements (Per Volume 1 of O&amp;M Manuals)</b>
1-687	Portable Generator	480 Volt, 3 Wire, 3 Phase 100 KVA minimum, 90 KW minimum
1-688	Portable Generator	480 Volt, 3 Wire, 3 Phase 100 KVA minimum, 90 KW minimum
2-021A	Portable Generator	240 Volt, 3 Wire, 3 Phase 75 KVA minimum, 50 KW minimum, NEMA 15-50P Receptacle
3-151	Portable Generator	240/120 Volt, 4 Wire, 3 Phase, 242 Amps Start-Up (minimum), 53.5 Amps Continuous (minimum), 30 KVA minimum 20 KW minimum
	Portable Air Compressor	100 PSI, 185 CFM

\*The portable generator sizes specified assumes one leaf motor operating at a time under ideal operating conditions (no ice, snow or wind loads) and all ancillary loads turned off where not required.

### **Construction Methods:**

### **Maintenance Sequence & Procedures.**

**A. Maintenance Sequence.**

Refer to the Bridge Maintenance Schedule included herein for the required maintenance frequencies to be performed during each month of the Contract. Prior to starting maintenance, the Contractor may submit a modified schedule to the Engineer for approval. Any specific monthly maintenance task performed at a specific bridge for different monthly checklists must be performed at least 3 weeks apart.

Due to upcoming repair work being performed under a separate Structure Maintenance Contract (T201807601), the Contractor for this Statewide Movable Bridge Preventative Maintenance Contract (T201707005) will not have access to Bridge 3-151 at the start of the Contract. The current anticipated start of preventative maintenance and initial repairs at Bridge 3-151 is October 2019. Initial repairs at Bridge 3-151 shall be completed within 6 months of the start of maintenance activities at the bridge.

Bridge Maintenance schedules have been provided in this Special Provision for Years 3, 4, and 5 of this contract to show the expected maintenance activities. Two additional bridges (3-153 and 3-154) are expected to be added to this maintenance Contract starting in Year 3 of the Contract (if DelDOT chooses to extend the Contract). If DelDOT chooses to extend this Contract beyond Year 2, the Contractor will be provided with an updated Bridge Maintenance Schedule (including when maintenance should start for the additional bridges) and updated Operations and Maintenance manuals for those bridges. The Contractor shall submit maintenance interval bid prices to DelDOT for review prior to starting maintenance at the additional bridges. Note that submission of bid prices for the additional bridges does not guarantee that the Contractor will be awarded any or all of the additional work.

**B. Maintenance Procedures.**

1. Submit the maintenance schedule to the Engineer as defined in the "Submissions" Section of this Special Provision.
2. The Contractor shall notify the Engineer and DelDOT Operations 3 days prior to performing maintenance to confirm the maintenance schedule.
3. The Contractor shall perform the maintenance activities specified in the Maintenance Checklists in accordance with the maintenance frequencies identified within this Contract. If the Contractor identifies a discrepancy with the maintenance activities, follow the direction identified in Section "Field Verification & Revisions to Maintenance Items".
4. The Contractor shall provide and install a white board at each bridge near the entrance of the control house to identify areas of the bridge where maintenance personnel is currently working and which components are locked out for maintenance. DelDOT's bridge operators will rely on the white board to confirm where work is being performed before bridge openings. The Contractor is required to keep the white board up to date at all times throughout the Contract.
5. The Contractor shall notify the Engineer when all work for a specific maintenance interval (or bridge) is completed. The Engineer will be on-site to verify the checklist items have been correctly completed for each component. The Engineer will complete a checklist independent of the Contractor.
6. The Contractor shall complete each Maintenance Checklist at the end of each day to identify the maintenance items completed.
7. The Contractor shall identify, within the "Notes" section of the Maintenance Checklists, bridge components and items that may require additional attention. If a bridge component is worn, damaged, or failed, the Contractor shall call the Engineer immediately to report the issue and submit a written notification to the Engineer as defined within this Special Provision under the "Description" section, "Damaged and Replacement Parts" subsection.

