

# SYAMA PRASAD MOOKERJEE PORT, KOLKATA

## KOLKATA DOCK SYSTEM

### Mechanical & Electrical Engineering Department

N.I.T. No. SMP/KDS/Mech/C/ADV/615 dated 06.09.2022 for “Rehabilitation of Bascule Bridge at KDS, SMPK”

### CORRIGENDUM

The following terms and conditions in the NIT has been revised as below:-

Sl.No.	Page No. of Tender document	Clause no./Para No./Reference	Original terms and conditions	Revised terms and conditions/New addition
1.	2	Schedule of Tender	Estimated value of tender : Rs.64,47,000/- ( Rupees Sixty Four crore Forty Seven lakhs only)	Estimated value of tender : Rs.64,47,000/- ( Rupees Sixty Four crore Forty Seven lakhs only) excluding taxes and duties
2.	15	First line of Para 3 ( SCOPE OF WORK) under Minimum Technical requirement at Annexure-C	The entire project is to be executed by the Contractor as a single entity or JV, as per the Scope of Work as detailed hereinafter.	The entire project is to be executed by the Contractor as a single entity or JV/Pre-bid collaboration/Tie up, as per the Scope of Work as detailed hereinafter.
3.	17	3.1 [C](a)  <i>Live Load Shoe and Stopper Block Replacement</i>	Description: The upper and lower assemblies for the existing live load shoes at the northwest, northeast, southwest and southeast locations shall be removed and replaced with new live load shoes as indicated herein and as shown on the drawings. The Design- Build Team shall also remove the existing delaminated concrete to sound concrete and perform concrete spall repairs for the rehabilitated live load concrete support beams. Temporary closures of the bridge for vehicular and pedestrian traffic will be required to perform this work. The Contractor shall coordinate with the SMPK for allowable work schedules to perform the repairs. Either the upper or lower live load shoe shall have the capability of being shimmed for proper alignment. The alignment of the live load shoes shall be coordinated	Description: The upper and lower assemblies for the existing live load shoes at the northwest, northeast, southwest and southeast locations shall be removed and replaced with new live load shoes as indicated herein and as shown on the drawings. The Contractor shall also remove the existing delaminated concrete to sound concrete and perform concrete spall repairs for the rehabilitated live load concrete support beams. Temporary closures of the bridge for vehicular and pedestrian traffic will be required to perform this work. The Contractor shall coordinate with the SMPK for allowable work schedules to perform the repairs. Either the upper or lower live load shoe shall have the capability of being shimmed for proper alignment. The alignment of the live load shoes shall be coordinated with the