8. The Contractor shall submit the Maintenance Checklists monthly for invoicing as defined within this Contract. The Engineer will submit independent Maintenance Checklists based on their observations of maintenance activities completed. If the Contractor and Engineer's checklists do not agree, the Contractor will need to resolve the issue, complete the necessary maintenance activities, and submit invoice with completed Maintenance Checklists. Refer to the "Method of Measurement" and "Basis of Payment" sections of the Special Provision.

**C. Bridge Openings.**

In the event of a bridge opening occurring while maintenance activities are being performed, the Contractor will be required to stop all maintenance activities and restore the bridge to a proper and safe operating condition. The cost to stop work as a result of bridge openings is incidental to the Contract unit prices to perform maintenance.

1. DelDOT shall notify the Contractor of any requested bridge openings as soon as possible. Due to United States Coast Guard bridge opening requirements, notice of a bridge opening more than a few hours in advance may not be possible. Notice of a bridge opening may require the Contractor to stop with minimal notice.
2. The Contractor shall stop all work a minimum of 30 minutes prior to a scheduled bridge opening.
3. The Contractor shall provide a temporary power source (portable generator or air compressor) if the Contractor's maintenance activities will require the primary power source to be turned off and if an alternate power source (generator or manual operation system) is not already available on-site, unless the Contractor will be able to restore the bridge to a proper and safe operating condition prior to an opening.
4. The Contractor shall identify a point of contact for maintenance personnel that are responsible for verifying all work has been stopped, all equipment has been relocated to permit a bridge opening, all lockout/tagouts have been removed, all personnel are clear, and notify the DelDOT bridge operators the Contractor is clear and the operators may proceed with the opening using the standard operating procedures. Bypass and other "workarounds" are not permitted unless approved by the Engineer.
5. The Contractor's point of contact shall update the white board within the control house to confirm all components are back in operation prior to the arrival of the DelDOT bridge operators.
6. In general, maintenance openings should be schedule and performed Monday through Thursday between 10:00 a.m. and 3:00 p.m.
7. Refer to the table below for the bridge opening requirements as per the United States Coast Guard regulations.

Canal District Bridge Opening Log Summary													
Bridge	2017												Total
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	
Bridge 1-687	0	0	0	22	52	124	93	107	40	11	0	0	449
Bridge 1-688	2	2	0	11	21	37	59	85	50	55	7	1	330
Bridge 1-693	0	0	0	13	11	29	51	95	46	47	2	0	294

South District Bridge Opening Log Summary													
Bridge	2017								2018				Total
	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	
Bridge 2-021A	1	1	1	1	1	1	1	1	1	1	1	1	12
Bridge 3-151	125	172	162	165	111	12	30	0	0	1	2	65	845
Bridge 3-153	1	2	5	6	6	2	0	0	0	0	0	0	22
Bridge 3-154	1	1	0	0	1	2	0	0	0	0	0	2	7
Bridge 3-164	143	108	112	124	105	112	40	26	22	43	52	86	973

Notes: The number of openings shown for Bridge 2-021A are estimated.

#### **D. Field Verification and Revisions to Maintenance Items.**

During Month 1 Year 1 maintenance work, the Contractor shall field verify and document all equipment. Future repairs or modifications to equipment may modify the quantities and/or locations of equipment as identified in this Contract. During the field verification, if the Contractor determines there is a discrepancy in the quantity or location, then the Contractor shall submit a request for revision in writing to the Engineer.

Refer to the bridge specific Operations and Maintenance Manuals for the general location and quantity of the bridge components to be maintained. If there is any equipment whose general location area is not clear, submit a request for verification in writing to the Engineer.

#### **Material Handling & Protection.**

##### **A. Material Disposal.**

The Contractor shall dispose of all material in accordance with Local, State and Federal regulations.