			with the alignment of the center locks. See “Live Load Bearing and Center Lock Adjustment” in the Mechanical System section of these Minimum Technical Requirements for additional information. Additionally, all the 4 no. Stopper Blocks shall be removed and replaced with new Stopper Blocks.	alignment of the center locks. See “Live Load Bearing and Center Lock Adjustment” in the Mechanical System section of these Minimum Technical Requirements for additional information. Additionally, all the 4 no. Stopper Blocks shall be removed and replaced with new Stopper Blocks.
4.	18	3.1[H](a) <i>Heel Joint Bolt Replacement</i>	Description: At the roadway heel joints at the east and west ends of the bridge, there are bolts that have become loosened on the approach span side of the joint. The Design- Build Team shall remove the loose bolts and install new fully tightened high strength bolts. This work will require temporary traffic and pedestrian control to allow for construction access to the roadway side of the bolts.	Description: At the roadway heel joints at the east and west ends of the bridge, there are bolts that have become loosened on the approach span side of the joint. The Contractor shall remove the loose bolts and install new fully tightened high strength bolts. This work will require temporary traffic and pedestrian control to allow for construction access to the roadway side of the bolts.
5.	18	3.1[H](b) <i>Heel Joint Bolt Replacement</i>	Measurement and Payment: The work as described in this section shall be paid for under the pay item “HEEL JOINT BOLT REPLACEMENT”. This item will be measured on the basis of EACH bolt that is removed and replaced. The Resident Engineer shall provide judgment on the quantity of bolts that are to be removed and reinstalled during construction. No separate payment will be provided for the cost to provide temporary traffic and pedestrian control. The cost of the temporary traffic and pedestrian control will be incidental to “HEEL JOINT BOLT REPLACEMENT”.	Measurement and Payment: The work as described in this section shall be paid for under the pay item “HEEL JOINT BOLT REPLACEMENT”. This item will be measured on the basis of EACH bolt that is removed and replaced. The Contractor shall provide judgment on the quantity of bolts that are to be removed and reinstalled during construction. No separate payment will be provided for the cost to provide temporary traffic and pedestrian control. The cost of the temporary traffic and pedestrian control will be incidental to “HEEL JOINT BOLT REPLACEMENT”.
6.	18	3.1[I](b) <i>Cleaning and Painting</i>	Measurement and Payment: The work as described in this section shall be paid for under the pay item “CLEANING AND PAINTING”. This item will be measured on the basis of SQUARE METER of steel that is cleaned and painted. The Resident Engineer shall provide judgement on the locations of active steel corrosion and section loss that shall be cleaned and painted during construction.	Measurement and Payment: The work as described in this section shall be paid for under the pay item “CLEANING AND PAINTING”. This item will be measured on the basis of SQUARE METER of steel that is cleaned and painted. The Contractor shall provide judgement on the locations of active steel corrosion and section loss that shall be cleaned and painted during construction.
	19	3.1 [L] (b) <i>Miscellaneous Repair/Replacement</i>	Any worn out concrete portion to be repaired.	Any worn out concrete portion to be repaired. All spalling of concrete inside the bridge chamber or any portion of the bridge to be repaired by grouting or micro-concreting as necessary depending upon the position of spalling and working space.
7.	22	3.3[E](a) <i>Navigation Lighting</i>	Description: The Contractor shall replace the channel navigation lights located on the east and west leaf with new, LED swing-type units. New channel navigation lights shall be located on the nose of each leaf with accessibility for maintenance from the roadway. The Contractor shall install new fender navigation lights on the east and west pier, one facing up and one facing downstream, providing the location of the concrete piers during nighttime marine traffic.	Description: The Contractor shall replace the channel navigation lights located on the east and west leaf with new, LED swing-type units. New channel navigation lights shall be located on the nose of each leaf with accessibility for maintenance from the roadway. The Contractor shall install new fender navigation lights on the east and west pier, one facing upstream and one facing downstream, providing the location of the concrete piers during night time marine traffic.
8.	24	3.5.4[B](c) <i>Steel Reinforcement</i>	Bend reinforcement steel bars cold in the shop or in the field around a pin not less than 6 times the diameter of the bar. Do not bend reinforcing steel bars partially embedded in concrete or in mortar in dowel holes, except as permitted by the Resident Engineer.	Bend reinforcement steel bars cold in the shop or in the field around a pin not less than 6 times the diameter of the bar. Do not bend reinforcing steel bars partially embedded in concrete or in mortar in dowel holes, except as permitted by SMPK.
9.	29	3.8.3 <i>DESIGN CRITERIA AND</i>	Electrical equipment shall be selected, designed, fabricated, and installed in accordance with AASHTO Movable, the NEC, and meet	Electrical equipment shall be selected, designed, fabricated, and installed in accordance with AASHTO LRFD Movable Highway

		<p><i>CHARACTERISTICS</i></p> <p><i>(starting two para)</i></p>	<p>all applicable standards provided elsewhere within the Minimum Technical Requirements.</p> <p>The following provides a description of general operating features required for the electrical system. It does not represent an all-inclusive detailed scope of work, nor shall the Contractor be relieved of any obligation to provide a complete system that satisfies the requirements of the Bureau of Indian Standards (Electrical) BIS, AASHTO Movable, the NEC, these Minimum Technical Requirements, and other prevailing codes and requirements, as applicable.</p>	<p>Bridge Design Specifications, the NEC, and meet all applicable standards provided elsewhere within the Minimum Technical Requirements.</p> <p>The following provides a description of general operating features required for the electrical system. It does not represent an all-inclusive detailed scope of work, nor shall the Contractor be relieved of any obligation to provide a complete system that satisfies the requirements of the Bureau of Indian Standards (Electrical) BIS, AASHTO LRFD Movable Highway Bridge Design Specifications, the NEC, these Minimum Technical Requirements, and other prevailing codes and requirements, as applicable.</p>
10.	33	<p>3.8.4 [A](c)</p> <p><i>Field Measurements and Verification</i></p>	<p>The SMPK will not, as a part of shop drawings review, bear responsibility for verification of any field measurements made by the Contractor <del>Design-Build Team</del>. Review of shop drawings by the SMPK does not in any way relieve the Contractor from responsibility for the accuracy of field measurements. Full responsibility for any errors that may result from inaccuracy of field measurements and verifications will be borne by the Contractor <del>Design-Build Team</del>.</p>	<p>The SMPK will not, as a part of shop drawings review, bear responsibility for verification of any field measurements made by the Contractor. Review of shop drawings by the SMPK does not in any way relieve the Contractor from responsibility for the accuracy of field measurements. Full responsibility for any errors that may result from inaccuracy of field measurements and verifications will be borne by the Contractor.</p>
11.	33	<p>3.84 [B](b)</p> <p><i>Brand Name Products and Substitutions</i></p>	<p>Full and final responsibility for selection of products that satisfy all identified requirements will be borne by the Design-Build Team. In case of any discrepancy, or other conflict, between the salient requirements identified in the contract and products identified by brand name, the salient requirements will govern. Any such conflict, or other discrepancy, will not be considered cause for delay or additional payment.</p>	<p>Full and final responsibility for selection of products that satisfy all identified requirements will be borne by the Contractor. In case of any discrepancy, or other conflict, between the salient requirements identified in the contract and products identified by brand name, the salient requirements will govern. Any such conflict, or other discrepancy, will not be considered cause for delay or additional payment.</p>
12.	33	<p>3.8.4 [B](c)</p> <p><i>Brand Name Products and Substitutions</i></p> <p><b>{New addition}</b></p>		<p>Supply to the SMPK all information required for the SMPK to determine the acceptability of a proposed "equal" product or procedure. The SMPK may request additional information, beyond what is explicitly required by the contract, to assist in determination of acceptability.</p>
13.	36	<p>3.8.4 [C] (f)</p> <p><i>Construction Submittal Requirements</i></p>	<p>Maintain these construction shop drawings as working drawings for the duration of construction. Required working drawings include all shop drawings as required by part B of Submittal Requirements. Make working drawings available to the SMPK, on request, for review of construction issues.</p>	<p>Maintain these construction shop drawings as working drawings for the duration of construction. Required working drawings include all shop drawings as required by part 2.0 of Submittal Requirements. Make working drawings available to the SMPK, on request, for review of construction issues.</p>
14.	37	<p>3.8.4 [D] (b)</p> <p><i>Execution</i></p>	<p>Complete all work in a professional and safe manner in accordance with NECA 1. Verify all relevant dimensions prior to performing any work and comply with NEC required clearances (i.e. "Working Space", "Dedicated Equipment Space", etc.).</p>	<p>Complete all work in a professional and safe manner in accordance with NECA 1. Verify all relevant dimensions prior to performing any work and comply with NEC required clearances (i.e. "Working Space", "Dedicated Equipment Space", etc.). Immediately inform SMPK of any conflict between equipment locations shown on the plans and NEC required clearances. Ensure in the case of any such conflict, the equipment in question is relocated or similar remedial action taken, as directed by SMPK. All costs associated with this work are to be borne by the Contractor.</p>

15.	65	3.8.6.6 [K](a)  <i>Conduit Penetrations</i>	Provide conduit penetrations through walls, floors, and ceilings as necessary for the installation of conduits. Following the installation, restore floors, walls and ceilings with materials equal to the original construction and finish to match surrounding surfaces. Materials used will be subject to the final approval of SMPK for appropriateness.	Provide conduit penetrations through walls, floors, and ceilings as necessary for the installation of conduits. Following the installation, restore floors, walls and ceilings with materials equal to the original construction and finish to match surrounding surfaces. Materials used will be subject to the final approval of SMPK for appropriateness. SMPK will advise the Contractor regarding the method to be used at each penetration location.
16.	72	3.9.3[A](a)(ii)  <i>Field Measurements and Verification</i>	The SMPK will not, as a part of shop drawings review, bear responsibility for verification of any field measurements made by the Design- Build Team. Review of shop drawings by the SMPK does not in any way relieve the Contractor from responsibility for the accuracy of field measurements. Full responsibility for any errors that may result from inaccuracy of field measurements and verifications will be borne by the Design- Build Team.	The SMPK will not, as a part of shop drawings review, bear responsibility for verification of any field measurements made by the Contractor. Review of shop drawings by the SMPK does not in any way relieve the Contractor from responsibility for the accuracy of field measurements. Full responsibility for any errors that may result from inaccuracy of field measurements and verifications will be borne by the Contractor.
17.	72	3.9.3[B](a)  <i>Delivery, Storage, and Handling</i>	All components and materials shall be stored by the Contractor until needed by others responsible for on-site erection, installation and alignment of machinery components.	All components and materials shall be stored by the Contractor until needed by others responsible for on-site erection, installation and alignment of machinery components. The Contractor shall deliver all components and materials as coordinated and directed by the erection contractor, who shall provide the Contractor a 10-day notice of when the new components must be delivered. Others responsible for the on-site erection shall provide location for unloading and storage as needed at the bridge site.
18.	83	3.9.5[C] <i>Field Inspection and Testing (Starting para)</i>	All field testing and alignment verification shall be performed in the presence of SMPK for at least two weeks prior notification to be given to SMPK	All field testing and alignment verification shall be performed in the presence of SMPK. Provide at least two weeks notification to SMPK prior to testing.
19.	87	3.9.5 [ I](c)  <i>Tail Locks Refurbishing</i>	Drive chains for the tail lock rotary cam limit switches shall be replaced in-kind with new chains. The new drive chains shall be the same size and pitch as existing to mate with the existing sprockets. A riveted master link shall be included with each chain to prevent inadvertent disconnection of the master link. Add fresh lubrication to all maintenance points after cleaning.	Drive chains for the tail lock rotary cam limit switches shall be replaced in-kind with new chains. The new drive chains shall be the same size and pitch as existing to mate with the existing sprockets. A riveted master link shall be included with each chain to prevent inadvertent disconnection of the master link.
20.	87	3.9.5[I](d) <i>Tail Locks Refurbishing</i>	Test operate tail locks through at least 10 cycles.	Add fresh lubrication to all maintenance points after cleaning.
21.	87	3.9.5[I] (e) <i>Tail Locks Refurbishing {New addition}</i>		Test operate tail locks through at least 10 cycles.
22.	88	3.9.5[J](b) (iii)  <i>Passive Center Locks Component Replacement</i>	The new wearing plates shall accommodate countersunk fasteners to allow the bolts to pass through the wearing plates, shims, and supporting steel and be secured with double nuts or prevailing-torque nuts. Countersunk heads shall be recessed below the top of the steel plate. New shim packs with at least 6 mm nominal thickness,	The new wearing plates shall accommodate countersunk fasteners to allow the bolts to pass through the wearing plates, shims, and supporting steel and be secured with double nuts or prevailing-torque nuts. Countersunk heads shall be recessed below the top of the steel plate.