Disposal of all "waste oil" will be the responsibility of the Contractor. Waste oil will constitute any petroleum, oils, and lubrications (POL) removed from any piece of equipment that is to be maintained or repaired as part of this Contract. Since the all POL removed from serviced equipment will be classified as "waste oil", and shall be disposed of within the guidelines of DNREC (Department of Natural Resources and Environmental Control) and EPA regulations. This includes all reports and manifests associated with tracking the waste oil to its final deposition.

##### **B. Material Storage.**

Any maintenance material stored at the bridge shall be kept within a locked container or cabinet that is labeled and can only be accessed by the Contractor in a location approved by DeIDOT. Materials or equipment not stored within a locked container or cabinet are not the responsibility of DeIDOT. The Contractor shall replace any missing material and/or equipment at no cost to DeIDOT. Flammable material shall not be stored on-site unless approved by the Engineer.

**C. Protection of Existing Equipment.**

Existing bridge equipment shall be protected at all times from possible damage or defacement caused by the Contractor's work operations. Any such damage or defacement shall be promptly repaired or cleaned to the satisfaction of the Engineer at no cost to DelDOT. If, in the opinion of the Engineer, the Contractor's operations require the temporary removal of existing equipment for proper protection, such removal and remounting shall be done at no cost to DelDOT.

**D. Maintaining Equipment.**

All work to maintain existing equipment shall be performed. Material used to maintain the equipment shall be compatible with the existing material and new as far as practicable. Application of new components shall be in accordance with the manufacturer's recommendations.

**Replacement Work and Procedures.**

Removal of equipment shall not commence until all new equipment and parts to be installed are delivered to the site, unless otherwise approved by the Engineer. The Contractor shall supply all tools, material, and equipment required to remove the existing failed equipment in a safe and secure manner. All remaining material and equipment demolished under this item shall become the property of the Contractor unless otherwise noted by the Engineer, and shall be removed from the site and disposed of properly. In general, all apparatus to be demolished shall be disconnected by removing existing bolts, nuts and screws. The work shall include demolition of all brackets, hangers, clamps, fittings and other hardware no longer needed as a result of the replacement parts.

Upon completion of the replacement work, the Contractor shall repair all damaged or defaced areas exposed by the demolition of equipment, or caused by his operations, in a workmanlike manner, to the satisfaction of the Engineer. The Contractor shall patch any concrete that was cut for removal of equipment. Small bolt holes in concrete surfaces shall be filled with epoxy mortar. Holes in the walls, ceilings or floors of the house shall be filled with grout and finished to match the existing surfaces. Any damage to windows, window framing, sash, sills, frames or any other architectural trim shall be repaired, and painted surfaces shall be repainted after being repaired. Touch-up painting of structural steel shall be performed.

All installation work required to replace damaged or broken parts (not caused by the Contractor's work) that are not included in the maintenance work referenced in this document shall be negotiated with DelDOT and paid through force accounts.

**Generator Maintenance.**

In general, most of the generator maintenance will be performed under a separate Generator Repair and Maintenance Contract, however several generator maintenance items are included within the O&M Manuals and Checklists which shall be performed as part of this Contract.

**Electrical Safety When Performing Maintenance.**

As-built drawings (including electrical schematics) are available on-site for the Contractor to reference while performing maintenance work. Since the development or last update of the As-built drawings, modifications may have been made to the electrical systems that may not be reflected in the As-drawings on-site.

At the time of development of this Contract, one disconnect switch in the south electrical/mechanical room at Bridge 1-693 does not fully deenergize some components as intended. It is anticipated that this condition will be repaired by others prior to the start of this Contract.

Another known instance where the existing conditions have been changed since the Bridge 1-693 As-builts were created involves the automatic circuit breaker actuators. When performing the initial repair work involving the automatic circuit breaker actuators, the Contractor shall verify the field wiring of the actuators and update the As-built drawings accordingly.

The Contractor shall be responsible for verifying that all equipment has been safely deenergized and isolated prior to performing any maintenance activities at any of the bridges. Any differences found between the As-Built drawings and existing field conditions during maintenance or repair work should be reported to the Engineer.

### **Speed Reducer Drain Valves and Breathers.**

During the initial speed reducer oil replacement, furnish and install a new bronze ball valve at the drain port of the speed reducer housings. The ball valve shall have a hand operated lever than can be locked in the closed position and a threaded end plug. Furnish and install any piping, adaptors, supports, etc. necessary to securely connect the valve to the speed reducer housing. The end of the ball valve / drain pipe shall be located at a point where it can be easily accessible for future oil draining or oil sample collection. Notify the Engineer if there is not sufficient space to install or operate the drain valve.

The costs of the drain valve, fittings, etc. shall be included in the maintenance interval (5 year) where the oil speed reducer oil is replaced at the specified bridge.

The drain valves shall be installed at the following speed reducers:

- A. Bridge 1-687 - Span drive reducers and span lock reducers (4 total)
- B. Bridge 1-693 - Span drive reducers and span lock reducers (4 total)
- C. Bridge 3-164 - Turning machinery reducer and end screw jack reducer (2 total)

Existing speed reducer non-desiccant breathers shall be replaced with desiccant type breathers at the specified reducers. New breathers shall be a Des-Case standard series desiccant breather or approved equal. Furnish and install any fittings, piping etc. needed to connect the breather to the housing and ensure that oil does not contaminate the breather during operation of the machinery. Initial costs for the breathers, piping, etc. shall be included in the 5 year maintenance interval cost for the specified bridges. Notify the Engineer if there is not sufficient space to install new desiccant breathers.

The new desiccant breathers shall be installed at the following speed reducers:

- A. Bridge 1-687 - Span drive reducer (2 total)
- B. Bridge 1-693 - Span drive reducer (2 total)
- C. Bridge 3-164 - Turning machinery reducer (1 total)

### **Method of Measurement:**

Cyclical bridge maintenance work will be paid per each occurrence for each individual bridge where the maintenance is being performed. The Contractor will perform maintenance work on a monthly, quarterly, semi-annually, annually, 2 year or 5 year interval as specified.

### **Basis of Payment:**

All cost and expense incurred by the Contractor in complying with the conditions stated above shall be included in the Contract unit prices bid per each for the pertinent maintenance bid item at each bridge.

9/14/2018

DELAWARE DEPARTMENT OF TRANSPORTATION  
SCHEDULE OF ITEMS

PAGE: 3  
DATE:

CONTRACT ID: T201707005.01 PROJECT(S): EBHOS-2018(36)

All figures must be typewritten.

CONTRACTOR :

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0200	615619 INITIAL REPAIRS AT BRIDGE 2-021A	LUMP	LUMP			
0210	615620 MONTHLY MAINTENANCE AT BRIDGE 2-021A	EACH	60.000			
0220	615621 QUARTERLY MAINTENANCE AT BRIDGE 2-021A	EACH	20.000			
0230	615622 SEMI-ANNUAL MAINTENANCE AT BRIDGE 2-021A	EACH	10.000			
0240	615623 ANNUAL MAINTENANCE AT BRIDGE 2-021A	EACH	5.000			
0250	615624 5 YEAR MAINTENANCE AT BRIDGE 2-021A	EACH	1.000			
0260	615625 INITIAL REPAIRS AT BRIDGE 3-151	LUMP	LUMP			
0270	615626 MONTHLY MAINTENANCE AT BRIDGE 3-151	EACH	51.000			
0280	615627 QUARTERLY MAINTENANCE AT BRIDGE 3-151	EACH	17.000			
0290	615628 SEMI-ANNUAL MAINTENANCE AT BRIDGE 3-151	EACH	9.000			