			adjustable to 0.5 mm increments, shall be installed to allow adjustment of the clearance between the jaw and the tongue casting.	
23.	88	3.9.5[J](b) (iv)  <i>Passive Center Locks Component Replacement {New Addition}</i>		New shim packs with at least 6 mm nominal thickness, adjustable to 0.5 mm increments, shall be installed to allow adjustment of the clearance between the jaw and the tongue casting.
24.	92	5.2 <i>Design Submittals</i> 9 <sup>th</sup> para	Each milestone submission from the Contractor will be reviewed within 3 weeks of receipt to ensure compliance. If any part of the Design-Build Team's design is not allowed, it will be rejected and they will be required to revise and resubmit.	Each milestone submission from the Contractor will be reviewed within 3 weeks of receipt to ensure compliance. If any part of the Contractor's design is not allowed, it will be rejected and they will be required to revise and resubmit.
25.	99	9.1 <i>Description of Sequence of operation</i>	The sequence of operation provided below is intended to describe the operation of the hardwired, relay-based control system, which shall be fully developed and provided on the Contract Plans by the Design-Build Team. The information provided does not encompass all features or safety interlocks required for full bridge operation. The Contractor is responsible for including all bypasses, safety interlocks, alarm notifications, equipment indications, and features required for full bridge operation in a safe and efficient manner.	The sequence of operation provided below is intended to describe the operation of the hardwired, relay-based control system, which shall be fully developed and provided on the Contract Plans by the Contractor. The information provided does not encompass all features or safety interlocks required for full bridge operation. The Contractor is responsible for including all bypasses, safety interlocks, alarm notifications, equipment indications, and features required for full bridge operation in a safe and efficient manner.
26.	108	Clause no. 3  <i>Onsite Warranty Period</i>	<p>The contractor must give warranty the complete mechanical and electrical installation and performance (including all associated items, devices, equipment, and systems) to be free of defects in material and workmanship for a minimum period of five (5) years from the date of Final Acceptance and subsequent handing over of the new system to SMPK after 3 months trial operations. Any defect within this period of 5 years shall be repaired or replaced by the Contractor, including labor, parts, and transportation at no additional cost to the SMP, Kolkata.</p> <p>During the warranty period, the Contractor shall also deploy one technical team consisting of one mechanical fitter one electrical fitter and one supervisor, at site during the operation period of the bridge, conversant with the entire operating system, to attend instantly to any malfunction/breakdown of the system during operation of the bridge. The bridge is expected to be operated only once in a day during this time spanning maximum 3 hours. The above malfunction/breakdown should be attended by the onsite team and restored within a period of maximum ½ hour time. In case of default by the Contractor in deployment of the full team, proportionate deduction will be made from the payable amount of yearly 2% as stipulated in Payment Terms, and further penalty of same amount will also be deducted . <i>In the event of failure of the Contractor in attending breakdown and consequent out of commissioning of the bridge beyond ½ hour time, the warranty period of 5 years would be extended for the equivalent</i></p>	<p>The contractor shall warranty the complete mechanical and electrical installation and performance (including all associated items, devices, equipment, and systems) to be free of defects in material and workmanship for a minimum period of five (5) years from the date of Final Acceptance and subsequent handing over of the new system to SMPK after 3 months trial operations. Any defect within this period of 5 years shall be repaired or replaced by the Contractor, including labor, parts, and transportation at no additional cost to the SMPK.</p> <p>During the warranty period, the Contractor shall also deploy one technical team consisting of one mechanical fitter one electrical fitter and one supervisor, at site during the operation period of the bridge, conversant with the entire operating system, to attend instantly to any malfunction/breakdown of the system during operation of the bridge. The bridge is expected to be operated only once in a day during this time spanning maximum 3 hours. The above malfunction/breakdown should be attended by the onsite team and restored within a period of maximum ½ hour time. In case of default by the Contractor in deployment of the full team, proportionate deduction will be made from the payable amount of yearly 2% as stipulated in Payment Terms, and further penalty of same amount will also be deducted . <i>In the event of failure of the Contractor in attending breakdown and consequent out of commissioning of the bridge beyond ½ hour time, the warranty period of 5 years would be extended for the equivalent period for which the bridge remained out of commissioned due to the</i></p>

		<p><i>period for which the bridge remained out of commissioned due to the Contractors said inability to attend the breakdown and rectify the same.</i> For the purpose of extension of Warranty period , the aggregate breakdowns in a year will be calculated and any fraction of a day will be rounded off to one day. The Contractor shall provide letters to the suppliers with copies to the SMP, Kolkata, identifying the scheduled date of Final Acceptance and subsequent handing over of the same to SMPK of the bridge and, therefore, the date the guarantee period shall begin. If the date of Final Acceptance and subsequent handing over to SMPK as mentioned hereinbefore is extended or if beyond the normal guarantee, it shall be the Contractor's responsibility to extend the commencement of the warranties from the suppliers at no cost to SMPK. The Contractor shall assign to SMPK, all manufacturer's warranties or guarantees on all such equipment, material or products furnished for, or installed as, part of the work.</p> <p>Standards of performance and conditions representing failure of all items, groups of items, and systems to be used shall be clearly and explicitly indicated. The Contractor shall be responsible for ensuring that means and methods of handling, storage, installation, and protection do not violate the terms of, nullify, or otherwise compromise in any way, the manufacturer's warranty of any item, group of items or system. For each item, group of items, or system, the Contractor shall assume responsibility for fulfilling the manufacturer's obligations for the manufacturer-specified period if any action of the Contractor during construction and within the specified warranty period following Final Acceptance relieves the manufacturer of obligations to repair or replace under the terms and conditions of the manufacturer's warranty for that item, group of items, or system.</p>	<p><i>Contractors said inability to attend the breakdown and rectify the same.</i> For the purpose of extension of Warranty period , the aggregate breakdowns in a year will be calculated and any fraction of a day will be rounded off to one day. The Contractor shall provide letters to the suppliers with copies to the SMPK, identifying the scheduled date of Final Acceptance and subsequent handing over of the same to SMPK of the bridge and, therefore, the date the warranty period shall begin. If the date of Final Acceptance and subsequent handing over to SMPK as mentioned hereinbefore is extended or if beyond the normal warranty, it shall be the Contractor's responsibility to extend the commencement of the warranties from the suppliers at no cost to SMPK. The Contractor shall assign to SMPK, all manufacturer's warranties or guarantees on all such equipment, material or products furnished for, or installed as, part of the work.</p> <p>Standards of performance and conditions representing failure of all items, groups of items, and systems to be used shall be clearly and explicitly indicated. The Contractor shall be responsible for ensuring that means and methods of handling, storage, installation, and protection do not violate the terms of, nullify, or otherwise compromise in any way, the manufacturer's warranty of any item, group of items or system. For each item, group of items, or system, the Contractor shall assume responsibility for fulfilling the manufacturer's obligations for the manufacturer-specified period if any action of the Contractor during construction and within the specified warranty period following Final Acceptance relieves the manufacturer of obligations to repair or replace under the terms and conditions of the manufacturer's warranty for that item, group of items, or system.</p>
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All other terms and conditions of the NIT will remain unaltered.

Chief Mechanical Engineer  
**Kolkata Dock System**  
**Syama Prasad Mookerjee Port, Kolkata**